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§ 11:1 Summary

In the next three chapters, the authors summarize the Clean Air Act,[1] the Clean Water Act,[2] the Marine Protection, Research and Sanctuaries Act,[3] the Safe Drinking Water Act,[4] the Resource Conservation and Recovery Act,[5] the Comprehensive Environmental Response, Compensation and Liability Act ("Superfund"),[6] the Emergency Planning and Community Right-to-Know Act,[7] and the Oil Pollution Act,[8] to

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*By **Sheldon M. Novick**, updates by **Scott Schang** and **Celia Campbell-Mohn.**

[Section 11:1]

[1]42 U.S.C.A. §§ 7401 to 7671q; *see* Ch 13.

[2]Technically, the statute is the Federal Water Pollution Control Act, as amended; 33 U.S.C.A. §§ 1251 to 1376. It is now commonly called the Clean Water Act; *see* § 11:2 and Ch 14.

[3]16 U.S.C.A. §§ 1401 to 1445; this is the ocean dumping statute. *See* §§ 11:2, 13:131.

[4]42 U.S.C.A. §§ 300f to 300j-11; *see* §§ 11:2, 14:68, 14:147, and Ch. 16.

[5]42 U.S.C.A. §§ 6901 to 6987; *see* §§ 14:11, 14:20.

[6]42 U.S.C.A. §§ 9601 to 9657; *see* §§ 14:84, 14:127.

[7]33 U.S.C.A. §§ 2701 to 2762.

give each its common name.

The history of these statutes, as well as the realities of practice, make it easier to group and rearrange them, as we have in this treatise, than to walk slowly through each one in turn. Congress occasionally amends one statute to remedy deficiencies in another;[9] divisions between the statutes sometimes represent nothing more than lines drawn between committee jurisdictions;[10] the courts often cite decisions under one statute as authority for decisions under another;[11] and EPA, which administers these statutes, groups them by function and medium.[12] It is easier and more natural for local governments and the regulated community who carry out the programs of environmental protection to look at their work in practical terms rather than in artificial statutory categories.

In preceding chapters, we reviewed the principles on which the statutes rest—their goals, the principals of control, the outline of administrative procedure, and the still more general ethical and economic principles which undergird them. We next looked at functions EPA performs and which are common to most of its statutes—oversight and assistance to state governments; environmental assessment; and enforcement.

In the next three chapters, we will describe, in great detail, the pollution control and waste disposal statutes. They all deal with management and control of residuals—wastes and pollutants—which have no value, and which may do harm if improperly managed. While they have this common subject matter, and the common goals and methods described in previous chapters, each statute has a large residuum of detailed provisions that resist generalization. Some of these provisions are the fossil record of the history of the statutes, which after all are not neatly drawn plans, but the marks left by struggle in Congress, EPA, and the courts.

Other provisions record the different physical qualities of environmental media. Air quality standards are probably more important than similar provisions in other laws, for instance, because people cannot avoid breathing the air. Emissions into groundwater sometimes can be cleaned up, but air emissions never.

The history of the six environmental protection laws, and the practical requirements of their administration, both suggest that they can best be understood as making up three broad programs for protection of air, surface waters, and soil and groundwater.

§ 11:2 History

The history of the statutes, and of their common provisions, is discussed in each of the chapters of this treatise. Here we will set out only a general outline that will

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[8]42 U.S.C.A. §§ 11001 to 11050.

[9]For instance, as noted in the following section, the Safe Drinking Water Act's injection-well provisions, 42 U.S.C.A. §§ 300h to 300h-4, were adopted to remedy a gap in the Clean Water Act's jurisdiction; RCRA now contains provisions which are part of the Superfund program, *see* RCRA §§ 3012, 3016, 42 U.S.C.A. §§ 6933, 6936, and the Safe Drinking Water Act's well-injection program, *see* RCRA §§ 3005(f), 3005(j), 42 U.S.C.A. §§ 6925(f)-6935(j), while CERCLA amended RCRA, *see* CERCLA § 307, Pub. L. No. 96-510, tit. III, § 307, 94 Stat. 2767 (1980).

[10]The ocean dumping permit rules are not in the Clean Water Act, for instance, because the Senate committee with jurisdiction over surface water did not have jurisdiction over the oceans. *See* § 11:2.

[11]*See* Natural Resources Defense Council v. Train, 510 F.2d 692, 701-02, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20046, 20050-51 (D.C. Cir. 1975). Ten appellate cases which repeat the principle that the Clean Air Act and Clean Water Act may be construed together are collected in W. Rodgers, 2 Envtl. L. 603 nn. 9–14 (1986).

[12]*See* Ch 4. EPA's organization is not consistent, however; waste management is divided between water pollution and hazardous waste programs, for instance, while groundwater protection is a separate program awkwardly housed in the drinking water office.

help to explain the way in which the statutes have been grouped for discussion in following chapters.

Pollution control has a history as long as the cities', but modern federal pollution law begins in the 1940s when the Public Health Service, then still housed in a wartime Federal Security Agency, began providing assistance to local governments for sewage treatment, water supply, and rodent control.[1] Most assistance in waste disposal was part of the rodent-control program.[2] These early programs were all quite different, of course, and were only tenuously related by their common connection to public health. A review of the laws in those years would probably have included them under the heading of preventive medicine, rather than pollution control.

The federal role grew gradually. The Federal Water Pollution Control Act of 1948[3] provided modest assistance to state agencies. In 1955, the first federal air pollution statute authorized the Public Health Service, now part of the new Department of Health, Education and Welfare, to perform research and provide financial assistance to states.[4] This was swiftly followed by a new Federal Pollution Control Act of 1956, the 1948 statute having expired. The 1956 statute added the first program of grants for sewage treatment plants.[5] From this time onward, air and water pollution statutes were closely linked, and began to develop common features drawn from the more adventurous state and municipal programs.[6] In 1962, air and water pollution legislation were placed under common jurisdiction of a subcommittee of the Senate Committee on Public Works (because financial assistance dominated the programs), which helped to draw them together. The chairman of the new subcommittee, Senator Edmund S. Muskie, would play a powerful role.

As pollution problems worsened, and public concern grew, air and water statutes followed, each drawing on developing state experience, and each reflecting changes made in the other. An older statute, the Refuse Act, previously thought only to prevent obstructions to navigation, was dusted off and found to prohibit water pollution.[7] There was a Clean Air Act in 1963,[8] which gave the federal government limited authority to take enforcement action (through "abatement conferences,"

[Section 11:2]

[1]*See, e.g.*, Act of June 30, 1948, Pub. L. No. 80-845, 62 Stat. 1155 (1948) (water quality); Public Health Service Act, 42 U.S.C.A. §§ 241, 264(a) (public health research and vector control); § 14:1 note 2; Kovacs & Klucsik, The New Federal Role in Solid Waste Management, 3 Colum. J. Envtl. L. 205 (1976).

[2]*See* Public Health Service Act, 42 U.S.C.A. § 264(a); Kovacs & Klucsik, The New Federal Role in Solid Waste Management, 3 Colum. J. Envtl. L. 205 (1976).

[3]Pub. L. No. 80-845, 62 Stat. 1155 (1948).

[4]Air Pollution Control Act of 1955, ch. 360, 69 Stat. 322.

[5]Pub. L. No. 84-660, 70 Stat. 498 (1956).

[6]An excellent history of the two statutes from the mid-1950s to early 1970s is found in J. Davies, III & B. Davies, The Politics of Pollution (2d ed. 1975). *See also* § 2:2 for a brief history of the environmental quality standards on which both statutory programs were based in these years.

[7]*See* United States v. Standard Oil Co., 384 U.S. 224 (1966) (Douglas, J.); 33 U.S.C.A. §§ 403, 407, 411. This was an 1899 statute which prohibited dumping of refuse in navigable waters, and prohibited obstructions to navigation except as authorized by the Corps of Engineers. Adventurous United States Attorneys in Pennsylvania used the statute to secure criminal convictions for unpermitted spills, *see* United States v. Standard Oil Co., 384 U.S. 224 (1966), Rep. Henry Reuss urged wider use of the law to prevent pollution. The Nixon Administration established a permit system based on the Refuse Act in 1970, prohibiting all water pollution not authorized by a permit issued by the Corps of Engineers. *See* 35 Fed. Reg. 20005 (1970); 36 Fed. Reg. 6564 (1971). The prohibition of all discharges, except those authorized by permits, was incorporated in the Federal Water Pollution Control Act of 1972, § 301, 33 U.S.C.A. 1311, which in turn became the model for the Safe Drinking Water Act and RCRA. *See* § 3:1.

participation in which was largely voluntary); a Water Quality Act in 1965, which introduced environmental quality standards to federal law, and with "abatement" provisions similar to those in the air law;[9] amendments to the Clean Air Act in 1965, which authorized the first national emissions standards, to be set by the Public Health Service, for automobiles.[10] In 1966, President Johnson shifted water pollution assistance into a new agency in the Department of Interior, the Federal Water Pollution Control Administration; responding, Congress adopted the Clean Water Restoration Act of 1966, which greatly increased the fund of assistance to local governments for construction of sewage treatment works.[11] A year later followed the Air Quality Act of 1967, in which the states were required to adopt air quality standards systems similar to those first propounded in the Water Quality Act of 1965.[12] In 1970, there was a Water Quality Improvement Act, in which Congress added provisions imposing liability for oil spills, and extended the water quality standard system to thermal pollution.[13]

Up to this point, the development of the statutes had been smooth and reciprocal; the federal role shifted gradually, from providing assistance to state programs to setting national criteria for environmental quality standards, and gently pressing states to develop plans to act on pollution when it exceeded the standards. The outline of a national pollution control program was emerging.

The National Environmental Policy Act of 1969 (NEPA)[14] wrote the preamble for a new chapter in federal law; it reflected a growing concern with the threats posed by modern technology, and optimism that further development of science and technology would cure the problems which had appeared.[15] The statute created a new Council on Environmental Quality, which began to function as an advocate for radically new legislation. Early in 1970, the Administration announced an ambitious new program of legislative proposals, which drew on the themes of NEPA. Conservation of limited natural resources and economic prosperity were said to be in conflict, the conflict worsening as the population grew and industrial technology became more powerful. The opposed demands could be reconciled, however, by still more advanced science and technology, which would produce new products with less waste.[16]

The Administration proposed extensive new statutes for air and water pollution control, and for the regulation of solid waste; the Administration program described early in 1970 was slowly modified and enacted in the next six years.[17]

The new themes were dramatically elaborated in the Clean Air Act Amendments

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[8]Pub. L. No. 88-206, 77 Stat. 392 (1963).

[9]Pub. L. No. 89-234, 79 Stat. 903 (1965).

[10]Pub. L. No. 89-272, 79 Stat. 992 (1965).

[11]Pub. L. No. 89-753, 80 Stat. 1246 (1966).

[12]Pub. L. No. 90-148, 81 Stat. 845 (1967).

[13]Pub. L. No. 91-224, tit. I, 84 Stat. 91 (1970).

[14]Pub. L. No. 91-190, 83 Stat. 852 (1970), codified at 42 U.S.C.A. §§ 4321 to 4361.

[15]*See* § 10:53.

[16]*See* § 10:53.

[17]The President's message to Congress on February 10, 1970, contained the outline of what were to be the Administration's proposals for water pollution control, air pollution control, regulation of solid wastes, and management of federal lands. *See* Message from the President of the United States, H.R. Doc. No. 225, 91st Cong., 2d Sess. (1970). The proposed air pollution control act was adopted that year, roughly on the lines proposed by the President, although Senator Muskie succeeded in adding short deadlines for achievement of standards, and more stringent technology-forcing provisions than the Administration had asked for. *See, e.g.*, J. Bonine, The Evolution of Technology-Forcing in the Clean Air Act, Env't Rep. (BNA) Monograph No. 21 (1975). The Administration's proposal for water pollution control regulation lacked technology-forcing provisions, and would have only strengthened the existing

of 1970, which greatly broadened the federal role and introduced new methods and new urgency into pollution law. The elements of prior law were preserved; states were to develop plans to reduce pollution wherever it exceeded national standards. National emission limits were to be set for motor vehicles. But these goals were to be accomplished on a short schedule, specified in the statute, which allowed little more than five years for a complete cleanup of pollution. Furthermore, a new layer of regulation—"technology forcing" controls which were intended to force fundamental changes in industrial technology—was imposed on new sources of pollution, on sources of toxic pollutants, and on new models of motor vehicles.[18] Although modeled on the Administration proposal, the Clean Air Act as it emerged from Congress was far more stringent.

As if to trump a Democratic Congress' play, President Nixon announced the creation of a new agency, the Environmental Protection Agency (EPA), which he created by executive order,[19] reuniting the air pollution program, still in the Public Health Service, and the Federal Water Pollution Control Administration, which had been in the Department of Interior since 1965; and adding to these, pesticide control programs from the Department of Agriculture.

Congress increased the stakes in 1972, with a new round of amendments to the Federal Water Pollution Control Act, going well beyond the President's proposals.[20] In this statute, the large features of the air law were repeated, but still greater emphasis was given to the new "technology forcing" program, and even more stringent goals and schedules were set: all discharges of water pollution were to end by 1985.[21]

Along with the water act amendments, Congress adopted the Marine Protection, Research and Sanctuaries Act of 1972, which contains a system of controls for ocean dumping. The separate ocean dumping statute was needed because the jurisdiction of the Senate Public Works Committee did not extend to the oceans, which were the domain of Merchant Marine and Fisheries, and the dispute over jurisdiction was never resolved. Members of the two committees worked, although not with complete success, to keep the provisions of the two bills coherent.[22]

A third statute was needed to complete the Federal Water Pollution Control Act amendments. The 1972 language left in doubt whether EPA had jurisdiction to issue permits for injection wells that affected only groundwater; the courts were divided, and EPA asked for clarifying legislation, which eventually was passed, attached to a bill setting standards for public drinking water supplies.[23]

The remaining item in President Nixon's 1970 program was a bill to regulate the

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state plans based on water quality standards; these provisions were included in the eventual Clean Water Act, but were greatly overshadowed by technology-forcing provisions. *See* Ch 14; J. Davies & B. Davies, The Politics of Pollution 39–44 (2d ed. 1975). The proposals for solid waste regulation eventually became the Resource Conservation and Recovery Act, with provisions added for hazardous waste management. In October, 1970, the Council on Environmental Quality published further proposals for toxic substances control and for regulating ocean dumping, which resulted in the Toxic Substances Control Act, the ocean dumping statute, and the London convention on ocean dumping. *See* § 13:132 (ocean dumping); § 15 (TSCA).

[18]*See* § 2:14, Ch 13.

[19]*See* Reorg. Plan No. 3 of 1970, 35 Fed. Reg. 15623 (1970), *reprinted in* 5 U.S.C.A. app. at 1132 (1982), *and in* 84 Stat. 2086 (1970).

[20]Pub. L. No. 92-500, § 2, 86 Stat. 816 (1972).

[21]Clean Water Act § 101(a)(1), 33 U.S.C.A. § 1251(a)(1).

[22]Pub. L. No. 92-532, tit. II, 86 Stat. 1063 (1972), *codified at* 33 U.S.C.A. §§ 1401 to 1445. Title III of the statute concerned Marine Sanctuaries; *see* 42 U.S.C.A. §§ 1431 to 1434. The jurisdictional dispute was limited to the Senate; in the House there was no difficulty. *See* Lettow, The Control of Marine Pollution, in Federal Environmental Law 596, 650 (E. Dolgin & T. Guilbert, eds. 1974).

[23]*Compare* United States Steel Corp. v. Train, 556 F.2d 822, 7 Envtl. L. Rep. (Envtl. L. Inst.)

production of toxic chemicals. Six years of heated debate ended with the Toxic Substances Control Act of 1976, which authorized EPA to forestall pollution problems by regulating or prohibiting the manufacture of toxic chemicals which would pose an unreasonable hazard.[24]

In the same year, the third chapter of environmental protection law opened with adoption of the Resource Conservation and Recovery Act, which created a system of state plans for regulation of solid waste disposal. The principal focus of this statute was the regulation of "open dumps" and litter; a subtitle provided, however, for special standards for hazardous waste management and disposal facilities.[25] In 1978, these provisions began to take on major new importance with the discovery of an abandoned hazardous waste dump at Love Canal.[26] In 1978, Congress hastily amended the Clean Water Act's oil spill program to give EPA some authority to clean up some chemical spills,[27] and in 1980 enacted a broad emergency cleanup program, Superfund.[28]

EPA, which like the rest of the country had largely ignored the groundwater protection programs authorized by the Clean Water Act, in 1980 announced an aggressive and very broad program for hazardous waste management under RCRA, and there have been repeated amendments of RCRA, since that time, most notably in 1984,[29] urging EPA on to ever more extensive measures. In the 1984 amendments, Congress added to RCRA an ambitious new program for the regulation of underground tanks in which petroleum or hazardous chemicals are stored, and from which leaking may contaminate groundwater.[30]

The reauthorization of Superfund in 1986 further enlarged the program and modified RCRA, drawing the two together for protection of soil and groundwater. RCRA now carries out, in more forceful terms, the groundwater protection plans first sketched in the Clean Water Act, and adds to them an ambitious program for managing hazardous wastes before disposal. RCRA also regulates buried storage tanks, considered to be major sources of groundwater pollution.

The Emergency Planning and Community Right-to-Know Act[31] was buried in the 1986 amendments to Superfund. This independent statute was passed in response to the disastrous 1984 release of methyl isocyanate in Bhopal, India. In addition to creating provisions for emergency planning with local, state and federal officials around chemical releases, the statute required annual reports of routine releases of

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20419 (7th Cir. 1977) (EPA may prohibit deep injection well without Clean Water Act permit) *with* Exxon Corp. v. Train, 554 F.2d 1310, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20594 (5th Cir. 1977) (Clean Water Act permit not required). While these and other suits were pending in the lower courts, the House Interstate and Foreign Commerce Committee proposed a bill that would have prohibited most injection well discharges without a federally authorized permit. H.R. Rep. No. 1185, 90th Cong., 2d Sess. (1974), *reprinted in* United States Code Congressional and Administrative News pp 6454, 6457. The Safe Drinking Water Act of 1974 gave EPA the authority it had requested, and the *Exxon* decision was not appealed, which leaves still undecided how far the Clean Water Act applies to groundwater.

[24]Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976), *codified at* 15 U.S.C.A. §§ 2601 to 2629. *See* Ch 18.

[25]*See* Solid Waste Disposal Act, Pub. L. No. 89-272, tit. II, 79 Stat. 997 (1965), *as amdended by* Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795, *codified as extensively amended at* 42 U.S.C.A. §§ 6901 to 6987. The frequently amended Solid Waste Act is now universally known as the Resource Conservation and Recovery Act, or RCRA.

[26]*See* § 14:6.

[27]*See* 33 U.S.C.A. §§ 1321(b), (c); § 14:6.

[28]The Comprehensive Environmental Response, Compensation and Liability Act, Pub. L. No. 96-510, 94 Stat. 2767 (1980), *now codified at* 42 U.S.C.A. §§ 9601 to 9657; *see* § 14:84.

[29]*See* Hazardous and Solid Waste Act Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3224.

[30]*See* RCRA tit. I, 42 U.S.C.A. §§ 6991 to 6991i.

[31]Pub. L. No. 99-499, tit. III, 100 Stat. 1729 (1986) (codified at 42 U.S.C.A. §§ 11001 to 11050).

hazardous chemicals from facilities, bringing public scrutiny to private management of hazardous substances.[32]

In 1990, Congress amended the Clean Air Act to incorporate market-based incentives, performance-based standards, and emissions banking and trading.[33] For example, the amendments establish a clean fuels program for fleets and a California pilot program. The amendments also create an acid rain program that promotes the use of clean sulfur coal and natural gas as well as technologies to clean high sulfur coal.

Congress also passed the Oil Pollution Act in 1990.[34] The Act establishes and enhances: a comprehensive federal liability scheme; a single federal fund called the Oil Spill Liability Trust Fund to pay for response and monitoring costs; federal authority to order removal action or conduct such action itself; standards and reviews for licensing tank personnel and tightened tank equipment standards; spill prevention control and countermeasure plan requirements for onshore facilities, offshore facilities, and vessels; criminal penalties for violations of the Act; and civil penalties for spills of oil and other hazardous substances.

§ 11:3 Plan of the following chapters

The foregoing history suggested an outline that we have followed in the next three chapters. The Clean Air Act is given Chapter 12 to itself. The currently amended Federal Water Pollution Control Act, now universally called the Clean Water Act, and the ocean dumping statute, are described together in Chapter 13, so far as they create a system of permits to protect surface waters. In Chapter 14, we discuss the soil and groundwater protection program which is now made up of portions of the Clean Water Act, the injection-well permit program of the Safe Drinking Water Act, the hazardous waste management and underground storage tank programs of RCRA, and the emergency response and cleanup programs in the Clean Water Act and Superfund. The 1986 amendments of the Safe Drinking Water Act, which encouraged the states to draw the elements of these programs together into groundwater management plans, are also discussed.[1]

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[32]*See* §§ 14:147 et seq.

[33]Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (1990).

[34]Oil Pollution Act of 1990, Pub. L. No. 101-380, 104 Stat. 484 (1990) (codified at 33 U.S.C.A. §§ 2701 to 2762).

[Section 11:3]

[1]Safe Drinking Water Act Amendments of 1986, Pub. L. No. 99-339, 100 Stat. 642.

Chapter 12

Air*

I. OVERVIEW AND HISTORY OF THE CLEAN AIR ACT

II. NATIONAL AMBIENT AIR QUALITY STANDARDS

III. NONATTAINMENT AREA DESIGNATIONS AND CLASSIFICATIONS

IV. STATE IMPLEMENTATION PLANS

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*In memory of **Richard M. Pavlak, Sr.,** esteemed contributor to this chapter, who passed away on September 9, 2021.

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V. NEW SOURCE PERFORMANCE STANDARDS AND EMISSION GUIDELINES FOR NEW AND EXISTING SOURCES

VI. CLEAN AIR ACT SECTION 112: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS AND THE RESIDUAL RISK PROGRAM

XII(D) TITLE V OPERATING PERMITS—PERMITTING PROCESS AND TIMING

XII(E) TITLE V OPERATING PERMITS—PERMIT CONTENT

XII(F) TITLE V OPERATING PERMITS—MONITORING REQUIREMENTS

XII(G) TITLE V OPERATING PERMITS—ADDITIONAL CONSIDERATIONS UNDER TITLE V

XIII. ACID RAIN PROGRAM

XIV. GREENHOUSE GAS REPORTING

XV. REGULATION OF ON-ROAD AND NON-ROAD VEHICLES,

ENGINES & AIRCRAFT

XVI. REGULATION OF FUELS AND FUEL ADDITIVES

XVII. STRATOSPHERIC OZONE PROTECTION

XVIII. ENFORCEMENT

XIX. TRENDS THAT MAY AFFECT IMPLEMENTATION OF THE CLEAN AIR ACT

XIX(A) TRENDS THAT MAY AFFECT IMPLEMENTATION OF THE CLEAN AIR ACT

I. OVERVIEW AND HISTORY OF THE CLEAN AIR ACT*

§ 12:1 Introduction

Air pollution is found throughout the entire United States—in rural, suburban, and urban areas, in industrial settings, farmlands, and national parks. Pollutants originate not just from large sources like oil refineries or power plants, but also from agriculture, transportation, and construction, or even from consumer goods like house paint and gas grills. Airborne contaminants endanger human health, contributing to asthma attacks, heart ailments, lung disease, strokes, cancers, and birth defects. Pollution also adversely affects crops, wildlife, visibility, waterways, and various other aspects of our lives.

The federal Clean Air Act (CAA or "the Act") is designed to improve air quality in the United States so as to protect public health and the environment.[1] The CAA empowers the U.S. Environmental Protection Agency (EPA or "the Agency") to work with states and tribes to reduce air pollutants through several different types of regulatory programs. The modern CAA was enacted in 1970, with significant amendments in 1977 and 1990. The statute is long and complex, and it is implemented by an extensive body of EPA regulations and guidance documents, state and tribal statutes and rules, and thousands of judicial cases.

This chapter provides detailed discussion of the many different aspects of the CAA, the implementing regulations and guidance, and the relevant case law. Before diving into those details, sections 12:2 to 12:5 give the reader:

A. an overview of the key portions of the modern CAA;
B. a discussion of which pollutants are regulated;
C. a short history of early efforts to address air pollution through the common law or state and local statutes; and
D. a history of federal legislation, especially the 1970, 1977, and 1990 amendments to the CAA.

This chapter generally reflects developments through the end of 2020. Policies change over time, especially with a new presidential administration. Readers should determine whether the information presented here has been subsequently modified or rescinded.

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*By Patricia Ross McCubbin.

[Section 12:1]

[1]The full statute is found at 42 U.S.C. §§ 7401 to 7671q.

Greenhouse gases (GHGs) will be covered in this chapter only to the extent regulated under the CAA. Chapter 24 of the treatise covers GHGs and climate change in more depth.

§ 12:2 Overview of the CAA

Box 1 highlights the major Titles of the CAA, including particularly important individual sections. These sections are commonly referred to by their three-digit numbers before codification in the U.S. Code.

Box 1: Major Titles of the Clean Air Act

Title I

The longest, most comprehensive Title in the CAA

Sections 108, 109 and 110:[1]

- Require EPA to set "national ambient air quality standards" (NAAQS) specifying the permissible levels of certain "criteria" pollutants commonly occurring throughout the United States, with "primary" NAAQS set to protect public health and "secondary" NAAQS set to protect public "welfare" (e.g., crops or visibility).
- Compel each state to develop a "state implementation plan" (SIP) to bring the air pollutant levels within its border into compliance with the NAAQS by regulating a wide variety of stationary and mobile sources.
- Give EPA substantial oversight and enforcement authorities including the ability to issue a "federal implementation plan" (FIP) for a non-compliant state.

Section 111:[2]

- Directs EPA to write "New Source Performance Standards" (NSPS) for certain categories of industries based on the "best system of emission reduction" (BSER).
- Authorizes the Agency to issue emission guidelines for existing sources in those categories to be implemented by the states.

Section 112:[3]

- Compels EPA to set and periodically update emission standards based on the "maximum achievable control technology" (MACT) for certain categories of sources releasing "hazardous air pollutants" (HAPs), also known as air toxics.
- Requires the Agency to set health-based standards to address any "residual risk" remaining after the technology-based standards of MACT have been implemented.
- Establishes a program designed to prevent accidental releases of hazardous air pollutants.

Sections 113 and 114:[4]

[Section 12:2]

[1]42 U.S.C. §§ 7408 to 7410.

[2]42 U.S.C. § 7411.

[3]42 U.S.C. § 7412.

[4]42 U.S.C. §§ 7413 to 7414.

- ▶ Authorize federal enforcement of the CAA through administrative penalties, civil judicial proceedings, and criminal proceedings.
- ▶ Empower EPA to inspect facilities and require regulated sources to install monitoring equipment, maintain records, and submit reports.

Section 129:[5]

- ▶ Requires EPA to regulate new and existing solid waste incinerators and combustors through § 111 standards and § 112-like standards.

Sections 160 through 169:[6]

- ▶ Establish the "Prevention of Significant Deterioration" (PSD) program, a preconstruction permitting program for areas of the country that are meeting the NAAQS (called attainment areas).
- ▶ Mandate that "major" new or modified stationary sources in attainment areas restrict their emissions using the best available control technology (BACT).

Sections 169A and 169B:[7]

- ▶ Establish a program to improve visibility in national parks and other scenic areas impaired by regional haze.

Sections 171 through 179B:[8]

- ▶ Specify requirements for areas of the country that do not meet the NAAQS (called nonattainment areas), including a preconstruction review and permitting program.
- ▶ Require all major new or modified sources to meet the "lowest achievable emission rate" (LAER) and to offset their emissions with reductions from other sources.
- ▶ Direct states to adopt SIPs showing "reasonable further progress" toward the NAAQS
- ▶ Withhold federal highway funds from noncompliant states.

Sections 181 through 185B:[9]

- ▶ Establish special requirements for ozone nonattainment areas, dividing them into five separate classifications depending on the severity of the ozone pollution.
- ▶ Impose increasingly stringent requirements on the more polluted areas.
- ▶ Compel upgraded vehicle inspection and maintenance programs.
- ▶ Require EPA to issue control guidelines for a number of sources, including commercial and consumer products.

Title II:[10]

- ▶ Directs EPA to establish tailpipe standards for on-road and non-road vehicles, engines, and aircraft.
- ▶ Requires the Agency to regulate fuels and fuel additives.
- ▶ Establishes vehicle inspection and maintenance programs.

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[5] 42 U.S.C. § 7429.

[6] 42 U.S.C. §§ 7470 to 7479.

[7] 42 U.S.C. §§ 7491 to 7492.

[8] 42 U.S.C. §§ 7501 to 7509a.

[9] 42 U.S.C. §§ 7511 to 7511f.

[10] 42 U.S.C. §§ 7521 to 7590.

Title III:[11]

- ▶ Authorizes "citizen suits" against any other person, including a corporation or governmental entity, alleged to be in violation of an emissions standard.
- ▶ Allows citizens to obtain injunctive relief or penalties.
- ▶ Establishes procedures for rulemaking, administrative subpoenas, and judicial review.

Title IV:[12]

- ▶ Addresses acid rain, which causes damage to aquatic life, forests, and property, by limiting emissions of sulfur dioxide and nitrogen oxides (the two primary precursors to acid rain) from large power plants.
- ▶ Creates a program for trading emission "allowances" of sulfur dioxide.

Title V:[13]

- ▶ Requires major sources to obtain operating permits that compile emission limits, monitoring requirements, and other obligations into a single document.

Title VI:[14]

- ▶ Phases out the production and consumption of most of the chlorofluorocarbons (CFCs) and other chemicals that deplete the stratospheric ozone layer.
- ▶ Authorizes EPA to ban nonessential products containing ozone-depleting substances.

In sum, the CAA addresses mobile and stationary sources through a wide variety of regulatory mechanisms. These include health-based ambient air quality standards, preconstruction and operating permits for new and existing stationary sources, technology-based standards for industrial groups, tailpipe standards and fuel requirements for vehicles, emission allowance trading programs, reporting obligations, and bans on certain harmful substances. EPA has significant responsibilities for setting and enforcing standards, but it is expected to work in partnership with the states and tribes in a model known as "cooperative federalism."

§ 12:3 Pollutants regulated under the CAA

A. Pollutants Specifically Named by Congress

For certain programs under the CAA, Congress specifically named the pollutants to be regulated. For example, in Title IV, Congress set limits on sulfur dioxide and nitrogen oxides, which are the precursors to the formation of acid rain.[1]

Likewise, under § 112, Congress listed 189 hazardous air pollutants (HAPs) to be regulated under the maximum achievable control technology (MACT) program established in the 1990 CAA amendments.[2] Many of the HAPs listed by Congress, such as dioxin and benzene, are known carcinogens, while others may cause adverse neurological, reproductive, or developmental effects. Including such a long list in the statute was Congress's response to the prior 20 years in which EPA identified only eight HAPs to regulate.

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[11] 42 U.S.C. §§ 7601 to 7628.

[12] 42 U.S.C. §§ 7651 to 7651o.

[13] 42 U.S.C. §§ 7661 to 7661f.

[14] 42 U.S.C. §§ 7671 to 7671q.

[Section 12:3]

[1] 42 U.S.C. §§ 7651b to 7651f.

[2] 42 U.S.C. § 7412(b)(1).

In Title VI, Congress listed the dozens of CFCs, halons, and hydrochlorofluorocarbons (HCFCs) to be phased out under the program to protect the stratospheric ozone layer, pursuant to the Montreal Protocol.[3] The list was not exclusive, and EPA was expected to add other substances found to be harmful to the ozone layer.

Similarly, in Title II, Congress specified the four pollutants that had to be regulated by tailpipe emission standards, but the Agency was authorized to add others.[4] The four Congress named were carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter.

B. Pollutants Identified by EPA

Congress sometimes directs EPA to determine which pollutants to regulate, using the Agency's expertise in applying a health-based standard that seeks to prevent "endangerment." The most important examples come from Title II, related to motor vehicles, and Title I, related to the NAAQS.

1. Lead as a Regulated Fuel Additive

As originally written in 1970, § 211(c)(1) provided that EPA had the authority to "control or prohibit the manufacture . . . or sale . . . of any fuel or fuel additive . . . if any emission products of such fuel or fuel additive *will endanger the public health or welfare*."[5] In the early 1970s, the Agency became increasingly concerned about children exposed to airborne lead—which came primarily from leaded gasoline—because lead in the blood, even at low levels, causes permanent brain damage. In 1973, spurred by legal action from environmental groups, EPA issued a lengthy scientific study and concluded that reducing lead in gasoline would reduce the harmful health effects of exposure to the pollutant. At the same time, the Agency issued a rule under § 211 phasing out the use of lead in gasoline over a five-year period.[6]

EPA's decision to regulate lead under § 211 was upheld in *Ethyl Corp. v. EPA*.[7] *Ethyl* was an important early decision because it allowed EPA to take a precautionary approach to regulating pollutants. Even though the statute authorized EPA to regulate fuel or fuel additives that "will" endanger public health or welfare, the court held that the Agency could make reasonable estimations in the face of scientific uncertainty about health effects. As explained in § 12:184 in 1977 Congress changed the language to allow EPA to regulate a fuel or fuel additive that "may reasonably be anticipated" to endanger public health or welfare.

2. Criteria Pollutants and the NAAQS

Section 109(a)(2) of the CAA requires EPA to issue NAAQS for "criteria pollutants" (so named because the scientific studies supporting the NAAQS are referred to as "air quality criteria"). Under § 108, pollutants qualify as criteria pollutants if they "result[] from numerous or diverse mobile or stationary sources" and "in [EPA's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." Congress envisioned that criteria pollutants would be those that are "generally present in the ambient air in all areas of the nation,"[8] as opposed to, say, hazardous air pollutants, which are more likely to be pre-

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[3]42 U.S.C. § 7671a.

[4]42 U.S.C. § 7521(a)(3).

[5]42 U.S.C. § 1857f-6c(c)(1) (1970) (emphasis added).

[6]38 Fed. Reg. 33734 (Dec. 6, 1973).

[7]Ethyl Corp. v. Environmental Protection Agency, 541 F.2d 1, 6 Envtl. L. Rep. 20267 (D.C. Cir. 1976) (en banc).

[8]S. Rep No. 91-1196, at 18 (1970).

sent only in smaller areas around industrial facilities or other specific sources.

There are six substances listed as criteria pollutants: particulate matter, ozone, nitrogen oxide, sulfur dioxide, carbon monoxide, and lead. The NAAQS for those pollutants are found at 40 C.F.R. Part 50.[9]

EPA wrote NAAQS for the first five in 1971 (with "photochemical oxidants" in place of ozone), but lead was not regulated as a criteria pollutant until 1976, only after environmental groups sued the Agency over its exclusion. As noted above, EPA had carried out extensive studies on the adverse health effects of lead and consequently decided to regulate it as a harmful fuel additive under § 211 of the statute. The Agency, however, resisted also regulating lead under the NAAQS program. The U.S. Court of Appeals for the Second Circuit in *Natural Resources Defense Council (NRDC) v. EPA* held that once EPA finds that a pollutant endangers public health and comes from numerous or diverse sources, as EPA conceded for lead, the Agency has a nondiscretionary duty under § 108 to list the pollutant for the NAAQS program.[10]

3. The Special Case of Greenhouse Gases

The prior discussion highlighted two key endangerment provisions EPA has used to target certain pollutants for regulation as fuel additives, criteria pollutants, or both. Using a different endangerment provision, the Agency now regulates greenhouse gases (GHGs) under some sections of the CAA—an effort it resisted initially.

In 1999, a group of environmental and renewable energy organizations petitioned EPA to make a finding under CAA § 202 that GHGs from new cars and light trucks endanger the public health and welfare by contributing to global climate change.[11] Under § 202(a), the Agency is authorized to set tailpipe emission standards for pollutants from new vehicles beyond the four directed by Congress, but before doing so, EPA must find that the vehicles' emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[12]

In 2003, EPA denied the petition.[13] The Agency first claimed that Congress had entirely precluded regulation of GHGs under the CAA. The Agency argued that when Congress amended the Act in 1990, the legislators were well aware of global climate change, but only authorized research on the topic and rejected a proposed amendment that would have set restrictions on GHGs. Second, even if the statute authorized regulation of GHGs, the Agency declined to do so because it would not be "effective or appropriate." EPA highlighted the scientific uncertainty surrounding global climate change and the "piecemeal approach" of the CAA's programs. It also noted the ineffectiveness of any U.S. emissions reductions, which would be offset by increased emissions in other countries. EPA expressed concern that unilateral action by the United States would interfere with President Bush's efforts to negotiate emissions reductions from China and other nations.

In the seminal opinion of *Massachusetts v. EPA*, the U.S. Supreme Court reversed

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[9]40 C.F.R. Pt. 50.

[10]Natural Resources Defense Council, Inc. v. Train, 545 F.2d 320, 328, 9 Env't. Rep. Cas. (BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976) (giving no weight to a third factor for listing in § 108, which requires listing only if EPA "plans to issue air quality criteria under this section").

[11]International Center for Technology Assessment, et al., Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions from New Motor Vehicles under § 202 of the Clean Air Act, October 20, 1999.

[12]42 U.S.C. § 7521(a)(1).

[13]68 Fed. Reg. 52922 (Sept. 8, 2003).

the Agency's decision.[14] The Court held that the CAA's "sweeping definition" of an "air pollutant" included GHGs. Further, the Court held that nothing on Capitol Hill since passage of the Act in 1970 "remotely suggests that Congress meant to curtail [EPA's] power to treat greenhouse gases as air pollutants."[15]

The Court also held that most of EPA's reasons for not acting, such as the foreign policy goals, were not valid because they had "nothing to do with whether greenhouse gas emissions contribute to climate change."[16] Although the Court did not direct EPA to find that GHGs *do* endanger the public health or welfare, it directed the Agency to *make a decision* on endangerment unless "the scientific uncertainty is so profound that it precludes the Agency from making a reasoned judgment as to whether greenhouse gases contribute to global warming."[17]

In response, in December 2009, EPA issued a highly controversial rule informally known as the "endangerment finding."[18] That rule actually consisted of two distinct findings, reflecting the inquiries required by § 202(a)(1).[19] First, in the true "endangerment finding," EPA found that emissions of carbon dioxide and five other GHGs "may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations" by contributing to climate change.[20] The adverse health effects, according to the Agency, included "changes in air quality, increases in temperatures, changes in extreme weather events, increases in food and water borne pathogens, and changes in aeroallergens," all of which can lead to illnesses and deaths.[21] Adverse effects on public welfare, in EPA's view, were posed by "numerous and far ranging risks to food production and agriculture, forestry, water resources, . . . coastal areas, energy, infrastructure and settlements, and ecosystems and wildlife."[22]

Separately, in the "cause or contribute finding," the Agency also found that four GHGs are emitted by new motor vehicles and cause or contribute to the pollution that endangers the public health and welfare.[23] To address those emissions, on April 1, 2010, EPA finalized standards for vehicles that, for the first time, limited the amount of GHGs that may be released from tailpipes.[24]

The endangerment finding on GHGs was upheld by the U.S. Court of Appeals for the District of Columbia Circuit.[25] The court held that EPA's endangerment finding was well supported by the scientific studies, declaring that the Agency "is not required to re-prove the existence of the atom every time it approaches a scientific

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[14]Massachusetts v. E.P.A., 549 U.S. 497, 127 S. Ct. 1438, 167 L. Ed. 2d 248, 63 Env't. Rep. Cas. (BNA) 2057 (2007).

[15]Massachusetts v. E.P.A., 549 U.S. 497, 528, 127 S. Ct. 1438, 167 L. Ed. 2d 248, 63 Env't. Rep. Cas. (BNA) 2057 (2007).

[16]Massachusetts v. E.P.A., 549 U.S. 497, 533, 127 S. Ct. 1438, 167 L. Ed. 2d 248, 63 Env't. Rep. Cas. (BNA) 2057 (2007).

[17]Massachusetts v. E.P.A., 549 U.S. 497, 534, 127 S. Ct. 1438, 167 L. Ed. 2d 248, 63 Env't. Rep. Cas. (BNA) 2057 (2007).

[18]74 Fed. Reg. 66496 (Dec. 15, 2009).

[19]42 U.S.C. § 7521(a)(1).

[20]74 Fed. Reg. at 66516.

[21]74 Fed. Reg. at 66526.

[22]74 Fed. Reg. at 66534.

[23]74 Fed. Reg. at 66536.

[24]75 Fed. Reg. 25324 (May 7, 2010).

[25]Coalition for Responsible Regulation, Inc. v. E.P.A., 684 F.3d 102, 74 Env't. Rep. Cas. (BNA) 2161 (D.C. Cir. 2012), judgment aff'd in part, rev'd in part on other grounds, 573 U.S. 302, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't. Rep. Cas. (BNA) 1585 (2014) and judgment amended, 606 Fed. Appx. 6 (D.C. Cir. 2015); Util. Air Regul. Grp. v. EPA, 573 U.S. 302 (2014).

question."[26] The court also rejected the claim that EPA should have declined to adopt the endangerment finding because of the inevitable regulatory burdens on both vehicles and stationary sources. Instead, the court ruled that the CAA required EPA to base the endangerment finding only on the facts before the Agency.[27] The D.C. Circuit also upheld the tailpipe standards. The U.S. Supreme Court heard appeals from the case on issues unrelated to the endangerment finding or the tailpipe standards. Thus, GHGs are now regulated under § 211 of the CAA.[28]

EPA's finding that GHGs endanger public health and welfare has implications beyond the vehicle tailpipe standards. For example, stationary sources that are required to obtain a preconstruction permit under the PSD program for conventional pollutants must also obtain a permit for any GHG emissions.[29] The Agency also issued GHG emission standards for certain airplanes and airplane engines under § 231.[30]

EPA has received several petitions requesting rulemaking on GHGs under various provisions of the CAA, none of which have garnered Agency responses as of the end of 2020. For example, EPA received several petitions asking the Agency to regulate GHG sources in the transportation sector, including ships and locomotives.[31] In addition, environmental groups petitioned EPA to issue NAAQS for GHGs, claiming that the § 202 endangerment finding satisfies the tests under § 108 and 109 for listing GHGs as criteria pollutants.[32]

Separately, EPA also received a petition to leverage § 115 of the CAA to regulate GHGs.[33] Section 115 governs international pollution and authorizes the Agency to restrict emissions from the United States that are causing or contributing to harmful pollution in another country. Relief is available only to those countries that provide equivalent protection to that provided by the United States. The petitioners claimed GHGs clearly are causing harm to other nations, and other nations are al-

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[26]Coalition for Responsible Regulation, Inc. v. E.P.A., 684 F.3d 102, 120, 74 Env't. Rep. Cas. (BNA) 2161 (D.C. Cir. 2012), judgment aff'd in part, rev'd in part on other grounds, 573 U.S. 302, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't. Rep. Cas. (BNA) 1585 (2014) and judgment amended, 606 Fed. Appx. 6 (D.C. Cir. 2015).

[27]Coalition for Responsible Regulation, Inc. v. E.P.A., 684 F.3d 102, 119, 74 Env't. Rep. Cas. (BNA) 2161 (D.C. Cir. 2012), judgment aff'd in part, rev'd in part on other grounds, 573 U.S. 302, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't. Rep. Cas. (BNA) 1585 (2014) and judgment amended, 606 Fed. Appx. 6 (D.C. Cir. 2015).

[28]The Supreme Court heard challenges to EPA's so-called "triggering rule" and "tailoring rule" and held that EPA exceeded its statutory authority when it required stationary sources to obtain PSD preconstruction permits or Title V operating permits based solely on their GHG emissions. The Court explained that even though the *Massachusetts* decision held that GHGs are an "air pollutant" for purposes of Title II, the context of the PSD and Title V programs suggests that a narrower interpretation of "air pollutant" is more appropriate. The Court ruled, however, that the so-called "anyway" sources whose emissions of *non-GHG* pollutants triggered the PSD or Title V permitting requirements could also be required to obtain permits for their GHG emissions. Thus, the court partially invalidated the triggering and tailoring rules. Utility Air Regulatory Group v. E.P.A., 573 U.S. 302, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't. Rep. Cas. (BNA) 1585 (2014).

[29]*UARG*, 573 U.S. at 333-34.

[30]86 Fed. Reg. 2136 (Jan. 11, 2021).

[31]Congressional Research Service. Cars, Trucks and Climate: EPA Regulation of Greenhouse Gases from Mobile Sources (R40506; Mar. 16, 2016), by James E. McCarthy & Brent D. Yacobucci.

[32]*See* Ctr. for Biological Diversity & 350.org, *Petition to Establish National Pollutant Limits for Greenhouse Gases Pursuant to the Clean Air Act* (Dec. 2, 2009), https://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf.

[33]*See* Inst. for Policy Integrity at NYU Law School, *Petition for Rulemakings and Call for Information under Section 115, Title VI, Section 111, and Title II of the Clean Air Act to Regulate Greenhouse Gas Emissions* (Feb. 19, 2013), https://www.epa.gov/petitions/petition-rulemakings-and-call-information-regulate-greenhouse-gas-emissions.

ready providing the necessary reciprocity through international commitments like the Paris Agreement.

§ 12:4 Early efforts to address air pollution before federal legislation

Prior to the dramatic expansion of federal environmental statutes in the 1970s, many pollution problems were addressed through common law cases, especially private and public nuisance, or through state and local statutes. Recognizing the limitations of these early efforts helps us understand why comprehensive federal legislation was eventually needed.

1. *Private Nuisance Claims*

Under common law, a private party may successfully sue for nuisance if the defendant has caused an intentional or unreasonable interference with the plaintiff's use and enjoyment of her land resulting in significant harm. One of the classic examples of a private nuisance suit brought to address air pollutants is *Madison v. Ducktown Sulfur, Copper & Iron Co.*, decided by the Tennessee Supreme Court in 1904.[1] The defendants were two companies operating copper smelters in Ducktown, Tennessee, and the plaintiffs were owners of nearby farms who claimed that the smoke coming from the open-air roasting pits was destroying their trees and crops, making their land less profitable (the smoke contained sulfur dioxide, causing acid rain in the surrounding area).

The appellate court enjoined operation of the smelters, but the Tennessee Supreme Court declined to do so. It readily acknowledged that the smelting operations were causing a private nuisance, but it was reluctant to shut them down because the smelters had significant economic value to the community. The court did grant monetary damages but, in the eyes of the plaintiffs, that did not solve the problem.

The *Madison* case highlights one of the many difficulties in trying to use private nuisance to address air pollution: the reluctance of courts to enjoin a defendant's economic activity and the inadequacy of monetary damages. Plaintiffs were also limited by having to show harm to property, rather than alleging health risks or aesthetic harms. It was also difficult for a single plaintiff to incur the litigation costs against a larger commercial or industrial defendant. More fundamentally, nuisance lawsuits address pollution only after the fact, rather than preventing the harm before it can occur in the first place.

2. Public Nuisance Claims

In the 1907 *Georgia v. Tennessee Copper Co.* case, the U.S. Supreme Court heard a suit about the air pollution from the very same Ducktown, Tennessee, copper smelters at issue in the *Madison* case. This time, however, the suit was brought by the State of Georgia under the public nuisance doctrine.[2] Public nuisance shares some commonalities with private nuisance, but such cases are brought by the state on behalf of the citizenry.

With a state plaintiff, the outcome in *Georgia* was very different than in *Madison*. As the Supreme Court noted, a state "is not lightly to be required to give up quasi-sovereign rights" and it is "a fair and reasonable demand on the part of a sovereign that the air over its territory should not be polluted on a great scale by sulphurous acid gas, that the forests . . . crops and orchards on its hills should not be

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[Section 12:4]

[1]Madison v. Ducktown Sulphur, Copper & Iron Co., 113 Tenn. 331, 83 S.W. 658 (1904).

[2]State of Ga. v. Tennessee Copper Co., 206 U.S. 230, 27 S. Ct. 618, 51 L. Ed. 1038 (1907).

endangered" by the nuisance.[3] Accordingly, the Supreme Court granted an injunction against the operation of the copper smelters.

The smelters, however, were never actually shut down. Instead, in 1915, the Court issued an injunction that limited the Ducktown smelter to no more than 20 tons of sulfur per day during the growing season (April to October) and to no more than 40 tons per day the rest of the year.[4]

That result highlights the limitations of public nuisance claims. Even if the court is inclined to grant injunctive relief to a state plaintiff, the court still may not be willing to shut down the polluting facility outright. Instead, the court essentially must become a regulator, determining how much pollution can be reduced and which technologies can be used, despite the judges lacking the technical expertise found today in regulatory agencies.

More generally, both public and private nuisance cases represent only piecemeal, inefficient efforts to address air pollution. While a single polluting source might be subject to the rare court order, many other polluters faced no judicial action whatsoever.

3. Early State and Local Laws

Long before the modern CAA, states and local jurisdictions attempted to adopt measures to address their air pollution problems. These efforts sometimes failed. Cities, for example, enacted smoke abatement ordinances, but often they did not specify the precise levels of emissions that were prohibited, making the requirements largely unenforceable.

In 1959, California became the first state to try to establish ambient air quality standards and to control emissions from vehicles. Without national coordination, however, emissions from other locales affected the air quality in California, and so the state-specific measures were not as effective as hoped.

§ 12:5 History of federal legislation to address air pollution

A. Federal Air Pollution Control and Air Quality Statutes of the 1950s and 1960s

Given the limitations of nuisance cases and state and local laws, in the 1950s Congress started to recognize the need for limited federal assistance. In 1955 Congress adopted the Air Pollution Control Act, the first national legislation specifically addressing air pollution. This statute emphasized that states retained the primary responsibility for addressing air pollution but directed the federal government to research the effects of air pollutants to help the states.[1] The law also authorized the Surgeon General to investigate air pollution problems upon the request of a state or local governmental agency.[2]

In 1960, Congress required a federal study, also led by the Surgeon General, to determine the health effects of automobile emissions.[3] Congress reiterated that instruction in 1962.[4]

In late 1963, President Johnson signed the first statute known as the Clean Air

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[3]State of Ga. v. Tennessee Copper Co., 206 U.S. 230, 237–38, 27 S. Ct. 618, 51 L. Ed. 1038 (1907).

[4]Georgia v. Tennessee Copper Co., 237 U.S. 474 (1915).

[Section 12:5]

[1]Pub. L. No. 84-159, 69 Stat. 322 (1955). For a detailed history of federal air pollution legislation, *see* Reitze, Jr., *Overview and Critique: A Century of Air Pollution Control Law: What's Worked; What's Failed; What Might Work*, 21 ENV'T. L. 1549 (1991).

[2]Pub. L. No. 84-159, *supra* note 1.

[3]Pub. L. No. 86-493, 74 Stat. 162 (1960).

[4]Pub. L. No. 87-761, 76 Stat. 760 (1962).

Act.[5] It encouraged states to cooperate on interstate pollution, but it also recognized that resolving disputes between neighboring states about air pollution might require federal intervention. However, the statute's mechanism for addressing interstate issues was unworkable, relying on a cumbersome process of conferences between polluters, states, and federal officials.

The 1963 statute also required the federal Department of Health, Education and Welfare (HEW) to develop "air quality criteria," which were scientific studies of air pollutants to be shared with the states.[6] There was no mandate, however, for the states to take further action in response to the criteria documents.

The Air Quality Act of 1967 ostensibly established the first federal "regulatory" scheme for air pollution, in that it actually directed the states to take certain measures in response to federal standards.[7] In particular, HEW was required, as in 1963, to issue air quality criteria. The Act also gave HEW further responsibilities, including writing "control technique" reports about the feasible means of reducing emissions and designating "air quality control regions." States were then required to adopt ambient air quality standards consistent with the HEW studies and develop "implementation plans" that would convert the ambient air quality standards into emission limits for individual sources.

Federal enforcement was slightly improved, in that HEW was authorized to seek federal court injunctions to address air pollution emergencies. However, the 1967 act did not impose any penalty on a state for failing to comply with the requirements for implementation plans. Instead, the complicated and unworkable conference procedures from the 1963 act continued into the 1967 act, with no meaningful enforcement as a result.

B. 1970 Clean Air Act Amendments

In 1970, Congress established much of the basic structure of the modern Clean Air Act with statutory amendments that fundamentally altered the air pollution policy of the nation.[8] The newly-created federal EPA was given significant responsibilities for setting and enforcing standards, while the states still played a critical role in the new federal-state partnership that came to be known as cooperative federalism.[9]

The legislation was officially called the Clean Air Act Amendments of 1970, because it was technically building on the 1967 statute, rather than starting entirely anew. The changes were so fundamental, however, that most practitioners simply refer to 1970 as the beginning of the modern Clean Air Act.

Of greatest significance, the 1970 amendments directed EPA to set national ambient air quality standards (NAAQS) that states would have to meet through measures incorporated into their state implementation plans (SIPs). The NAAQS were to be based on the air quality criteria, determined by the scientific studies that the federal government began to issue under the earlier statute for a few commonly occurring pollutants. Primary NAAQS must be set at a level necessary to protect public health with "an adequate margin of safety." Secondary NAAQS must be set to protect the "public welfare," defined to include visibility, crops, and wildlife, among other indicators.

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[5]Pub. L. No. 88-206, 77 Stat. 392 (1963).

[6]Public health and environmental matters fell under HEW's jurisdiction prior to EPA's establishment in 1970.

[7]Pub. L. No. 90-148, 81 Stat. 485 (1967).

[8]Pub. L. No. 91-604, 84 Stat. 1676 (1970).

[9]*See infra* Chapter 7, State Environmental Law and Programs, for an in-depth discussion of cooperative federalism.

The legislation specified several necessary elements of a SIP. These include emission limits on a wide variety of sources, methods to monitor, compile, and analyze data, assurances of adequate personnel, funding, and authority to carry out the SIP, and inspection and maintenance of motor vehicles. It set deadlines for states to submit SIPs and deadlines for EPA to approve or disapprove the state plans. The SIPs had to bring the states into compliance with the primary NAAQS within three years. EPA was authorized to develop its own implementation plan for any state not submitting an acceptable SIP, which is commonly referred to as a federal implementation plan (FIP).

In another significant innovation, the 1970 statute included a new § 111 that required EPA to set "standards of performance" for new or modified stationary sources of pollutants, based on the "best system of emission reduction" (BSER). These technology-based standards came to be known as New Source Performance Standards (NSPS) and were written for certain categories of new, modified, or reconstructed stationary sources that the Agency identified. The EPA-written NSPS apply directly to regulated sources, although states can apply for authority to implement and enforce the standards. The new provision also directed the Agency to establish a procedure for states to regulate existing sources in the identified categories.

EPA was also required to set standards under § 112 for both new and existing sources of "hazardous air pollutants" (HAPs). Rather than the technology-based standards of § 111, § 112 called for health-based standards, without regard to available technology, that would protect the public health with "an ample margin of safety." These § 112 standards came to be known as National Emission Standards for Hazardous Air Pollutants (NESHAPs). The NESHAPs, like the NSPS, were implemented and enforced either by EPA or by any state that applied for and obtained authorization from the Agency.

The 1970 amendments also established a significant federal role in limiting emissions from mobile sources. Congress set stringent tailpipe standards for 1975 model year vehicles, requiring emissions to be 90% lower than in 1970 models. The statute also authorized EPA to regulate fuels and fuel additives.

In § 113, Congress substantially improved EPA's enforcement authorities, allowing the Agency to enforce the statute with both civil and criminal actions and with administrative orders. In § 114, Congress granted the Agency administrative inspection and information collection powers.

In a major innovation, Congress also authorized "citizen suits," that is, suits by someone other than EPA against any other person (including a corporation or governmental entity) alleged to be in violation of an emissions standard under the statute. Critically, these plaintiffs could obtain injunctive relief. Citizens were also authorized to bring suit against EPA itself for failing to perform nondiscretionary duties. The plaintiffs must first give notice of their intent to sue, and they cannot bring suit if the federal or state government is diligently prosecuting parallel claims. Citizen suits are financially feasible because Congress also specified that the costs of litigation, including reasonable attorney and expert witness fees, may be awarded to the prevailing party.

C. 1977 Clean Air Act Amendments

By 1977, it was clear the aggressive ambitions of the 1970 statute were not being met. Many areas of the country were not even close to achieving the NAAQS, and many industrial facilities were not regulated at all or, if regulated, not meeting the standards that EPA had managed to issue. Thus, in 1977 Congress revised the CAA

to refocus EPA's efforts, primarily with two major steps.[10]

First, Congress codified the "prevention of significant deterioration" (PSD) program that EPA had already initiated in response to a court order under the earlier statute. One of the main elements of the PSD program was a preconstruction review and permitting requirement for new or modified "major emitting facilities" in areas of the country meeting the NAAQS, called "attainment areas." To obtain the PSD permit, new or modified sources in attainment areas would have to use the "best available control technology."

Second, Congress established requirements for areas of the country not meeting the NAAQS, called "nonattainment areas." The statute extended the deadline for compliance with the NAAQS until 1987 for ozone and carbon monoxide (earlier for other NAAQS), but required states to submit revised SIPs that included such steps as using "reasonably available control technology" (RACT) for all existing sources. The statute also established a permit program for major new or modified stationary sources in nonattainment areas, which would require the new or modified source to offset its emissions with reductions from other existing sources in the area. The permit program also required new sources to meet emissions limits reflecting the Lowest Achievable Emission Rate (LAER).

Congress made various other changes, scattered throughout the 1977 statute. For example, in § 111, Congress specified that many NSPS had to be based on the "best technological system of continuous emission reduction" to try to force the use of emissions-stripping technology rather than cleaner fuels. Congress also extended the deadlines for compliance with the vehicle emissions standards.

D. 1990 Clean Air Act Amendments

In 1990, after years of congressional debate about the weaknesses of the CAA and potential fixes, Congress wrote sweeping amendments to the statute that continue to be the governing law today.[11] The remainder of Chapter 12 explores the details of the most important elements of the 1990 statute, but below are some highlights:

- Nonattainment Areas: Although air quality was improving, many areas of the country were still not in compliance with one or more of the NAAQS. Congress greatly expanded the requirements for those nonattainment areas, extending the deadlines for compliance, but imposing detailed requirements to force some interim progress. On ozone, Congress differentiated between five different types of areas (from "marginal" nonattainment areas to "extreme") and demanded increasingly stringent measures based on the level of pollution. The new law also specified stronger sanctions for noncompliance.
- Vehicle Emissions, Engines and Fuels: The amendments tightened the emission standards for automobiles, trucks, and buses, as well as extended EPA's authority to regulate emissions from "non-road" vehicles and engines—such as for agriculture and construction—and required reformulated and alternative fuels in most polluted areas.
- Hazardous Air Pollutants (HAPs): Under the prior law, over a 20-year period, EPA had issued standards for only eight HAPs. This was largely because setting health-based limits was time-consuming and controversial, since the statute ostensibly required EPA to eliminate *all* health risks without regard to economic or technological constraints. Consequently, in 1990, Congress listed 189 HAPs for regulation and directed the Agency to issue standards based on the maximum achievable control technology (MACT). Congress also created a program to address the sudden, catastrophic releases of HAPs.

[10]Pub. L. No. 95-95, 91 Stat. 685 (1977).

[11]Pub. L. No. 101-459, 104 Stat. 2399 (1990).

- Acid Rain: Throughout much of the 1980s, Northeastern states raised substantial concerns about the effects of acid rain caused by emissions of sulfur dioxide and nitrogen oxides originating in the Midwest. In response, Congress imposed restrictions on those emissions from large power plants and adopted a highly innovative trading program for sulfur dioxide "allowances."[12]
- Visibility: Congress directed states and EPA to mitigate regional haze that interferes with visibility in national parks and other scenic areas.
- Operating Permits: Congress created a brand-new program requiring major emission sources to obtain operating permits that would consolidate all the various requirements applicable to a source—emission limits, monitoring requirements, reporting obligations, and so on—into one document.
- Stratospheric Ozone Protection: The 1990 statute implemented the Montreal Protocol, requiring a complete phase out, generally by 2000, of chlorofluorocarbons (CFCs) and other pollutants that destroy the stratospheric ozone layer.
- Expanded Enforcement Authorities: EPA was granted new authority to issue administrative penalty orders. Various civil and criminal penalties were enhanced. Citizens were now authorized to obtain penalties against violators, and not just injunctive relief.

In sum, during the 50-year evolution of the CAA, Congress has attempted to weave together the efforts of EPA, states, and tribes to address many different types of sources and air pollutants. The statute has grown increasingly complex as Congress has added new regulatory mechanisms and tried to improve existing measures to reduce air pollution in the United States. While progress has been made, new and ongoing air pollution problems require governmental agencies, regulated entities, and public health and environmental organizations to continue their work to implement this significant law.

II. NATIONAL AMBIENT AIR QUALITY STANDARDS*

§ 12:6 In general

The uniform national ambient air quality standards (NAAQS), promulgated by the Environmental Protection Agency (EPA), translate into specific numerical concentrations to fulfill the Clean Air Act's (CAA) fundamental objective that air pollution not endanger the public health or welfare. The NAAQS are levels of pollution in the outdoor air that available research indicates will not harm even those individuals who are particularly sensitive to specific pollutants.[1] They apply alike to the air over Los Angeles, the Grand Canyon, the farmland of southern Illinois, and the suburbs of Washington, D.C. The statute directs EPA to make certain that the standards will be attained and maintained throughout the country. Decades of CAA implementation have shown that the NAAQS are far more difficult to achieve in

[12]The acid rain allowance trading program served as an early model for the "cap and trade" programs currently in place or being considered for GHGs.

*By Elizabeth A. Hurst and Lauran M. Sturm (Sections 12.6-12.11), Updates prior to Fall 2021, by Phillip D. Reed, Alan J. Gilbert, Lawrence N. Curtin, and Susan L. Stephens.

[Section 12:6]

[1]The NAAQS apply to ambient air, "the portion of the atmosphere, external to buildings, to which the general public has access"; that is, the air outside of buildings and private fence lines. 40 C.F.R. § 50.1(e) (definition of "ambient air"). EPA's ambient air policy was broadened in 2019 to exclude "[t]he atmosphere over land owned or controlled by the stationary source . . . where the source employs measures, which may include physical barriers, that are effective in precluding access to the land by the general public." Memorandum from Andrew R. Wheeler, EPA Administrator, to Regional Administrators, Revised Policy on Exclusions from "Ambient Air" (Dec. 2, 2019), https://www.epa.gov/sites/production/files/2019-12/documents/ambient_air2019.pdf.

some areas than in others, sometimes due in significant part to uncontrollable factors such as weather and topography.[2] In response to this problem, Congress has granted areas with more persistent NAAQS attainment issues more time to reach attainment, provided they will agree to implement whatever additional control measures are needed for attainment purposes.[3]

While achievement of the NAAQS remains one of the central purposes of the CAA, additional objectives have been prioritized over the years. Control of hazardous air pollutants, curtailment of acid rain, and elimination of emissions of pollutants that cause deterioration of stratospheric ozone all are major themes of the Act after the 1990 Amendments, and each is largely independent of the NAAQS.

§ 12:7 The origins and evolution of federal air quality standards

The current system of nationally uniform air quality standards, attainment of which falls on both the states and the federal government, is a radical departure from earlier federal air pollution control schemes. Initially, air quality standards were merely tools to be used in cleaning up heavily polluted areas in order to attain levels of pollution that were "reasonable," considering health effects and the feasibility of pollution abatement. In the CAA of 1963,[1] Congress provided the Department of Health, Education, and Welfare (HEW) with authority to require abatement of "air pollution" in a complicated process involving conferences with polluters and state and federal officials. However, Congress failed to explicitly define "air pollution" in these efforts, and it required any kind of abatement to consider technological feasibility. The absence of this definition effectively deferred any decisions regarding how much cleaner the air should be and which of the many sources of contamination had to cut back their emissions (and by how much) to achieve that end.[2]

The 1967 Air Quality Act attempted to provide a basis for specifying acceptable levels of air pollution to provide a benchmark for cleanup discussions. In a provision later codified as § 108 of the current CAA, Congress directed HEW to promulgate a list of air pollutants that are emitted by numerous, widespread, and diverse sources and whose presence in the atmosphere could constitute a threat to public health and welfare. Congress also directed HEW to identify and recommend control techniques for those pollutants.[3] The federal government then had to publish "air quality criteria" for each such pollutant, which would describe possible health and

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[2]The effect of weather on NAAQS compliance is the subject of varying EPA policy decisions. *See, e.g.*, Memorandum from Mary Nichols, EPA Assistant Administrator for Air and Radiation, to Regional Directors of Air Divisions, Areas Affected by PM-10 Natural Events (May 30, 1996) (announcing the latest in a series of decisions to evaluate, and disregard where appropriate, PM-10 NAAQS violations caused by volcanoes, forest fires, and high-wind events). Likewise, weather can trigger waivers in regulatory requirements designed to achieve NAAQS and ozone pollution reduction (*see* above). For example, Hurricane Florence triggered a temporary Emergency Fuel Waiver in Georgia and Virginia in September 2018 (waiving federal Reid vapor pressure and reformulated gasoline requirements). *See* Letter to the Governors of Georgia and Virginia from the EPA Administrator, re: Revised Sept. 12, 2018 Fuel Waiver Concerning Conventional and Reformulated Gasoline in Georgia and Virginia (Sept. 13, 2018).

[3]Clean Air Act § 188(e)–(f), 42 U.S.C.A. § 7513(d)–(e).

[Section 12:7]

[1]Pub. L. No. 88-206, 77 Stat. 392 (1963).

[2]For a discussion of the failings of this system, *see* T. Jorling, The Federal Law of Air Pollution Control, *in* F. Anderson, FEDERAL ENVIRONMENTAL LAW 1058, 1068 (1974).

[3]Clean Air Act § 108(a), 42 U.S.C.A. § 7408(a).

welfare effects from varying concentrations.[4] The states were to use the criteria as the basis for air quality standards (i.e., maximum levels of emissions for the identified pollutants) for "air quality control regions,"[5] which generally were expected to be urban and industrial areas where concentrated populations were exposed to heavy pollution from numerous sources.

Thus, each state had to consider both health effects and available control technologies in setting air quality standards and could set different standards for different regions. If a state did not accept this invitation, HEW could promulgate air quality standards for that state's air quality control regions. Enforcement of the air quality standards, however, was still left to the states or to the cumbersome federal conference process.[6]

In 1970, authority under the CAA was transferred to the new EPA.[7] Along with this change, Congress quickly abandoned the notion of region-by-region air quality standards in favor of national clean air baselines, building this scheme on the existing air quality criteria. The 1970 Amendments in § 109 directed EPA to promulgate primary and secondary national ambient air quality standards for the criteria pollutants within 120 days.[8] The primary NAAQS would be set at a concentration necessary to protect the public health with an "adequate margin for safety," while secondary standards address harm to environmental and economic interests, such as "soils, water, crops," "manmade materials," "visibility, and climate," "economic values," and "personal comfort."[9] The primary standards had to be achieved within three years and the secondary standards within "a reasonable time."[10]

The switch from state-promulgated, regional air quality standards to national, health-based NAAQS was a major change in strategy designed to tear down some of the roadblocks to pollution control discovered in the decentralized approach of earlier federal acts. By basing the standards on health protection alone, Congress simplified the process and made possible stringent national standards. Had technical feasibility continued to be a factor in setting the NAAQS, EPA would have had to study the concentrations and sources of each pollutant in each area of the country, decide how much control of those sources was feasible, and promulgate national standards tuned to the area in which control was least feasible. Because the health effects of breathing a pollutant are the same everywhere in the country, the NAAQS could ignore regional differences in attainment feasibility.[11]

The NAAQS provisions of the Act were not of major concern when Congress substantially overhauled the CAA, first in 1977,[12] and again in 1990.[13] In 1977, Congress added a provision requiring EPA to review the air quality criteria and the

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[4]Clean Air Act § 108(b), 42 U.S.C.A. § 7408(b).

[5]Clean Air Act § 107(b)–(c), 42 U.S.C.A. § 7407(b)–(c).

[6]*See generally* Jorling, *supra* note 2; J. O'Fallen, *Deficiencies in the Air Quality Act of 1967*, 33 LAW & CONTEMP. PROBS. 275, 284-85 (1968).

[7]The Clean Air Act, as amended in 1967, was administered by the Department of Health, Education, and Welfare. In 1970, the authority was transferred to the new Environmental Protection Agency. Reorg. Plan No. 3 of 1970, 35 Fed. Reg. 15623 (1970).

[8]The Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1713. Clean Air Act § 109(a), 42 U.S.C.A. § 7409(a). Clean Air Act § 307(d)(10), 42 U.S.C.A. § 7607(d)(10), authorizes the EPA Administrator to extend such short deadlines to six months.

[9]Clean Air Act §§ 109(b), 302(h); 42 U.S.C.A. §§ 7409(b), 7602(h).

[10]Clean Air Act § 110(a)(2)(A), 42 U.S.C.A. § 7410(a)(2)(A).

[11]American Petroleum Institute v. Costle, 665 F.2d 1176, 1185, 16 Env't. Rep. Cas. (BNA) 1435, 11 Envtl. L. Rep. 20916 (D.C. Cir. 1981).

[12]Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685.

[13]Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399.

associated standards by 1980, and then every five years thereafter.[14] Congress also granted EPA one year to promulgate a short-term (three-hour) standard for nitrogen dioxide, unless the Agency concluded that such a standard was not necessary to protect public health and welfare.[15]

The 1977 Amendments required the EPA Administrator to submit proposed NAAQS to a new Science Advisory Board, but did not make the Board's approval a prerequisite to the adoption of standards.[16] The 1977 Amendments also added a new section, § 122,[17] which required EPA to study radioactive air pollutants, cadmium, arsenic, and polycyclic organic matter to determine whether they should be listed under § 109 NAAQS,[18] or the CAA's hazardous air pollutant provision, § 112.[19] The 1990 Amendments directed EPA to request a National Academy of Sciences study of the effectiveness of the secondary NAAQS in protecting human welfare and the environment, as well as the costs of achieving fully protective secondary NAAQS and related matters; the Academy was to report its findings to Congress by November 15, 1993.[20] All these changes were superficial, however, and the basic scheme of air quality standards on which the CAA's regulatory structure is built has remained essentially the same since 1970.

§ 12:8 Establishing air quality standards

As noted above in § 12:5, the primary NAAQS are established to protect public health with an adequate margin of safety, while the secondary standards are meant to protect the public welfare, including environmental and economic interests.[1] Because the Act does not mention consideration of cost or technological feasibility with respect to the primary standards, courts have interpreted this silence as "a deliberate decision by Congress to subordinate such concerns to achievement of health goals."[2] The statute does not define "protection of the public health," but this has been interpreted as a strict standard, intended to provide "an absence of adverse effects," included in which might be subclinical effects that alone do not signal immediate harm, but which do foreshadow future illness.[3] Highly sensitive groups are

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[14]Clean Air Act § 109(d), 42 U.S.C.A. § 7409(d).

[15]Clean Air Act § 109(c), 42 U.S.C.A. § 7409(c). Given the mandatory language of the statute and the large uncertainties in available scientific data, EPA deferred promulgation of a three-hour nitrogen dioxide standard. 57 Fed. Reg. 13498, 13521–22 (Apr. 16, 1992).

[16]American Petroleum Institute v. Costle, 665 F.2d 1176, 1188, 16 Env't. Rep. Cas. (BNA) 1435, 11 Envtl. L. Rep. 20916 (D.C. Cir. 1981).

[17]Clean Air Act § 122, 42 U.S.C.A. § 7422.

[18]Clean Air Act § 109, 42 U.S.C.A. § 7409.

[19]Clean Air Act § 112, 42 U.S.C.A. § 7412.

[20]Clean Air Act Amendments of 1990, § 817, Pub. L. No. 101-549, 104 Stat. 2697.

[Section 12:8]

[1]Clean Air Act §§ 109(b), 302(h); 42 U.S.C.A. §§ 7409(b), 7602(h).

[2]Lead Industries Ass'n, Inc. v. EPA, 647 F.2d 1130, 1149, 14 Env't. Rep. Cas. (BNA) 1906, 10 Envtl. L. Rep. 20643 (D.C. Cir. 1980), cert. denied, 499 U.S. 1042 (1980). The rationale is that where Congress intended EPA to consider cost and feasibility, it so provided, such as in new source performance standards in § 111, 42 U.S.C.A. § 7411. Without explicit permission in the Act, EPA may not consider costs. Whitman v. American Trucking Ass'n, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) (holding EPA is not authorized to consider implementation costs in setting NAAQS in determining the "adequate margin of safety"). *Compare* Natural Resources Defense Council, Inc. v. EPA, 824 F.2d 1146, 1163, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987) (en banc) (concluding EPA properly considered cost and technological feasibility while setting vinyl chloride national emission standards for hazardous air pollutants (NESHAPs), despite statutory silence on the issue).

[3]*Lead Indus. Ass'n*, 647 F.2d at 1153–54, 1158–59.

protected.[4] On this basis, standards are set below the lowest level of pollution at which scientists have identified adverse health effects. How *much* below depends on the determination of an adequate margin of safety and is within the Administrator's discretion.[5]

Although the statute requires that each standard be based solely on health considerations, concern over the cost and feasibility of attaining stringent standards can influence the EPA Administrator's judgment. An example would be how the Administrator relies on speculative data on the degree of risk; another would be how she determines an adequate margin of safety.[6]

The NAAQS are stated in terms of concentrations of pollutants in the ambient, or outdoor, air averaged over several time periods. The short-term standards allow air quality to exceed the standards (known in air pollution control jargon as an "exceedance") once per year. The concentrations and averaging periods differ from pollutant to pollutant, and some pollutants have multiple standards. The averaging period for the standard is generally selected to coincide with the duration of exposure associated with harmful health effects.[7]

§ 12:9 The criteria pollutants*

Sources and Health Effects of Air Pollution[1]

Pollutant	Sources	Health Effects
Ozone (O_3)	Secondary pollutant typically formed by chemical reaction of volatile organic compounds (VOCs) and NOx in the presence of sunlight.	Decreases lung function and causes respiratory symptoms, such as coughing and shortness of breath; aggravates asthma and other lung diseases leading to increased medication use, hospital admissions, emergency department (ED) visits, and premature mortality.
Particulate Matter (PM)	Emitted or formed through chemical reactions; fuel combustion (e.g., burning coal, wood, diesel); industrial processes; agriculture (plowing, field burning); and unpaved roads.	Short-term exposures can aggravate heart or lung diseases leading to respiratory symptoms, increased medication use, hospital admissions, ED visits, and premature mortality; long-term exposures can lead to the development of heart or lung disease and premature mortality.

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[4] *See, e.g.*, 43 Fed. Reg. 46246 (1978) (young children, age one to five years, are the protected group in lead ambient air quality standard rulemaking).

[5] American Petroleum Institute v. Costle, 665 F.2d 1176, 1187, 16 Env't. Rep. Cas. (BNA) 1435, 11 Envtl. L. Rep. 20916 (D.C. Cir. 1981) (courts will uphold the margin of error decisions so long as they are supported by the record and not based on "sheer guesswork"); American Trucking Ass'ns, Inc. v. EPA, 283 F.3d 355, 369–70, 54 Env't. Rep. Cas. (BNA) 1001, 32 Envtl. L. Rep. 20568 (D.C. Cir. 2002) (EPA is not required to establish a precise measure of the rise to safety it considers adequate every time it establishes a NAAQS).

[6] That might be implied from Senator Muskie's comment on the EPA Administrator's need to be "pragmatic" in setting NAAQS. 123 Cong. Rec. S9426 (daily ed. June 10, 1977), *quoted in Lead Indus. Ass'n*, 647 F.2d at 1153 n.43; *see also* Schoenbrod, *Goals Statutes or Rules Statutes: The Case of the Clean Air Act*, 30 UCLA L. REV. 740, 791 (1983) (because the statutory directive is so extreme, EPA must consider costs in setting NAAQS, but cannot admit it). *But see* Whitman v. American Trucking Ass'ns, 531 U.S. 457, 471, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) (rejecting the argument that § 109(b)(1) of the Act allows the consideration of cost by use of the terms "adequate margin of safety" or "requisite to protect").

[7] *See, e.g., American Petroleum Inst.*, 665 F.2d at 1186 (finding that "the Administrator's selection of the maximum hourly average method is reasonable because it is calculated to measure the maximum exposure, which has been found to be a relevant factor in determining the likely consequences of ozone exposure").

[Section 12:9]

*By Elizabeth A. Hurst and Lauran Sturm

[1] U.S. EPA, OUR NATION'S AIR: STATUS AND TRENDS THROUGH 2010, at 3 (2012) (EPA-454/R-12-001), *available at* https://www.epa.gov/sites/production/files/2017-11/documents/trends_brochure_2010.pdf.

Sources and Health Effects of Air Pollution[1]		
Pollutant	**Sources**	**Health Effects**
Lead	Smelters (metal refineries) and other metal industries; combustion of leaded gasoline in piston engine aircraft; waste incinerators; and battery manufacturing.	Damages the developing nervous system, resulting in IQ loss and impacts on learning, memory, and behavior in children. Cardiovascular and renal effects in adults and early effects related to anemia.
Oxides of Nitrogen (NO_x)	Fuel combustion (e.g., electric utilities, industrial boilers, and vehicles) and wood burning.	Aggravate lung diseases leading to respiratory symptoms, hospital admissions, and ED visits; increased susceptibility to respiratory infection.
Carbon Monoxide (CO)	Fuel combustion (especially vehicles).	Reduces the amount of oxygen reaching the body's organs and tissues; aggravates heart disease, resulting in chest pain and other symptoms leading to hospital admissions and ED visits.
Sulfur Dioxide (SO_2)	Fuel combustion (especially high-sulfur coal); electric utilities and industrial processes; and natural sources such as volcanoes.	Aggravates asthma and increased respiratory symptoms. Contributes to particle formation with associated health effects.

The 1970 Amendments to the CAA required EPA to promulgate standards for six pollutants.[2] Initially EPA promulgated air quality standards for sulfur dioxide, particulates, carbon monoxide, photochemical oxidants (ozone), hydrocarbons, and nitrogen dioxide. EPA deleted hydrocarbons from the list in 1983, concluding that this pollutant did not directly affect human health and that its contribution to smog was fully regulated by the NAAQS for ozone.[3] In 1978, EPA added lead to the list and promulgated standards.[4] This was in response to a court decision that EPA has a nondiscretionary duty to list pollutants if it has decided that they are widespread, emitted by numerous sources, and harmful to human health.[5] The current NAAQS cover sulfur dioxide, particulate matter, nitrogen oxide, carbon monoxide, ozone, and lead.[6] These pollutants, listed pursuant to § 108 of the CAA, became known as the "criteria pollutants," which term was derived from the CAA of 1963's mandate that required the Secretary of HEW to compile and publish criteria characterizing "the latest scientific knowledge" regarding the pollutant's effects on "public health and welfare."[7]

Whether because of bureaucratic conservatism and the difficulty of proving that EPA had made the requisite finding for other pollutants, or the soundness of the original listing, the Agency has not been required to list any other pollutants.[8] The courts have also upheld EPA's decision not to set NAAQS for pollutants known to be harmful and widespread where the pollutants were not well-understood, and the Agency planned to study them.[9]

Though there have been attempts to force EPA to regulate greenhouse gases

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[2]36 Fed. Reg. 22384 (Nov. 25, 1971), as amended at 63 Fed. Reg. 7274 (Feb. 12, 1998).

[3]48 Fed. Reg. 628 (Jan. 5, 1983).

[4]43 Fed. Reg. 46246 (Oct. 25, 1978), as amended at 73 Fed. Reg. 66964 (Nov. 12, 2008).

[5]Natural Resources Defense Council, Inc. v. Train, 411 F. Supp. 864, 868, 8 Env't. Rep. Cas. (BNA) 1695, 6 Envtl. L. Rep. 20366 (S.D. N.Y. 1976), order aff'd, 545 F.2d 320, 9 Env't. Rep. Cas. (BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976).

[6]For extensive information on each criteria air pollutant and its potential health impacts, *see* EPA's webpage, https://epa.gov/criteria-air-pollutants (last updated Mar. 22, 2021).

[7]*See* EPA's webpage, https://epa.gov/criteria-air-pollutants (last updated Mar. 22, 2021); *see also* Clean Air Act of 1963 § (3)(c)(2)–(3), Pub. L. No. 88-206, 77 Stat. 392, 395 (1963).

[8]The legislative history of the Act suggests that Congress expected EPA to greatly expand the list of criteria pollutants rather quickly. One commentator argues that EPA failed to live up to that expectation because of concern over its ability to carry out the mandate of the Act for the six pollutants for which listing was mandatory. D. Schoenbrod, *Goals Statutes or Rules Statutes: The Case of the Clean Air Act*, 30 UCLA L. REV. 740, 791–93 (1983).

[9]American Petroleum Institute v. Costle, 665 F.2d 1176, 1186, 16 Env't. Rep. Cas. (BNA) 1435, 11 Envtl. L. Rep. 20916 (D.C. Cir. 1981) (upholding decision to relabel photochemical oxidant standard as ozone standard, thereby not regulating other harmful photochemical oxidants, because EPA argued

(GHGs) through the NAAQS process, these attempts have not yet been successful. § 12:12 discusses the history of these attempts in detail.

§ 12:10 Establishing air quality standards—The NAAQS review process

Section 109(d)(1) of the CAA requires EPA to perform a review of *existing* NAAQS at five-year intervals and to revise the primary and secondary standards for the criteria pollutants as appropriate. The NAAQS are set or revised by the EPA Administrator through a complex review process that relies on a variety of scientific and other input.[1] The complexity of the process inevitably invites challenge, but the CAA immunizes NAAQS promulgation decisions from reversal for procedural irregularity unless the error is serious and material.[2] Due to the complexity of the process, the reviews can be lengthy and often exceed the five-year periodic review intervals. With limited success, EPA has attempted to institute changes to streamline the process, which generally consists of three phases: (1) planning; (2) scientific assessment; and (3) decision-making or regulatory development.

General Process

The planning phase begins with a call for information published in the *Federal Register*, requesting input from the public, industry, and the scientific and academic communities. EPA will also conduct workshops to obtain further relevant scientific information and policy issues relevant to the review. After this initial collection of information, EPA develops an Integrated Review Plan (IRP), which sets forth the process for conducting the review, projected timelines, and the key scientific and policy issues or questions to guide the review. A draft of the IRP is prepared by EPA and then provided to the Clean Air Scientific Advisory Committee (CASAC) and the public for comment and review.[3] CASAC serves as the independent scientific review committee that is required by § 109(d)(2)(A) of the CAA for the purposes of reviewing the scientific information and providing a recommendation to the EPA Administrator on revisions to the existing criteria and standards.[4] Once EPA reviews any comments from the public and CASAC, it prepares the final IRP.

The scientific assessment part of the review begins with an extensive search of the scientific literature to identify the lowest levels of pollution in the ambient air that have been shown to cause or contribute to adverse health effects for sensitive populations. Usually, EPA will announce its commencement of the review in the *Federal Register*; it will seek input on scientific and technical papers that should be considered in its review and invite submission of relevant information for preparation of the "Criteria Documents."

Generally, the Criteria Documents that are developed by EPA include:

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further study was needed concerning lesser-known oxidants).

[Section 12:10]

[1]The statute requires the same procedure for newly promulgated standards and revisions. Clean Air Act § 109(b)(1), (2), 42 U.S.C.A. § 7409(b)(1), (2). The early review process is well-described in *American Petroleum Inst.*, 665 F.2d at 1182–83, as pertaining to ozone.

[2]Clean Air Act § 307(d)(9)(D), 42 U.S.C.A. § 7607(d)(9)(D). Courts have upheld the EPA NAAQS process, even when flawed. *American Petroleum Inst.*, 665 F.2d at 1187.

[3]U.S. EPA, PROCESS OF REVIEWING THE NATIONAL AMBIENT AIR QUALITY STANDARDS, https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards (last updated Sept. 1, 2020) [hereinafter U.S. EPA, PROCESS OF REVIEWING THE NAAQS].

[4]Clean Air Act § 109(d)(2)(A), 42 U.S.C.A. § 7409(d)(2)(A) (requiring the EPA Administrator to "appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollutions control agencies").

1) Integrated Science Assessment (ISA),[5] which provides a focused review of the policy-relevant scientific information, including scientific judgments key to the risk and exposure assessments;
2) Risk and Exposure Assessment (REA), which provides a quantitative characterization of exposures and associated risks to human health or the environment; and
3) Policy Assessment (PA), which is often referred to as the "Staff Paper" and is the staff analysis of policy options based on integration and interpretation of information in the ISA and REA. The PA is intended to "bridge the gap" between the scientific assessments and the judgments required by the EPA Administrator in determining whether to retain or revise the standard.[6]

CASAC and outside interests scrutinize the draft Criteria Documents to ensure that the criteria are scientifically valid; the documents may be revised on the basis of the comments.[7] The studies may identify ranges of exposures that may be harmful, rather than single levels, and their results may carry a degree of uncertainty. However, reviewing courts are generally reluctant to assess the validity of the individual studies included in the criteria database selected by the Administrator; they will look instead at whether the EPA's ultimate decision was reasonable.[8] The Administrator may " 'err' on the side of overprotection," and courts will uphold the margin of safety decisions so long as the decisions are supported by the record and not based on "sheer guesswork."[9]

Once the PA is completed, EPA develops a noticed of proposed rulemaking (NPRM) setting forth the EPA Administrator's proposed decisions regarding the review of the NAAQS. Public input is provided in the form of comments to the proposal and through public hearings. After taking into account this additional feedback on the proposed decision, the Agency publishes a final rule, setting forth the EPA Administrator's final determination. The final rule also summarizes the advice of CASAC and justifies any departures from following the advice.[10]

If the EPA Administrator decides that the NAAQS need to be revised, EPA will also consider developing rulemaking packages covering the implementation of the new standard. Such rulemaking packages could include guidance for the states in developing the State Implementation Plans (SIPs), reference methods for measuring concentrations of the pollutant, and monitoring and surveillance requirements. (The implementation of the NAAQS is discussed in Part IV). Though costs cannot be

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[5]Prior to 2009, this document was referred to as the Air Quality Criteria Document (AQCD).

[6]U.S. EPA, PROCESS OF REVIEWING THE NAAQS, *supra* note 3.

[7]*See, e.g.*, Lead Industries Ass'n, Inc. v. EPA, 647 F.2d 1130, 1139–41, 14 Env't. Rep. Cas. (BNA) 1906, 10 Envtl. L. Rep. 20643 (D.C. Cir. 1980) (detailing development of the criteria document for lead).

[8]*See, e.g.,* American Petroleum Institute v. Costle, 665 F.2d 1176, 1186, 16 Env't. Rep. Cas. (BNA) 1435, 11 Envtl. L. Rep. 20916 (D.C. Cir. 1981); American Trucking Ass'ns, Inc. v. EPA, 283 F.3d 355, 372, 54 Env't. Rep. Cas. (BNA) 1001, 32 Envtl. L. Rep. 20568 (D.C. Cir. 2002).

[9]*American Petroleum Inst.,* 665 F.2d at 1186–87; *see also Lead Indus. Ass'n*, 647 F.2d at 1146–47. EPA describes its approach to the meaning of a "margin of safety" for NAAQS development in the preambles to the 1997 rulemakings adopting particulate matter (PM) and ozone NAAQS. 62 Fed. Reg. 38651, 38688 to 89 (July 18, 1997) (PM); 62 Fed. Reg. 38856, 38883 (July 18, 1997) (ozone). The Agency rejects mandatory use of a two-step approach in which the Administrator first picks a "safe" level for the NAAQS and then chooses a specific margin of safety considering cost and other social impacts. EPA prefers a case-by-case approach for the pollutant involved, in which the EPA Administrator articulates the judgmental factors taken into account to pick a margin of safety, but is not held to any particular decisional approach. 62 Fed. Reg. 38856, 38883 (July 18, 1997); *see also American Trucking Assn's*, 283 F.3d at 362 (employing "highly deferential" standard in reviewing EPA margin of safety and holding particulate and ozone levels chosen were rational in light of the scientific evidence).

[10]Section 307(d) of the CAA governs the rulemaking procedures. 42 U.S.C.A § 7607(d).

considered in the development of the *standard*,[11] EPA can at this stage take into consideration the costs and technological feasibility of the *control strategies* available to meet the requirements.

Costs and Reconsidering the Review Process

Non-scientific considerations often complicate the NAAQS review process. For instance, fierce debate over the role of the costs of compliance marked the 1997 promulgation of new and revised particulate matter and ozone standards.[12] EPA received a widely disparate set of rulemaking comments, and there were intense differences of opinion within the Clinton Administration. Some commentators suggested that the uniform findings of previous judicial decisions were wrong, and that consideration of cost should always play a role in the standard-setting process.[13] Others pointed to the extremely controversial scientific underpinnings of the new particulate standards and argued that, in such circumstances, cost should be a factor heavily weighed. Still others pointed to the government's own studies showing that the cost of the new ozone standards outweighed their benefits to public health and the environment; these critics argued that the standards should not be promulgated at all.[14] EPA promulgated the 1997 particulate and ozone standards in the face of this cost-benefit controversy, but only following the issuance of a favorable Presidential decision and memorandum.[15] The Supreme Court has since found the text of CAA § 109(b) to be clear in prohibiting EPA from considering implementation costs when it establishes NAAQS.[16]

Over the years, both Democratic and Republican administrations have attempted to improve or streamline the review process. Not only can the extensive amount of time to conduct the periodic reviews exacerbate health and environmental concerns, but it can cause delays in implementation of the *standards* and monitoring of areas for compliance by the states, local governments, and tribes. In addition, the lengthy review process raises concerns over the effect on the economy for the nonattainment areas, industry compliance with new control measures, and the ability to obtain timely air permits to expand or attract new businesses the area. During the Clinton Administration, EPA Administrator Carol Browner tasked her staff with streamlining the review process for the periodic review of the ozone standard that was to be completed in 1997. After consultation with CASAC, certain measures were put in place in an attempt to accelerate the process, such as concurrently drafting the Staff Paper and reviewing the drafts of the Criteria Documents, developing strict schedules for external review of the draft Criteria Documents and the Staff Paper, and reducing the volume of information included in the revised Criteria Documents

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[11]Whitman v. American Trucking Ass'ns, 531 U.S. 457, 471, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001).

[12]*See, e.g.*, Minority Laments GOP Focus on Cost in Senate PM/Ozone Hearing, Inside EPA's Clean Air Rep., Feb. 6, 1997, at 4; Governors Debate Use of Cost-Benefit Analysis in PM/Ozone Regs, Inside EPA's Clean Air Rep., Jan. 23, 1997, at 12.

[13]62 Fed. Reg. 38652 (July 18, 1997). The positions of commenters are described in EPA's preamble discussions, 62 Fed. Reg. at 38683 to 88 (particulate NAAQS); 62 Fed. Reg. at 38878–83 (ozone NAAQS).

[14]62 Fed. Reg. 38652 (July 18, 1997).

[15]Memorandum from President Clinton to the Administrator of the Environmental Protection Agency, *Implementation of Revised Air Quality Standards for Ozone and Particulate Matter* (July 16, 1997), 62 Fed. Reg. 38421 (July 18, 1997). The memorandum is accompanied by a detailed attachment titled: *Implementation Plan for Revised Air Quality Standards.* 62 Fed. Reg. 38423 (July 18, 1997).

[16]*Whitman*, 531 U.S. at 471. The Court also determined that other CAA provisions requiring cost considerations have no impact on the issue of whether EPA may take into account costs when it sets NAAQS. *Whitman*, 531 U.S. at 470–71.

by limiting the number of studies to those deemed the most important.[17]

In 2006, during the Bush Administration, the EPA announced further changes to the review process that were intended to hasten the process. Most notably, the EPA recommended convening a scientific workshop at the beginning of every review cycle to assist in developing an integrated planning document to guide the review; restructuring the Air Quality Criteria Document (AQCD) into a more focused scientific assessment (now the ISA); requiring a new stand-alone Risk and Exposure Assessment document focused on the key issues; and eliminating the Staff Paper, replacing it with a policy assessment to be published in the *Federal Register* as an Advance Notice of Proposed Rulemaking (ANPR).[18] In 2009, the Obama Administration conducted a review of the process and retained many of these reforms. However, the EPA Administrator eliminated the practice of publishing a policy assessment as an ANPR and restored the Staff Paper, stating the ANPR approach both caused delays in issuing the final review and introduced policy options that were not supported by the science.[19]

The Trump Administration's later review of the process was touted as a "Back-to-Basics" approach.[20] The EPA Administrator implemented a series of sweeping reforms, beginning in 2018 with a directive that changed qualifications for membership to the EPA Advisory Committees, such as CASAC. Specifically, the directive barred nongovernmental recipients of EPA scientific research grants from serving on CASAC, under the rationale this created a conflict of interest.[21] This particular change to the membership of the Advisory Committees was later vacated in 2020 by the U. S. District Court for the Southern District of New York as being arbitrary and capricious under the Administrative Procedures Act;[22] by then, however, EPA had replaced all the prior members of CASAC.

Under the Trump Administration, EPA also issued a proposed rule, christened *Strengthening Transparency in Regulatory Science*, that would limit the Agency's consideration of scientific studies to those for which the underlying data could be made public.[23] The panel of experts for review of certain standards was also

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[17]59 Fed. Reg. 5164–65 (Feb. 3, 1994).

[18]Memorandum from Marcus Peacock, EPA Deputy Administrator, to George Gray, Assistant Administrator for Research and Development, and Bill Wehrum, Acting Assistant Administrator for Air and Radiation, *Process for Reviewing National Ambient Air Quality Standards* (Dec. 7, 2006), https://www3.epa.gov/ttn/naaqs/pdfs/memo_process_for_reviewing_naaqs.pdf.

[19]Memorandum from Lisa P. Jackson, EPA Administrator, to Elizabeth Craig, Acting Assistant Administrator for Air and Radiation, and Lek Kadeli, Acting Assistant Administrator for Research and Development, *Process for Reviewing National Ambient Air Quality Standards* (May 21, 2009), https://www3.epa.gov/ttn/naaqs/pdfs/NAAQSReviewProcessMemo52109.pdf.

[20]Memorandum from E. Scott Pruitt, EPA Administrator, to Assistant Administrators, *Back-to-Basics Process for Reviewing National Ambient Air Quality Standards*, (May 9, 2018), https://www.epa.gov/sites/production/files/2018-05/documents/image2018-05-09-173219.pdf.

[21]Memorandum from E. Scott Pruitt, EPA Administrator, *Strengthening and Improving Membership on EPA Federal Advisory Committees* (Oct. 31, 2017), https://www.epa.gov/sites/production/files/2017-10/documents/final_draft_fac_directive-10.31.2017.pdf.

[22]Natural Resources Defense Council, Inc. v. EPA, 438 F. Supp. 3d 220, 231 (S.D. N.Y. 2020); *see also* Physicians for Social Responsibility v. Wheeler, 956 F.3d 634, 647–48 (D.C. Cir. 2020) (holding EPA violated the APA by failing to adequately justify the directive); *But cf.* Union of Concerned Scientists v. Wheeler, 377 F. Supp. 3d 34, 45 (D. Mass. 2019), *aff'd in part, rev'd in part and remanded*, 954 F.3d 11 (1st Cir. 2020) (finding EPA Administrator's directive was not judicially reviewable), *aff'd in part, rev'd in part and remanded*, 954 F.3d 11, 22 (1st Cir. 2020) (finding no claim under the APA, but remanding to lower court to consider if directive violated requirements of the Federal Advisory Committee Act (FACA)).

[23]83 Fed. Reg. 18768 (Apr. 30, 2018); 83 Fed. Reg. 15396 (Mar. 18, 2020) (*suppl. notice of proposed rulemaking*); 85 Fed. Reg. 21340 (Apr. 17, 2020) (extending comment period to May 18, 2020) The rule

eliminated.[24] In the past, CASAC utilized these expert panels to assist in areas where CASAC lacks expertise. After an outcry from the scientific community, EPA appointed 12 consultants for the 2020 ozone and particulate matter periodic reviews to assist CASAC, but limited the assistance to written questions to be submitted solely through the chair of CASAC. The Agency also curtailed the number of reviews CASAC could conduct of the draft EPA Criteria Documents and tightened scheduling deadlines. Though the periodic review of the particulate matter standard was completed on schedule, the public and scientific community raised concerns about the impact that limiting CASAC's review might have on any challenges to EPA's decision to retain the standard.[25]

At the time of this publication, the newly elected President Joseph Biden issued the Executive Order on Protection Public Health and the Environmental and Restoring Science to Tackle the Climate Process, requesting EPA to reconsider, revise, or rescind the Trump-era policies and rules regarding the NAAQs review process.[26] Thus, the review process will likely be revised again.

§ 12:11 Revising the standards

The NAAQS are not static targets. Several of the original NAAQS were changed relatively early and, as amended in 1977, the CAA directs EPA to review the standards every five years and to revise them if the Agency deems such revision necessary.[1] The history of revising the primary and secondary standards for some of the criteria pollutants has been the subject of controversy. The revision process has been historically slow;[2] EPA generally cannot be hastened, so long as its review proceeds in accordance with the deadlines.[3] Ironically, earlier changes to the standards generally permitted more pollution.[4]

The history of the review and revision of the standards for each of the existing air

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was finalized shortly before President Trump left office, 86 Fed. Reg. 469 (Jan. 6, 2021), but was then rescinded by President Biden in his January 20, 2021 Executive Order, *see infra* note 26). *See also* Herron, Jonathan Klonowski, Cassandra Rios, *Strengthening Transparency in Regulatory Science: The Environmental Protection Agency's Proposal to Internally Regulating Science*, 17 J. SCI. POL'Y & GOVERNANCE, (Sept. 20, 2020).

[24]Sean Reilly, *Trump's EPA Scraps Air Pollution Science Review Panels*, SCIENCEMAG (Oct. 12, 2018), *available at* http://www.sciencemag.org/news/2018/10/trump-s-epa-scraps-air-pollution-science-review-panels.

[25]H. Christopher Frey, *Impacts of Ad Hoc Changes to the Science Review Process for the U.S. Air Quality Standards*, EM 18 (Dec. 2020), *available at* https://issuu.com/awma21/docs/emdec20.

[26]Exec. Order No. 13990 (Jan. 20, 2021), http://www. whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/.

[Section 12:11]

[1]Clean Air Act § 109(d)(1), 42 U.S.C.A. § 7409(d)(1); *see* Environmental Defense Fund v. Thomas, 27 Env't. Rep. Cas. (BNA) 2008, 18 Envtl. L. Rep. 21394, 1988 WL 36332 (S.D.N.Y. 1988), order rev'd, 870 F.2d 892, 29 Env't. Rep. Cas. (BNA) 1242, 19 Envtl. L. Rep. 20660 (2d Cir. 1989) (holding that EPA must review the NAAQS, but whether to revise them is left to Agency's discretion), *rev'd*, 870 F.2d 892, 900 (2d Cir. 1989) (holding that Administrator does not have nondiscretionary duty to revise NAAQS, but must complete review and issue final decision to revise or not revise).

[2]*See* Comment, *Marking Time: The Clean Air Act Between Deadlines*, 15 ENVTL. L. REP. 10022, 10023–24 (1985) (discussing the fits and starts of efforts to revise the primary and secondary standards).

[3]Consolidation Coal Co. v. Costle, 483 F. Supp. 1003, 1014, 10 Envtl. L. Rep. 20296 (S.D. Ohio 1979) (finding that Administrator did not abuse discretion by not expediting review of secondary sulfur dioxide standard, which plaintiff alleged to be more stringent than necessary according to recent studies).

[4]The 1979 revision of the photochemical oxidant standard raised the standard by 50%. The original NAAQS for sulfur dioxide included an annual standard of 60 micrograms per cubic meter and a 24 -hour standard of 260 micrograms per cubic meter.

quality criteria pollutants history is discussed below, with particular emphasis on the complicated and lengthy history of the Particulate Matter and Ozone standards. This section concludes with a table summarizing the current NAAQS for each criteria pollutant at the time of publication.

Particulate Matter

On July 1, 1987, EPA promulgated regulations replacing the particulate matter (PM) standard—then measured in terms of total suspended particulates (TSP)—with a standard that addresses only those particles small enough to be breathed into the lungs (*i.e.*, 10 microns in diameter or less).[5]

The new standard, long in the works, required a wholesale revision of the entire regulatory scheme for particulate control.[6] On April 27, 1990, the U.S. Court of Appeals for the District of Columbia upheld the new PM NAAQS in most respects.[7]

EPA then broke new ground with its promulgation of a revised suite of NAAQS for particulate matter in 1997. These standards introduced new limits on ambient concentrations of particles of aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), while continuing to regulate particles between 10 microns and 2.5 microns in diameter (PM_{10}).[8]

All previous NAAQS had been based on one or more specifically targeted, biologically described health effects, such as a decrease in lung function.[9] The 1997 standards for particles of 2.5 microns or less differ significantly because they are grounded in the results of epidemiological studies.[10] These types of studies use statistical methods to tie greater pollution from particulate matter to an increased incidence of hospital and emergency room admissions, school absences, work-loss days, and restricted-activity days.[11] EPA was unable to identify a specific biological mechanism causing the problems it was trying to correct with these standards.[12]

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[5]52 Fed. Reg. 24634 (July 1, 1987).

[6]The PM_{10} standard was proposed in 1984. 49 Fed. Reg. 10408 (Mar. 20, 1984). The new NAAQS had to be accompanied by a new reference method for measuring particulates in the air, 52 Fed. Reg. 24724 (1987), new monitoring and reporting rules, 52 Fed. Reg. 24736 (1987), new SIP rules, 52 Fed. Reg. 24672 (1987), a new fugitive dust policy, 52 Fed. Reg. 24716 (1987) (proposal), and other regulatory revisions, 52 Fed. Reg. 24634 (1987). Later, EPA announced plans to approve a method for determining attainment of the PM_{10} standard, and to authorize states to use this method in their PM_{10} SIPs. 53 Fed. Reg. 11688 (Apr. 8, 1988). The magnitude of the job required to revise this standard illustrates why EPA cannot lightly initiate major changes in the NAAQS.

[7]Natural Resources Defense Council, Inc. v. EPA, 902 F.2d 962, 31 Env't. Rep. Cas. (BNA) 1233, 20 Envtl. L. Rep. 20891 (D.C. Cir. 1990), opinion vacated in part, 921 F.2d 326 (D.C. Cir. 1991). The court rejected a variety of industry and environmental group challenges to the standards, including the claim that EPA was arbitrary and capricious because it failed to consider the adverse health effects that would result from unemployment allegedly to be caused by the new rules. *NRDC, Inc.*, 902 F.2d at 973. The court did hold that EPA's indefinite postponement of a decision on whether to set a secondary standard to control acid deposition constituted final agency action and remanded the matter to EPA for an explanation of that action. *NRDC, Inc.*, 902 F.2d at 988.

[8]62 Fed. Reg. 38652 (July 18, 1997).

[9]The 1997 ozone standards are based in substantial part on acute, transient decreases in lung function, experienced by active children, outdoor workers, and individuals with respiratory disease, when ozone levels are exceeded. 62 Fed. Reg. 38856, 38859 (July 18, 1997). These standards, after several challenges, were ultimately upheld in 2002. American Trucking Ass'ns, Inc. v. EPA, 175 F.3d 1027 (D.C. Cir. 1999), *reh'g granted in part and denied in part*, 195 F.3d 4 (D.C. Cir. 1999), *aff'd in part and rev'd in part*, Whitman v. American Trucking Ass'ns, 531 U.S. 457, 31 ELR 20512 (2001) on remand to, American Trucking Ass'ns, Inc. v. EPA, 283 F.3d 355, 32 ELR 20568 (D.C. Cir. 2002).

[10]62 Fed. Reg. 38656–57 (July 18, 1997).

[11]62 Fed. Reg. 38652, 38656 (July 18, 1997).

[12]62 Fed. Reg. 38652, 38657 (July 18, 1997). The Agency calls the "lack of demonstrated mechanisms" to support epidemiological findings an "important caution." 62 Fed. Reg at 38657. EPA is-

The 1997 $PM_{2.5}$ standard was upheld, nonetheless.[13]

In 2006, EPA once again revised the PM_{10} and $PM_{2.5}$ standards. Annual $PM_{2.5}$ remained at 15 micrograms per cubic meter (ug/m3).[14] EPA revised the 24-hour $PM_{2.5}$ standard from 65 to 35 ug/m3. EPA also retained the 24-hour PM_{10} standard but revoked the annual PM standard.[15]

In 2009, the U.S. Court of Appeals for the D.C. Circuit remanded parts of the 2006 revised standards to EPA for reconsideration. Its rationale was that the agency had not adequately explained why the primary annual $PM_{2.5}$ level (15 ug/m3) was sufficient to protect public health while providing an adequate margin of safety, as required by CAA § 109(b)(1). The Court also remanded the secondary standard for $PM_{2.5}$, holding that the agency had "unreasonably concluded that the NAAQS are adequate to protect the public welfare from adverse effects on visibility."[16] The Court denied petitions to review the primary daily PM_{10} standard and EPA's revocation of the primary annual PM_{10} standard.

In response, EPA revised the annual $PM_{2.5}$ level to 12.0 micrograms per cubic meter to provide more protection against health impacts associated with long-term and short-term exposure.[17] EPA also maintained the general suite of secondary PM standards, except for removing the option for spatial averaging for annual $PM_{2.5}$.[18]

EPA issued a Call for Information to assist with an ISA as part of its review of the primary and secondary PM standards on December 3, 2014.[19] EPA then released the draft ISA in October 2018.[20] After reviewing the draft ISA, CASAC expressed concerns about the insufficient assessment of health impacts of PM exposure and the evidence used for causal determinations.[21] EPA responded to those concerns in a letter dated July 25, 2019, and in a final ISA released in January 2020.[22] On April 30, 2020, EPA proposed to retain the current primary and secondary standards, without revision.[23] EPA announced its final decision to retain the standards on December 7, 2020.[24] On February 9, 2021, the Center for Biological Diversity petitioned for review of EPA's final rule in the D.C. Circuit Court of Appeals.[25] On February 16, 2021, several states and the City of New York, as well as a group of

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sued the Office of Air Quality Planning and Standard's assessment of the policy implications of the latest scientific and technical information on particulate matter on June 30, 2005. U.S. EPA, REVIEW OF THE NATIONAL AMBIENT AIR QUALITY STANDARD FOR PARTICULATE MATTER: POLICY ASSESSMENT OF SCIENTIFIC AND TECHNICAL INFORMATION (2005) (EPA-452/R-05-005).

[13]*American Trucking Ass'ns*, 175 F.3d at 1055–56.

[14]71 Fed. Reg. 61144 (Oct. 17, 2006).

[15]71 Fed. Reg. 61144 (Oct. 17, 2006).

[16]American Farm Bureau Federation v. EPA, 559 F.3d 512, 519, 68 Env't. Rep. Cas. (BNA) 1417 (D.C. Cir. 2009).

[17]78 Fed. Reg. 3086–88 (Jan. 15, 2013).

[18]78 Fed. Reg. 3086–88 (Jan. 15, 2013).

[19]79 Fed. Reg. 71764 (Dec. 3, 2014).

[20]83 Fed. Reg. 53471 (Oct. 23, 2018).

[21]Letter from Dr. Louis Anthony Cox, Jr., CASAC Chair, to Andrew Wheeler, EPA Administrator (Apr. 11, 2019), https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebReportsLastMonthCASAC/6CBCBBC3025E13B4852583D90047B352/%24File/EPA-CASAC-19-002+.pdf; Letter from Dr. Louis Anthony Cox, Jr., CASAC Chair, to Andrew Wheeler, EPA Administrator (Dec. 16, 2019), https://yosemite.epa.gov/sab/sabproduct.nsf/WebCASAC/E2F6C71737201612852584D20069DFB1/$File/EPA-CASAC-20-001.pdf.

[22]85 Fed. Reg. 4655 (Jan. 27, 2020).

[23]85 Fed. Reg. 29094 (Apr. 30, 2020).

[24]Final Rule, Review of the National Ambient Air Quality Standards for Particulate Matter, 85 Fed. Reg. 82684 (Dec. 18, 2020).

[25]Pet. for Review, Center for Biological Diversity v. EPA, No. 21-1054 (D.C. Cir. Feb. 9, 2021), htt

non-governmental organizations, also petitioned EPA for reconsideration of its decision.[26]

Ozone

The revisions to the Ozone standard have been a particularly complicated and lengthy process, fraught with controversy and implementation issues. In the beginning, EPA, based on a 1970 Criteria Document prepared by the HEW, set the initial primary and secondary standards for photochemical oxidants as an hourly average of .08 parts per million (ppm), not to be exceeded more than one hour per year; these standards went into effect in 1971.[27] EPA announced the first review of this initial standard in 1977.[28] When EPA published the final revised AQCD, it also proposed: (1) changing the chemical designation of the standard from photochemical oxidants to ozone; (2) raising the primary standard to 0.10 ppm, but keeping the 1971 secondary standard of 0.08 ppm; and (3) changing to standards with a statistical form (i.e., expected exceedances) rather than a deterministic form (i.e., not to be exceeded more than *x* number of times of a year).[29] After reviewing the public comments to the proposals, EPA made a final decision in 1978 to: (1) change the chemical designation to ozone; (2) raise the primary and secondary standards to 0.12 ppm; and (3) define attainment of the standard to be when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is equal to or less than one.[30]

In 1982, EPA announced it would review and revise the 1978 AQCD for ozone.[31] Initially, CASAC sent the EPA Administrator a closure letter on October 22, 1986, stating its assessment of the scientific studies was complete as evidenced by the 1986 Criteria Document. After reviewing a draft Staff Paper, however, CASAC determined that sufficient new information existed such that the 1986 Criteria Document should be supplemented with the additional information. After reviewing and collecting new and additional information, CASAC finally issued a May 1, 1989, closure letter to the EPA Administrator, stating that the 1986 Criteria and the last 1989 supplements provided an adequate scientific basis for EPA to revise or retain the primary and secondary standards.[32] Frustrated with EPA's ongoing failure to meet the five-year review of the ozone standard, the American Lung Association and other plaintiffs filed suit on October 22, 1991, asking the court to compel EPA to finish its review.[33] In February 1992, the U.S. District Court for the Eastern District of New York signed a Consent Order requiring EPA to publish its proposed decision in the *Federal Register* by August 1, 1992, and its final decision before March 1, 1993.[34]

In the Agency's ongoing reassessment of the ozone standard, EPA had considered tightening the 24-hour standard from 0.12 ppm to either 0.08 or 0.10 ppm. The

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p://www.epa.gov/sites/production/files/2021-02/documents/cbd_21-1054_pfr_02092021.pdf.

[26]Pet. for Review, State of New York v. EPA, No. 21-1028 (D.C. Cir. Jan. 19, 2021), https://www.chamberlitigation.com/sites/default/files/cases/files/21212121/Petition%20for%20Review%20—%20New%20York%20v.%20EPA%20%28D.C.%20Circuit%29.pdf; Pet. for Review, American Lung Assoc. et al., v. EPA, Docket No. 21-1027 (D.C. Cir. Jan. 19, 2021), https://www.epa.gov/sites/production/files/2021-01/documents/ala_21-1027_pfr_01192021.pdf.

[27]36 Fed. Reg. 8186–87 (Apr. 30, 1971).

[28]42 Fed. Reg. 20493 (Apr. 20, 1977).

[29]43 Fed. Reg. 26962 (June 22, 1978).

[30]44 Fed. Reg. 8202 (Feb. 8, 1979).

[31]47 Fed. Reg. 11561 (Mar. 17, 1982).

[32]58 Fed. Reg. 13008–13010 (Mar. 9, 1993).

[33]Compl., American Lung Ass'n. v. Reilly, No. 91-CV-4114 (E.D.N.Y. Oct. 22, 1991).

[34]Order and Final J., American Lung Ass'n v. Reilly., No. 91-CV-4114 (E.D.N.Y. Feb. 28, 1992); 58 Fed. Reg. 13008–13010 (Mar. 9, 1993).

Agency reportedly decided to put off this determination, pending resolution of the controversy over how to address the air quality control regions in nonattainment for ozone after the 1987 attainment deadline.[35] Thus, on August 10, 1992, EPA announced that in addition to missing the 1985 and 1990 five-year periodic reviews, it would also not meet the deadlines in the *American Lung Association* court order.[36] Instead, EPA proposed to retain the 1979 primary and secondary ozone standards, based on the 1986 Criteria Document and the 1989 supplement, which contained studies through early 1989. EPA's reasoning was that it would require another two to three more years to review the additional 1,000 studies made available since 1989, and as such, the Agency could not make a final decision on its review of the standard by the court-ordered deadline of March 1, 1993. In order to meet the court's deadline, EPA proposed making a decision on the 1986 Criteria Documents to *not* tighten the ozone standard and to retain the standard in its previous form; EPA would then proceed immediately with the next review.[37] On March 9, 1993, EPA published its final decision, stating that, based on the 1986 Criteria Documents, a revision to the ozone secondary and primary standards was not appropriate and that the Agency would complete the next periodic review on an expedited schedule.[38]

Following the announcement of the 1993 final decision, EPA initiated discussions with CASAC on how to expedite the next review process; this discussion culminated in a 1994 formal announcement of the process and schedule.[39] In 1996, EPA announced its proposal to lower the primary and secondary standard to 0.08 ppm, eliminating the one-hour averaging time and replacing it with an eight-hour averaging time.[40] On July 18, 1997, EPA announced its decision to revise the ozone standard to 0.08 ppm averaged over an eight-hour period.[41] An area would be considered in attainment when the three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration was less than or equal to 0.08 ppm.[42] The elimination of the one-hour averaging time highlighted a shift in EPA's view of ozone from a public health concern that was limited to peak traffic times to one that could affect public health for several hours during the day.[43]

Eleven more years elapsed before EPA completed its next periodic review of the ozone standard. The Agency began the process of reviewing the 1997 standard in 2000, but did not complete the review within the mandated five-year period ending in 2002. As a result of the delay, environmental organizations in March 2003 once again sued EPA, asking the court to compel EPA to perform the review.[44] The court issued a Consent Decree, ordering EPA to sign the publication notices of proposed rulemaking by June 20, 2007, with the final rule to be published by March 12,

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[35]EPA Reportedly to Reaffirm 0.12 Ozone Standard, Add 8-Hour Based on Health, Inside EPA's Clean Air Rep., May 8, 1987, at 1.

[36]57 Fed. Reg. 35542–35546 (Aug. 10, 1992).

[37]57 Fed. Reg. 8429 (Mar. 10, 1992) (comments sought on consent decree); 58 Fed. Reg. 13008 (Mar. 9, 1993).

[38]58 Fed. Reg. 13008–13016 (Mar. 9, 1993).

[39]57 Fed. Reg. 38832 (Aug. 27, 1992); 59 Fed. Reg. 5164–5165 (Feb. 3, 1994).

[40]61 Fed. Reg. 29719–29722 (June 12, 1996).

[41]62 Fed. Reg. 38856 (July 18, 1997).

[42]62 Fed. Reg. 38856 (July 18, 1997).

[43]57 Fed. Reg. 38832 (Aug. 27, 1992).

[44]Compl. for Declaratory and Injunctive Relief, American Lung Ass'n v. Whitman, No. 1:03CV00778 (D.D.C. Mar. 31, 2003).

2008.[45]

EPA fulfilled its mandate under the Consent Decree in March 2008 when it tightened the ozone NAAQS, revising the primary eight-hour standard to 0.075 ppm (from 0.08).[46] EPA set the secondary standard to be identical to the primary standard. The revised standards require that the three-year average of the annual fourth-highest daily maximum 8-hour average at every ozone monitor be less than or equal to the level of the standard.

EPA's decision on the primary standard resulted in conflict between the Agency and CASAC. Following EPA's announcement on the 2008 primary standard, the chair of the 23-member CASAC ozone review panel wrote to the EPA Administrator, stating that the limit was still not restrictive enough to be sufficiently protective of public health. A unanimous review panel had earlier recommended the primary standard be set within a range of 0.060 - 0.070 ppm.[47] There were several suits filed by stakeholders on both sides of the issue: Mississippi and a number of industry groups argued the standards were too restrictive, and other states and public health organizations maintained the standards were too lax.[48] In response to the lawsuits, in January 2010, EPA announced its intention to reconsider the 2008 standards. The D.C. Circuit agreed to hold the lawsuits in abeyance until the outcome of EPA's reconsideration of the 2008 standard.[49]

In January 2010, EPA completed its reconsideration of the 2008 standard, proposing to lower the primary standard to 0.070 ppm.[50] Following the proposal, EPA submitted a draft final standard to Office of Management and Budget for final interagency review, but withdrew it at the request of the President on September 2, 2011.[51] The reason given for the withdrawal was to facilitate consolidation of the reconsideration of the 2008 standard with the next periodic review, then already underway.[52] As a consequence of this decision, the D.C. Circuit proceeded with the *Mississippi v. EPA* lawsuit. On July 23, 2013, the court upheld the 2008 primary standard. However, the court remanded the secondary standard to the EPA, stating that the EPA had not provided an adequate explanation of how the secondary standard protected public welfare.[53]

In the meantime, the Sierra Club and three other groups filed a lawsuit in June 2013 over EPA's failure to initiate review of the 2008 standard within the five-year mandate of § 109(d) of the CAA.[54] The court ordered EPA to publish proposed changes by December 1, 2014, and to complete the review and promulgate any revisions by October 1, 2015.[55] On December 17, 2014, EPA published in the *Federal*

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[45]73 Fed. Reg. 16436–38 (Mar. 27, 2008).

[46]73 Fed. Reg. 16436 (Mar. 27, 2008).

[47]Letter from Rogene F. Henderson, Clean Air Scientific Advisory Committee, to Stephen L. Johnson, EPA Administrator (Apr. 7, 2008), https://yosemite.epa.gov/sab/sabproduct.nsf/4AF8764324331288852574250069E494/$File/EPA-CASAC-08-009-unsigned.pdf.

[48]*See, e.g.,* Pet. for Review, Mississippi v. EPA, No. 08-1200 (D.C. Cir. May 23, 2008).

[49]73 Fed. Reg. 56581 (Sept. 29, 2008).

[50]75 Fed. Reg. 2938 (Jan. 19, 2010).

[51]The White House, *Statement by the President on the Ozone National Ambient Air Quality Standards* (Sept. 2, 2011), https://obamawhitehouse.archives.gov/the-press-office/2011/09/02/statement-president-ozone-national-ambient-air-quality-standards.

[52]85 Fed. Reg. 49835 (Aug. 14, 2020); 73 Fed. Reg. 56581 (Sept. 29, 2008).

[53]Mississippi v. EPA, 723 F.3d 246, 271, 273–74 (D.C. Cir. 2013), *amended and superseded on reh'g*, 744 F.3d 1334 (D.C. Cir. 2013).

[54]Compl. for Declaratory J. and Injunctive Relief, Sierra Club v. EPA, No. C-13-2809, 2013 WL 3063603 (N.D. Cal. June 19, 2013).

[55]Sierra Club v. EPA, No. 13-2809 (N.D. Cal., Apr. 30, 2014) (unpublished).

Register its proposed revisions to the 2008 standard, which was to set the primary and secondary in the range of 0.065 to 0.070 ppm. EPA promulgated the revised standard on October 26, 2015. The Agency tightened the 2008 primary and secondary standards of 0.075 ppm to 0.070 ppm, while retaining the eight-hour averaging time and the three-year average of the fourth-highest daily maximum eight-hour concentration. Thus, an area will meet the 2015 standard if the fourth-highest maximum daily eight-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm.[56] The revised standard provided for a two-year implementation period, requiring all designations to be in place by October 2017.[57]

Industry groups, certain states, and environmental and health organizations filed lawsuits challenging the final 2015 NAAQS for Ozone. The U.S. Court of Appeals for the District of Columbia consolidated these Petitions for Review of the 2015 revised standard into *Murray Energy Corp., v. EPA*.[58] The Trump Administration, which assumed control over the executive branch in 2017, strategized to invalidate the 2015 standard as being too stringent. The new administration asked the court to delay oral argument on the matter, maintaining its intent to closely review the 2015 standard and the positions of the prior administration.[59] On April 11, 2017, the court removed the argument from its calendar, but ordered EPA to provide status reports every 90 days.[60] EPA announced on June 28, 2017, that the Agency would delay the implementation of the 2015 standard for another year, postponing the implementation date to October 1, 2018.[61] This resulted in another onslaught of lawsuits from states and environmental and health groups over the delay in implementing the rule.[62] A month after publishing its intent to delay the implementation of the 2015 standard, EPA announced that it would not go forward with the delay and would proceed according to the 2015 rule.[63]

On July 3, 2018, the court in *Murray Energy Corp.* moved the case back to its active docket.[64] EPA filed its status report on August 1, 2018, stating it had decided not to revisit the 2015 rule. Notably, earlier in May of that year, the EPA Administrator had directed his staff to initiate a periodic review of the 2015 standard under an expedited review process with the goal of completing the review by December 2020.[65] EPA officially announced the initiation of the new periodic review on June 26, 2018.[66] In the meantime, on August 23, 2019, the court in *Murray Energy Corp*. denied all petitions for review with respect to the 2015 primary standard, but remanded back to EPA the secondary standard for further justification or

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[56]80 Fed. Reg. 65292, 65438 (Oct. 26, 2015).

[57]80 Fed. Reg. 65292, 65438 (Oct. 26, 2015).

[58]Murray Energy Corp. v. EPA, 936 F.3d 597 (D.C. Cir. 2019).

[59]Resp't EPA's Mot. to Continue Oral Argument, Murray Energy Corp. v. EPA, No. 15-1385, 2017 WL 1345035 (D.C. Cir. Apr. 7, 2019).

[60]Per Curiam Order, Murray Energy Corp. v. EPA, No. 15-1385, 2017 WL 1345035 (D.C. Cir. Apr. 11, 2017).

[61]82 Fed. Reg. 29246 (June 28, 2017).

[62]Pet. for Review, American Lung Assoc. v. EPA, No. 17-1172 (D.C. Cir. July 12, 2017); Pet. for Review, New York v. EPA, No. 17-1185 (D.C. Cir. Aug. 1, 2017).

[63]News Release, U.S. EPA, *EPA Continues to Work With States on 2015 Ozone Designations* (Aug. 2, 2017), https://archive.epa.gov/epa/newsreleases/epa-continues-work-states-2015-ozone-designations.html.

[64]Per Curiam Order, Murray Energy Corp. v. EPA, No. 15-1385 (D.C. Cir. July 3, 2018).

[65]Memorandum from E. Scott Pruitt, Administrator, to Assistant Administrators, *Back-to-Basics Process for Reviewing National Ambient Air Quality Standards* (May 9, 2018), https://www.epa.gov/sites/production/files/2018-05/documents/image2018-05-09-173219.pdf.

[66]83 Fed. Reg. 29785 (June 26, 2018).

reconsideration, as the Agency had not adequately explained its decision.[67]

On July 13, 2020, EPA announced its proposal to retain the 2015 standard without any changes.[68] EPA published the proposal in the *Federal Register* on August 14, 2020, requesting all comments on the proposal be submitted by October 1, 2020.[69] In the last few weeks of the Trump Administration, EPA published in the *Federal Register* the Agency's decision to retain, without revision, the 2015 primary and secondary ozone NAAQS standards of 70 parts per billion (ppb), in terms of a 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations.[70] Once President Biden took the office, he issued an Executive Order requiring the EPA to review the recent final rule retaining the Ozone NAAQS.[71] In addition, at the time of this writing, several stakeholders, such as public health and environmental groups, 15 states, the District of Columbia and the City of New York, also petitioned EPA for reconsideration of its decision, alleging the review process was flawed.[72]

Lead

Initially, EPA did not list lead under § 108 of the CAA. The Agency determined it could control lead air emissions by establishing regulations eliminating its use as an additive in automotive gasoline—identified as the major source of lead emissions—and by controlling emission from certain category industrial point sources under § 111 of the CAA.[73]

This decision to not list lead as an criteria pollutant was challenged in a 1975 lawsuit, brought by the Natural Resources Defense Council and other groups. In 1976, the Southern District Court of New York ruled in favor of the plaintiffs and ordered EPA to list lead within 30 days in accordance with § 108.[74] Following the lower court's order, EPA listed lead as a criteria pollutant on March 31, 1976, while it sought an appeal of the court order and planned to withdraw lead from the

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[67]Murray Energy Corp. v. EPA, 936 F.3d 597, 608, 627 (D.C. Cir. 2019). The court also vacated the portion of the rule that would grandfather in permit applications submitted before the 2015 revision that would not comply with the new 2015 standards. Murray Energy Corp. v. EPA, 936 F.3d 597, 608, 627 (D.C. Cir. 2019).

[68]News Release, U.S. EPA, *Ozone Pollution Continues to Decline Under President Trump, EPA Proposes to Retain Existing NAAQS for Ozone* (July 13, 2020), https://www.epa.gov/newsreleases/ozone-pollution-continues-decline-under-president-trump-epa-proposes-retain-existing#:~:text=WASHINGTON%20(July%2013%2C%202020),Standards%20(NAAQS)%20for%20ozone.

[69]85 Fed. Reg. 49830 (Aug. 14, 2020).

[70]85 Fed. Reg. 87256 (Dec. 31. 2020).

[71]Executive Order on Protecting Public Health and the Environmental and Restoring Science to Tackle the Climate Process (Jan. 20, 2021), http://www. whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/; *see also* The White House, *Fact Sheet: List of Agency Actions for Review* (Jan. 20, 2021), http://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/fact-sheet-list-of-agency-actions-for-review/.

[72]Pet. for Review, State of New York v. EPA, No. 21-1028 (D.C. Cir. Jan. 19, 2021), https://www.epa.gov/sites/production/files/2021-01/documents/states_21-1028_pfr_01192021.pdf; Pet. for Review, American Acad. of Pediatrics v. EPA, No. 21-1060 (D.C. Cir. Feb. 11, 2021), http://www.epa.gov/sites/production/files/2021-02/documents/aap_21-1060_pfr_02112021.pdf; Pet. for Review, Center for Biological Diversity v. EPA, No. 21-1073 (D.C. Cir. Feb. 25, 2021), EFC No. 1887211, https://www.epa.gov/sites/production/files/2021-02/documents/cbd_21-1073_pfr_02252021.pdf.

[73]41 Fed. Reg. 14921 (Apr. 8, 1976).

[74]Natural Resources Defense Council, Inc. v. Train, 411 F. Supp. 864, 870–71, 8 Env't. Rep. Cas. (BNA) 1695, 6 Envtl. L. Rep. 20366 (S.D. N.Y. 1976), *aff'd*, 545 F.2d 320, 9 Env't. Rep. Cas. (BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976).

criteria pollutant list in the event of a reversal.[75] After losing the appeal, EPA moved forward with preparing Criteria Documents and proposing a primary and secondary standard. On December 14, 1977, EPA proposed a primary and secondary standard of 1.5 micrograms per cubic meter (μg/m^3) of air, averaged over a calendar month.[76] After reviewing the comments on the proposed standard, EPA promulgated the final standard on October 5, 1978, keeping the 1.5 μg/m^3 requirement—though it changed the average to a calendar quarter.[77] An industry group challenged the final rule, but the D.C. Circuit upheld the regulation in 1980.[78]

The first review of the lead standard began in the mid-1980s.[79] After a review of the relevant documents and the options provided in a 1990 Staff Paper to tighten the standard, EPA decided to retain the 1978 standard.[80] At the time, air emissions of lead had decreased, due to rules removing lead as an additive to automotive gasoline. Evidently, EPA reasoned there was no need to strengthen the standard, as airborne lead was decreasing and no longer posed a public health risk.[81] Instead, EPA focused on developing a multi-media and multi-program strategy to reduce lead exposure from other sources besides the air.[82]

EPA did not initiate another periodic review of the lead NAAQS until the Missouri Coalition for the Environment sued EPA, requesting the court issue a mandatory injunction ordering EPA to perform the review and, if indicated by the review, revise the standard.[83] The court granted summary judgment in favor of the Plaintiff and set a scheduling order for completion of the review by EPA.[84]

On November 9, 2004, two months after the lawsuit was initiated, EPA published in the *Federal Register* its intent to begin the review process of the criteria and standards for the lead NAAQS.[85] EPA conducted the review and, on October 15, 2008, significantly strengthened the lead NAAQS, revising the primary and secondary standards from 1.5 ug/m^3 to 0.15 ug/m^3. EPA also revised the averaging time calendar-quarter system to a rolling 3-month period, with a maximum (not-to-be exceeded) form, evaluated over a three-year period. EPA retained lead as measured as total suspended particles (TSP).[86] EPA further strengthened the lead monitoring network by requiring monitor placement in areas with sources, such as industrial facilities, that emit one ton or more per year of lead, as well as in urban areas with

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[75]41 Fed. Reg. 14921 (Apr. 8, 1976).

[76]42 Fed. Reg. 63076 (Dec. 14, 1977).

[77]43 Fed. Reg. 46246 (Oct. 5, 1978).

[78]Lead Industries Ass'n, Inc. v. EPA, 647 F.2d 1130, 14 Env't. Rep. Cas. (BNA) 1906, 10 Envtl. L. Rep. 20643 (D.C. Cir. 1980).

[79]U.S. EPA, AIR QUALITY CRITERIA FOR LEAD: FINAL REPORT AND ADDENDUM (1986) (EPA/600/8-83/028AF) (NTIS PB87142386); U.S. EPA, AIR QUALITY CRITERIA FOR LEAD: SUPPLEMENT TO THE 1986 ADDENDUM (Aug. 1990), (EPA/600/8-89/049F) (NTIS PB91138420).

[80]81 Fed. Reg. 71906–10 (Oct. 18, 2016).

[81]Inside EPA's Clean Air Rep., Nov. 18, 1993, at T1. Lead emissions dropped 98% between 1970 and 1991. EPA, Report of the Office of Air and Radiation to the Administrator 27 (Nov. 12, 1992), *reprinted in* American Bar Association, 1994 Update: Implementing the 1990 Clean Air Act, EPA Speaks, 29 (Feb. 10, 1994).

[82]U.S. EPA, STRATEGY FOR REDUCING LEAD EXPOSURE (Feb. 21, 1991), https://www.epa.gov/sites/production/files/2020-07/documents/lead_strategy_1991.pdf.

[83]Memorandum and Order, Missouri Coal. for the Env't v. EPA, No. 4:04CV00660 (E.D. Mo. Sept. 14, 2005).

[84]Memorandum and Order, Missouri Coal. for the Env't v. EPA, No. 4:04CV00660 (E.D. Mo. Sept. 14, 2005) at 9–10.

[85]69 Fed. Reg. 64926 (Nov. 9, 2004).

[86]73 Fed. Reg. 66964 (Nov. 12, 2008).

more than 500,000 people.[87]

EPA undertook another review of the scientific evidence in 2010.[88] This review resulted in an October 18, 2016 final rule, retaining the primary and secondary standards.[89]

On July 7, 2020, EPA announced that it was preparing an ISA, as part of its periodic review of the scientific basis for the lead standard, and requested that the public submit any relevant information by September 8, 2020.[90]

Nitrogen Dioxide

In July 2009, EPA proposed revisions to the nitrogen dioxide (NO_2) NAAQS that would supplement the existing annual standard by establishing a short-term NO_2 standard of one-hour daily maximum concentration.[91] In February 2010, EPA's final rule established the one-hour standard at a level of 100 ppb.[92]

In July 2016, the Center for Biological Diversity and the Center for Environmental Health sued EPA for its failure to complete a review of the primary NO_2 NAAQS within five years.[93] A consent decree, entered April 28, 2017, required EPA to issue a notice of final rulemaking regarding its review of the primary NO_2 NAAQS (including any new or revised standards) by April 2018.[94] On April 18, 2018, EPA issued a final action retaining the current primary NO_2 NAAQS, without revision.[95]

As of March 2021, EPA is still reviewing the secondary NO_2 standard. The Final ISA for Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter (Ecological Criteria) was published in the Federal Register in October 2020.[96]

Sulfur Dioxide

In November 2009, EPA proposed strengthening the sulfur dioxide (SO_2) NAAQS by revising the primary SO_2 standard to a level between 50 and 100 ppb, measured over one hour. EPA intended to consider changes to the secondary standard in a separate rulemaking.[97] On June 22, 2010, EPA established a new one-hour primary SO_2 standard of 75 ppb and revoked the 24-hour and annual primary SO_2 standards.[98]

In May 2013, EPA issued a Call for Information to inform an ISA as part of its review of the primary SO_2 standards.[99] EPA proposed retaining the primary SO_2 standard on May 25, 2018,[100] and issued its final action retaining the standard,

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[87]73 Fed. Reg. 66964 (Nov. 12, 2008); 75 Fed. Reg. 81126 (Dec. 27, 2010); 73 Fed. Reg. 29184 (May 20, 2008).

[88]75 Fed. Reg. 8934 (Feb. 26, 2010).

[89]81 Fed. Reg. 79106 (Oct. 18, 2016).

[90]85 Fed. Reg. 40641 (July 7, 2020).

[91]74 Fed. Reg. 34404 (July 15, 2009).

[92]75 Fed. Reg. 6474 (Feb. 9, 2010).

[93]Compl. for Declaratory and Injunctive Relief, Center for Biological Diversity v. McCarthy, No.4:16-cv-03796-VC, (N.D.Cal, July 7, 2016).

[94]Consent Decree, Center for Biological Diversity v. Pruitt, No.4:16-cv-03796-VC (N.D.Cal, Apr. 28, 2017).

[95]83 Fed. Reg. 17226 (Apr. 18, 2018).

[96]85 Fed. Reg. 66327 (Oct. 19, 2020).

[97]74 Fed. Reg. 64810 (Dec. 8, 2009).

[98]75 Fed. Reg. 35520 (June 22, 2010).

[99]78 Fed. Reg. 27387 (May 10, 2013).

[100]83 Fed. Reg. 26752 (June 8, 2018).

without revision, on March 18, 2019.[101]

As of March 2021, EPA is still reviewing the secondary SO_2 standard. The Agency published the Final ISA for Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter (Ecological Criteria) in October 2020.[102]

Carbon Monoxide

The primary standard for the carbon monoxide (CO) NAAQS has remained unchanged since EPA promulgated the initial standard on April 30, 1971. Originally, both the primary and secondary standards were identical: nine ppm averaged over eight hours and a 35 ppm standard averaged over a one-hour period, neither of which could be exceeded more than once per year.[103]

EPA initiated the first review of the CO NAAQS in 1978,[104] and finalized the revised standards in 1985; the primary standard was retained, but the secondary standard was revoked, due to lack of scientific evidence of adverse environmental effects associated with the presence of CO in the ambient air.[105] EPA initially proposed retaining the primary eight-hour standard of nine ppm, but ultimately lowered the one-hour standard to 25 ppm and eliminated the secondary standard in its entirety.[106] However, after publishing these proposed changes to the standard in 1980, EPA discovered uncertainties with the scientific evidence on which this proposal was based. As a result of this discovery, EPA completed a significant reassessment of the data, and in 1984 both notified the public of the availability of the revisions to the 1979 AQCD and sought additional public comment.[107] Finally, on September 13, 1985, EPA concluded that it would not revise the 1971 primary standard, but instead would revoke the secondary standard.[108]

EPA commenced the second periodic review of the standard in 1990, when the Agency made the draft revised AQCD available for public review and comment.[109] Both CASAC's review and EPA's revisions to its Staff Paper supported the conclusion that the 1971 standard remain unchanged, and EPA announced on August 1, 1994 that it would not be revising the CO standards.[110]

EPA did not complete the third review of the CO NAAQS standard, which began in 1997. From 1998 to 2000, the Agency prepared three versions of the AQCD, the final being released for public comment in August 2000.[111] The review was put on hold when Congress requested that the National Research Council prepare a report on the impact of meteorology and topography on ambient CO concentrations in high altitude and extreme cold regions of the United States. The Council completed the report in 2002 and published it in 2003,[112] but EPA never completed its periodic review.

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[101] 84 Fed. Reg. 9866 (Mar. 18, 2019).

[102] 85 Fed. Reg. 66327 (Oct. 19, 2020).

[103] 36 Fed. Reg. 8186 (Apr. 30, 1971).

[104] 43 Fed. Reg. 56250 (Dec. 1, 1978).

[105] 50 Fed. Reg. 37484 (Sept. 13, 1985).

[106] 45 Fed. Reg. 55066 (Aug. 18, 1980).

[107] 49 Fed. Reg. 31923 (Aug. 9, 1984).

[108] 50 Fed. Reg. 37484 (Sept. 13, 1985).

[109] 55 Fed. Reg. 14858 (Apr. 19, 1990).

[110] 59 Fed. Reg. 38960 (Aug. 1, 1994).

[111] 76 Fed. Reg. 54294, 54295 (Aug. 31, 2011); *Policy Assessment for the Review of the Carbon Monoxide National Ambient Air Quality Standards*, EPA 452/R-10-007 (Oct. 2010) at 1–4.

[112] *Policy Assessment for the Review of the Carbon Monoxide National Ambient Air Quality Standards*, EPA 452/R-10-007 (October 2010) at 1–6; Transportation Research Board & Natural Resource Council, *Managing Carbon Monoxide Pollution in Meteorological and Topographical Problem Areas*,

In March 2003, Communities for a Better Environment and other similarly situated plaintiffs sued EPA to initiate the five-year review process.[113] EPA realized the court would likely require the Agency to initiate a periodic review of the CO NAAQs standards, and so in 2007 and 2008 commenced work on its fourth review of the standard. In 2007, EPA requested that the public submit recent scientific information pertinent to the review and, in 2008, it developed an IRP.[114] On May 5, 2008, the court granted Summary Judgment for the plaintiffs and issued a November 14, 2008 Order establishing a schedule for EPA to review the CO NAAQS, which was amended on August 30, 2010.[115] Pursuant to the scheduling order, EPA had until August 12, 2011, to issue a final rulemaking regarding its review of the CO NAAQS. This fourth periodic review resulted in EPA publishing its decision on August 31, 2011, to again retain the 1971 primary standard and to continue without a secondary standard.[116] Following the publication of EPA's final review, the nonprofit groups that initiated the lawsuit filed a petition for review of EPA's final decision not to revise the CO NAAQS.[117] The court ruled in EPA's favor, stating that EPA's decision to retain the primary standard was not arbitrary and capricious. The court also held that the plaintiffs did not have standing to challenge the EPA's decision that a secondary standard was unwarranted, because the plaintiffs did not provide a sufficient showing that a secondary standard limiting CO would affect climate change.[118]

As of September 27, 2010, there are no areas designated as nonattainment for the CO standards.[119] and EPA has not announced any further reviews of the CO standards.

NAAQS Overview of Current Primary and Secondary Standards[120]				
Pollutant	**Primary/Secondary**	**Averaging Time**	**Level**	**Form**
Carbon Monoxide (CO)	primary	8 hours	9 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	primary and secondary	Rolling 3 month average	0.15 μg/m^3 (1)	Not to be exceeded
Nitrogen Dioxide (NO_2)	primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	primary and secondary	1 year	53 ppb (2)	Annual Mean

National Academy Press: Washington, DC (2003).

[113]Pet. for Review, Communities for a Better Env't v. EPA, No. 3:07-CV-03678, (N.D. Cal. Mar. 2003).

[114]76 Fed. Reg. 54294, 54296 (Aug. 31, 2011).

[115]Order Establishing Schedule to Review NAAQS for CO, Communities for a Better Env't v. EPA, No. 3:07-CV-03678 (N.D. Cal. Nov. 14, 2008), https://www.epa.gov/sites/production/files/2020-07/documents/2008novconaaqsorder.pdf; Order Granting Unopposed Motion to Amend Nov. 14, 2008 Order, Communities for a Better Env't v. EPA, No. 3:07-CV-03678 (N.D. Cal. Aug. 30, 2010), https://www.epa.gov/sites/production/files/2020-07/documents/2010orderrevisingcoschedule.pdf.

[116]Order Establishing Schedule to Review NAAQS for CO, Communities for a Better Env't v. EPA, No. 3:07-CV-03678 (N.D. Cal. Nov. 14, 2008), https://www.epa.gov/sites/production/files/2020-07/documents/2008novconaaqsorder.pdf; Order Granting Unopposed Motion to Amend Nov. 14, 2008 Order, Communities for a Better Env't v. EPA, No. 3:07-CV-03678 (N.D. Cal. Aug. 30, 2010), https://www.epa.gov/sites/production/files/2020-07/documents/2010orderrevisingcoschedule.pdf.

[117]Pet. for Review, Communities for a Better Env't v. EPA, No. 11-1423 (D.C. Cir. Oct. 31, 2011).

[118]Communities for a Better Environment v. EPA, 748 F.3d 333, 335–38, 78 Env't. Rep. Cas. (BNA) 1321 (D.C. Cir. 2014).

[119]EPA redesignated the last CO nonattainment area, the Las Vegas Valley, to attainment on September 27, 2010. 75 Fed. Reg. 59090 (Sept. 27, 2010).

[120]U.S. EPA, NAAQS TABLE, https://www.epa.gov/criteria-air-pollutants/naaqs-table (last updated Feb. 10, 2021).

NAAQS Overview of Current Primary and Secondary Standards[120]					
Pollutant		**Primary/Secondary**	**Averaging Time**	**Level**	**Form**
Ozone (O_3)		primary and secondary	8 hours	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	12.0 µg/m^3	Annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m^3	Annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m^3).

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O_3 standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2)any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

§ 12:12 Greenhouse gases and the NAAQS process*

As noted in § 12:3 above, in 2009 EPA adopted an "endangerment finding" for carbon dioxide and five other greenhouse gases (GHGs), declaring that those pollutants endanger public health and public welfare by contributing to climate change.[1] Concurrently, EPA began regulating emissions of those GHGs from new motor

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[Section 12:12]

*By: Patricia Ross McCubbin.

[1]Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (Dec. 15, 2009), 40 C.F.R. ch. I.

vehicles.[2] Both the endangerment finding and the tailpipe standards were upheld in court.[3]

In light of that endangerment finding, two environmental groups, the Center for Biological Diversity and 350.org, petitioned the Agency in December 2009 to declare GHGs to be criteria pollutants and to issue both primary and secondary NAAQS for them.[4] The environmental groups argued: (1) EPA has a duty to issue NAAQS for GHGs under Sections 108 and 109 of the CAA; and (2) doing so would be the best tool for regulating GHGs nationally without new legislation. States would be compelled through their SIPs to consider limiting GHGs from a variety of sources, extending to home furnaces, lawnmowers and outboard motors, hospitals, apartment buildings, and other commercial and industrial enterprises.[5] Scholars at the time anticipated states could coordinate their efforts regionally; alternately, EPA could establish an optional nationwide GHG trading program and create opportunities for the states to participate in the program.[6]

As of mid-2020, EPA had not responded to the petition. Several years earlier, in 2008, however, as EPA was first considering how to regulate greenhouse gases under the CAA, the Agency expressed several reservations about issuing NAAQS for GHGs.[7] As an example, EPA anticipated substantial challenges in identifying a level of greenhouse gases that would, as the NAAQS provision requires, "protect the public health" with "an adequate margin of safety"[8] because of the scientific uncertainties about greenhouse gases and climate change. In addition, the Agency believed that, even with aggressive SIP measures, no state would ever be able to meet the NAAQS within its own borders due to the global nature of GHGs.[9]

EPA also argued the Agency has no duty to adopt NAAQS for GHGs.[10] At first blush, this argument seems curious because Sections 108 and 109 of the CAA repeatedly use the term "shall" to describe the steps EPA must take to initiate a NAAQS for a new pollutant. Specifically, EPA "shall" list a pollutant for regulation if certain factors are met.[11] Then, within 12 months of the listing, EPA "shall" issue "air quality criteria" for that pollutant—essentially, the scientific studies supporting the

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[2]Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25324 (May 7, 2010), 40 C.F.R. §§ 85 to 86, 531, 533, 536 to 38 & 600.

[3]Coalition for Responsible Regulation, Inc. v. E.P.A., 684 F.3d 102, 74 Env't. Rep. Cas. (BNA) 2161 (D.C. Cir. 2012), judgment aff'd in part, rev'd in part on other grounds, 573 U.S. 302, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't. Rep. Cas. (BNA) 1585 (2014) and judgment amended, 606 Fed. Appx. 6 (D.C. Cir. 2015).

[4]*See* Center for Biological Diversity & 350.org, *Petition to Establish National Pollutant Limits for Greenhouse Gases Pursuant to the Clean Air Act* (Dec. 2, 2009), https://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf.

[5]*See* Center for Biological Diversity & 350.org, *Petition to Establish National Pollutant Limits for Greenhouse Gases Pursuant to the Clean Air Act* (Dec. 2, 2009), https://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf.

[6]A substantial number of law review articles analyze the pros and cons of using NAAQS to address greenhouse gases. For a listing of many of them, *see* Crystal et al., *Returning to Clean Air Act Fundamentals: A Renewed Call to Regulate Greenhouse Gases under the National Ambient Air Quality Standards (NAAQS) Program*, 31 GEO. ENVTL. L. REV. 233, 236 n. 9 (2019).

[7]73 Fed. Reg. 44354, 44477–85 (July 30, 2008).

[8]42 U.S.C. § 7409(b)(1).

[9]73 Fed. Reg. at 44417, 44478.

[10]73 Fed. Reg. at 44477 & n. 229.

[11]42 U.S.C. § 7408(a)(1).

standard setting process.[12] Concurrently, the Agency "shall" issue NAAQS for that pollutant.[13]

However, the statute appears to grant EPA considerable discretion on whether to initiate the listing of a pollutant for the NAAQS process at all. In particular, § 108(a)(1) provides that EPA "shall" list a pollutant if:

A. The pollutant will, "in [EPA's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare";
B. The pollutant's presence in the air "results from numerous or diverse mobile or stationary sources"; and
C. EPA "plans to issue air quality criteria" for the pollutant.[14]

GHGs plainly meet the first factor, given EPA already declared such emissions to endanger public health and welfare.[15] GHGs also undoubtedly meet the second factor because the emissions are generated by "numerous or diverse mobile or stationary sources."

The third factor is the key to EPA's discretion. If EPA does not wish to issue NAAQS for GHGs, then it logically follows that the Agency will not develop "plans to issue air quality criteria" for them. Consequently, the obligation to list the pollutant will not be triggered.

That reading of the statute, although perhaps true to the terms, is fairly circular: Under § 108(a)(2), air quality criteria "shall" be issued once the Agency lists a pollutant, but according to subparagraph C of § 108(a)(1), listing the pollutant would not be required unless EPA *chooses* to issue air quality criteria for that pollutant.

This same circular interpretation was rejected decades ago, in the context of lead pollution, by the U.S. Court of Appeals for the Second Circuit in *Natural Resources Defense Council (NRDC) v. EPA*, the only decision that has interpreted § 108(a)(1).[16] The case centered on EPA's attempt to avoid writing NAAQS for lead, even though the Agency conceded the pollutant posed a hazard to public health and was emitted from many widespread sources. EPA argued that it would be more efficient to address lead pollution through control of vehicle emissions, rather than through state implementation of national standards. It therefore did not intend to issue any air quality criteria for lead, and thus claimed that the third factor for listing—subparagraph C's reference to EPA's "plans" for air quality criteria—was not satisfied.[17]

The *NRDC* court used a fairly convoluted analysis to declare that the third factor somehow related only to the initial list of criteria pollutants EPA adopted in early 1971, and not to the revised list under review in 1976,[18] even though the statutory language makes no such distinction. The court emphasized Congress's intent in

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[12]42 U.S.C. § 7408(a)(2).

[13]42 U.S.C. § 7409(a)(2).

[14]42 U.S.C. § 7408(a)(1).

[15]74 Fed. Reg. at 66496.

[16]Natural Resources Defense Council, Inc. v. Train, 545 F.2d 320, 9 Env't. Rep. Cas. (BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976).

[17]Natural Resources Defense Council, Inc. v. Train, 545 F.2d 320, 324, 9 Env't. Rep. Cas. (BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976).

[18]Natural Resources Defense Council, Inc. v. Train, 545 F.2d 320, 325, 9 Env't. Rep. Cas. (BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976) ("We agree with [the district court judge] that it is to the initial list alone that the phrase 'but for which he plans to issue air quality criteria' is directed."). The district court's reasoning was very terse; it simply quotes selected language from a Senate report, and then merely declares—without support from the report itself—that subparagraph C only relates to the initial list. *See* Natural Resources Defense Council, Inc. v. Train, 411 F. Supp. 864, 868, 8 Env't. Rep. Cas. (BNA) 1695, 6 Envtl. L. Rep. 20366 (S.D. N.Y. 1976), order aff'd, 545 F.2d 320, 9 Env't. Rep. Cas.

1970, when it wrote the NAAQS provisions, to impose mandatory obligations on EPA. Accordingly, the Second Circuit held that once EPA finds that a pollutant endangers public health and originates with numerous or diverse sources—thus satisfying the first two factors of the listing provision—this triggers the Agency's nondiscretionary duty to list the pollutant for the NAAQS process.[19]

Court opinions subsequent to the *NRDC* decision repeated the Second Circuit's conclusion without wrestling with—or even acknowledging—the third factor in § 108(a)(1)(C).[20] No court has squarely considered the issue since *NRDC*.

In sum, the terms of § 108(a)(1) arguably give EPA discretion over whether to regulate a pollutant, such as GHGs, if the Agency does not believe the NAAQS process is appropriate. At best, § 108(a)(1) is ambiguous, meaning that EPA's interpretation of the ambiguity, as long as reasonable, would be upheld under the deferential standard of *Chevron*.[21] Notably, the Second Circuit decided *NRDC* before *Chevron* was issued, suggesting that *NRDC* is no longer the definitive view, and the question of EPA's duty to write a NAAQS for GHGs remains open.[22]

§ 12:13 Conclusion

The NAAQS are not goals, they are commands. They are the engine that directly drives much of the complex regulatory machinery established by the 1970 Amendments. As a result, every action concerning them is the focus of intense interest from states, the regulated community, and environmental and public health interests.

III. NONATTAINMENT AREA DESIGNATIONS AND CLASSIFICATIONS*

§ 12:14 Classifications

Section 107 governs air quality control regions. The CAA directs EPA to establish air quality control regions and designate those regions into the following three categories:

(1) *Attainment* for any area that meets the primary or secondary NAAQS for a given criteria pollutant. However, an area otherwise in attainment but which contributes to a nearby area not meeting a NAAQS will *not* be designated as

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(BNA) 1425, 7 Envtl. L. Rep. 20004 (2d Cir. 1976).

[19]*NRDC*, 545 F.2d at 328.

[20]Often this happens when courts are simply giving background on the NAAQS process for a decision unrelated to EPA's duty to list a pollutant. *See, e.g.,* Center for Biological Diversity v. E.P.A., 749 F.3d 1079, 1083, 79 Env't. Rep. Cas. (BNA) 1207 (D.C. Cir. 2014) (in background, describing EPA as required to issue a NAAQS for a pollutant simply if, in EPA's judgment, the pollutant may reasonably be anticipated to endanger public health or welfare); Zook v. McCarthy, 52 F. Supp. 3d 69, 74, 79 Env't. Rep. Cas. (BNA) 1743 (D.D.C. 2014), order aff'd, 611 Fed. Appx. 725 (D.C. Cir. 2015) (EPA has a duty to list a pollutant for a NAAQS if the first two factors of § 108(a)(1) are met, with no mention of the third).

[21]Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 104 S. Ct. 2778, 81 L. Ed. 2d 694, 21 Env't. Rep. Cas. (BNA) 1049, 14 Envtl. L. Rep. 20507 (1984).

[22]Academics continue to debate whether the listing provision gives EPA discretion or instead imposes a duty to list a pollutant if the first two factors of § 108(a)(1) are met. *Compare* McCubbin, *EPA's Endangerment Finding for Greenhouse Gases and the Potential Duty to Adopt National Ambient Air Quality Standards to Address Global Climate Change*, 33 SO. ILL. U. L. J. 437 (2009) *with* Oren, *Is the Clean Air Act at a Crossroads*, 40 ENVTL. L. 1231 (2010).

*By: **Jad Davis.**

in attainment.[1]

(2) *Nonattainment* for any area that does not meet the NAAQS.[2]

(3) *Unclassifiable* (cannot be classified on the basis of available information).[3]

§ 12:15 Designation

In determining whether or not an area is in attainment, EPA analyzes the most recent set of air monitoring or modeling data characterizing the area. This data is typically provided to EPA by states and tribes.[1]

EPA may base its designation on either air quality *monitoring* or *computer-based modeling*.[2] Whether EPA's designation of an area is arbitrary and capricious largely depends upon how the EPA uses the monitoring results and the reliability of the computer model. Federal cases analyzing EPA's discretion in using modeling for designations discuss the practical application of such models, the available models, and data inputs.[3] Courts have held that the EPA may designate a nonattainment area based upon a hybrid of *both* dispersion modeling and actual monitoring of air quality.[4] In certain circumstances, federal courts have held that EPA did not act arbitrarily or capriciously in relying *only* on a dispersion modeling analysis of air quality;[5] in fact, one court found EPA did not act arbitrarily or capriciously in designating a county as a nonattainment area on the basis of modeling studies—despite an allegation that air monitoring results provided better evidence.[6] However, other courts have held that the EPA's designation of an area as nonattainment was improper if the Agency relied solely upon dispersion modeling of air quality and did

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[Section 12:14]

[1]42 U.S.C. § 7407(d)(1)(A)(i) and (ii).

[2]42 U.S.C. § 7407(d)(1)(A)(i).

[3]42 U.S.C. § 7407(d)(1)(A)(iii); *see also* South Coast Air Quality Management District v. U.S. E.P.A., 882 F.3d 1138, 1143, 85 Env't. Rep. Cas. (BNA) 2471 (D.C. Cir. 2018).

[Section 12:15]

[1]42 U.S.C. § 7407(d)(1)(B); Indian Tribes: Air Quality Planning and Management, 63 Fed. Reg. 7254, 7264 (Feb. 12, 1998).

[2]Courts have held that the language of § 107 does not compel the Agency to rest its decisions solely on air monitoring data, Catawba County, N.C. v. E.P.A., 571 F.3d 20, 38, 69 Env't. Rep. Cas. (BNA) 1033 (D.C. Cir. 2009), and that computer air modeling is within EPA's expertise. *See, e.g.*, Mississippi Com'n on Envtl. Quality v. E.P.A., 790 F.3d 138, 171, 80 Env't. Rep. Cas. (BNA) 1861 (D.C. Cir. 2015).

[3]Mision Indus., Inc. v. E.P.A., 547 F.2d 123, 9 Env't. Rep. Cas. (BNA) 1604, 7 Envtl. L. Rep. 20096 (1st Cir. 1976); Republic Steel Corp. v. Costle, 621 F.2d 797, 14 Env't. Rep. Cas. (BNA) 1356, 10 Envtl. L. Rep. 20287 (6th Cir. 1980); Cincinnati Gas & Elec. Co. v. Costle, 632 F.2d 14, 15 Env't. Rep. Cas. (BNA) 1033, 10 Envtl. L. Rep. 20897 (6th Cir. 1980); Northern Plains Resource Council v. U.S. E.P.A., 645 F.2d 1349, 16 Env't. Rep. Cas. (BNA) 1790, 11 Envtl. L. Rep. 20635 (9th Cir. 1981); Citizens Against Refinery's Effects, Inc. v. U.S. E.P.A., 643 F.2d 178, 15 Env't. Rep. Cas. (BNA) 1743, 11 Envtl. L. Rep. 20174 (4th Cir. 1981); Wisconsin Elec. Power Co. v. Costle, 715 F.2d 323, 19 Env't. Rep. Cas. (BNA) 1774 (7th Cir. 1983); State of Ohio v. U.S. E.P.A., 784 F.2d 224, 23 Env't. Rep. Cas. (BNA) 2091, 16 Envtl. L. Rep. 20447, 84 A.L.R. Fed. 695 (6th Cir. 1986), on reh'g, 798 F.2d 880, 24 Env't. Rep. Cas. (BNA) 1817, 16 Envtl. L. Rep. 20870 (6th Cir. 1986); Sierra Club v. Mosier, 305 Kan. 1090, 391 P.3d 667, 84 Env't. Rep. Cas. (BNA) 1096 (2017).

[4]Indianapolis Power & Light Co. v. U.S. E.P.A., 605 F.2d 559, 13 Env't. Rep. Cas. (BNA) 1461 (7th Cir. 1979); Cincinnati Gas & Elec. Co. v. U.S. E.P.A., 578 F.2d 660 (6th Cir. 1978).

[5]Republic Steel Corp. v. Costle, 621 F.2d 797, 14 Env't. Rep. Cas. (BNA) 1356, 10 Envtl. L. Rep. 20287 (6th Cir. 1980) (citing Cleveland Elec. Illuminating Co. v. E.P.A., 572 F.2d 1150, 11 Env't. Rep. Cas. (BNA) 1288, 8 Envtl. L. Rep. 20312 (6th Cir. 1978).

[6]Cincinnati Gas & Elec. Co. v. Costle, 632 F.2d 14, 15 Env't. Rep. Cas. (BNA) 1033, 10 Envtl. L. Rep. 20897 (6th Cir. 1980).

not consider conflicting monitoring results.[7] Courts have also held that the EPA may fail to develop an adequate administrative record for a designation based entirely on modeling.[8]

States must submit to EPA a list of all areas in the State, designated as as in attainment, nonattainment, or unclassifiable, within a year after a new or revised NAAQS is promulgated. EPA must then designate all areas, within two years from the date of the new or revised NAAQS.[9] EPA may modify the designations as necessary and must notify the state of any such modification.

EPA works with State and local authorities to designate any interstate area or major intrastate area as an air quality control region, when deemed necessary or appropriate for the attainment or maintenance of a NAAQS. The Administrator must notify the State Governors immediately of any designation.[10]

Designations remain in effect until an area is redesignated;[11] designation of an area may be revised on the basis of air quality, data, planning and control considerations, or any other air quality related considerations deemed appropriate. EPA may redesignate an attainment area as nonattainment and vice versa but may not redesignate a nonattainment area to unclassifiable.[12]

The following requirements must be met for a nonattainment area to be redesignated as attainment:

(1) EPA determines the area has attained NAAQS;
(2) EPA has fully approved the area's applicable SIP;
(3) EPA determines that the improvement in the air quality is due to permanent and enforceable reductions in emissions, and the reductions result from implementation of the applicable SIP, applicable federal air pollutant control regulations, and other permanent and enforceable reduction measures;
(4) EPA has fully approved a maintenance plan for the area; and
(5) The state has met all requirements applicable to the area.[13]

§ 12:16 Attainment deadlines and control requirements

Deadlines to submit nonattainment area SIPs are based on the area designation date and vary based on the criteria pollutant involved. For example, states must submit nonattainment area SIPs for sulfur dioxide, nitrogen dioxide, coarse particle pollution, and lead within 18 months from the date of designation.[1] Depending on the severity of pollution. States have 24 to 36 months to submit SIPs for areas

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[7]Oscar Mayer & Co., Inc. v. Costle, 605 F.2d 559, 13 Env't. Rep. Cas. (BNA) 1457 (7th Cir. 1979).

[8]PPG Industries, Inc. v. Costle, 630 F.2d 462, 15 Env't. Rep. Cas. (BNA) 1097, 10 Envtl. L. Rep. 20877 (6th Cir. 1980) (holding the EPA had failed to develop an adequate administrative record for its designation based on modeling); *see also* Columbus and Southern Ohio Elec. Co. v. Costle, 638 F.2d 910, 15 Env't. Rep. Cas. (BNA) 1530, 10 Envtl. L. Rep. 20895 (6th Cir. 1980) (holding EPA was not arbitrary and capricious to rely on computer modeling to designate portions of a county as nonattainment and dismiss air quality monitoring results because the EPA disclosed the sites in its computer model); U.S. Steel Corp. v. U.S. E.P.A., 605 F.2d 283, 13 Env't. Rep. Cas. (BNA) 1449, 9 Envtl. L. Rep. 20560, 55 A.L.R. Fed. 864 (7th Cir. 1979); State of Cal. ex rel. Air Resources Bd. v. U.S.E.P.A., 774 F.2d 1437, 23 Env't. Rep. Cas. (BNA) 1549, 16 Envtl. L. Rep. 20413 (9th Cir. 1985).

[9]42 U.S.C. § 7407(d)(1)(A) and (B).

[10]42 U.S.C. § 7407(c).

[11]42 U.S.C. § 7407(d)(1)(B)(iv); *see also* 42 U.S.C. § 7407(d)(3) and (4).

[12]42 U.S.C. § 7407(d)(3)(E).

[13]42 U.S.C. § 7407(d)(3)(A); *see also* 42 U.S.C. § 7407(d)(3)(E).

[Section 12:16]

[1]42 U.S.C. § 7514(a).

designated as nonattainment for ozone,[2] fine particle pollution,[3] and carbon monoxide.[4] Nonattainment area SIPs must provide a path to attainment, such as the strategies and emissions control measures aimed at improving air quality sufficient to meet the NAAQS.

Attainment dates for nonattainment areas vary for primary and secondary NAAQS:

(1) *Primary NAAQS*—No later than five years from nonattainment designation, subject to an extension up to 10 years from the date of designation as nonattainment, considering the severity of nonattainment and the availability and feasibility of pollution control measures.

(2) *Secondary NAAQS*—The date that attainment can be achieved as expeditiously as practicable after the date of designation as nonattainment.[5]

EPA sets a schedule for States with nonattainment areas to submit a plan or plan revisions that meets certain requirements; these requirements are described in Part IV below. The States' schedules must include a date, extending no later than three years from the date of the nonattainment designation, for the submission of a plan or plan revision.[6] If the Administrator requires that a plan be revised for a nonattainment area, the State must correct the deficiency or deficiencies, and meet all other applicable plan requirements.[7] When EPA relaxes any NAAQS, the Agency is given 12 months to publish new requirements with controls that are not less stringent than the controls applicable to the nonattainment areas before the NAAQS were relaxed.[8]

§ 12:17 Subpart 2 areas classes

EPA may classify a nonattainment area for the purpose of applying an attainment date, considering such factors as the severity of nonattainment in such area and the availability and feasibility of the pollution control measures that the Administrator believes may be necessary to provide for attainment of such standard in such area.[1] The Administrator publishes notice in the Federal Register announcing each classification and will provide at least 30 days for written comment. Part IV below on State Implementation Plans describes the different classifications for each criteria pollutant.

IV. STATE IMPLEMENTATION PLANS*

§ 12:18 State Implementation Plans (SIPs)—In general

Once National Ambient Air Quality Standards (NAAQS) have been established for criteria pollutants and EPA has subsequently designated areas around the country as "attainment," "nonattainment," or "unclassifiable," Title I of the CAA

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[2]42 U.S.C. § 7511a.

[3]42 U.S.C. § 7513a.

[4]42 U.S.C. § 7512a.

[5]42 U.S.C. § 7502(a)(2).

[6]42 U.S.C. § 7502(b).

[7]42 U.S.C. § 7502(d).

[8]42 U.S.C. § 7502(e).

[Section 12:17]

[1]42 U.S.C. § 7502(a)(1)(A).

*By **Phillip R. Bower** and **James Bonar-Bridges** (Sections 12.18-12.37). Updates prior to Fall 2021 by **Phillip D. Reed** and **Alan J. Gilbert.**

shifts the focus back to the state.[1] States are required to take steps to maintain or improve air quality through state implementation plans, or SIPs. These SIPs are comprised of state statutes, administrative rules, and site-specific orders,[2] and must undergo a public notice process before they can be federally approved.

While SIP content is subject to numerous federal requirements, states have "considerable latitude in determining specifically how [NAAQS are to] be met."[3] In other words, SIPs may include controls on both stationary source and motor vehicle emissions, and it is generally the state's responsibility to determine which mix of controls best meets the goals established by Title I. This discretion was later limited somewhat for states with nonattainment areas by § 182 of the CAA, which requires specific SIP elements for states that fail to attain the NAAQS.[4]

If the state fails to produce an adequate plan within these bounds, however, EPA will step in and directly regulate air contaminants through a federal implementation plan, or FIP.[5] FIPs will also apply in tribal areas, unless the tribe chooses to produce a tribal implementation plan, or TIP.[6] States may also lose federal highway funding and be subject to other sanctions for failing to meet SIP obligations.[7]

Once EPA approves the components of a SIP, the Agency may pursue enforcement against any persons in a state violating those provisions.[8] The CAA also contains a robust citizen suit provision, allowing *any person* to commence a civil action on their own behalf for SIP violations.[9]

The SIP requirements of the CAA reached their present form in four stages:

- The 1967 Air Quality Act established the concept of implementation plans for heavily polluted air quality control regions (AQCRs) but left the work of developing these plans entirely to the states.[10]
- In 1970, Congress amended the CAA to make state participation as close to mandatory as possible in a system of cooperative federalism.[11] Congress also aimed to incorporate engineering and legal principles into the process, so that SIPs would have quantified and enforceable emission standards for individual sources.[12] The SIPs were to attain the NAAQS by no later than 1977. They failed.
- The 1977 CAA Amendments took the SIP several steps further, extending the attainment deadlines to 1982 or 1987.[13] The amendments mandated special SIP revisions for nonattainment areas and tightened the screws on states

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[Section 12:18]

[1]*See* § 12:2.

[2]These orders are often titled "site-specific revisions," but this terminology can cause confusion as there are other types of SIP revisions that are not site-specific. *See* §§ 12:21 and 12:31 for more discussion of SIP revisions.

[3]Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 86-87, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975).

[4]*See* 42 U.S.C. § 7511a; § 12:22.

[5]*See* § 12:27.

[6]*See* § 12:32.

[7]*See* § 12:31.

[8]*See* 42 U.S.C. § 7413; § 12:29.

[9]*See* 42 U.S.C. § 7604; § 12:29.

[10]Pub. L. No. 90-148, 81 Stat. 485 (1967).

[11]*See, e.g.,* 42 U.S.C. § 7407(a).

[12]Pub. L. No. 91-604, 84 Stat. 1713 (1970).

[13]SIPs were to provide for attainment of national primary AAQS in nonattainment areas no later than December 31, 1982. If a state could demonstrate that attainment of national primary AAQS for

unwilling to carry the load.[14] The 1970 provisions governing SIPs stayed in force, and the new provisions were simply woven into the existing legal tapestry, sometimes without attention to the smooth melding of old with new. Although there was significant progress, many SIPs again failed to meet Congress' deadlines.

- Congress again gave the states more time in the 1990 Amendments. But this came at the price of more stringent control requirements that arguably deprived the states of most of their remaining discretion regarding regulation of existing sources. The 1990 Amendments also required especially tough new source review (NSR) and mobile source controls.

The CAA—and particularly the state implementation process—can be seen as cumbersome, complicated, or overly bureaucratic. Nevertheless, while this may be true for certain parts of the process, Title I of the CAA is still seen as a model for the regulation of air pollution and other environmental media in other countries and has led to sharp decreases of all six criteria pollutants in the last 50 years.

§ 12:19 The scope and substance of a SIP

State Implementation Plans include requirements both to maintain air quality in attainment areas and improve air quality in nonattainment areas, with more stringent requirements for nonattainment areas. The thrust of CAA § 110, the basic SIP provision, was on cleaning up areas with more pollution than allowed by the primary NAAQS.[1] Section 110 sets out a list of substantive and procedural requirements for SIPs. General requirements are laid out in § 110(a)(2), and § 172(c) includes specific elements for nonattainment SIPs. Sections 181–192 further outline pollutant-specific requirements for nonattainment areas.

EPA concluded that, when it came to attainment areas, it was sufficient that the SIPs keep air quality from dropping below the secondary standards.[2] Environmentalists sued in the District of Columbia District Court, and the U.S. Supreme Court eventually allowed the district court's ruling to stand; namely, that the Act's purpose "to protect and enhance" air quality obligated EPA to do more in attainment areas—even though all the substantive provisions of the Act were directed toward enhancement of nonattainment areas.[3] In response, EPA promulgated prevention of significant deterioration (PSD) rules limiting new sources and major modifications of existing sources.[4] This formed the basis of a more complex PSD program established in the 1977 Amendments and,[5] subsequently, a new set of PSD rules.[6] The PSD program is covered in Part XI (New Source Review) of this chapter. The attention

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photochemical oxidants and/or carbon monoxide was not possible by December 31, 1982, despite the implementation of all reasonably available measures, then the deadline could be extended until December 31, 1987. *See* Pub. L. No. 95-95, 91 Stat. 746-747 (1977).

[14] *See, e.g.,* Pub. L. No. 95-95, 91 Stat. 746 to 749 (1977).

[Section 12:19]

[1] 42 U.S.C. § 7410.

[2] 40 C.F.R. § 51.12(b) (1970) ("In any region where measured or estimated ambient levels of a pollutant are below the levels specified by an applicable secondary standard, the [State implementation] plan shall set forth a control strategy which shall be adequate to prevent such ambient pollution levels from exceeding such secondary standard.").

[3] Sierra Club v. Ruckelshaus, 344 F. Supp. 253, 4 Env't. Rep. Cas. (BNA) 1205, 2 Envtl. L. Rep. 20262 (D.D.C. 1972), judgment aff'd, 4 Env't. Rep. Cas. (BNA) 1815, 2 Envtl. L. Rep. 20656 (D.C. Cir. 1972).

[4] 39 Fed. Reg. 42510 (Dec. 5, 1974).

[5] 42 U.S.C. §§ 7470 to 7479. *See* Part XI. This program addresses both new sources and major modifications of existing sources if they will emit pollution above certain thresholds.

paid to attainment areas also resulted in an expanded EPA requirement for air quality maintenance projections and programs for attainment areas.[7]

As enacted in 1970, the Act envisioned that states would rely on emission limitations for stationary sources, transportation control plans to reduce pollution from cars and trucks, and land use control plans to ensure that the siting of new facilities did not jeopardize attainment.[8] The Act gave the states some flexibility, allowing "other measures," as necessary. EPA interpreted this language to permit states to incorporate into their SIPs a number of alternatives to meet the NAAQS, including economic incentives.[9] The SIP must also provide for necessary source and ambient monitoring, enforcement, and staffing.

Submitting a SIP

The SIP Submittal Process

- States may incorporate state statute or rule, or enforceable site-specific orders into their SIPs.
- Once a state has submitted a SIP to EPA, the agency has a fixed amount of time to either approve or disapprove of the submittal.
- This back-and-forth process is described in greater detail in Sections C. and D.

Content of a SIP Submittal

- Enforceable emission limitations and other control measures, means, or techniques to improve air quality.[10]
- Air monitoring, permitting, and enforcement programs to ensure that those emission limitations are being complied with.
- More information on the substantive requirements for SIPs is outlined in Sections E. through L.

§ 12:20 The SIP process: the federal/state partnership at work

The CAA includes a carefully balanced distribution of state and federal authorities, reflecting the long history of state and local control of air emissions. The centerpiece of the 1970 legislation was the SIP process, which was premised on each state possessing the primary responsibility for assuring air quality within the state.[1] States develop their SIPs under their own administrative procedures, though the Act requires that they give notice and hold public hearings before adopting final plans.[2] States then submit their SIPs to EPA for review and approval. EPA must approve the plans if they demonstrate attainment of the NAAQS within the statutorily prescribed deadline.[3]

The 1990 CAA amendments made several changes to § 110, in order to streamline

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[6]The EPA rules, 40 C.F.R. § 52.21, were upheld in Alabama Power Co. v. Costle, 606 F.2d 1068, 13 Env't. Rep. Cas. (BNA) 1225, 9 Envtl. L. Rep. 20400 (D.C. Cir. 1979), opinion superseded on reconsideration, 636 F.2d 323, 13 Env't. Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001 (D.C. Cir. 1979).

[7]The 1990 Amendments place even more emphasis on maintenance of the NAAQS, especially in areas redesignated from nonattainment to attainment. CAA § 175A, 42 U.S.C. § 7505a.

[8]Pub. L. No. 91-604, § 4, 84 Stat. 1680 (1970).

[9]40 C.F.R. § 51.1(n) (1977) ("Control strategy means . . . measures . . . including, but not limited to . . . Federal or State emission charges or taxes or other economic incentives or disincentives."). The same language is included in the current rules. 40 C.F.R. § 51.1(n)(2). Despite this authorization, states have never sought to use these measures and EPA has not encouraged them to do so. These provisions have been moved to 40 C.F.R. § 51.100(n).

[10]42 U.S.C. § 7410(a)(2).

[Section 12:20]

[1]42 U.S.C. § 7407(a).

[2]42 U.S.C. § 7410(a)(1), (2).

[3]42 U.S.C. § 7410(k)(2).

EPA's approval of plans. Section 110 now requires EPA to clearly communicate their expectations to states, giving EPA no more than 6 months to inform states whether those expectations had been met, and placed a 12-month deadline for EPA to act on SIP submittals.[4] If EPA approves a SIP or revision, it becomes equally enforceable by EPA, the states, and private citizens under the CAA's citizen suit provisions.[5] If EPA does not approve a SIP or revision, EPA may conditionally approve the plan, or it may disapprove and promulgate a FIP (and potentially start a sanctions clock under § 110(m)).

The CAA contemplates that SIPs would be revised from time to time. The SIPs themselves are to provide a process for revising themselves when necessary or advisable: specifically, when the NAAQS are changed, when new control measures become available, or when EPA notifies the state that the previously approved SIP plan is inadequate to attain the NAAQS or otherwise violates the Act.[6] States may revise SIPs for categories of sources or individual sources.[7]

Notably, any revision of the requirements of the plan—whether a minor procedural change, a tightening of emission limits for major source categories, or a variance for one plant—requires a formal SIP revision. While states have "considerable latitude in determining specifically how [NAAQS are to] be met," EPA retains the final approval authority over SIPs.[8]

§ 12:21 SIP review procedures

The 1990 Amendments revised the basic SIP review process, largely to relieve EPA of administrative burdens created by the original system and to give the Agency greater leverage with the states.[1]

When EPA promulgates new NAAQS, the states have three years to submit new SIPs.[2] The Amendments added a "completeness" step to the process.[3] EPA must promulgate rules establishing the general elements of a complete SIP revision. A SIP revision will be deemed not to have been submitted until it meets all of these elements and is therefore complete. However, if EPA does not make a completeness determination within six months of submission, the state SIP is deemed complete by operation of law.[4] From the time a state submission is complete (either through EPA's action or inaction), the CAA grants EPA 12 months to review and act on it.[5] If the SIP submittal meets the applicable requirements of the CAA, EPA must ap-

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[4]42 U.S.C. § 7410(k).

[5]CAA § 113, 42 U.S.C. § 7413, gives EPA the authority to enforce any "applicable implementation plan"; CAA § 304, 42 U.S.C. § 7604, authorizes "citizens" to do likewise.

[6]CAA § 110(a)(2)(H), 42 U.S.C. § 7410(a)(2)(H).

[7]Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975).

[8]Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 86–87, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975).

[Section 12:21]

[1]*See* Natural Resources Defense Council, Inc. v. Browner, 57 F.3d 1122, 1123, 40 Env't. Rep. Cas. (BNA) 2057, 25 Envtl. L. Rep. 21219 (D.C. Cir. 1995).

[2]*See, e.g.*, 42 U.S.C. §§ 7410(a)(1), 7511(a)(1). EPA's decision to approve conditionally "committal SIPs" in satisfaction of NO_X SIP requirements under the 1990 Amendments was overturned in Natural Resources Defense Council, Inc. v. E.P.A., 22 F.3d 1125, 38 Env't. Rep. Cas. (BNA) 1481, 24 Envtl. L. Rep. 20836 (D.C. Cir. 1994).

[3]42 U.S.C. § 7410(k)(1).

[4]42 U.S.C. § 7410(k)(1)(B).

[5]42 U.S.C. § 7410(k)(2).

prove it.[6]

EPA's action on a state plan may take the form of: (1) approval; (2) partial approval; (3) conditional approval; or (4) disapproval.[7] Partial approval does not relieve the state of any consequences of missing a deadline, however, and conditional approval automatically reverts to disapproval if the conditions are not satisfied within one year.[8]

Once EPA approves a SIP, a state may not alter the SIP without undergoing another EPA review and approval process.[9] However, EPA may issue what's colloquially known as a "SIP call" for a state. This is a call for a state to revise a previously approved SIP that EPA subsequently finds no longer complies with CAA requirements.[10]

§ 12:22 Enforceable emission limitations

Once EPA has identified pollutants and sources of concern, the states are obligated to develop control strategies. Control strategies generally fall into three categories:

1. Emission limits for stationary sources
2. Transportation control plans for motor vehicles
3. New source review

The remainder of this section focuses principally on control strategies for existing stationary sources, as the latter two types of strategies are discussed at length elsewhere in this chapter.[1]

"Emission limitation" is defined in the Act as "a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure [sic] continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under" the CAA.[2] Although states are not limited to this strategy for addressing pollution generated by stationary sources, emission limitations were the basic building block in the first 20 years of implementation.

Emission limits typically are set by source category. In theory, a state regulatory agency could tailor a package of emission limits for each criteria pollutant and each AQCR, designing the rules to simply attain the NAAQS at the lowest aggregate cost.[3] However, this would entail the state agency having access to extensive data on the cost and feasibility of control at each of the hundreds or thousands of individual sources. Instead, the search for an administratively feasible method of setting emission limits usually led to uniform standards for broad categories of sources, based on general notions of what is technologically feasible for those sources and not prohibitively costly. The broader the category, the easier the process, which

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[6]42 U.S.C. § 7410(k)(3); *see also* Luminant Generation Co., L.L.C. v. U.S. E.P.A., 675 F.3d 917, 921–922, 74 Env't. Rep. Cas. (BNA) 1417 (5th Cir. 2012).

[7]42 U.S.C. §§ 7410(k)(3), (4).

[8]42 U.S.C. §§ 7410(k)(3), (4).

[9]Safe Air For Everyone v. U.S. E.P.A., 488 F.3d 1088, 1097 (9th Cir. 2007).

[10]42 U.S.C. § 7410(k)(5). *See* § 12:31 [Sanctions] below.

[Section 12:22]

[1]*See* § 12:19, Part XI.

[2]42 U.S.C. § 7602(k).

[3]This possibility has been noted by environmental economists. *See, e.g.*, A. KNEESE & C. SCHULTZE, POLLUTION, PRICES, AND PUBLIC POLICY 88 (1975).

could follow either of two tracks:

- *Aggressive approach.* The state might set the categorical standard at a level associated with highly efficient controls. Flexibility could be built into such a system, either by allowing the regulated community to make a case, during the standard-setting process, for lower standards for subcategories with special technological or economic difficulties, or by permitting variances for hard-hit individual sources.
- *Least common denominator.* The state might set the categorical standard at the level of the least common denominator to ensure that standard was "reasonable" across the board.

So long as the emission reductions resulting from imposition of the standard would produce attainment of the NAAQS, the Act did not dictate either approach.[4] The SIP could also vary the categorical standards from one AQCR to the next, imposing tighter standards where pollution is heaviest.[5]

The 1970 Act could have been interpreted to allow individual source variances from categorical SIP standards only under the exacting standards of § 110(f). As enacted in 1970, § 110(f) provided that a governor could request EPA to extend the compliance deadline for a stationary source or class of mobile sources beyond the attainment deadline for up to a year upon a showing of: (1) good faith efforts to comply; (2) the unavailability of necessary control technology; (3) the application of interim controls that would reduce the impact on public health; and (4) the public interest in continued operation of the source or class of sources.[6] EPA, however, read § 110(a)(3) as requiring it to approve *any* SIP revision, whether for an individual source or an entire category, so long as the change would not result in a violation of the NAAQS. Section 110(f) was, in EPA's view, limited to variances extending beyond the attainment deadline. In one of the pivotal early CAA cases, the Supreme Court agreed with EPA.[7]

The 1970 Act has been referred to as "technology-forcing."[8] As to existing stationary sources, however, whether and how much force to apply was left largely up to the states.[9] EPA invited a degree of consistency by publishing information on "rea-

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[4]The Act requires only that the SIP demonstrate attainment and maintenance and satisfy certain other procedural and substantive criteria. Within those general constraints, the states may decide how to allocate the burdens of achieving the Act's goals. Union Elec. Co. v. E.P.A., 427 U.S. 246, 96 S. Ct. 2518, 49 L. Ed. 2d 474, 8 Env't. Rep. Cas. (BNA) 2143, 6 Envtl. L. Rep. 20570 (1976).

[5]The SIP regulations required states to identify priority air quality control regions, those with the most severe pollution, and to devote the largest share of planning resources to those regions. 40 C.F.R. § 51.3 (1977). States also imposed more stringent standards on sources located in priority regions. *See, e.g.*, COMAR 26.11.06.02, Maryland's SIP (imposing a zero visible emission standard in certain regions of Maryland).

[6]42 U.S.C. § 7410(f).

[7]Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975). The Court reasoned that Congress gave EPA primary responsibility for setting and ensuring the attainment of the NAAQS but left it to the states to decide how to shape their SIPs to achieve that end. Thus, any revision of a SIP, whether for an individual source or a category of sources, must be approved by EPA under § 110(a)(3) if the revision does not impair attainment and maintenance of the NAAQS. The result is a fundamental distinction between the CAA and the Federal Water Pollution Control Act.

[8]Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 90–91, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975).

[9]Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 91, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975) ("so long as the national standards are being attained and maintained, there is no basis in the present CAA for forcing further technological developments").

sonably available" control technologies for criteria pollutants,[10] but states were free to use other standards. The result of the process was development of a bewildering variety of stationary source SIP provisions.

Inherent in the concept of an emission limitation is the notion that the amount of pollutants emitted will, in fact, be limited. Large emission sources cannot avoid violations of the air quality standards by cutting emissions only when meteorological conditions likely will direct the pollution toward air quality monitors or concentrate it under a temperature inversion. Nor may such sources rely on tall smokestacks to disperse pollution.[11]

EPA came to this interpretation slowly. Initially, it deemed tall stacks and intermittent control strategies (ICS) acceptable as emission limitations.[12] While that interpretation was in force—and in the years leading up to the 1970 Amendments—hundreds of power plants and smelters were equipped with very tall smokestacks to avoid the high cost of removing sulfur from their flue gas.[13] The courts rejected this policy in 1974,[14] and EPA subsequently adopted the principle that sources with post-1970 stacks taller than "good engineering practice" would normally dictate must be regulated as though they had shorter stacks, unless tall stacks were the best available technology or where alternative controls (*i.e.,* scrubbers) were "economically unreasonable or technologically unsound."[15] In 1977 Congress further tightened the ban on tall stacks.[16]

§ 12:23 Nonattainment SIPs

In states with nonattainment areas (NAA) for any of the NAAQS, the CAA requires additional elements be included in the SIP. The purpose of these requirements is to push the air quality in those areas back into attainment with the NAAQS, ostensibly within the five years required by the Act. As noted above, CAA § 172(c) lists specific elements for nonattainment SIPs, and §§ 181–192 outline pollutant-specific requirements for nonattainment areas.

The language in § 172(c) touches on the seven main requirements for NAA SIPs:

1. *Implementation of all "reasonably available control measures" (RACM)*[1] "as expeditiously as practicable."[2] RACM must include "such reductions in emission from existing sources in the area as may be obtained through the adop-

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[10]*See, e.g.*, 40 C.F.R. part 51, App. B (1977) ("Examples of Emission Limitations Attainable with Reasonably Available Technology," promulgated in 1971 at 36 Fed. Reg. 23398, 25233 (Dec. 9, 1971).

[11]42 U.S.C. § 7423.

[12]*See* Sierra Club v. E.P.A., 719 F.2d 436, 439, 19 Env't. Rep. Cas. (BNA) 1897, 13 Envtl. L. Rep. 21001 (D.C. Cir. 1983).

[13]*See, e.g.,* Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975) (EPA properly rejected Georgia SIP that allowed tall stacks and ICS to attain the NAAQS).

[14]Natural Resources Defense Council, Inc. v. Environmental Protection Agency, 489 F.2d 390, 394-96, 6 Env't. Rep. Cas. (BNA) 1248, 4 Envtl. L. Rep. 20204 (5th Cir. 1974), judgment rev'd on other grounds, 421 U.S. 60, 95, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't. Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975) and vacated in part, 516 F.2d 488, 5 Envtl. L. Rep. 20666 (5th Cir. 1975), opinion supplemented, 539 F.2d 1068, 9 Env't. Rep. Cas. (BNA) 1298, 6 Envtl. L. Rep. 20777 (5th Cir. 1976).

[15]*See* 40 C.F.R. §§ 51.100, 51.118.

[16]*See* Sierra Club v. E.P.A., 719 F.2d 436, 440, 19 Env't. Rep. Cas. (BNA) 1897, 13 Envtl. L. Rep. 21001 (D.C. Cir. 1983).

[Section 12:23]

[1]The terms RACM and RACT are not defined in statute. The implementation of both are described in further detail in this section.

[2]42 U.S.C. § 7502(c)(1).

tion, at a minimum, of reasonably available control technology (RACT)" and must provide for the attainment of the NAAQS.[3]

2. *"Reasonable further progress" (RFP) towards attainment*. RFP is defined in § 171 as the annual incremental reductions of the NAAQS pollutant necessary to assure attainment by the CAA's target date.[4] Reasonable further progress is spelled out in detail in the ozone and particulate matter nonattainment sections of the Act (§§ 182 and 189), but left up to states for the other criteria pollutants.
3. *Current, complete, and accurate inventory of all sources of the relevant pollutant in the area*.[5] The Ninth Circuit held in 2012 that Congress' use of the term "current" meant that EPA actions based on outdated emissions inventories were arbitrary and capricious (even though they may have been current when submitted to the Agency).[6] EPA has used its authority under both this section and § 110(a)(2)(F) (which allows for SIPs to require "periodic reports on the nature and amounts of emissions") to promulgate rules governing the emissions inventory process.[7]
4. *Identification and quantification of allowable emissions* for major new and modified stationary sources in the nonattainment area.
5. *Permits for the construction and operation of major new and modified stationary sources*.[8] In ozone, carbon monoxide, and particulate matter nonattainment areas, the major source threshold tightens as the area continues to remain in nonattainment.[9] Nonattainment new source review permitting requirements are discussed in further detail in Part XI.
6. *Other measures that are necessary and appropriate to provide for attainment*.[10] Such measures can include fees, marketable permits, and auctions of emission rights. These "other measures" cannot act as a substitute for the other requirements in § 172(c), however—as EPA learned when it attempted to satisfy the RACT requirement for the 1997 8-hour ozone standard with a cap-and-trade system.[11]
7. *Contingency measures in each nonattainment plan*. These are measures that would take effect without further administrative action from the State or Administrator in the event of the state missing RFP or attainment deadlines.[12]

Beyond these general requirements, § 172(e) contains anti-backsliding provisions. These provisions require EPA to ensure that any controls adopted for nonattainment areas under future NAAQS are not less stringent than those that were already in place.[13] The D.C. Circuit has held that NSR requirements, in addition to rate-of-progress milestones, contingency plans, and motor vehicle emissions budgets, are all "controls" that cannot be scaled back by new NAAQS (even when the new

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[3]42 U.S.C. § 7502(c)(1).

[4]42 U.S.C. § 7501(1).

[5]42 U.S.C. § 7502(c)(3).

[6]Sierra Club v. U.S. E.P.A., 671 F.3d 955, 963-965, 73 Env't. Rep. Cas. (BNA) 2057 (9th Cir. 2012).

[7]*See, e.g.*, 73 Fed. Reg. 76539 (Dec. 17, 2008).

[8]42 U.S.C. §§ 7502(c)(4) and (5).

[9]*See* 42 U.S.C. §§ 7511a.(c), (d), and (e).

[10]42 U.S.C. § 7502(c)(6).

[11]Natural Resources Defense Council v. E.P.A., 571 F.3d 1245, 1257–58, 69 Env't. Rep. Cas. (BNA) 1284 (D.C. Cir. 2009).

[12]42 U.S.C. § 7502(c)(9).

[13]42 U.S.C. § 7502(e).

standards are themselves more restrictive).[14]

Furthermore, § 173 requires more stringent emission limits for major sources in nonattainment areas. New source review major sources for the NAAQS in question are required to comply with lowest achievable emission rates (LAER) instead of best available control technology (BACT); LAER does not allow for the consideration of costs when determining appropriate controls.[15] In addition, the construction of a new NSR major source or the modification of an existing major source in a nonattainment area requires the new potential emissions to be offset—either by reducing emissions elsewhere or by obtaining credits within the nonattainment area.[16]

Congress added pollutant-specific requirements for nonattainment areas in the 1990 Amendments.

Specific Requirements for Ozone Nonattainment Areas

Subpart 2, which covers Ozone, is the most extensive, reflecting Congress' concerns about a criteria pollutant for which 100 areas of the country were in nonattainment with the NAAQS (affecting 100 million Americans).[17] The first section of that subpart, § 181(a)(1), creates a new mechanism to continually improve air quality in nonattainment areas; nonattainment areas must attain the standards "as expeditiously as practicable," but by no later than the deadlines provided in the statute.[18]

Section 181 lists five degrees of nonattainment for the ozone NAAQS, based on the design value for ozone in the area.[19] These five classifications are: ***Marginal***, ***Moderate***, ***Serious***, ***Severe***, and ***Extreme***.[20] Marginal nonattainment areas have three years after the enactment of the applicable NAAQS (or three years from November 15, 1990, for existing NAAQS) to achieve attainment, while areas with higher classifications are given more time.[21] Ozone nonattainment requirements are generally intended to control VOC emissions, but should also be read to apply to NOx emissions (the other ozone precursor) unless specifically stated by EPA, per § 182(f) of the Act.[22]

Within six months of the attainment deadlines provided for in § 181, areas that have failed to return to attainment for the ozone NAAQS are "bumped up" to the next highest classification (i.e., *Marginal* areas become *Moderate*, *Moderate* areas become *Serious*, and so forth).[23] States may also request a voluntary "bump up."[24] *Severe* areas cannot be bumped up to *Extreme* (unless requested by the state), though there are additional requirements that start to take effect for *Serious* areas that fail to meet the attainment deadlines.[25]

Section 182 created specific requirements for ozone nonattainment areas based on the classifications in § 181, which build onto each other:[26]

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[14]South Coast Air Quality Management Dist. v. E.P.A., 472 F.3d 882, 900-902, 63 Env't. Rep. Cas. (BNA) 1801 (D.C. Cir. 2006), decision clarified on denial of reh'g, 489 F.3d 1245, 64 Env't. Rep. Cas. (BNA) 1683 (D.C. Cir. 2007).

[15]42 U.S.C. § 7503(a)(2); 42 U.S.C. § 7501(3) (defining "LAER").

[16]42 U.S.C. § 7503(a)(3).

[17]The Honorable Henry A. Waxman, *An Overview of the CAA Amendments of 1990*, 21 ENVTL. L. 1721, 1758 (1991).

[18]42 U.S.C. § 7511(a)(1).

[19]42 U.S.C. § 7511, Table 1.

[20]42 U.S.C. § 7511, Table 1.

[21]42 U.S.C. § 7511, Table 1.

[22]42 U.S.C. § 7511a(f).

[23]42 U.S.C. § 7511(b)(2).

[24]42 U.S.C. § 7511(b)(3). For instance, in 2019 the California Air Resources Board (CARB) requested that EPA reclassify an area from Serious to Severe-15 in light of a D.C. Circuit decision. *See* 84 Fed. Reg. 32841 (July 10, 2019).

[25]42 U.S.C. §§ 7511(b)(2) and (4).

[26]42 U.S.C. § 7511a.

Marginal

- States must revise their SIPs to develop or update their RACT and vehicle inspection and maintenance (I/M) programs.[27]
- Revised SIPs must also incorporate a nonattainment NSR permit program, including a requirement that any construction or modification of major sources provides for emissions offsets at a 1.1:1 ratio.[28]
- States must submit emissions inventories describing all sources of actual emissions of ozone precursors within two years, and again at recurring three-year intervals.[29]

Moderate

- Meet the *Marginal* requirements.[30]
- Fifteen percent reduction in VOC emissions within six years.[31] Applies to any areas that are classified as *Moderate* at a later date, but a state that has satisfied this requirement for one ozone NAAQS is not required to do so for future standards.[32]
- RACT requirements both for all major sources of VOCs and all other sources covered by EPA control techniques guidelines (CTGs) before the date of attainment.[33]
- I/M program, which applies regardless of whether the area was required to implement such a program in the past.[34]
- The offset ratio for NSR major sources increases to 1.15:1.[35]
- Facilities that sell more than 10,000 gallons of gasoline per month (or 50,000 gallons if the facilities are "independent small business marketers") were required to adopt Stage II vapor recovery controls.[36] This requirement was phased out in 1994.[37]

Serious

- Meet the *Moderate* requirements.[38]
- Areas classified as *Serious* or worse were subject to gasoline vapor recovery requirements until EPA determined, in 2012, that onboard systems were widespread enough in the American fleet to make vapor recovery redundant.[39]

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[27]42 U.S.C. §§ 7511a(a)(2)(A) and (B). These SIPs must include only the RACT standards that were required before the passage of the 1990 Amendments. 42 U.S.C. §§ 7511a(a)(2)(A) and (B).

[28]42 U.S.C. §§ 7511a(a)(2)(C) and (a)(4). For instance, an existing major source that was proposing a new project in a marginal nonattainment area with an estimated emissions increase of 100 tons per year of VOC would need to find 110 tons of VOC reductions elsewhere—either through off-site emission reduction credits, on-site changes at other processes, or a combination of the two.

[29]42 U.S.C. §§ 7511a(a)(1) and (a)(3).

[30]42 U.S.C. § 7511a(b).

[31]42 U.S.C. § 7511a(b)(1).

[32]42 U.S.C. § 7511a(b)(1); South Coast Air Quality Management District v. Environmental Protection Agency, 882 F.3d 1138, 1153, 85 Env't. Rep. Cas. (BNA) 2471 (D.C. Cir. 2018) (*citing* Natural Resources Defense Council v. E.P.A., 571 F.3d 1245, 1261, 69 Env't. Rep. Cas. (BNA) 1284 (D.C. Cir. 2009)).

[33]42 U.S.C. § 7511a(b)(2); *see* § 12:24, below.

[34]42 U.S.C. § 7511a(b)(4); *see* § 12:23, below.

[35]42 U.S.C. § 7511a(b)(5).

[36]42 U.S.C. § 7511a(b)(3).

[37]Section 202(a)(6) of the CA phased out these requirements for Moderate areas once EPA promulgated standards for onboard vapor recovery systems, however, which happened in 1994. 42 U.S.C. § 7521(a)(6); 59 Fed. Reg. 16262 (Apr. 6, 1994).

[38]42 U.S.C. § 7511a(c).

[39]42 U.S.C. § 7521(a)(6); 77 Fed. Reg. 28772 (May 16, 2012).

- The NSR major source threshold (and the RACT threshold) for VOCs drops from 100 tpy to 50 tpy, and the modification threshold from 40 tpy to 25 tpy.[40]
- The offset ratio for NSR major sources increases to 1.2:1 ratio in Serious areas.[41] Sections 182(c)(7) and (8) provide special exceptions to LAER-level controls for facilities that are willing to make internal offsets at a higher 1.3:1 ratio.[42]
- Compliance with EPA's enhanced monitoring rules for ozone, NOx, and VOCs.[43] These SIPs must also include enhanced I/M, clean fuel fleet, and other transportation-related programs.[44]
- RFP requirements for *Serious* ozone nonattainment areas are strictly defined in § 182(c): states must reduce VOC emissions by at least 3% a year (averaged over 3-year periods).[45]
- Incorporate additional transportation control measures, which may include employee trip reduction programs.[46]

Severe

- Meet all requirements for *Serious* Areas.[47]
- The NSR permitting threshold drops further from 50 tpy to 25 tpy.[48]
- The offset ratio increases from 1.2:1 to 1.3:1, unless the SIP already requires every major source in the area to apply BACT.[49]
- *Severe* areas that fail to return to attainment are subject to the fee provisions in § 185, and states failing to meet the RFP requirements under § 182(c) are subject to sanctions.[50]
- Contingency measures if the area fails to meet any applicable milestone (including RFP).[51]

Extreme.[52]

- Subject to *Severe* area requirements.[53]
- The NSR major permitting threshold is further reduced to 10 tpy, and *any* change at an existing facility that increases emissions constitutes a modification (unless the facility offsets those emissions on a 1.3:1 basis).[54]
- Similar to the provision for *Severe* areas, the offset increase (this time to 1.5:1) applies only if the SIP does not already require every major source in the area to install BACT controls.[55]
- Boilers emitting more than 25 tpy of NOx must either burn natural gas (or another low polluting fuel) or install advanced control technology to reduce NOx emissions.[56]

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[40]42 U.S.C. § 7511a(c).

[41]42 U.S.C. § 7511a(c)(10).

[42]42 U.S.C. §§ 7511a(c)(7) and (8).

[43]42 U.S.C. § 7511a(c)(1); 40 C.F.R. part 58.

[44]42 U.S.C. §§ 7511a(c)(3), (4), and (5). *see* § 12:23.

[45]42 U.S.C. § 7511a(c)(2). This annual RFP goal may be diminished based on a demonstration by the state that the current reductions are all that "can be feasibly be implemented in the area, in light of technological achievability." 42 U.S.C. § 7511a(c)(2).

[46]42 U.S.C. § 7511a(d)(1)(B); *see* § 12:23.

[47]42 U.S.C. § 7511a(d).

[48]42 U.S.C. § 7511a(d).

[49]42 U.S.C. § 7511a(d)(2).

[50]42 U.S.C. § 7511(b)(4).

[51]42 U.S.C. § 7511a(c)(9).

[52]As a reminder, Extreme ozone nonattainment areas must be initially classified as such and cannot result from a Severe area being "bumped up." 42 U.S.C. § 7411(b)(2).

[53]42 U.S.C. § 7411a(e).

[54]42 U.S.C. §§ 7511a(e), 7511a(e)(2).

[55]42 U.S.C. § 7511a(e)(1).

[56]42 U.S.C. § 7511a(e)(3).

- As mentioned above, areas categorized as *Serious* or worse are subject to annual VOC emission reduction requirements of 3%.[57] Extreme areas are subject to the same RFP requirements, but cannot qualify for any of the off-ramps described in § 182(c)(2)(B).[58]
- SIPs covering *Extreme* areas are required to include measures that limit the use of heavy-duty or high polluting vehicles during times of heavy traffic.[59]

Specific Requirements for Carbon Monoxide Nonattainment Areas

As of September 27, 2010, all Carbon Monoxide (CO) areas formerly in nonattainment have been redesignated to maintenance.[60] At the time of the 1990 Amendments, however, almost 30 million Americans lived in areas that violated the 1971 standard.[61] Section 186 of the Act creates two classifications for CO nonattainment areas: *Moderate* and *Serious*.[62] These areas have five and 10 years, respectively, to return to attainment.[63] Just as with the ozone classifications, *Moderate* areas may be "bumped up" upon a failure to attain within the statutory deadline.[64]

Most of the specific requirements for CO nonattainment areas are related to transportation, owing to the role motor vehicles play as emitters of CO.[65] States must provide forecasts for vehicle miles travelled in *Moderate* areas with higher CO design values and provide for enhanced I/M programs.[66] States are also required to submit inventories of all sources of CO within the nonattainment area, meet annual emission reduction targets, and provide contingency provisions in the event that the area had not been redesignated within 5 years.[67] States with *Serious* areas must require the use of oxygenated gasoline and adopt additional transportation control measures.[68] *Serious* areas with stationary sources that significantly contribute to CO emissions will also see their major source threshold lowered from 100 tpy to 50 tpy.[69]

Specific Requirements for Particulate Matter Nonattainment Areas

Areas that are nonattainment for particulate matter (and specifically for PM_{10}) are covered under Subpart 4. All of these areas were initially classified as *Moderate* in the 1990 Act, but could be either reclassified to *Serious* if the Administrator found that they could not practicably attain the NAAQS within six years or could be "bumped up" to that level if they failed to attain by that date.[70] States with *Moderate* areas are required to submit SIPs that include an NSR permitting program, RACT measures, and a demonstration that the plan provides for attainment of the area by the applicable date (or a demonstration that this is impracticable).[71] *Serious* plans must include the same (requiring "best additional control measures"—or BACM—in addition to RACT) in addition to NSR permitting obligations apply to sources emitting 70 tpy or more of PM_{10} in those areas.[72]

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[57] 42 U.S.C. § 7511a(c)(2).

[58] 42 U.S.C. § 7511a(e).

[59] 42 U.S.C. § 7511a(e)(4).

[60] U.S. EPA, *Green Book Carbon Monoxide (1971) Area Information*, https://www.epa.gov/green-book/green-book-carbon-monoxide-1971-area-information.

[61] The Honorable Henry A. Waxman, *An Overview of the CAA Amendments of 1990*, 21 ENVTL. L. 1721, 1766 (1991).

[62] 42 U.S.C. § 7512(a)(1).

[63] 42 U.S.C. § 7512(a)(1).

[64] 42 U.S.C. § 7512(b)(2)(A).

[65] 42 U.S.C. § 7512a.

[66] 42 U.S.C. §§ 7512a(a)(2), (4), and (6); *see* § 12:23.

[67] 42 U.S.C. §§ 7512a(a)(1), (3), (5), and (7).

[68] 42 U.S.C. §§ 7512a(b)(2) and (3); *see* § 12:23.

[69] 42 U.S.C. § 7512a(c)(1).

[70] 42 U.S.C. §§ 7513(a) to (c).

[71] 42 U.S.C. §§ 7513a(a)(1)(A) to (C).

[72] 42 U.S.C. § 7513a(b).

Specific Requirements for Sulfur Dioxide, Nitrogen Dioxide, and Lead Nonattainment Areas

Subpart 5 of the Part D plan requirements for nonattainment areas includes provisions for sulfur dioxides, nitrogen dioxide, and lead.[73] These sections are less prescriptive, and simply require states with nonattainment areas for those NAAQS to submit a SIP—meeting the requirements in § 172—to EPA within 18 months of area designation. These plans must provide for the attainment of the NAAQS no later than five years after either the designation or November 15, 1990, whichever is later.[74] For states required to submit SO_2 plans, EPA has issued several rounds of non-binding guidance clarifying the agency's expectations under §§ 172(c), 191, and 192.[75] EPA has also issued guidance for states with nonattainment areas for the most recent (2008) lead NAAQS, particularly in regards to developing RACM to control lead emissions from certain source categories.[76] Finally, as every area of the country has been attaining both the 1971 and 2010 NO_2 standards, EPA has not taken similar action for that pollutant.[77]

§ 12:24 Vehicle-related programs

The 1990 Amendments to the CAA added provisions requiring states to include in their SIPs specific transportation control measures for certain nonattainment areas, depending on the classification.[1]

- *Inspection and Maintenance (I/M) programs*:[2] I/M programs help identify vehicles that have high emissions due to malfunctions, and they require repair of the malfunction. Either a basic or an enhanced vehicle emission control I/M program is required for certain ozone and CO nonattainment areas; which one depends on the classification and the size of the urbanized area population, with enhanced programs also required for certain metropolitan statistical areas within an ozone transport region.[3] EPA has developed minimum performance standards for both basic and enhanced I/M programs.[4] The Agency provides states with more flexibility on how they can implement I/M programs.[5]
- *Transportation Control Measures (TCM) for Severe Ozone Nonattainment Areas*: Section 182 imposes requirements for measuring and reducing emissions related to transportation for severe ozone nonattainment areas. States were required to submit a demonstration as to whether certain vehicle and transportation emissions and parameters are consistent with those used for the area's demonstration of attainment. If the emissions and parameters

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[73] 42 U.S.C. §§ 7514 to 7514a.

[74] 42 U.S.C. § 7514a.

[75] *See* U.S. EPA, GUIDANCE FOR 1-HOUR SO_2 NONATTAINMENT AREA SIP SUBMISSION (2014), *available at* https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf.

[76] *See* U.S. EPA, IMPLEMENTATION OF THE 2008 LEAD NATIONAL AMBIENT AIR QUALITY STANDARDS GUIDE TO DEVELOPING REASONABLY AVAILABLE CONTROL MEASURES (RACM) FOR CONTROLLING LEAD EMISSIONS (2012), *available at* https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20120301_oaqps_epa-457_r-12-001_guide_racm_control_lead_emissions.pdf.

[77] *See, e.g.*, 77 Fed. Reg. 9532 (Feb. 17, 2012); U.S. EPA, *Green Book Nitrogen Dioxide (1971) Area Information*, https://www.epa.gov/green-book/green-book-nitrogen-dioxide-1971-area-information (noting that "[o]n September 22, 1988, the only Nitrogen Dioxide (1971) nonattainment area was redesignated to maintenance").

[Section 12:24]

[1] *See* § 12:22 and 42 U.S.C. § 7511(a)(1) for classification of ozone nonattainment areas.

[2] For EPA Policy, Guidance, and Test Procedures for I/M Programs, *see* U.S. EPA, *Vehicle Emissions Inspection and Maintenance(I/M): Policy, Guidance, and Test Procedures*, https://www.epa.gov/state-and-local-transportation/vehicle-emissions-inspection-and-maintenance-im-policy-guidance-and.

[3] 42 U.S.C. §§ 7511a.(a)(2)(B), (b)(4), (c)(3), (d), (e); 40 C.F.R. § 51.350(a).

[4] 40 C.F.R. §§ 51.351 to 51.352.

[5] *See, e.g.*, 65 Fed. Reg. 45256 (July 24, 2000).

exceed the levels projected for the attainment demonstration, the state must develop and submit a revised SIP which includes both a TCM program and measures from CAA § 108(f) that will reduce emissions to levels consistent with the projected levels.[6] Section 108(f) measures include programs for improved public transit; bus and HOV lanes; employer-based transportation management plans, including incentives; traffic flow improvement programs that achieve emission reductions; shared ride services; and programs for bicycle storage and bicycle lanes.[7] The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provided funding for many of the TCMs listed in § 108(f).[8] ISTEA established the Congestion Mitigation and Air Quality Improvement Program (CMAQ).[9] CMAQ was administered by the Federal Highway Administration and reauthorized by various laws through federal fiscal year 2020.[10] While specific qualifying program or project criteria and the apportionment method changed over the years, CMAQ generally provided flexible funding to state and local governments for projects to reduce congestion and improve air quality in nonattainment or maintenance areas for ozone, CO, or PM.

- *Vehicle Miles Traveled (VMT) Offset Requirement for Severe or Extreme Ozone Nonattainment Areas*: States must implement a VMT offset requirement in severe or extreme ozone nonattainment areas in order to prevent growth in motor vehicle VOC emissions from canceling out the emission reduction benefits of federal programs mandated under the CAA.[11] These offsets are also intended to comply with the CAA's Reasonable Further Progress (RFP) milestones and attainment demonstration requirements, and include the adoption of specific enforceable transportation control strategies and transportation control measures.[12] "[I]n considering such measures, the State should ensure adequate access to downtown, other commercial, and residential areas and should avoid measures that increase or relocate emissions and congestion rather than reduce them."[13] States must adopt measures sufficient to ensure projected motor vehicle VOC emissions do not exceed the ceiling established by modeling mandated transportation-related controls.[14] TCMs (described above) also are required as a preventive measure when growth in VMT and vehicle trips would otherwise cause an uptick in motor vehicle

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[6]42 U.S.C. § 7511a.(c)(5).

[7]42 U.S.C. § 7408(f); *see also* U.S. EPA, TRANSPORTATION CONTROL MEASURES: AN INFORMATION DOCUMENT FOR DEVELOPING AND IMPLEMENTING EMISSIONS REDUCTIONS PROGRAMS, EPA 430-R-09-040 (2011), *available at* https://www.epa.gov/sites/production/files/2015-08/documents/430r09040.pdf.

[8]Pub. L. No. 102-240, 105 Stat. 1914 (1991).

[9]ISTEA §§ 1008(a) 1003(a)(4); 23 U.S.C. § 149.

[10]ISTEA was reauthorized in 1998 by the Transportation Equity Act for the 21st Century (TEA-21). Pub. L. No. 105-178, 112 Stat. 107 (1998). In 2005, TEA-21 was succeeded by the Safe, Accountable, Flexible Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Pub. L. No. 109-59, 119 Stat. 1144 (2005). In 2012, SAFETEA-LU was succeeded by the Moving Ahead for Progress in the 21st Century Act (MAP-21). Pub. L. No. 112-141, 126 Stat. 405 (2012). After the MAP-21 authorization of CMAQ ended, the FAST Act continued the CMAQ program through federal fiscal year 2020. Pub. L. No. 114-94, 129 Stat. 1312 (2015).

[11]42 U.S.C. § 7511a.(d)(1)(A); *see also* 57 Fed. Reg. 13498, 13521 to 13523 (April 16, 1992) (explaining EPA's interpretation regarding how states may demonstrate that the VMT requirement is satisfied) and 66 Fed. Reg. 57247 (Nov. 14, 2001).

[12]42 U.S.C. §§ 7511a.(b)(1) and (c)(2)(B).

[13]42 U.S.C. § 7511a.(d)(1)(A).

[14]66 Fed. Reg. 57247 (Nov. 14, 2001).

emissions.[15] The VMT Offset requirement is satisfied when projected total motor vehicle emissions during the ozone season in one year are not higher than during the previous ozone season due to such control measures.[16]

- *Employee Commute Options (ECO) Programs*: For areas of severe or extreme ozone nonattainment or serious CO nonattainment, employers with 100 or more employees must implement an ECO program. This program includes submitting employer trip reduction (ETR) compliance plans to the state, with the goal of increasing the average passenger occupancy of employees commuting to work and reducing congestion.[17] In 1995, Congress amended the CAA to allow a state to remove ECO programs from its SIP or to withdraw the submission; the state must first notify EPA, in writing, that the state has undertaken, or will undertake, one or more alternative methods that will achieve emission reductions equivalent to those to be achieved by the removed or withdrawn provisions.[18] ECO programs are now voluntary for areas classified as severe or extreme for ozone nonattainment, or serious for CO nonattainment, after the date of this amendment.

§ 12:25 Emission limitations (RACT)

As described above, § 172 of the Act requires nonattainment plans to "provide for the implementation of all reasonably available control measures (RACT) as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology)."[1] RACT has been defined as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering both technological and economic feasibility.[2] In rulemaking published shortly after the 1990 Amendments, EPA outlined factors the agency would use in considering both the technological and economic feasibility requirements.[3]

As noted above, areas in marginal nonattainment of the ozone NAAQS must apply RACT only to sources covered by EPA control technique guidelines (CTGs) prior to the 1990 Amendment.[4] For all other nonattainment areas, RACT is required for all major sources of the criteria pollutant in question (or precursors of that pollutant), as well as for any source category where EPA has issued CTGs at any point. EPA's CTGs are comprised of source-specific technical information and recommendations. While they do not have the force and effect of law, they establish presumptive RACT; in other words, EPA will approve SIPs with RACT require-

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[15]66 Fed. Reg. 57247 (Nov. 14, 2001); *see also* Association of Irritated Residents v. U.S. E.P.A., 686 F.3d 668, 679, 74 Env't. Rep. Cas. (BNA) 1264 (9th Cir. 2012) (holding in part that EPA violated the CAA when it failed to require California to submit TCMs to offset emissions from increased VMTs and that, when calculating emission offsets, states and EPA must use as a baseline the level of emissions emanating from VMT in a prior year; EPA may not use aggregate motor vehicle emissions from a prior year as the baseline because the aggregate includes variables unrelated to VMTs such as vehicle turnover, tailpipe control standards, and the use of alternative fuels).

[16]66 Fed. Reg. 57247 (Nov. 14, 2001).

[17]42 U.S.C. § 7511a.(d)(1)(B).

[18]Pub. L. No. 104-70, § 1, 109 Stat. 773 (1995).

[Section 12:25]

[1]42 U.S.C. § 7502(c)(1).

[2]*See, e.g.*, 57 Fed. Reg. 55620, 55624 (Nov. 25, 1992); 44 Fed. Reg. 53761, 53762 (Sept. 17, 1979).

[3]57 Fed. Reg. 18070, 18073 to 18074 (Apr. 28, 1992).

[4]42 U.S.C. § 7511a(a)(2)(A).

ments based on the CTGs.[5] The 1990 Amendments spurred EPA to act on a perceived lag in implementing RACT programs. Section 183 required EPA to review and, if necessary, revise existing CTGs within three years of the 1990 Act, and to issue CTGs for 11 additional source categories on the same timeline.[6] EPA was unable to meet these deadlines, and established alternative control technologies for some source categories that evaluate control techniques; however, they do not establish presumptive RACT.[7]

§ 12:26 Interstate transport

Please refer to Part IX for a discussion of interstate pollution.

§ 12:27 Regional approaches

Please refer to § 12:75 for discussion of regional approaches.

§ 12:28 Federal implementation plans

Please refer to §§ 12:5, 12:18, 12:32, and 12:67 for treatment of Federal Implementation Plans.

§ 12:29 SIP gap

One issue that sometimes arises with the SIP submittal process is the so-called "SIP gap." This occurs when the state has adopted, and must begin implementing, regulatory requirements not yet approved by EPA. In this situation, the previous version of the state's SIP (described in 40 C.F.R. Part 52) remains federally enforceable under §§ 113 and 304. This delay at times has forced regulated entities to choose between violating state requirements and inviting EPA enforcement or citizen suits.

§ 12:30 Enforcement

Once EPA approves the provisions of a SIP or TIP, they are enforceable by the federal government under § 113.[1] Upon determination that a violation of a SIP or TIP has occurred, EPA must first notify the violator, and the state in which the plan applies, of the violation.[2] After 30 days, the Agency may issue an order requiring compliance, issue an administrative penalty order, or refer the matter to USDOJ for civil prosecution.[3] EPA may also use its inspection authority under § 114 for the purposes of assisting with the development of plans or for determining whether any

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[5]National Steel Corp., Great Lakes Steel Div. v. Gorsuch, 700 F.2d 314, 323, 18 Env't. Rep. Cas. (BNA) 1794, 13 Envtl. L. Rep. 20295 (6th Cir. 1983) ("While the EPA indicates that it only requires a state to make a threshold offering of information on which an evaluation can be based, it does seem to establish a presumption, albeit rebuttable, that its own data defines RACT.").

[6]42 U.S.C. §§ 7511b(a), (b).

[7]Natural Resources Defense Council v. E.P.A., 571 F.3d 1245, 1254, 69 Env't. Rep. Cas. (BNA) 1284 (D.C. Cir. 2009).

[Section 12:30]

[1]42 U.S.C. § 7413. Section 113 grants enforcement authority to EPA for other programs within the CAA and is discussed more specifically XVIII.

[2]42 U.S.C. § 7413(a)(1).

[3]42 U.S.C. §§ 7413(a)(1), (4) (orders), 7413(d) (administrative penalty orders); 7413(b) (civil referral). *See also* 42 U.S.C. § 7605 (requiring the Administrator to request representation from the Attorney General to represent the agency in any civil litigation instituted under the Act).

person is in violation of such plans.[4]

Many plan provisions may also be enforced through citizen suits, once such a provision is approved. Section 304 of the Act allows for the filing of a civil action for violations not only of NSR and Title V permits, but for "emission standard[s] or limitation[s] under this chapter."[5] That term is defined later in § 304 to include "condition[s] or requirement[s] under an applicable implementation plan relating to transportation control measures, air quality maintenance plans, vehicle inspection and maintenance programs or vapor recovery requirements."[6]

Congress' neat scheme to ensure relatively easy enforcement has been tested in SIP enforcement. The federal and state legal systems do not always mesh as well as intended to produce a single federal/state SIP for both parties to enforce. For example, EPA may not enforce a state SIP provision that was invalid under state law when EPA approved it.[7] Such loopholes may persist for a long time because of delays in resolving the validity of the state provision in state courts and EPA's reluctance to step in and promulgate a replacement FIP. If EPA approved a valid state program, it remains federally enforceable until revised by EPA, even while a state-approved revision awaits EPA approval.[8]

The Supreme Court resolved a dispute over the effect on the enforceability of the preexisting SIP after EPA's unreasonable failure to act on a SIP revision, where the deadline is four months. The Court held that the four-month deadline for EPA SIP review formerly found in § 110(a)(2) applied to new SIPs, and not revisions. The Court further noted that, in any event, that Congress intended EPA's ability to enforce to be independent of its obligations in the SIP process.[9]

While EPA's enforcement authority is legally clear in such cases, as a practical matter the disparity between state and EPA-approved SIPs can confuse and delay the enforcement process.[10] The operating permits required by the 1990 Amendments are intended, in part, to relieve these problems by creating a clear and readily available statement of the standards applicable to a specific source at a given time.[11] However, the SIPs continue to be independently enforceable except for where

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[4]42 U.S.C. § 7414.

[5]42 U.S.C. § 7604(a)(1).

[6]42 U.S.C. § 7604(f).

[7]*See, e.g.*, Sierra Club v. Indiana-Kentucky Elec. Corp., 16 Env't. Rep. Cas. (BNA) 1511, 11 Envtl. L. Rep. 21100 (S.D. Ind. 1981).

[8]*See, e.g.*, U.S. v. Ford Motor Co., 814 F.2d 1099, 25 Env't. Rep. Cas. (BNA) 1745, 17 Envtl. L. Rep. 20655 (6th Cir. 1987) (a state court consent decree to invalidate federally-approved SIP provisions does not preclude federal enforcement pending EPA approval of the replacement state SIP provisions); U.S. v. General Motors Corp., 19 Envtl. L. Rep. 21309 (W.D. La. 1989) (source's compliance with state permit no bar to EPA enforcement of SIP); U.S. (EPA) v. AM General Corp., 32 Env't. Rep. Cas. (BNA) 1334, 21 Envtl. L. Rep. 20376, 1990 WL 258385 (N.D. Ind. 1990) (EPA may bring enforcement action despite failure to act within 60 days on state's proposal to redesignate area where defendant located from nonattainment to attainment); U.S. v. General Dynamics Corp., 755 F. Supp. 720, 32 Env't. Rep. Cas. (BNA) 1916, 21 Envtl. L. Rep. 20785 (N.D. Tex. 1991) (compliance with state order does not constitute compliance with stricter SIP).

[9]General Motors Corp. v. U.S., 496 U.S. 530, 110 S. Ct. 2528, 110 L. Ed. 2d 480, 31 Env't. Rep. Cas. (BNA) 1441, 20 Envtl. L. Rep. 20959 (1990).

[10]*See, e.g.*, U.S. v. Continental Group, U.S.A., 595 F. Supp. 1021, 15 Envtl. L. Rep. 20131 (E.D. Wis. 1984) (district court ruled that EPA can enforce its SIP during the pendency of a state SIP revision, but the question of which SIP is enforceable throws another issue onto the table and may delay the enforcement process); U.S. v. Ford Motor Co., 736 F. Supp. 1539, 31 Env't. Rep. Cas. (BNA) 1286, 20 Envtl. L. Rep. 21126 (W.D. Mo. 1990) (defendant had been operating in violation of the basic SIP requirement, but in compliance with an alternative compliance plan (ACP) approved by the state, but not submitted to EPA as a SIP revision. The court held that EPA could not enforce the SIP provisions because the approved SIP provided for state approval of ACPs.).

[11]*See, e.g.*, U.S. v. Solar Turbines, Inc., 732 F. Supp. 535, 31 Env't. Rep. Cas. (BNA) 1396, 20

permits clarify that certain SIP provisions are not applicable. Furthermore, at any given time, the state-approved and EPA-approved SIPs for a category of sources may be different due to delays in the review and approval process.[12] As a result, the history of intergovernmental confusion and conflict over enforcement may continue.

§ 12:31 Judicial review of SIP actions

The CAA provides two avenues for judicial review of SIP actions. First, Section 304 authorizes bringing citizen suits in district courts to enforce EPA's nondiscretionary duties under the Act.[1] Such citizen suits may be filed by any "person," a term which includes States, corporations, and the federal government.[2] Second, § 307 of the CAA authorizes suits to challenge final federal agency actions; these are brought in the courts of appeal.[3] National standards and other regulatory actions with nationwide scope—for example, promulgation of rules governing SIPs—must be brought in the D.C. Circuit.[4] Challenges of SIP approvals, orders, and other actions with local impact are brought in the circuit where that impact is felt.[5] The D.C. Circuit has held that the court only needs to look at the face of the action in question, and not at its practical effects, in determining whether it is nationally applicable.[6] This distinction is not always clear, however, and petitioners occasionally bring challenges in both the D.C. Circuit and the local court of appeals.[7]

In addition to these types of final agency actions, parties bringing citizen suits may challenge actions listed in § 307(b)(1) and all other final actions under the Act; this includes those that did not arise in a notice and comment process.[8] The dividing line between the two types of review is conceptually clear, but quickly becomes blurred in the complex process of SIP development and approval as shaped by EPA over the years.

As a practical matter, it can be difficult to obtain effective review of the adequacy of EPA's overall handling of a state's SIP. Review of the state action generally is available only in state court, but citizens may be able to sue a state in federal court

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Envtl. L. Rep. 20562 (M.D. Pa. 1989) (EPA may not enforce statutory obligation not to construct major new facility without PSD permit against a source that obtained state PSD permit deemed inadequate by EPA).

[12]*See* 42 U.S.C. § 7413(a)(1), as amended by § 701 of the 1990 Amendments (authorizing enforcement of any applicable "implementation plan or permit").

[Section 12:31]

[1]42 U.S.C. § 7604(a)(2).

[2]42 U.S.C. § 7604(a); § 7602(e) (defining "person"); Hancock v. Train, 426 U.S. 167, 96 S. Ct. 2006, 48 L. Ed. 2d 555, 8 Env't. Rep. Cas. (BNA) 2100, 6 Envtl. L. Rep. 20555 (1976) (upholding the use of citizen suits by states).

[3]42 U.S.C. § 7607(b); 40 C.F.R. § 23.

[4]42 U.S.C. § 7607(b); 40 C.F.R. § 23.

[5]42 U.S.C. § 7607(b); 40 C.F.R. § 23. In Texas Mun. Power Agency v. E.P.A., 89 F.3d 858, 866-67, 43 Env't. Rep. Cas. (BNA) 1137, 26 Envtl. L. Rep. 21541 (D.C. Cir. 1996), the provision requiring actions with local effects to be brought in local courts of appeals, 42 U.S.C. § 7607(b), was held to be a venue provision and not jurisdictional. Therefore, it can be waived if EPA fails to object.

[6]Sierra Club v. Environmental Protection Agency, 926 F.3d 844, 849 (D.C. Cir. 2019) (*citing* Dalton Trucking, Inc. v. U.S. E.P.A., 808 F.3d 875, 881, 81 Env't. Rep. Cas. (BNA) 1849 (D.C. Cir. 2015)).

[7]*See, e.g.,* Sierra Club v. Environmental Protection Agency, 926 F.3d 844, 849 (D.C. Cir. 2019); Sierra Club v. United States Environmental Protection Agency, 964 F.3d 882, 888 (10th Cir. 2020).

[8]Harrison v. PPG Industries, Inc., 446 U.S. 578, 100 S. Ct. 1889, 64 L. Ed. 2d 525, 14 Env't. Rep. Cas. (BNA) 1497, 10 Envtl. L. Rep. 20353 (1980). In Louisiana Environmental Action Network v. Browner, 87 F.3d 1379, 1385, 43 Env't. Rep. Cas. (BNA) 1054, 26 Envtl. L. Rep. 21561 (D.C. Cir. 1996), the court noted that statutory time limitations on review of EPA's actions run only if a challenge is ripe for review.

for failure to implement the SIP.[9] Most federal SIP actions are reviewable, and EPA inaction on a SIP submittal (either a new plan or revision) past the statutory deadline can be challenged in district court under § 304.[10]

Where EPA inaction on part of a SIP is integral to the adequacy of the SIP as a whole, a court of appeals may take jurisdiction over the inaction.[11] Final EPA approval or disapproval of a SIP may be reviewed in the relevant court of appeals.[12] The same is true of a final EPA action partially approving and partially disapproving a SIP submittal, or EPA action promulgating a federal SIP under § 110(c).[13]

Challenges to EPA conditional approval—which are titled "final rules," but which leave open the status of the SIP—also must be brought before the courts of appeals.[14] If EPA disapproves a SIP submittal or portion thereof, either by final action or by a "pocket veto" of inaction,[15] EPA may be subject to a § 304 suit for failure to promulgate a § 110(c) FIP.[16] As a result, a group wishing to claim that EPA approved inadequate SIP revisions, and should instead have promulgated a FIP, must bring costly parallel actions in appellate and district court.[17]

EPA notices of deficiency, issued under § 110(c), to inform states that their SIPs are not adequate, have been held to be unreviewable because they are not final actions.[18] Whether EPA's decision not to issue a notice of deficiency may be challenged is unclear. Such orders are not renewable and do not preclude any other form of enforcement action.[19]

§ 12:32 SIP calls and sanctions

The CAA gives EPA several options to ensure that states submit SIPs that prevent

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[9]*See, e.g.*, Citizens for a Better Environment v. Deukmejian, 731 F. Supp. 1448, 31 Env't. Rep. Cas. (BNA) 1213, 20 Envtl. L. Rep. 21047 (N.D. Cal. 1990) (§ 304 citizen suit lies against state for failing to carry out SIP provisions). Review of the state action in state court is a matter of state law, which varies with the jurisdiction. *See, e.g.,* Environmental Protection Agency v. Pollution Control Bd., 100 Ill. App. 3d 735, 55 Ill. Dec. 890, 426 N.E.2d 1264, 12 Envtl. L. Rep. 20253 (3d Dist. 1981) (state court decision striking down SIP provision renders provision unenforceable by state, even though provision remains a federal regulation).

[10]Bethlehem Steel Corp. v. U.S. E.P.A., 782 F.2d 645, 23 Env't. Rep. Cas. (BNA) 1873, 16 Envtl. L. Rep. 20268 (7th Cir. 1986); Citizens for a Better Environment v. Costle, 515 F. Supp. 264, 16 Env't. Rep. Cas. (BNA) 1162, 11 Envtl. L. Rep. 20963 (N.D. Ill. 1981).

[11]Indiana & Michigan Elec. Co. v. U.S.E.P.A., 733 F.2d 489, 21 Env't. Rep. Cas. (BNA) 1487, 14 Envtl. L. Rep. 20506, 86 A.L.R. Fed. 597 (7th Cir. 1984).

[12]*See, e.g.*, Natural Resources Defense Council, Inc. v. U.S. E.P.A., 507 F.2d 905, 7 Env't. Rep. Cas. (BNA) 1181, 5 Envtl. L. Rep. 20032 (9th Cir. 1974) (Arizona SIP); Natural Resources Defense Council, Inc. v. U.S. E.P.A., 481 F.2d 116, 5 Env't. Rep. Cas. (BNA) 1509, 3 Envtl. L. Rep. 20579 (10th Cir. 1973) (Colorado, New Mexico, Utah SIPs).

[13]*See* Bethlehem Steel Corp. v. U.S. E.P.A., 782 F.2d 645, 23 Env't. Rep. Cas. (BNA) 1873, 16 Envtl. L. Rep. 20268 (7th Cir. 1986); Cleveland Elec. Illuminating Co. v. E.P.A., 572 F.2d 1150, 11 Env't. Rep. Cas. (BNA) 1288, 8 Envtl. L. Rep. 20312 (6th Cir. 1978).

[14]*See, e.g.,* City of Seabrook, Tex. v. U.S. E.P.A., 659 F.2d 1349, 16 Env't. Rep. Cas. (BNA) 1657, 11 Envtl. L. Rep. 21058 (5th Cir. 1981).

[15]Bethlehem Steel Corp. v. U.S. E.P.A., 782 F.2d 645, 23 Env't. Rep. Cas. (BNA) 1873, 16 Envtl. L. Rep. 20268 (7th Cir. 1986).

[16]Bethlehem Steel Corp. v. U.S. E.P.A., 782 F.2d 645, 23 Env't. Rep. Cas. (BNA) 1873, 16 Envtl. L. Rep. 20268 (7th Cir. 1986).

[17]Bethlehem Steel Corp. v. U.S. E.P.A., 782 F.2d 645, 23 Env't. Rep. Cas. (BNA) 1873, 16 Envtl. L. Rep. 20268 (7th Cir. 1986). *See also* Citizens for a Better Environment v. Costle, 515 F. Supp. 264, 16 Env't. Rep. Cas. (BNA) 1162, 11 Envtl. L. Rep. 20963 (N.D. Ill. 1981).

[18]People of State of Ill. v. U.S. E.P.A., 621 F.2d 259, 17 Env't. Rep. Cas. (BNA) 1644, 10 Envtl. L. Rep. 20351 (7th Cir. 1980).

[19]42 U.S.C. § 7413(a)(4).

deterioration of air quality in attainment areas and improve the air quality in nonattainment areas. For existing approved SIPs, EPA may call for plan revisions (through the so-called "SIP call" process).[1] EPA may exercise its SIP call authority whenever it finds that the current plan is "substantially inadequate to attain or maintain the relevant [NAAQS]," to mitigate interstate pollutant transport, or to otherwise comply with any requirements of the Act.[2] The SIP call must be public and may include reasonable deadlines for the state to correct the deficiencies.[3] When they are published as rules in the federal register, SIP calls are also final agency actions subject to judicial review under § 307.[4] EPA may promulgate FIPs where a State fails to adequately respond to a SIP call or where a SIP submission has been disapproved in whole or in part.[5]

EPA may also apply sanctions to States, under § 179, for failures in nonattainment area SIPs.[6] Sanctions may not be applied on a statewide level when one or more political subdivisions are principally responsible for the deficiency.[7] States that fail to submit a nonattainment plan (in whole or in part), fail to adequately respond to a SIP call, or have a nonattainment plan disapproved by EPA are subject to three types of sanctions,[8] in addition to the more specific sanctions described in § 179. The Act (and subsequent rules) implement a schedule for the latter two sanctions.[9]

1. *Withholding of federal grants.* EPA may withhold federal grants that are otherwise available in § 105 of the Act.[10]
2. *Offset sanctions.* These require all construction or modification projects at major sources in nonattainment areas to offset emissions of the criteria pollutant in question on a 2:1 basis.[11] States have 18 months from EPA's finding of a state's failure to take or implement a required action or disapproval of a state's submission before offset sanctions take effect.[12]
3. *Loss of non-public safety-related federal highway funding.* States may lose federal highway funding for any projects that are not related to improving public safety.[13] This sanction is available to EPA six months after the offset sanctions take effect.

Both the offset and highway sanctions have been upheld in federal courts as constitutional under the 10th Amendment.[14] If EPA determines that the state's failure under the Act was in bad faith, it may apply both of the § 179(b) sanctions

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[Section 12:32]

[1]42 U.S.C. § 7410(k)(5); *see also* 42 U.S.C. § 7410(a)(2)(H).

[2]42 U.S.C. § 7410(k)(5).

[3]42 U.S.C. § 7410(k)(5).

[4]*See* US Magnesium, LLC v. U.S. E.P.A., 690 F.3d 1157, 1165–66, 75 Env't. Rep. Cas. (BNA) 1193 (10th Cir. 2012); *but see* Montana Sulphur & Chemical Co. v. U.S. E.P.A., 666 F.3d 1174, 1183-1184, 73 Env't. Rep. Cas. (BNA) 1961 (9th Cir. 2012) (SIP call was not final agency action ripe for review when it did not alter the obligations of EPA or the state).

[5]42 U.S.C. § 7410(c).

[6]42 U.S.C. § 7509.

[7]42 U.S.C. § 7410(m); *see also* 42 C.F.R. § 52.30.

[8]42 U.S.C. § 7509(a).

[9]42 U.S.C. § 7509; 40 C.F.R. § 52.31(d).

[10]42 U.S.C. § 7509(a).

[11]42 U.S.C. § 7509(b)(2); 40 C.F.R. § 52.31(e)(1).

[12]42 U.S.C. § 7509(b)(2); 40 C.F.R. § 52.31(e)(1); 42 U.S.C. § 7509(b).

[13]42 U.S.C. § 7509(b)(1); 40 C.F.R. §§ 52.31(d), (e)(2).

[14]*See* Mississippi Com'n on Environmental Quality v. E.P.A., 790 F.3d 138, 174-184, 80 Env't. Rep.

simultaneously until the deficiency has been corrected.[15]

§ 12:33 Tribal implementation

The interplay between the federal government and States is perhaps the defining feature of the CAA, yet the 1970 and 1977 Amendments did little to reflect the sovereign authority of Indian tribes over their members and territory. Section 164(c) of the CAA authorized tribes to redesignate reservation and tribal trust land as Class I Areas, the impacts of which are discussed in the PSD section.[1] Since that provision was added in 1977, however, only six reservation lands have been redesignated to Class I areas.[2]

With the 1990 Amendments, however, Congress adopted § 301(d), authorizing EPA to treat tribes as states (TAS) where appropriate and to provide financial assistance in developing and implementing air pollution control programs. Section 110(o) authorizes Indian tribes to submit Tribal Implementation Plans (TIPs) for the purposes of controlling NAAQS within the boundaries of reservations. In any areas without approved TIPs, EPA continues to promulgate federal implementation plans.[3]

The number of TIPs—and, consequently, tribal autonomy over air quality—may continue to grow if recent federal court decisions are any indication. In July 2020, the Supreme Court held in *McGirt v. Oklahoma* that—at least for the purposes of the federal Major Crimes Act—the Creek Reservation and other tribal lands comprising the eastern half of Oklahoma were never disestablished.[4] In one of the first applications of the standard established by *McGirt*, the Seventh Circuit determined that the congressional intent required to diminish or disestablish the Oneida Reservation in Northern Wisconsin was not clearly discernable; therefore, the original boundaries of the Reservation remained intact.[5] The immediate impacts of the *McGirt* decision in Oklahoma are not clear, however. On October 1, 2020, the EPA Administrator approved Oklahoma's request under the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA) of 2005 to continue implementing federal environmental programs in the state (including SIP requirements).[6] The SAFETEA approval process is unique to Oklahoma and would not apply to reservations in other states that were restored under the *McGirt* framework.

Cas. (BNA) 1861 (D.C. Cir. 2015) (upholding the highway sanctions), Com. of Va. v. Browner, 80 F.3d 869, 882, 42 Env't. Rep. Cas. (BNA) 1353, 26 Envtl. L. Rep. 21245 (4th Cir. 1996), amended, (Apr. 17, 1996) and amended, (May 9, 1996) (upholding the offset sanctions).

[15]42 U.S.C. § 7509(a)(4).

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[1]EPA interprets the word "reservation" in the statute to include "trust land that has been validly set apart for the use of a Tribe." 63 Fed. Reg. 7254, 7257 to 7258 (Feb. 12, 1998). This was upheld in Arizona Public Service Co. v. E.P.A., 211 F.3d 1280, 1292-1295, 50 Env't. Rep. Cas. (BNA) 1490, 30 Envtl. L. Rep. 20565 (D.C. Cir. 2000).

[2]*See* U.S. EPA, GUIDANCE FOR INDIAN TRIBES SEEKING CLASS I REDESIGNATION OF INDIAN COUNTRY PURSUANT TO SECTION 164(C) OF THE CAA at 3 (August 29, 2013), *available at* https://www.epa.gov/sites/production/files/2016-09/documents/guidancetribesclassiredesignationcaa082913.pdf; 84 Fed. Reg. 34306 (July 18, 2019).

[3]40 C.F.R. § 49.11(a); 42 U.S.C. § 7601(d)(4). *Note* that EPA must make the same demonstration of tribal jurisdiction that a tribe would under the CAA before regulating disputed territory under a FIP. Oklahoma Dept. of Environmental Quality v. E.P.A., 740 F.3d 185, 187, 78 Env't. Rep. Cas. (BNA) 1142 (D.C. Cir. 2014).

[4]McGirt v. Oklahoma, 140 S. Ct. 2452, 207 L. Ed. 2d 985 (2020).

[5]Oneida Nation v. Village of Hobart, 968 F.3d 664 (7th Cir. 2020).

[6]*See* Sean Murphy, *EPA Grants Stitt Request for State Oversight on Tribal Lands,* ASSOCIATED PRESS, Oct. 5, 2020, *available at* https://abcnews.go.com/US/wireStory/epa-grants-stitt-request-state-oversight-tribal-lands-73438565.

§ 12:34 General conformity

General conformity refers to the mandate, under CAA § 176(c), that all federal actions conform to the applicable implementation plan. Section 176(c)(1) prohibits federal entities from engaging in, supporting, providing financial assistance for, licensing, permitting, or approving any activity unless the responsible federal entity makes a determination that the projects conform with the applicable SIP rules and will not cause or contribute to any new violations of the NAAQS or increase the frequency or severity of existing violations of or delay timely attainment of the NAAQS. According to EPA, the intent of the General Conformity requirement is to prevent the air quality impacts of federal actions from causing or contributing to a violation of the NAAQS or interfering with the purpose of a SIP, TIP, or FIP.[1]

CAA § 176(c)(4)(E) requires EPA to promulgate a requirement that each state include, in its SIP, criteria and procedures for consultation between metropolitan planning organizations and the U.S. Secretary of Transportation with state and local air quality agencies and state departments of transportation and enforcement and enforceability. This SIP is referred to as the General Conformity SIP. EPA published two sets of regulations in 1993 related to conformity: 40 C.F.R. Part 51, subpart W,[2] which directed states to adopt and submit General Conformity SIPs to EPA for approval, and 40 C.F.R. Part 93, subpart B,[3] which provided requirements for federal agencies to follow in conducting their conformity evaluations before EPA approved the General Conformity SIP for the area.[4] EPA revised the general conformity rule in 2010, deleting 40 C.F.R. § 51.850 and §§ 51.852 through 51.860. EPA regulations now provide that states and eligible tribes (i.e., federally recognized tribal governments determined to be eligible to submit a TIP under 40 C.F.R. § 49.6) may submit a revision to its SIP which contains criteria and procedures for assessing the conformity of Federal actions to the applicable implementation plan.[5] Until EPA approves the conformity implementation plan revision, Federal agencies use the provisions of 40 C.F.R. Part 93, subpart B, in addition to any existing applicable State or tribal requirements, to demonstrate conformity with the applicable SIP or TIP.[6]

SIP and TIP criteria and procedures cannot be any less stringent than the requirements in 40 C.F.R. Part 93, subpart B.[7] The SIP or TIP criteria and procedures may be *more* stringent than these requirements, but only if the SIP or TIP conformity provisions apply equally to non-federal and federal entities.[8] The SIP or TIP may also identify a list of federal actions or type of emissions that the state or tribe presumes will conform, but the state or tribe must demonstrate that the action will not interfere with timely attainment or maintenance of the standard, meeting the reasonable further progress milestones, or other requirements of the CAA.[9] Federal agencies can rely on the list to determine that their emissions conform with the ap-

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[1]75 Fed. Reg. 17254, 17255 (April 5, 2010).

[2]58 Fed. Reg. 63214 (Nov. 30, 1993).

[3]58 Fed. Reg. 62188 (Nov. 24, 1993).

[4]75 Fed. Reg. at 17258 (April 5, 2010).

[5]40 C.F.R. § 51.851(a).

[6]40 C.F.R. § 51.851(b).

[7]40 C.F.R. § 51.851(d).

[8]40 C.F.R. § 51.851(e).

[9]40 C.F.R. § 51.851(f).

plicable SIP or TIP.[10]

The general conformity rule includes a number of *de minimis* emission levels that are based on the type and severity of the nonattainment problem.[11] The rule does not apply to actions where the total of direct and indirect emissions are below the *de minimis* emissions levels or to actions which would result in no emissions increase.[12] In addition to the criteria and procedures for determining conformity of general federal actions,[13] the rule requires the federal agency making a conformity determination to provide a 30-day notice of a proposed action and draft conformity determination and any final determination to the appropriate EPA regional office, state, and local air quality agencies, any federally-recognized tribal government in the nonattainment or maintenance area, and affected Federal Land Managers (FLM).[14] The rule further addresses public participation.[15]

§ 12:35 Transportation conformity

Transportation conformity helps ensure that the federal government funds and approves only transportation activities that are consistent with air quality goals.

As discussed above, while CAA § 176(c)(1) provides for general conformity for federal actions, §§ 176(c)(2) and 176(c)(3) provide more specific requirements regarding when transportation plans, programs, and projects will be found to conform to a SIP.[1] After the 1990 Amendments more closely linked conformity requirements to state SIPs, EPA promulgated its Transportation Conformity Regulations in 1993, which apply to transportation plans, transportation improvement programs, and highways and mass transit projects.[2] These regulations establish the criteria and procedures for determining whether transportation plans, transportation improvement programs, and projects funded by the Federal Highway Administration under title 23 of the United States Code or the Federal Transit Administration under chapter 53 of title 49 conform with the SIP.[3] The National Highway System Designation Act of 1995 added § 176(c)(5) to the CAA to limit applicability of the conformity programs only to areas designated as nonattainment under CAA § 107 and maintenance areas established under CAA § 175A.[4]

EPA revised the transportation conformity rule in 1997 in an effort to streamline the rule and make it more flexible.[5] The D.C. Circuit vacated portions of the 1997 rule related to the authority of local authorities to approve transportation projects, and federal agencies to fund them, in the absence of a currently conforming transportation plan and program. The court also vacated provisions that allowed conformity decisions to be based on emissions budgets in SIPs that EPA had disap-

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[10]40 C.F.R. § 51.851(f).

[11]40 C.F.R. § 93.153(b).

[12]40 C.F.R. § 93.153(c).

[13]40 C.F.R. §§ 93.158 and 93.159.

[14]40 C.F.R. § 93.155.

[15]40 C.F.R. § 93.156.

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[1]42 U.S.C. §§ 7506(c)(2) to (3).

[2]58 Fed. Reg. 62188 (Nov. 24, 1993); 40 C.F.R § 51.390; 40 C.F.R. Part 93, et seq.

[3]U.S. FHA, *Transportation Conformity: A Basic Guide for State and Local Officials* (February 2017), https://www.fhwa.dot.gov/environment/air_quality/conformity/2017_guide/.

[4]Pub. L. 104-59.

[5]62 Fed. Reg. 43780 (Aug. 15, 1997).

proved or not yet approved.[6] EPA revised the rule in 1997 to reflect the court's decision.[7]

The rule explains which transportation plans and projects are subject to the conformity determinations,[8] and provides the criteria and procedures for determining conformity for each type of plan, program, or project.[9] It distinguishes between transportation plans (i.e., official intermodal metropolitan transportation plans), transportation improvement programs (i.e., a list of proposed transportation projects proposed by a metropolitan planning organization, also referred to as a TIP), and transportation projects (i.e., highway and transit projects).[10] Only actions which cause emissions in designated nonattainment and maintenance areas are subject to the regulations.[11] Certain projects are exempt from conformity determinations, especially specific types of projects related to safety and mass transit.[12] Other projects are exempt from regional emissions analyses.[13]

§ 12:36 Regional haze

As more fully discussed in Section Part.X,[1] EPA finalized its regional haze rule in 1999 in accordance with CAA § 169A.[2] The rule was designed to improve visibility in 156 national parks and wilderness areas (i.e., Class I Areas) by reducing fine particles and their precursors present in the air.[3] The rule required all 50 states and some territories to develop initial SIP provisions addressing regional haze controls, and then to revise SIPs by July 31, 2018, and every 10 years thereafter. These jurisdictions were also obligated to submit progress reports in the form of SIP revisions and to consult with FLMs.[4] The required SIP elements included:

1. Setting reasonable progress goals for each Class I area;
2. Calculations of baseline and natural visibility conditions for each Class I area;
3. Long term strategies addressing visibility impairment;
4. Monitoring strategy representative of all Class I areas within a state and reporting requirements;
5. BART requirements; and
6. A description of how the state addressed any comments provided by FLMs.[5]

The 1999 rule set forth various deadlines for when a state must file its initial regional haze SIP.[6] Many states failed to meet the initial SIP filing deadline, and EPA issued a final action finding that 37 states, the District of Columbia, and the U.S. Virgin Islands failed to submit all or part of the SIP rules necessary to imple-

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[6]Environmental Defense Fund v. E.P.A., 167 F.3d 641, 48 Env't. Rep. Cas. (BNA) 1193, 29 Envtl. L. Rep. 20631 (D.C. Cir. 1999).

[7]69 Fed. Reg. 40004 (July 1, 2004).

[8]40 C.F.R. § 93.102(a).

[9]40 C.F.R. §§ 93.109 through 125.

[10]40 C.F.R. § 93.101.

[11]40 C.F.R. § 93.102(b).

[12]40 C.F.R. §§ 93.126, 93.128, and 93.129.

[13]40 C.F.R. § 93.127.

[Section 12:36]

[1]*See* Part X (Regional Haze).

[2]64 Fed. Reg. 35,714 (July 1, 1999).

[3]64 Fed. Reg. 35,715 (July 1, 1999).

[4]64 Fed. Reg. 35,721, 35,768 to 35,769 (July 1, 1999).

[5]64 Fed. Reg. 35,765–35,769 (July 1, 1999).

[6]64 Fed. Reg. 35,765 (July 1, 1999).

ment the rule.[7] This finding triggered an obligation for EPA to promulgate a FIP within two years of the effective date of the finding, in order to implement the regional haze rule in those states and territories. There was an exception for states that submitted a SIP rule which was subsequently approved within that same two-year period.[8] After missing the two-year deadline to issue a FIP or approve a SIP, EPA entered into a consent decree agreeing to a schedule to take action on 45 SIPs.[9]

EPA amended the regional haze SIP requirements in 2017.[10] The amendments adjusted the due date for the next periodic comprehensive SIP revisions by extending the existing deadline of July 31, 2018, to July 31, 2021 (with future revisions due by July 31, 2028, and every 10 years thereafter).[11] The amendments also:

- Clarified the relationship between long-term strategies and reasonable progress goals in SIPs, and the long-term strategy obligation of all states;
- Clarified and modified the requirements for periodic comprehensive revisions of SIPs;
- Modified the set of days used to track progress towards natural visibility conditions to account for events, such as wildfires;
- Provided states with additional flexibility to address impacts from anthropogenic sources outside the United States and from certain types of prescribed fires;
- Modified requirements related to the timing and form of progress reports;
- Updated, simplified, and extended to all states the provisions for reasonably attributable visibility impairment, while revoking most existing reasonably attributable visibility impairment FIPs; and
- Required that states offer the opportunity for the already-required in-person consultation meeting with FLMs early enough that information and recommendations provided by the FLMs can meaningfully inform the state's decisions on the long-term strategy.[12]

These changes are codified at 40 C.F.R. § 51.308. EPA also issued a series of guidance documents to assist states as they develop plans to address visibility impairment for the second implementation period, including Guidance on Regional Haze State Implementation Plans for the Second Implementation Period.[13]

§ 12:37 SIP Conclusion

2020 marked the 50th Anniversary of the Clean Air Act and of the creation of the groundbreaking SIP process described above. At an event celebrating the legacy of the Act, EPA stated that emissions of the six criteria pollutants have decreased 77% since the creation of the SIP program.[1] There have been even sharper reductions in NO_2 and CO since 1970, and there are no nonattainment areas in the country for ei-

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[7]74 Fed. Reg. 2,392 (Jan. 15, 2009).

[8]74 Fed. Reg. 2,393 (Jan. 15, 2009).

[9]National Parks Conservation Association v. Jackson, Civil Action No. 1:11-cv-01548 (ABJ) (D.C. Cir.).

[10]82 Fed. Reg. 3,078 (Jan. 10, 2017).

[11]82 Fed. Reg. 3,078 (Jan. 10, 2017).

[12]82 Fed. Reg. 3,078 (Jan. 10, 2017).

[13]U.S. EPA, VISIBILITY—GUIDANCE DOCUMENTS, *available at* https://www.epa.gov/visibility/visibility-guidance-documents.

[Section 12:37]

[1]*See* https://www.epa.gov/clean-air-act-overview/50th-anniversary-clean-air-act.

ther pollutant.[2] The system of federal statutory requirements and relative flexibility in achieving those goals has become a model of cooperative federalism, and this cornerstone of the CAA does not seem to be going anywhere anytime soon. Given that SIPs are enforceable–not only by governments, but also by third parties under CAA § 304—it behooves all CAA practitioners to understand how SIPs are created and enforced.

V. NEW SOURCE PERFORMANCE STANDARDS AND EMISSION GUIDELINES FOR NEW AND EXISTING SOURCES*

§ 12:38 NSPS—New source performance standards

The 1970 Clean Air Act gave the federal government the job of setting performance standards for new stationary sources of air pollution. The states could regulate *existing* sources however they saw fit, so long as their implementation plans satisfied EPA that the air quality standards would be met. *New* sources, on the other hand, had to meet stringent national standards reflecting the best technology that an industry could afford. The new source performance standards (NSPS) focuses on *industry categories* rather than on pollutants. All new sources in a listed industry category must comply with the NSPS, unless they were already under construction when the standards were proposed. All air pollutants for which an appropriate endangerment finding has been made are regulated, regardless of whether other Clean Air Act standards apply.

The NSPS were intended to serve a variety of functions in the Clean Air Act scheme.[1] Congress expected the NSPS to carry much of the burden of attaining and maintaining the NAAQS. Every time an existing source was replaced with a new one equipped with NSPS controls, emissions would be reduced dramatically. Plants built in attainment areas would not substantially degrade air quality, helping to maintain the NAAQS.[2] Tight controls on new sources also were expected to limit the long range transport of air pollution.[3] By imposing the same requirements on new sources, within these industry categories, the NSPS would also eliminate a powerful incentive for states to weaken their SIPs so as to attract economic development.[4] And, because the "standard of performance" definition in Section 111 requires cost to be considered, the companies required to install such controls would not be disadvantaged, fulfilling the dual statutory objectives of enhancing the nation's air quality resources as well as promoting the nation's productive capacity.[5]

Furthermore, dividing efforts to improve air quality between the federal NSPS and state SIPs was expected to be more cost effective overall. New facilities constructed in compliance with the standards represented considerable cost savings contrasted to the expense of retrofitting a similar existing plant with advanced

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[2] *See* https://www.epa.gov/green-book.

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[Section 12:38]

[1] *See* F. Anderson et al., Environmental Protection: Law and Policy 207 (1984).

[2] *See* Jorling, The Federal Law of Air Pollution Control, in Federal Environmental Law 1058, 1105 (E. Dolgin & T. Guilbert eds. 1974).

[3] F. Anderson et al., Environmental Protection: Law and Policy 207 (1984).

[4] Jorling, The Federal Law of Air Pollution Control, in Federal Environmental Law 1058, 1104 (E. Dolgin & T. Guilbert eds. 1974); F. Anderson et al., Environmental Protection: Law and Policy 207 (1984); D. Currie, Air Pollution: Federal Law and Analysis 3-21 (1981).

[5] 42 U.S.C. 7401(b)(1).

control technology.[6] The SIP scheme, on the other hand, left the states flexibility to take the technological (and financial) problems facing each existing source into account. The states could also incorporate the NSPS in their own SIPs, where necessary to address significant pollution concerns, without needing to duplicate the sophisticated and costly technological and economic analysis EPA had already carried out.[7] Finally, the NSPS also provide a vehicle for regulating non-criteria pollutants (but not hazardous air pollutants).[8]

The role of the NSPS was somewhat diminished by the 1977 Amendments. The 1977 Amendments set separate control requirements for major new sources, requiring new source review for prevention of significant deterioration (PSD) and nonattainment areas.[9] Each program had its own technology standards that had to be at least as stringent as any applicable NSPS.[10] In theory, the new source review programs could have rendered the NSPS virtually obsolete.

However, for years following the 1977 Amendments, NSPS were the standards imposed on many major sources.[11] These standards had a strong analytical base, making them easier for understaffed state agencies and EPA regional offices to impose than more stringent case-by-case standards.

The CAA sets out a general blueprint for EPA to follow in developing NSPS; as with the SIP requirements, the blueprint became more specific and complicated with the 1977 Amendments. Section 111 authorizes EPA to establish technology- and cost-based "standards of performance" for categories of new and modified stationary sources that significantly contribute to health- or welfare-threatening air pollution.[12] NSPS were originally to be based on "the application of the best system of emission reduction which (taking into account the cost of achieving such reduction) has been adequately demonstrated."[13] With the 1977 Amendments, standards for fossil fuel-fired power plants must require technological emission controls, and not just the use of low-sulfur fuel.[14]

Further changes to the NSPS program are scattered through the 1990 Amendments. Most are merely conforming amendments, but two changes are major: (1) elimination of the technological control requirement for coal-fired power plants;

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[6]*See* D. Currie, Air Pollution: Federal Law and Analysis 3-5 (1981).

[7]*See* Wetstone, New Source Performance Standards, in Air and Water Pollution Control Law: 1982 [Envtl. L. Inst.] 159 (1982). Although the 1970 Amendments did not tie the schedule for promulgating SIPs to the schedule for NSPS, had the two schedules been met, a significant number of NSPS would have been out before states had to complete their first SIPs. The Administrator had 300 days from the enactment of the 1970 Amendments to promulgate the first set of NSPS. CAA § 111(b)(1), 42 U.S.C. § 7411(b)(1). The first SIPs were not due until more than a year after enactment. EPA had 120 days to promulgate air quality standards for criteria pollutants and the states had nine months after promulgation to submit their SIPs. CAA § 109(a)(1), 42 U.S.C. § 7409(a)(1).

[8]CAA § 111(d), 42 U.S.C. § 7411(d), authorizes EPA to require states to regulate existing sources of pollutants not regulated as criteria or hazardous pollutants, but which are regulated under a federal NSPS. If EPA regulates emissions of otherwise unregulated pollutants from NSPS sources, it is to require states to regulate emissions of those pollutants from pre-NSPS sources as well.

[9]*See* Part XI.

[10]*See* CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4) ("best available control technology" (BACT) required for new sources in PSD areas); CAA § 169(3), 42 U.S.C. § 7479(3) (BACT must at least equal any applicable NSPS); CAA § 173(2), 42 U.S.C. § 7503(2) ("lowest achievable emission rate" (LAER) required of sources in nonattainment areas); CAA § 171(3), 42 U.S.C. § 7501(3) (LAER must at least equal applicable NSPS).

[11]National Commission on Air Quality, To Breathe Clean Air 3.7-3–3.7-5 (1981).

[12]CAA § 111, 42 U.S.C. § 7411.

[13]Pub. L. No. 91-604, § 4(a), 84 Stat. 1683, *reprinted in* United States Code Congressional and Administrative News p 1963 (CAA § 111(a)(1)).

[14]CAA § 111(a)(1)(A), 42 U.S.C. § 7411(a)(1)(A).

and (2) mandated promulgation of NSPS for solid waste incinerators that would incorporate new hazardous air pollutant control elements along with the basic requirements of § 111. The first change is discussed below, the second in the following section on hazardous air pollutants.

§ 12:39 NSPS—The coverage of the NSPS

The NSPS process begins when EPA lists a category of stationary sources as one which "causes or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare."[1] The current "causes or contributes" language was substituted for "may contribute" in 1977.[2] While the new language suggests that the NSPS should apply to categories of sources that constituted health threats before EPA lists them, the Agency may list categories that it deems likely to cause problems in the future—even if current SIP limits are projected to eliminate any NAAQS violations attributable to the industry.[3]

EPA is granted broad discretion in deciding whether to list categories,[4] but is subject to statutory pressure to expand the list.[5] The 1977 Amendments added new subsection 111(f) which required EPA to list all categories of major sources, within one year after the enactment of the subsection, and then regulate all the categories in three stages within four years of listing.[6] EPA identified some 80 categories,[7] but fell behind schedule in promulgating regulations.[8]

The 1990 Amendments subsequently required EPA to propose standards by November 15, 1996, for all categories of major stationary sources listed prior to enactment of the legislation.[9] The Amendments also require that standards for new categories be proposed within a year after the category is listed, and promulgated within one year of proposal.[10] EPA must review standards every eight years, unless readily available information indicates review is not necessary.[11]

§ 12:40 NSPS—The content of NSPS

The NSPS set uniform emission limitations for industrial categories or subcategories of sources. The standards generally must be stated as numerical limits; however, for categories with substantial fugitive emissions that cannot practicably be quantified, EPA may "promulgate a design, equipment, work practice,

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[Section 12:39]

[1]CAA § 111(b)(1)(A), 42 U.S.C. § 7411(b)(1)(A).

[2]Pub. L. No. 95-95, § 109(c)(1)(A), 91 Stat. 699 (1977), *reprinted in* 3 Congressional Research Service, A Legislative History of the CAA Amendments of 1977 203 (Comm. Print 1978).

[3]National Asphalt Pavement Ass'n v. Train, 539 F.2d 775, 9 Env't. Rep. Cas. (BNA) 1109, 6 Envtl. L. Rep. 20688 (D.C. Cir. 1976).

[4]National Asphalt Pavement Ass'n v. Train, 539 F.2d 775, 9 Env't. Rep. Cas. (BNA) 1109, 6 Envtl. L. Rep. 20688 (D.C. Cir. 1976). *See also* D. Currie, Air Pollution: Federal Law and Analysis 3-16 (1981).

[5]The Senate Public Works Committee listed 19 categories it thought should be listed in its report on the Amendments. *See* S. Rep. No. 91, 91st Cong., 1st Sess. 16 (1970), *reprinted in* 1 Congressional Research Service, A Legislative History of the CAA Amendments of 1970 416 (1974).

[6]CAA § 111(f)(1), as added by § 109(a) of the 1977 CAA Amendments. Major sources are defined as those emitting more than 100 tons per year of a pollutant. CAA § 302(j), 42 U.S.C. § 7602(j).

[7]44 Fed. Reg. 49225 (1979).

[8]As of 1992 EPA had promulgated standards for 70 categories, 40 C.F.R. Part 60, Subparts Ca-VVV. The regulations still list 59 categories for future priority action, 40 C.F.R. § 60.16, but some standards for some of the listed categories have been promulgated.

[9]CAA § 111(f)(1), as added by § 108(e)(2) of the 1990 CAA Amendments.

[10]CAA § 111(b)(1)(B), as amended by § 108(e)(1)(A), of the 1990 CAA Amendments.

[11]CAA § 111(b)(1)(B), as amended by § 108(e)(1)(C), (D) of the 1990 CAA Amendments.

or operational standard, or combination thereof," which reflects the "best technological system of continuous emission reduction" that the Agency "determines has been adequately demonstrated" after "taking into consideration the cost of achieving [the] emission reduction."[1] The standards are intended to apply to *all* pollutants emitted by the source category.[2] Yet EPA has generally only regulated criteria pollutants and their precursors for most categories.[3]

The definition of a new source performance standard in the Act has changed with each major set of amendments. The 1990 Amendments redefined the term to mean:

> a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.[4]

The 1990 Amendments removed the requirement that NSPS entail "percentage reductions" and "technological systems of continuous emission reduction," inserted in § 111 in 1977. The original requirements were principally intended to end the common practice of new power plants complying with the NSPS emission limit promulgated under the 1970 Act by purchasing low sulfur western coal.[5] Congress abandoned these provisions as part of the compromise embodied in the new acid rain control program (Title IV) added by the 1990 Amendments.[6] Although the NSPS are based on specific control measures, the standards themselves now leave it up to the regulated source to select the method of compliance.[7]

Setting the NSPS is a complex analytical process. For each industry category, EPA must: (1) identify available technologies that control emissions from the types of sources found in that category; (2) determine what percentage reductions and emission rates can be achieved in practice with those technologies; and (3) simultaneously assess the financial and other costs associated with satisfying the possible standards. An added element of uncertainty is introduced by the fact that the standards will apply to facilities not yet in existence. EPA considers these sev-

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[Section 12:40]

[1]CAA § 111(h), 42 U.S.C. § 7411(h).

[2]CAA § 111(a)(1), 42 U.S.C. § 7411(a)(1).

[3]*See* D. Currie, Air Pollution: Federal Law and Analysis 3-72 (1981). *But see* 40 C.F.R. § 60.32 (standards of performance for sulfuric acid plants for sulfuric acid mist); 40 C.F.R. § 60.190 (standards of performance for primary aluminum reduction plants for fluoride); 40 C.F.R. § 60.283 (standards of performance for kraft pulp mills for total reduced sulfur).

[4]CAA § 111(a)(1); 42 U.S.C. § 7411(a)(1), as amended by § 403 of the 1990 Amendments.

[5]H.R. Rep. No. 564, 95th Cong., 1st Sess. 131, *reprinted in* 3 Cong. Research Serv., A Legislative History of the CAA Amendments of 1977 510 (Comm. Print 1978). *See also* Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981) (upholding EPA's revised NSPS for coal-fired power plants). The 1977 version of the Act also stated that fossil fuel-fired power plants covered by NSPS may not achieve the standards by burning naturally clean fuels (*e.g.,* low sulfur coal); they had to achieve a percentage reduction in the amount of pollution from whatever fuel used, but could take credit for pollution reductions from fuel cleaning (*e.g.,* coal washing). The prior version of § 111 made the percentage reduction and technological control requirements applicable to standards for non-fuel burning sources, as well. Facilities other than coal-fired power plants could comply with NSPS in these categories, however, by using cleaner inputs (*e.g.,* water-based solvents that emit fewer hydrocarbons than organic solvents). The earlier version of the CAA § 111(a)(1), 42 U.S.C. § 7411(a)(1), defined "technological system of continuous emission reduction" to include inherently low pollution processes or methods of operation. *See also* D. Currie, Air Pollution: Federal Law and Analysis 3-44 (1981).

[6]Section 403 of the 1990 CAA Amendments.

[7]S. Rep. No. 1196, 91st Cong., 2d Sess. 17 (1970), *reprinted* 1 Cong. Research Serv., A Legislative History of the CAA Amendments of 1970 417 (1974).

eral factors, many of them highly technical. The D.C. Circuit has subjected EPA's decision-making to close and sometimes lengthy scrutiny,[8] but has been deferential on the substantive matters.[9]

The selection of the control technology on which to base the NSPS is a process not easily defined with precision. EPA must search for the "best" technology, which could lead into the realm of forcing technology.[10] However, the search is constrained because the technology must be adequately demonstrated and the Agency must take into account the cost of compliance, the energy needed, and the environmental impacts associated with compliance.[11] In practice, the Agency surveys air pollution control technologies in use in the industry category, both in the U.S. and abroad,[12] in order to identify the most efficient controls that really work. Since the facilities intended to use the technology have, by definition, not yet been built, EPA may have to give some attention to a technology's applicability to existing facilities.[13] EPA is not limited to technology in routine use.[14] While the Agency may consider technology that will not become available until the future,[15] it is constrained by the fact that the NSPS take effect on promulgation.[16] In sum, EPA may base NSPS on the most advanced control technologies it can reasonably expect will be both effective and feasible for the industry to be regulated.

Once EPA has identified one or more applicable technologies, it must calculate the percentage reductions and emission limits the technologies can achieve in practice. This means the Agency must consider how the controls on which the standard is based will function under the full range of real operating conditions in the

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[8]Literally so, in some cases. The slip opinion on Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981), was over 250 pages long.

[9]*See, e.g.*, Essex Chemical Corp. v. Ruckelshaus, 486 F.2d 427, 5 Env't. Rep. Cas. (BNA) 1820, 3 Envtl. L. Rep. 20732 (D.C. Cir. 1973).

[10]Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981).

[11]The 1977 Amendments required consideration of energy and other impacts to codify the requirements found by the court in Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 5 Env't. Rep. Cas. (BNA) 1593, 3 Envtl. L. Rep. 20642 (D.C. Cir. 1973).

[12]EPA based the standards for coal-fired power plants on scrubbers, in part in reliance on the use of that technology in Japan. *See* D. Currie, Air Pollution: Federal Law and Analysis 3-24 (1981).

[13]*See* D. Currie, Air Pollution: Federal Law and Analysis 3-27 (1981).

[14]S. Rep. No. 1196, 91st Cong., 2d Sess. 16 (1970), *reprinted in* 1 Cong. Research Serv., A Legislative History of the CAA Amendments of 1970 416 (1974). *See also* Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 5 Env't. Rep. Cas. (BNA) 1593, 3 Envtl. L. Rep. 20642 (D.C. Cir. 1973), superseded by statute as stated in American Trucking Associations, Inc. v. U.S. E.P.A., 175 F.3d 1027, 48 Env't. Rep. Cas. (BNA) 1417, 29 Envtl. L. Rep. 21071 (D.C. Cir. 1999), opinion modified on reh'g, 195 F.3d 4, 49 Env't. Rep. Cas. (BNA) 1391, 30 Envtl. L. Rep. 20119 (D.C. Cir. 1999), judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001) and judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001).

[15]S. Rep. No. 1196, 91st Cong., 2d Sess. 16 (1970), *reprinted in* 1 Cong. Research Serv., A Legislative History of the CAA Amendments of 1970 416 (1974).

[16]*See* D. Currie, Air Pollution: Federal Law and Analysis 3-28 (1981) (EPA should not assume great advances in source design over what is currently in operation since the standards take effect on promulgation). This cautionary note is perhaps overly conservative. It seems likely that only a small share of the sources that will be governed by a particular NSPS are off the drawing board when the standard is proposed. It is not clear that the Act precludes assuming advances in production technology that are not reflected in actual plans as of the date of the proposal. Instead, the Act arguably requires only that any EPA projections of change in production systems be reasonable.

industry.[17] If EPA tests the operational performance of controls in several plants, it must be able to demonstrate that the tests are relevant and reliable,[18] and that those plants are representative of the industry in terms of the variables that effect control performance.[19] The standards must be achievable continuously,[20] although EPA has written many of the standards so they do not apply to periods of time where emissions are unavoidably high, as occurs when many industrial processes initiate operations.[21] The need to demonstrate effectiveness with reference to the existing industry may prevent EPA from being too forward-looking in setting the NSPS; however, EPA may set the standards at levels that no existing plants have achieved using the controls on which the standards are based.[22] While the standards specify performance, and not technology, the extensive analysis of alternative technologies performed in setting the standards focuses the attention of industry and regulators alike on a narrow range of control options.[23]

The cost analysis required by § 111 equates to an assessment of economic impact on the industry. As in the case with the effluent limitations guidelines under the Clean Water Act,[24] EPA essentially sets the standard at the level dictated by the most advanced technology that satisfies whatever test the statute prescribes, unless the cost of compliance will cause serious economic disruption in the industry.[25] EPA is not obligated to balance the costs against the environmental benefits.[26] Rather, the Agency compares the capital and operating costs of controls with those of the

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[17]National Lime Ass'n v. Environmental Protection Agency, 627 F.2d 416, 14 Env't. Rep. Cas. (BNA) 1509, 10 Envtl. L. Rep. 20366 (D.C. Cir. 1980).

[18]Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 5 Env't. Rep. Cas. (BNA) 1593, 3 Envtl. L. Rep. 20642 (D.C. Cir. 1973), superseded by statute as stated in American Trucking Associations, Inc. v. U.S. E.P.A., 175 F.3d 1027, 48 Env't. Rep. Cas. (BNA) 1417, 29 Envtl. L. Rep. 21071 (D.C. Cir. 1999), opinion modified on reh'g, 195 F.3d 4, 49 Env't. Rep. Cas. (BNA) 1391, 30 Envtl. L. Rep. 20119 (D.C. Cir. 1999), judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001) and judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001).

[19]National Lime Ass'n v. Environmental Protection Agency, 627 F.2d 416, 14 Env't. Rep. Cas. (BNA) 1509, 10 Envtl. L. Rep. 20366 (D.C. Cir. 1980); Essex Chemical Corp. v. Ruckelshaus, 486 F.2d 427, 5 Env't. Rep. Cas. (BNA) 1820, 3 Envtl. L. Rep. 20732 (D.C. Cir. 1973).

[20]National Lime Ass'n v. Environmental Protection Agency, 627 F.2d 416, 14 Env't. Rep. Cas. (BNA) 1509, 10 Envtl. L. Rep. 20366 (D.C. Cir. 1980); Essex Chemical Corp. v. Ruckelshaus, 486 F.2d 427, 5 Env't. Rep. Cas. (BNA) 1820, 3 Envtl. L. Rep. 20732 (D.C. Cir. 1973).

[21]National Lime Ass'n v. Environmental Protection Agency, 627 F.2d 416, 14 Env't. Rep. Cas. (BNA) 1509, 10 Envtl. L. Rep. 20366 (D.C. Cir. 1980).

[22]Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981).

[23]The Act permits EPA to waive the NSPS requirements, after notice and comment, for facilities that attempt to comply through innovative technologies that eventually fall short of the regulatory mark. CAA § 111(j), 42 U.S.C. § 7411(j). The waivers have not been used much in practice. *See* D. Currie, Air Pollution: Federal Law and Analysis 3-59 (1981). Indeed, the most recent action taken by EPA under this provision—an extension of a previously granted waiver for a batch digester for a kraft pulp mill—dates from April 12, 1988. 53 Fed. Reg. 12008 (1988).

[24]*See* § 13:48.

[25]Portland Cement Ass'n v. Train, 513 F.2d 506, 7 Env't. Rep. Cas. (BNA) 1941, 5 Envtl. L. Rep. 20341 (D.C. Cir. 1975).

[26]Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 5 Env't. Rep. Cas. (BNA) 1593, 3 Envtl. L. Rep. 20642 (D.C. Cir. 1973), superseded by statute as stated in American Trucking Associations, Inc. v. U.S. E.P.A., 175 F.3d 1027, 48 Env't. Rep. Cas. (BNA) 1417, 29 Envtl. L. Rep. 21071 (D.C. Cir. 1999), opinion modified on reh'g, 195 F.3d 4, 49 Env't. Rep. Cas. (BNA) 1391, 30 Envtl. L. Rep. 20119 (D.C. Cir. 1999), judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001) and judgment aff'd in part, rev'd in part, 531 U.S. 457,

new plant itself and considers whether the plants would still be economical at that price.[27] The standards for an economically strong industry thus may be far more costly than these imposed on an industry with a small average profit margin.

§ 12:41 NSPS—Applicability of the NSPS

Section 111 requires new sources to comply with the NSPS. The applicability of the standards thus turns on what is "new" and what type of facility comprises a "source." Since the NSPS add considerably to the cost and the cleanliness of a new facility, there has been much interest in the answers to these questions.

§ 12:42 NSPS—Applicability of the NSPS—"New" source

Congress defined "new source" broadly. The term includes not only newly constructed factories or furnaces, but also *modification* of an existing source. "Modification" is defined as a physical change or change in the method of operation of an "affected source," which increases the emissions (generally defined as potential emissions) or results in the emission of a pollutant subject to the NSPS standard that was not previously emitted.[1] The "affected source" for any particular NSPS is defined in the standard itself, which can be written broadly or narrowly. Generally, a change in fuels, other than a change which the facility was designed to accommodate prior to the applicability of a standard,[2] can be considered a change in the method of operation. At a minimum, a simple increase in the level of operation, *e.g.*, a change from two to three shifts, is not.[3] This comports with the aims of Congress; the NSPS were intended to capture significant investments in plants and use those as opportunities to consider whether controls could be designed in at the outset, recognizing that retrofitting controls to an existing operation is always significantly

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121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001).

[27]Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 5 Env't. Rep. Cas. (BNA) 1593, 3 Envtl. L. Rep. 20642 (D.C. Cir. 1973), superseded by statute as stated in American Trucking Associations, Inc. v. U.S. E.P.A., 175 F.3d 1027, 48 Env't. Rep. Cas. (BNA) 1417, 29 Envtl. L. Rep. 21071 (D.C. Cir. 1999), opinion modified on reh'g, 195 F.3d 4, 49 Env't. Rep. Cas. (BNA) 1391, 30 Envtl. L. Rep. 20119 (D.C. Cir. 1999), judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and judgment aff'd in part, rev'd in part, 531 U.S. 457, 121 S. Ct. 903, 149 L. Ed. 2d 1, 51 Env't. Rep. Cas. (BNA) 2089, 31 Envtl. L. Rep. 20512 (2001) and cert. granted, cause remanded, 532 U.S. 901, 121 S. Ct. 1222, 149 L. Ed. 2d 133 (2001).

[Section 12:42]

[1]CAA § 111(a)(2), 42 U.S.C. § 7411(a)(2). Removal of an emission control device pursuant to a federally-approved state relaxation of emission control requirements imposed pursuant to § 111(d) of the Act may transform a facility into a new source. National-Southwire Aluminum Co. v. U.S. E.P.A., 838 F.2d 835, 27 Env't. Rep. Cas. (BNA) 1281, 18 Envtl. L. Rep. 20502, 94 A.L.R. Fed. 733 (6th Cir. 1988). Replacement of major components of a facility to *extend* its useful life, the cost of which is not high enough to trigger the reconstruction rule, may be a covered modification if it will increase the facility's emission rate over that associated with the highest operating level of which the facility was capable immediately prior to the replacement. Wisconsin Elec. Power Co. v. Reilly, 893 F.2d 901, 30 Env't. Rep. Cas. (BNA) 1889, 20 Envtl. L. Rep. 20414 (7th Cir. 1990). *See also* 57 Fed. Reg. 32313 (1992) (rules relaxing new source review requirements for acid rain control projects, and similar discussion in section V relating to modifications under New Source Review).

[2]40 C.F.R. § 60.14(e)(4).

[3]40 C.F.R. § 60.14(e)(2), (3). However, the rule relating to fuel changes does not apply to electric utility steam generating units, which may switch to a less polluting fuel and make changes in operating equipment needed to maintain capacity without triggering NSPS requirements. 57 Fed. Reg. 32314, 32339 (1992), (codified at 40 C.F.R. § 60.14(h)). Sections 409 and 415 of the CAA exempt certain other modifications of electric utility steam generating units from NSPS review. CAA §§ 409(d), 415(b), (c), as added by § 401 of 1990 CAA Amendments; 57 Fed. Reg. at 32339 (codified at 40 C.F.R. § 60.14(i)-(1)).

more difficult and expensive. For example, after a plant is built, there simply may not be available footprint for controls to be installed. Congress determined that the point at which significant investment is being made presents the best opportunity to examine the appropriate ability to apply controls. Consistent with this same policy preference, under EPA's "reconstruction" rule, physical modification of a facility, even if it does not result in an emissions increase, is subject to the NSPS if the cost is greater than 50% of the cost of building a replacement facility.[4] By controlling modifications, the NSPS avoid creating an incentive for industry to modify old plants instead of building new ones.

A source is subject to the NSPS if construction or modification was "commenced" after a new, applicable NSPS is promulgated.[5] A significant challenge points out that finalization of EPA rulemakings often take a very long time and the proposal date applies even if the standard is not finalized for years.[6] "Commencing construction" requires undertaking a continuous program of construction or modification, or entering into a contractual obligation to do so. Thus, the fact that only preliminary planning or site preparation was under way when the proposal was issued does not avoid the NSPS.[7] To qualify as "commencing construction," a contract must be sufficiently binding to impose significant liability on the source owner for breaking the agreement.[8] Construction of part of a plant, *e.g.*, an office building, not integrally linked to the emission source, *e.g.*, an industrial boiler, has been found not to constitute commencing construction.[9] If a proposed plant consists of several parts, each of which might be covered by NSPS, the timing of construction of each is considered separately in determining whether the NSPS apply.[10] As interpreted, the "commenced construction" language provides some balance between the goals of giving notice to the industry of applicable pollution control requirements early enough to allow efficient compliance, on the one hand, and protecting against evasion of the standards with false construction starts, on the other.

§ 12:43 NSPS—Applicability of the NSPS—New "source"

Section 111(a)(3) defines "stationary source" as "any building, structure, facility, or installation which emits or may limit any air pollutant."[1] This is the CAA's only definition of the key regulatory term "source," and it is applied in other programs as well.[2] The Supreme Court has held that this definition was sufficiently general to leave EPA discretion to interpret "source" to mean both a large facility and each of

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[4]40 C.F.R. § 60.15. Note that it is important to review guidance regarding what is included and excluded from both the numerator and denominator in determining whether the 50% threshold has been exceeded (e.g., control costs not being included in the numerator).

[5]CAA § 111(a)(2), 42 U.S.C. § 7411(a)(2).

[6]U.S. v. City of Painesville, Ohio, 644 F.2d 1186, 15 Env't. Rep. Cas. (BNA) 1849, 11 Envtl. L. Rep. 20630 (6th Cir. 1981).

[7]40 C.F.R. § 60.2.

[8]Potomac Elec. Power Co. v. E.P.A., 650 F.2d 509, 16 Env't. Rep. Cas. (BNA) 1132, 11 Envtl. L. Rep. 20815 (4th Cir. 1981).

[9]Potomac Elec. Power Co. v. E.P.A., 650 F.2d 509, 16 Env't. Rep. Cas. (BNA) 1132, 11 Envtl. L. Rep. 20815 (4th Cir. 1981).

[10]Sierra Pacific Power Co. v. U.S. E.P.A., 647 F.2d 60, 16 Env't. Rep. Cas. (BNA) 1313, 11 Envtl. L. Rep. 20671 (9th Cir. 1981).

[Section 12:43]

[1]42 U.S.C. § 7411(a)(3).

[2]Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 104 S. Ct. 2778, 81 L. Ed. 2d 694, 21 Env't. Rep. Cas. (BNA) 1049, 14 Envtl. L. Rep. 20507 (1984) (definition applied in nonattainment area new source review program). In the hazardous air pollutants section of the 1990 Amendments, Congress specifically adopted the definition of "stationary source" in § 111. CAA

its pollution-emitting components.[3] Such flexibility is clearly needed where the same definition must serve for both the NSPS program, which generally focuses on specific pollution control apparatus, as well as Title I preconstruction permit programs, like the PSD program, where the focus is on the effects of a specific plant on its environs.[4]

As a general matter, in the NSPS program, EPA interprets the definition of "source" to include *both* a large facility (like a factory) *and* each of its pollution-emitting components. This is important for the "commencement of construction" question, and in determining whether a change in a facility is a "modification," which must comply with applicable NSPS. The dual definition precludes a company from evading the NSPS by cutting emissions from an existing unit in a plan to offset an emission increase from a modification. If the source was the entire plant, there would be no emission increase and no modification under § 111(a)(4). While EPA has not used the plantwide definition in the NSPS program, the Agency has been receptive to allowing multiple emission units covered by an NSPS to comply as a group with the aggregate limit, without regard as to whether each unit complied with the limit.[5]

The provision of NSPS for existing sources, under § 111(d),[6] is intended to capitalize on the comprehensiveness of NSPS. Theoretically, these standards control the emission of all pollutants from affected sources. Section 111(d) allows the standards to be extended to existing sources of otherwise unregulated pollutants. Under § 111(d), EPA may issue guidelines directing the states to apply to existing sources the NSPS for pollutants regulated for new facilities—but not regulated elsewhere under the Act—using a process similar to the SIP process.[7] In addition to the factors that normally must be considered in NSPS, the 1977 Amendments allow a state implementing § 111(d) to take into account the remaining useful life of the facilities to be regulated. This is intended to promote cost-effectiveness by assuring that expensive pollution controls are not required for sources that will continue to operate for only a short time. Once guidelines for specific industries are issued, states have nine months to submit plans for the control of emissions from existing sources in the affected categories.

§ 12:44 NSPS—NSPS revisions

The NSPS are to be kept up to date, but doing so is no easy matter. Section 111 provides two avenues for revisions to the NSPS. Congress directly mandated changes

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§ 112(a)(3), as added by § 301 of 1990 CAA Amendments.

[3]Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 104 S. Ct. 2778, 81 L. Ed. 2d 694, 21 Env't. Rep. Cas. (BNA) 1049, 14 Envtl. L. Rep. 20507 (1984).

[4]*See* Citizens for Clean Air v. U.S. E.P.A., 959 F.2d 839, 34 Env't. Rep. Cas. (BNA) 1681, 22 Envtl. L. Rep. 20669 (9th Cir. 1992).

[5]EPA considered a petition for the first such "bubble" for some time, Petition for rulemaking to amend 60 C.F.R. Subpart B, submitted by Central Illinois Public Service Co. (Oct. 1, 1982). The proposal called for treating two power plants governed by the 1971 NSPS as a single unit. Both now meet the 1.2 pound sulfur dioxide limit by burning low sulfur western coal. Under the bubble, one plant would exceed that limit by burning higher sulfur local coal, while the other would perform better by installing a scrubber. The average emissions of the two units would satisfy the 1.2 pound limit. EPA ultimately granted the petition in 1987, but required the two units to achieve a 1.1 pound combined limit. 52 Fed. Reg. 28946 (1987).

[6]42 U.S.C. § 7411(d).

[7]For a thorough explication of the evolution and implementation of section 111(d), *see* D. Currie, Air Pollution: Federal Law and Analysis 3-62–3-82 (1981). *See also* 44 Fed. Reg. 29828 (1979) (notice of availability of § 111(d) guidelines for control of total reduced sulfur (TRS) from existing kraft pulp mills). Some states move slowly in developing § 111(d) standards. *See, e.g.,* 53 Fed. Reg. 38290 (1988) (nine years after publication of guidelines, final approval of compliance schedule in Georgia TRS control plan).

in the standards for oil, gas, and coal-burning power plants to require installation of controls instead of fuel switching.[1] The revision of the power plant NSPS was one of the most contentious and hotly contested regulatory actions EPA has undertaken under the CAA.[2] EPA may revise the standards for other industries "from time to time."[3] With the Agency far behind schedule in writing the initial NSPS, the revisions do not receive much attention,[4] except for small changes in measurement or monitoring requirements.[5]

EPA rarely has tightened standards to reflect new technologies. In October 2015, however, the Agency issued a final rule promulgated under § 111(b) updating the standards for new, modified and reconstructed stationary electric utility generating units.[6] The 2015 NSPS Rule faced multiple challenges brought in the U.S. Court of Appeals for the D.C. Circuit (D.C. Circuit).[7] On March 28, 2017, then-President Trump signed Executive Order (EO) 13783 directing agencies to review and "appropriately suspend, revise, or rescind those [regulations] that unduly burden the development of domestic energy resources beyond the degree necessary to protect the public interest or otherwise comply with the law."[8] In response to the EO, EPA announced that it was conducting a review of the rule,[9] and the challenges to the final rule were held in abeyance pending the outcome of the review. On January 13, 2021, EPA issued the "Significant Contribution Rule" addressing some aspects of the 2015 NSPS Rule.[10] Three petitions challenging the Significant Contribution Rule were filed in the D.C. Circuit.[11] On January 20, 2021, President Biden signed EO 13990, directing Agencies "to immediately review and, as appropriate and consistent with applicable law, take action to address the promulgation of Federal regulations and other actions" issued during the Trump Administration that conflict with the national objectives set out in the EO.[12] That EO, along with a list of agency actions accompanying it, specifically directed EPA to "review and, as appropriate and consistent with applicable law, take action to address" the Significant Contribution

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[Section 12:44]

[1]CAA § 111(b)(6), 42 U.S.C. § 7411(b)(6).

[2]*See* B. Ackerman & W. Hassler, Clean Coal/Dirty Air (1981). *See also* D. Currie, Air Pollution: Federal Law and Analysis 3-23–3-28 (1981); *see also* Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981).

[3]CAA § 111(b)(1)(A), 42 U.S.C. § 7411(b)(1)(A).

[4]*See, e.g.*, 40 C.F.R. part 60E (NSPS for incinerators, last change 1974); 40 C.F.R. part 60I (asphalt plants, last change 1974; concrete plants, last change 1975).

[5]*See, e.g.*, 40 C.F.R. § 60.73 (1985 change in emission monitoring only change for nitric acid plants NSPS after 1974).

[6]80 Fed. Reg. 64510 (Oct. 23, 2015) (2015 NSPS Rule).

[7]State of North Dakota v. EPA, 15-1381 (and consolidated cases) (D.C. Cir.).

[8]Exec. Order No. 13783 at § 1 (Mar. 28, 2017), 82 Fed. Reg. 16093 (2017) (entitled "Promoting Energy Independence and Economic Growth").

[9]82 Fed. Reg. 16329, 16330 (2017).

[10]86 Fed. Reg. 2542 (2021) (Significant Contribution Rule).

[11]State of California v. EPA, 21-1035 (and consolidated cases) (D.C. Cir.).

[12]Exec. Order No. 13990 at § 1 (Jan. 20, 2021), 86 Fed. Reg. 7037 (2021) (entitled "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis"). The national objectives set out in the EO include the need to "listen to the science; to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; to hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; to reduce greenhouse gas emissions; to bolster resilience to the impacts of climate change; to restore and expand our national treasures and monuments; and to prioritize both environmental justice and the creation of the well-paying union jobs necessary to deliver on these goals." Exec. Order No. 13990 at § 1 (Jan. 20, 2021), 86 Fed. Reg. 7037 (2021).

Rule and other actions to the extent they conflict with the EO's stated policies of improving public health, protecting the environment, and reducing greenhouse gas emissions.[13] On April 5, 2021, in response to a motion filed by EPA, the D.C. Circuit issued an order vacating and remanding the Significant Contribution Rule to EPA for further consideration.[14] As of time of publication, EPA was in the process of reviewing the 2015 NSPS Rule in light of EO 13990, and the challenges to the rule were being held in abeyance pending the outcome of the review.[15]

§ 12:45 NSPS—The NSPS, technology forcing, and new-source bias

The NSPS was to be one of the keys to the CAA's technology forcing impetus. The standards were to compel industry to use advanced controls on new sources and to demonstrate the feasibility of such controls so states could, in their SIPs, require the controls' use by existing sources. Section 111's effectiveness in forcing technology is open to question.

To the extent that § 111 has forced technology, it has generally been in the spreading use of technologies already in existence. The coal-fired power plant standards provide a compelling example.[1] The 1978 standards require coal washing and wet or dry scrubbers. Scrubbing technology was in its infancy when the 1971 standards, allowing compliance through use of low-sulfur coal, were promulgated. By 1978, the efficacy of wet scrubbers, if not dry scrubbers, was well established[2] However, while scrubber technology underwent significant improvement, more innovative technologies, such as fluidized-bed combustion, may have languished.

The coal-fired power plant NSPS nevertheless did help force the development of scrubbing technology, which was more effective than any other flue gas desulfurization technology in existence before the 1970 Act. Perhaps this is because the source category represents an enormous source of criteria pollutant emissions and received direct congressional attention, in addition to Agency and public scrutiny.[3] In other categories, the NSPS often settled for second- or third-best technologies, because of the restraint built into the process by the need to demonstrate achievability,[4] the slow pace of revisions,[5] and the failure of the innovative technology variances to create real incentives.

Arguably, not only do the NSPS not force technology, but in combination with the other, even more onerous new source review requirements, they create a bias against construction of new sources in order to avoid the expense of NSPS compliance. There is little doubt that in the period in which NSPS took effect, the pace of

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[13]Exec. Order No. 13990 at § 1 (Jan. 20, 2021), 86 Fed. Reg. 7037 (2021); White House, *Fact Sheet: List of Agency Actions for Review*, (Jan. 20, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/fact-sheet-list-of-agency-actions-for-review/.

[14]Order, State of California v. EPA, 21-1035 (and consolidated cases) (D.C. Cir. Apr. 5, 2021).

[15]Status Report, State of North Dakota v. EPA, 15-1381 (and consolidated cases) (D.C. Cir. Apr. 15, 2021).

[Section 12:45]

[1]*See* Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981); D. Currie, Air Pollution: Federal Law and Analysis 3-22–3-28 (1981).

[2]*See* Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981); D. Currie, Air Pollution: Federal Law and Analysis 3-22–3-28 (1981).

[3]Congress essentially wrote this standard in amending the Act in 1977. *See* Schoenbrod, Goals Statutes or Rules Statutes: The Case of the CAA, 30 UCLA L. Rev. 740 (1983) (proposition that the CAA is only effective where Congress shouldered the politically sensitive job of defining standards for specific industries).

[4]*See* National Commission on Air Quality, To Breathe Clean Air 38 (1981).

[5]*See* Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981); D. Currie, Air Pollution: Federal Law and Analysis 3-22–3-28 (1981).

replacement of the country's industrial plant slowed. Companies kept plants in operation long beyond the end of their projected useful lives. This phenomenon cannot necessarily be attributed to new-source bias, however. Powerful economic factors—slower growth in the domestic economy, lack of capital in the steel and utility industries, and high interest rates—also played a role.[6]

§ 12:46 NSPS—Implementation and enforcement

Although the NSPS are federal standards, EPA may delegate enforcement authority to the states.[1] In the 1980s, EPA did delegate authority for implementing the NSPS to multiple states.[2] As of mid-1989, all 50 states and territories possessed a measure of NSPS implementation authority.[3] In 1990, Congress added Title V to the Clean Air Act, which required all states to implement the NSPS through Title V permits with respect to major sources. After delegation, the standards (like SIPs) continue to be federally enforceable.[4] EPA enforcement policy gives high priority to NSPS violations.[5] The full range of federal enforcement tools, including § 120 noncompliance penalties,[6] is available for § 111 violations.

§ 12:47 NSPS—Recent developments

Since 1990, EPA has focused primarily on the task of meeting the required updates for NSPS under § 111(b)(1)(B), which requires EPA to review and revise NSPS every eight years.[1] EPA's failure to make these updates has often spurred citizen suits, ultimately leading to court-ordered deadlines to update the standards.[2]

In recent years, the most significant activity under the NSPS has been in the

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[6]The National Commission on Air Quality concluded that the PSD and nonattainment programs, which have regulated major industrial development since at least 1976, have not significantly slowed industrial expansion. National Commission on Air Quality, To Breathe Clean Air 265 (1981).

[Section 12:46]

[1]CAA § 111(c), 42 U.S.C. § 7411(c).

[2]During 1983, for example, EPA made 18 delegations of NSPS authority. Since the Agency sometimes delegates authority only for a handful of industry categories at one time, some states received multiple delegations. 48 Fed. Reg. 17356 (Apr. 22, 1983) (Puerto Rico); 48 Fed. Reg. 20693 (May 9, 1983) (Texas); 48 Fed. Reg. 28269, 28271 (June 21, 1983) (Nevada); 48 Fed. Reg. 29691 (June 28, 1983) (Iowa); 48 Fed. Reg. 30633 (July 5, 1983) (South Carolina); 48 Fed. Reg. 32075 (July 13, 1983) (Washington); 48 Fed. Reg. 36579 (Aug. 12, 1983) (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont); 48 Fed. Reg. 41407 (Sept. 15, 1983) (Hawaii); 48 Fed. Reg. 41764 (Sept. 19, 1983) (Delaware); 48 Fed. Reg. 43325 (Sept. 22, 1983) (Arizona); 48 Fed. Reg. 46535 to 46536 (Oct. 13, 1983) (Oregon, Puerto Rico); and 48 Fed. Reg. 57275 (Dec. 29, 1983) (Maryland). The delegation process continues apace. *See, e.g.*, 56 Fed. Reg. 63875 (1991) (delegation of certain NSPS categories to Connecticut, Maine, New Hampshire, Rhode Island, and Vermont); 56 Fed. Reg. 13589 (1991) (delegation of certain NSPS categories to Modoc County, Santa Barbara County, and Siskiyou County, California); 55 Fed. Reg. 39405 (1990) (delegation of certain NSPS categories to Wyoming).

[3]40 C.F.R. § 60.4.

[4]CAA § 111(c)(2), 42 U.S.C. § 7411(c)(2).

[5]*See* EPA Memorandum, Guidance on "Timely and Appropriate" EPA/State Enforcement Response for Significant Air Violators 2 (June 1984) (NSPS violators subject to expedited enforcement schedule).

[6]42 U.S.C. § 7420. For general discussions of EPA CAA enforcement *see* Part XVIII; Ch 9 (enforcement).

[Section 12:47]

[1]CAA § 111(a)(1)(B), 42 U.S.C. § 7411(b)(l)(B).

[2]*See* Consent Decree, Our Children's Earth Found. v. Wheeler, No. 3:19-cv-07125-WHA (N.D. Cal. Oct. 14, 2020) (requiring EPA to either sign: (1) a determination that review is not appropriate in light of readily available information on the efficacy of the standard; or (2) a proposed rule containing revisions to the NSPS for four source categories); Consent Decree, Our Children's Earth Fdn. v. Wheeler,

context of electric utility steam generating units and emissions of CO_2. In 2015, EPA finalized the Clean Power Plan (CPP), the first-ever regulation under § 111(d) addressing CO_2 emissions from existing fossil-based electric generating units.[3] Multiple petitions challenging the final rule where filed in D.C. Circuit;[4] the rule was subsequently stayed by the U.S. Supreme Court on February 9, 2016.[5] In response to the EO 13783, which required EPA to review the CPP, the Agency issued a final rule: (1) repealing the CPP; (2) finalizing the Affordable Clean Energy (ACE) rule that established emission guidelines for greenhouse gas (GHG) emissions from existing electric generating units; and (3) finalizing new state plan regulations under § 111(d) for EPA and state implementation of the ACE rule and any future emission guidelines.[6] Shortly after the ACE rule was finalized, the D.C. Circuit issued an order dismissing the challenges to the CPP final rule as moot.[7] Around the same time, at least 13 separate petitions were filed in the D.C. Circuit challenging the ACE rule.[8] On January 19, 2021, the D.C. Circuit issued an opinion vacating and remanding the ACE rule.[9] Multiple parties filed petitions for a writ of certiorari challenging the D.C. Circuit's decision. Briefing on the petitions is currently underway as of publication.[10]

Another significant focus has been on the oil and gas sector, particularly the upstream and midstream sectors related to emissions of volatile organic compounds (VOCs) and methane. In 2012, EPA revised the NSPS for the oil and natural gas industry, 40 C.F.R. Part 60, Subpart OOOO ("Quad O") from new, reconstructed, and modified oil and gas sources in order to curb emission of VOCs.[11] EPA amended Quad O again in 2016, and added a new 40 C.F.R. Part 60, Subpart OOOOa("Quad Oa"), to curb emissions of methane.[12] Numerous parties filed petitions with the D.C. Circuit challenging both rules.[13] As of the date of publication, the cases were being held in abeyance pending the outcome of EPA's reconsideration described below. EO No. 13783, issued under the Trump administration, required EPA to "review" the Quad Oa Rule and to revise or rescind the regulatory requirements if appropriate.[14] In response, EPA issued two final rules amending the Quad O and Oa requirements.[15] As with the prior rules, numerous parties filed petitions challenging the new rules.[16] Both sets of cases were placed in abeyance pending the outcome of EPA's further reconsideration. In response to EO 13990, issued by the Biden administration, EPA commenced administrative reconsideration of both of the

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No. 3:18-cv-04765-WHO (N.D. Cal. May 10, 2019) (requiring EPA to sign either: (1) a determination that review is not appropriate in light of readily available information on the efficacy of the standard; or (2) a proposed rule containing revisions to the NSPS for two source categories).

[3]80 Fed. Reg. 64662 (2015).

[4]West Virginia v. EPA, No. 15-1363 (and consolidated cases) (D.C. Cir.).

[5]Murray Energy Corp. v. E.P.A., 577 U.S. 1127, 136 S. Ct. 999, 194 L. Ed. 2d 18 (2016).

[6]84 Fed. Reg. 32520 (2019) (ACE Rule).

[7]Order, West Virginia v. EPA, No. 15-1363 (and consolidated cases) (D.C. Cir. Sept. 17, 2019).

[8]American Lung Association v. EPA, 19-1140 (and consolidated cases) (D.C. Cir.).

[9]American Lung Association v. Environmental Protection Agency, 985 F.3d 914 (D.C. Cir. 2021).

[10]*See* West Virginia et al. v. EPA, No. 20-1530 (filed Apr. 29, 2021); North American Coal Corp. v. EPA, No. 20-1531 (filed Apr. 30, 2021); Westmoreland Mining Holdings LLC v. EPA, No. 20-1778 (filed June 18, 2021); North Dakota v. EPA, No. 20-1780 (filed June 18, 2021).

[11]77 Fed. Reg. 49490 (2012) (Quad O Rule).

[12]81 Fed. Reg. 35824 (2016) (Quad Oa Rule).

[13]American Petroleum Institute v. EPA, No. 13-1108 (and consolidated cases) (D.C. Circuit).

[14]EO No. 13783 at § 7.

[15]85 Fed. Reg. 57018 (2020) (Policy Rule); 85 Fed. Reg. 57398 (2020).

[16]State of California v. Wheeler, No. 20-1357 (and consolidated cases) (D.C. Cir.); Environmental Defense Fund, et al. v. Wheeler, No. 20-1360 (and consolidated cases) (D.C. Cir.).

September 2020 rules. On June 30, 2021, President Biden signed a Joint Resolution Providing for Congressional Disapproval under the Congressional Review Act (CRA) to nullify the Policy Rule.[17]

These standards are important because they set the predicate for utilization of § 111(d), under which broad regulation of existing sources could have significant effect on regulated entities, emissions, and the economy.

§ 12:48 Conclusion

The NSPS program is foundational of the CAA in many respects, in part because it represents the first program established by Congress to help advance technologies. The program supports the quintessential balance that Congress dictated in § 101(b)(1) of the Act of protecting and enhancing the nation's air resources and equally supporting the productive capacity of the population (i.e., economic growth). For many years, the NSPS program seemed to be on autopilot at some level because the core source categories had been established and new listings were not required. In the past several years, however, the program has found new life in updated standards and with the advent of regulating greenhouse gases (in the form of carbon dioxide and methane). The permissible bounds of the NSPS program (within the fenceline, or "affected source," or including "beyond-the-fenceline") approaches are legal and policy issues that can be expected to be addressed by both EPA and the courts in the coming years.

VI. CLEAN AIR ACT SECTION 112: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS AND THE RESIDUAL RISK PROGRAM*

§ 12:49 Regulating Hazardous Air Pollutants (HAPs)

The Clean Air Act (CAA) distinguishes between two categories of air pollutants: "criteria" pollutants and hazardous air pollutants (HAPs), also known as air toxics. Criteria pollutants are those that are emitted from diverse mobile or stationary sources that "may reasonably be anticipated to endanger public health or welfare,"[1] and are regulated under CAA § 108. By contrast, CAA § 112 focuses solely on the stationary sources of HAPs, which the Act defined as pollutants that present severe health risks or adverse environmental effects, but are not as widely dispersed as the criteria pollutants.[2]

The 1990 CAA amendments rebuilt and expanded the regulatory scheme for HAPs from its original framework in the 1970 Act. The earlier version of the statute required EPA to make health risk determinations for individual HAPs prior to regulation. To accelerate the listing and regulating of HAPs, when Congress amended the CAA in 1990, it listed 189 specified HAPs and required EPA to set emission standards for industrial sectors emitting listed HAPs. In addition, Congress prescribed specific rules for particular industrial categories of HAP emissions,

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[17]Joint Resolution Providing for Congressional Disapproval, S. J. Res 14, 117th Congress (2021). The CRA gives Congress the authority to "disapprove" a regulation within 60 days of its enactment (measured by Congressional "session" days), rendering it without "force or effect." 5 U.S.C. §§ 801(b)(1), 802(a). In addition, the CRA provides that after such a disapproval, the agency may not adopt or repromulgate any regulation that is "substantially the same" as the disapproved regulation. 5 U.S.C. § 801(b)(2).

*By **Linda Tsang** and, as to section 12:58, **Patricia Ross McCubbin.** Updates prior to Fall 2021 by **Phillip D. Reed** and **Alan J. Gilbert.**

[Section 12:49]

[1]CAA §§ 107, 109. For a full discussion of the criteria pollutants, *see* §§ 12:6 to 12:13.

[2]*See generally* 42 U.S.C. § 7412.

including electric utilities.

The following Sections summarize the history of HAP regulations under the CAA and provide an overview of the current federal framework for regulating HAPs under § 112 of the Act.

§ 12:50 Historical background: Section 112 framework for HAPs under the 1970 Act

As defined in 1970, Clean Air Act § 112 required EPA to regulate hazardous air pollutants, which the statute defined as "air pollutant[s] to which no ambient air quality standard is applicable and which in the judgment of the Administrator cause[ ], or contribute[ ] to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness."[1] The Statute required the EPA Administrator to publish a list containing each hazardous pollutant for which she or he intended to adopt an emission standard.[2]

Once EPA listed a pollutant as hazardous, the Agency then had to propose "emission standards" within 180 days. Section 112 next required EPA to promulgate final standards within another 180 days, unless the Agency found, "on the basis of information presented" at hearings on the proposed standards, that the pollutant was not hazardous.[3] The statute required EPA to set national emission standards for hazardous air pollutant (NESHAPs) "at the level which in his judgment provides an ample margin of safety to protect the public health."[4]

The NESHAPs were categorical emission limits, similar to the regulatory framework of NSPS § 111, but played a different programmatic role. The NESHAPs, like the NSPS, were nationally uniform emission limits set for stationary source categories without reference to the national ambient air quality standards.[5] As such, the NESHAPs were to be devised in a process somewhat similar to the NAAQS/state implementation plan process.[6] Like the criteria pollutant program, EPA commenced/launched the NESHAPs program by listing target pollutants.[7]

However, unlike the NSPS, which consider costs and technical feasibility, CAA § 112 required EPA to set the NESHAPs to protect the public health, with an ample margin of safety, regardless of cost.[8] To achieve that goal, Congress was prepared for standards that prohibited measurable HAP emissions altogether and which

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[Section 12:50]

[1]42 U.S.C. § 7412(a)(1) (1982).

[2]42 U.S.C. § 7412(b)(1)(B) (1982).

[3]42 U.S.C. § 7412(b)(1)(B) (1982).

[4]42 U.S.C. § 7412(b)(1)(B) (1982).

[5]*See* Part V for discussion of NSPS.

[6]*See* Part IV for discussion of NAAQS and SIPs.

[7]Section 112(b)(1)(A) directed the Administrator to establish and subsequently, "from time to time, [revise] a list which includes each hazardous air pollutant for which he intends to establish an emission standard under this section." This passage appeared to leave the Administrator discretion in deciding what to list. Nevertheless, in 1977, with only a handful of pollutants listed, Congress required EPA to evaluate the health effects of airborne radionuclides, cadmium, arsenic, and polycyclic organic matter within fixed periods of time and, upon finding harmful impacts, to list and regulate the pollutants as hazardous or criteria pollutants.

[8]Initially, § 302(k) required NESHAPs to be "emission standards," which limited "the quantity, rate, or concentration of emissions of air pollutants on a continuous basis." EPA wrote vinyl chloride standards in terms of work practices, because most emissions originated from "fugitive" sources and could not easily be measured. In Adamo Wrecking Co. v. U. S., 434 U.S. 275, 98 S. Ct. 566, 54 L. Ed. 2d 538, 11 Env't. Rep. Cas. (BNA) 1081, 8 Envtl. L. Rep. 20171 (1978), the Supreme Court overturned the vinyl chloride standards because they were inconsistent with the definition of "emission limit." In

could result in closing factories for which no adequate control technologies were available.[9] Also in contrast to NSPS, which primarily address new, modified, or reconstructed stationary sources, the NESHAPs were designed to address all—new *and* existing—stationary sources.

§ 12:51 Historical background: Implementing § 112 under the 1970 Act

Section 112, as written in the 1970 Act, proved difficult to implement. Between 1970 and 1990, EPA listed and regulated only eight HAPs.[1] When EPA did list pollutants, it moved slowly to set standards, which considered technological feasibility and cost. As a result, § 112 became a lightning rod for lawsuits and legislative proposals from all sides.

Once EPA overcame the listing and standard-setting hurdles, § 112 provided a complete program for implementing the NESHAPs, or emission standards. Generally, the provisions made it illegal to build new sources or operate existing ones that would violate NESHAPs.[2] However, the statute did offer regulated industries a modicum of relief, in that the standards did not go into effect until 90 days following promulgation. Additionally, absent an imminent threat to the public health, the standards could be further held in abeyance to enable hard-pressed industries a chance to comply.[3] Like the NSPS, NESHAPs were implemented by qualified states, although EPA retained enforcement authority.[4]

Despite its limited use, § 112 generated controversy and litigation. Under the 1970 Act, § 112 could be read as requiring EPA to impose strict controls in order to completely eliminate the risks whenever the Agency concluded that an air pollutant may be hazardous at any level of emission.[5] Concern over the severity of the regulatory requirements, and the belief that greater public health gains could be achieved instead through attainment of the NAAQS, discouraged EPA from pulling the § 112 listing trigger very often.[6]

The regulatory program failed to keep pace with public concern over air toxics, which was fed by growing scientific evidence of the chronic toxicity of many airborne contaminants in relatively low concentrations. Pressure from environmental and public health groups during the latter half of the 1970s pushed EPA to propose an airborne carcinogen policy.[7] The policy would have greatly expanded the scope of § 112 regulation, but also would have openly incorporated technological and eco-

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1977, Congress added a new section, § 112(e), authorizing EPA to establish work practice standards if emission standards were impractical. Work practice standards must be stated in terms of how the polluting activity is conducted, and not measured by how much pollution enters the ambient air. Section 112 did not direct EPA to consider economic or technological feasibility in setting the standards.

[9]*See* Senate Consideration of the Conference Report, Discussion of Key Provisions, *reprinted in* 1 Cong. Research Serv., A Legislative History of the CAA Amendments of 1970 133 (1974).

[Section 12:51]

[1]*See* 40 C.F.R. § 61.01 (1989) (listing substances subject to § 112 regulation as asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride).

[2]42 U.S.C. § 7412(c).

[3]42 U.S.C. § 7412(c).

[4]42 U.S.C. § 7412(d). For an example of an EPA enforcement action, *see* U.S. v. Ethyl Corp., 761 F.2d 1153, 22 Env't. Rep. Cas. (BNA) 1913, 15 Envtl. L. Rep. 20589 (5th Cir. 1985).

[5]*See* Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987).

[6]ENVIRONMENTAL AND ENERGY STUDY INST. & ENVTL. L. INST., STATUTORY DEADLINES IN ENVIRONMENTAL LEGISLATION: THE CASE STUDIES 3 (1985) (case study 3.b., Hazardous Air Pollutant Listing).

[7]44 Fed. Reg. 58642 (1979).

nomic concerns into standard setting.[8]

By 1980, EPA had listed only seven pollutants: asbestos (1971), beryllium (1971), mercury (1971), vinyl chloride (1975), benzene (1977), radionuclides (1979), and inorganic arsenic (1980).[9] Of those, the Agency set standards for only four: asbestos, beryllium, mercury, and vinyl chloride.[10] In 1985, EPA withdrew proposed revisions tightening the vinyl chloride emission standard that it had proposed in 1977.[11]

Frustrated with both EPA reluctance to list HAPs and set standards and congressional inaction to devise a solution, environmentalists and the state of New York sued EPA over its failure to carry out a nondiscretionary duty to regulate the listed pollutants arsenic and radionuclides within 180 days after listing the HAPs.[12] Plaintiffs were successful in these deadline suits, although it took multiple lawsuits to force EPA to complete the regulatory process for radionuclides.[13] EPA ultimately proposed standards for radionuclides, benzene, and arsenic by 1983.[14]

That same year, EPA launched a broader § 112 program based on risk assessment and risk management. Yet EPA's regulatory action proved no less controversial than its earlier inaction. EPA acceded to court orders to regulate listed HAPs and considered listing additional pollutants.[15] However, the Agency also incorporated controversial risk assessment techniques and cost/benefit balancing into the process.[16] The result of this new approach was greater EPA flexibility in deciding whether and how to regulate pollutants acknowledged to be potentially hazardous. The Agency applied this analysis to the proposed benzene and radionuclide standards,[17] and also to the long-dormant vinyl chloride revisions.[18] EPA also completed a preliminary review of over a dozen other chemicals and announced its intention to list six additional substances.[19] By starting with a notice of its intention to list, rather than immediately listing, EPA explained that it would decide whether to add

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[8]44 Fed. Reg. 58642 (1979).

[9]*See* 40 C.F.R. § 61.01 (1989).

[10]*See* 40 C.F.R. § 61.140 (1984) (asbestos); 40 C.F.R. § 61.30 (1981); (beryllium); 40 C.F.R. § 61.50 (1981) (mercury); 40 C.F.R. § 61.60 (1981) (vinyl chloride).

[11]50 Fed. Reg. 1182 (Jan. 9, 1985) (withdrawing proposal, 42 Fed. Reg. 28154 (June 2, 1977)).

[12]EPA has listed as HAPs inorganic arsenic on June 5, 1980, 45 Fed. Reg. 37886, and radionuclides on November 8, 1979, 44 Fed. Reg. 76738.

[13]State of New York v. Gorsuch, 554 F. Supp. 1060, 18 Env't. Rep. Cas. (BNA) 1575, 13 Envtl. L. Rep. 20248 (S.D. N.Y. 1983) (ordering EPA to propose arsenic standards); Sierra Club v. Gorsuch, 551 F. Supp. 785, 18 Env't. Rep. Cas. (BNA) 1549, 13 Envtl. L. Rep. 20231 (N.D. Cal. 1982) (propose radionuclide standards); Sierra Club v. Ruckelshaus, 602 F. Supp. 892, 21 Env't. Rep. Cas. (BNA) 1823, 21 Env't. Rep. Cas. (BNA) 2153, 15 Envtl. L. Rep. 20080 (N.D. Cal. 1984), order amended, 15 Envtl. L. Rep. 20082 (N.D. Cal. 1984) (promulgate radionuclide standards), 15 ELR 20082 (N.D. Cal. 1984) (promulgate radionuclide standards or delist), 602 F. Supp. 892, 15 ELR 20101 (N.D. Cal. 1984) (holding EPA Administrator in contempt for failure to promulgate standards).

[14]48 Fed. Reg. 15076 (1983) (radionuclides); 45 Fed. Reg. 26660, 83448, 83952 (1980); 46 Fed. Reg. 1165 (1981) (benzene); 48 Fed. Reg. 33112 (1983).

[15]In a 1985 report, EPA estimated that selected air toxics caused 1300-1700 fatal cancers per year in this country. EPA, The Magnitude and Nature of the Air Toxics Problem in the United States: Final Report 71 (1985). The draft analysis is discussed in Thompson, *The Air Toxic Problem in the United States: An Analysis of Cancer Risks Posed by Selected Air Toxics*, 35 J. AIR POLLUTION CONTROL ASS'N 535 (1985). EPA also issued a final work practice for radionuclide emissions from underground uranium mines in early 1985. 50 Fed. Reg. 15386 (1985).

[16]*See* Brief for Respondent at 10-14, Natural Res. Def. Council, Inc. v. Thomas, Nos. 84-1387, 84-1391, 85-1567 (D.C. Cir. brief filed Dec. 23, 1985). For a general discussion of the role of risk assessment in EPA decisionmaking, *see* Ruckelshaus, *Risk in a Free Society*, 14 ELR 10190 (1984); Doniger, *The Gospel of Risk Management: Should We Be Converted?*, 14 ELR 10222 (1984).

[17]49 Fed. Reg. 23492 (1984) (benzene).

[18]49 Fed. Reg. 43909 (1984) (radionuclides); 50 Fed. Reg. 1182 (1985) (vinyl chloride).

[19]The intention to list included either chromium or hexavalent chromium, 50 Fed. Reg. 24317

the substances to the HAP list only after further studies of emission control techniques and health risks.[20] EPA also ruled out regulating a number of substances, some of which may be carcinogenic, because the substance was not emitted in sufficient quantities to create a significant risk; that information on health effects was "not sufficient to warrant regulation"; or the cost of control was determined to be disproportionately high.[21] While satisfying EPA's desire for greater flexibility, the new approach triggered new litigation.[22]

Environmental groups challenged EPA's withdrawal of proposed amendments to the NESHAPs for vinyl chloride, a decision based solely on the level attainable by the best available control technology considering costs. In its 1987 decision vacating EPA's proposed withdrawal of its revised standard for vinyl chloride, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) defined a two-step approach for setting HAP emission standards under § 112; this approach ultimately served as a roadmap for the 1990 amendments.[23] The court explained that EPA must determine first a "safe" or "acceptable" risk considering *only* health factors; then it must choose a standard that provides an "ample margin of safety," considering costs, feasibility, and other relevant factors.[24]

§ 12:52 Section 112 framework for HAPs under the 1990 amendments

Congress overhauled § 112 completely as part of the CAA amendments of 1990. The changes were based in significant part on the D.C. Circuit's *Vinyl Chloride* decision in 1987 that set forth a two-step process for setting NESHAPs and evaluating residual risks.[1] The revised § 112 regulatory framework included:

(1985), carbon tetrachloride, 50 Fed. Reg. 32621 (1985), chloroform, 50 Fed. Reg. 39626 (1985), ethylene oxide, 50 Fed. Reg. 40286 (1985), 1,3 butadiene, 50 Fed. Reg. 41466 (1985), ethlyene dichloride, 50 Fed. Reg. 41994 (1985), and cadmium, 50 Fed. Reg. 42000 (1985). EPA apparently had not added to its prelisting list since 1985, although it has stated that it had considering development of NESHAPs for organic solvent cleaners. 52 Fed. Reg. 29549 (1987). In addition, in 1984 EPA listed coke oven emissions. 49 Fed. Reg. 35560 (1984). Coke oven standards were proposed on April 23, 1987. 52 Fed. Reg. 13586 (1987).

[20]*See*, *e.g.*, Natural Resources Defense Council, Inc. v. Thomas, 885 F.2d 1067, 30 Env't. Rep. Cas. (BNA) 1513, 20 Envtl. L. Rep. 20174 (2d Cir. 1989) (notice of intent to list is not final agency action subject to judicial review and did not trigger non-discretionary duty to list).

[21]EPA decided not to regulate chlorofluorocarbon-113, 50 Fed. Reg. 24313 (1985), methyl chloroform, 50 Fed. Reg. 24314 (1985), epichlorohydrin, 50 Fed. Reg. 24575 (1985), manganese, 50 Fed. Reg. 32627 (1985), chlorinated benzenes, 50 Fed. Reg. 32628 (1985), and vinylidene chloride, 50 Fed. Reg. 32632 (1985), and announced its intent not to regulate chloroprene, 50 Fed. Reg. 39632 (1985), and hexachlorocyclopentadiene, 50 Fed. Reg. 40154 (1985). In 1984, the Agency also ruled out regulation of polycyclic organic matter, 49 Fed. Reg. 31680 (1984), and toluene, 49 Fed. Reg. 22195 (1984). *See also* 51 Fed. Reg. 34135 (1986) (nickel subsulfide and carbonyl are known or probable carcinogens, but are not emitted in sufficient quantities to create a significant risk). EPA also began a practice of announcing the Agency's intent not to regulate specified substances under the CAA due to insufficient evidence. In such cases, EPA stated that it might change its mind if presented with further evidence of harmful effects. *See, e.g.*, 52 Fed. Reg. 32597 (1987) (zinc and zinc oxides); 52 Fed. Reg. 5496 (1987) (copper); 51 Fed. Reg. 22854 (1986) (phenol).

[22]*See* Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987) (vinyl chloride standards may not consider costs).

[23]*See* Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987).

[24]Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 1165–66, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987).

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[1]*See* Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987). *See also* 54 Fed. Reg. 3044, 3045 (1989) (preamble to final NESHAP for certain sources of benzene).

- Listed HAPs to be regulated
- Maximum achievable control technology (MACT) requirements
- Health-based standards; and
- Generally available control technology (GACT) standards for smaller stationary sources of HAPs, known as "area sources"[2]

The handful of HAP regulations promulgated under the old provision remained in effect, until modified under the new approach.[3]

§ 12:53 Scope of regulated HAPs: Listed hazardous air pollutants

The 1990 Amendments redefined the term "hazardous air pollutant" as any pollutant listed under the revised section § 112.[1] Congress simultaneously handed EPA a new mandate, with a list of 189 hazardous air pollutants.[2] Included on the list are all 13 substances that EPA had listed—or announced its intent to list—under the earlier provision. The list also included most of the substances EPA had specifically decided to not regulate under § 112, or to not regulate at present due to lack of information under the 1970 Act.[3]

Section 112 requires EPA to review the list periodically; EPA may amend the HAP list on its own or in response to a petition to modify the list.[4] After reviewing, and when "appropriate," EPA may revise the list by adding pollutants which "present or may present, through inhalation or other routes of exposure, a threat of adverse human health effects . . . or adverse environmental effects, whether through ambient concentrations, bioaccumulation, deposition, or otherwise."[5]

This definition of "hazardous air pollutant" greatly expands the scope of regulation in two directions. First, EPA must address pollutants that are harmful to the environment, but not to health. Section 112 defines an "adverse environmental effect" as "any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas."[6] However, § 112 prohibits EPA from regulating ozone depleting substances or activities regulated under Title VI of the CAA, solely because of their adverse environmental effects.[7] Second, EPA must address pollutants that cause harm when not airborne, that is, once deposited onto the ground or in a body of water.[8]

The HAP list may also be revised through a petition process. Section 112(b)(3) establishes general requirements for petitioning EPA to modify the HAP list by adding or deleting a substance. The petitioner has the burden of supporting its petition

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[2]The 1990 amendments also included requirements for preventing of catastrophic releases in section 112(r), which are discussed in Part VII.

[3]42 U.S.C. § 7412(q)(1).

[Section 12:53]

[1]42 U.S.C. § 7412(a)(6).

[2]42 U.S.C. § 7412(b)(1).

[3]Methyl chloroform, epichlorohydrin, manganese, vinylidene chloride, chloroprene, and hexachlorocyclopentadiene, polycyclic organic matter, and toluene, all of which EPA had decided not to regulate under § 112, are on the § 112 HAP list, as is phenol, which EPA had deferred in making a listing decision.

[4]42 U.S.C. § 7412(b)(2).

[5]42 U.S.C. § 7412(b)(2).

[6]42 U.S.C. § 7412(a)(7).

[7]42 U.S.C. § 7412(b)(2).

[8]42 U.S.C. § 7412(b)(3)(B).

with adequate data on the health and environmental effects of the pollutant or other evidence. To add a pollutant to the HAP list, a petitioner must show (or the EPA Administrator independently determines) that "emissions, ambient concentrations, bioaccumulation or deposition of the air pollutant are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects."[9] Removal of a HAP from the list must be based on an affirmative finding that there is adequate data available to demonstrate that the substance "may not reasonably be anticipated to cause *any adverse* effects to the human health or adverse environmental effects."[10]

On June 18, 2020, EPA granted two petitions that, for the first time, added a substance—1-bromopropane (a solvent)—to the HAP list that Congress originally created in the 1990 amendments.[11] Since 1990, EPA has amended the HAP list solely to *remove* four listed HAPs—caprolactam, ethylene glycol monobutyl ether, surfactant alcohol ethoxylates and their derivatives, and methyl ethyl ketone.[12] Although EPA granted the petitions, EPA decided that a separate rulemaking was required to formally propose to add 1-bromopropane to the § 112 HAP list and assess the impacts of the listing on potentially affected sources.[13]

Actions adding new substances to the § 112 HAP list are not considered "final agency action," subject to judicial review under CAA § 307(b), until EPA promulgates emission standards for the listed HAP.[14] EPA concluded that its 2020 decision, granting the petition to add 1-bromopropane to the § 112 HAP list, was not subject to judicial review under CAA § 307.[15] However, environmental groups have filed a petition for review of EPA's 1-bromopropane petition decision in the D.C. Circuit, alleging that EPA "exceeded its statutory authority or acted unlawfully by declining to add" 1-bromopropane to the HAP list when it granted the petitions.[16] In the past, stakeholders have challenged EPA's action denying a petition to delist a substance from the HAP list under the Administrative Procedure Act.[17]

§ 12:54 Categories of stationary sources of HAPs: major and area sources

As required by CAA § 112(b), EPA has published a list of all categories and subcategories of "major sources" and "area sources" of the listed HAPs.[1]

Section 112 defines a "major source" as "any stationary source or group of station-

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[9]42 U.S.C. § 7412(b)(3)(B).

[10]42 U.S.C. § 7412(b)(3)(C) (emphasis added).

[11]85 Fed. Reg. 36851 (June 18, 2020).

[12]61 Fed. Reg. 30816 (June 18, 1996) (caprolactam, by petition) (codified at 40 C.F.R. § 63.60); 69 Fed. Reg. 69320 (Aug. 2, 2000) (ethylene glycol monobutyl ether, by petition) (codified at 40 C.F.R. § 63.63); 65 Fed. Reg. 47342 (Aug. 2, 2000) (surfactant alcohol ethoxylates and their derivatives, which are compounds that were considered to be included in glycol ethers, which is a listed HAP) (codified at 40 C.F.R. § 63.62); 70 Fed. Reg. 75047 (Dec. 19, 2005) (methyl ethyl ketone, by petition) (codified at 40 C.F.R. § 63.61). *See also* EPA, Modifications to the § 112(b)1 Hazardous Air Pollutants (providing information on modifications to the § 112(b)(1) list of HAPs), https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications#mods.

[13]85 Fed. Reg. at 36854.

[14]42 U.S.C. § 7412(e)(4).

[15]85 Fed. Reg. at 36852.

[16]Petitioner's Non-binding Statement of Issues, California Cmtys. Against Toxics v. EPA, No. 20-1311 (D.C. Cir. Sept. 18, 2020).

[17]*See* American Forest and Paper Ass'n Inc. v. E.P.A., 294 F.3d 113, 116, 54 Env't. Rep. Cas. (BNA) 1677, 32 Envtl. L. Rep. 20744 (D.C. Cir. 2002) (upholding EPA's denial of a petition to delist methanol, 66 Fed. Reg. 21,929 (May 2, 2001)).

[Section 12:54]

[1]42 U.S.C. § 7412(c)(1). EPA's "initial list" required by § 112(c)(1) contained 174 categories. 57

ary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year [tpy] or more of any hazardous air pollutant or 25 [tpy] or more of any combination of hazardous air pollutants."[2]

Section 112's "major source" definition sparked litigation over the meaning of "potential to emit." EPA regulations define "potential to emit" as "the maximum capacity of a stationary source to emit a pollutant under physical and operational design," taking into account air pollution controls and other federally enforceable limits on operations.[3] In *National Mining Association v. EPA*,[4] the D.C. Circuit rejected EPA's requirement for "federally enforceable" limits in the "major source" definition, holding that "effective" state and local limits on operation would also serve to restrict a source's potential to emit.[5] After the decision, EPA issued an interim policy in 1996, allowing state-enforceable emissions limits to be considered in calculating a source's potential to emit, so long as the source certifies its acceptance of EPA and citizen enforcement.[6] In 2020, EPA removed the word "federally" from the phrase "federally enforceable" in the "potential to emit" definition.[7]

An "area source," in turn, is defined as "any stationary source of hazardous air pollutants that is not a major source."[8] The Act requires EPA to list all categories and subcategories of "area sources" that EPA determines constitute health or environmental threats "warranting action" under § 112.[9] While EPA maintains some discretion in listing area source categories, the Agency was required to list—within five years of the 1990 amendments—categories of area sources accounting for 90% of the urban area emissions of the 30 listed substances that create the greatest risk to health in the largest number of such urban areas.[10]

In 1995, EPA issued guidance that constrained a major source's ability to qualify as an area source and avoid major source requirements. This policy, known as the "Once In, Always In" policy, ensures that once a major source is subject to a § 112 HAP emission standard, it cannot later avoid applicability by reclassification as an area source—even if the source reduces its HAP emissions below the major source threshold by using an enforceable potential-to-emit limit.[11] In its 1995 guidance, EPA reasoned that this policy would ensure that emissions reductions were

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Fed. Reg. 31576 (July 16, 1992).

[2]42 U.S.C. § 7412(a)(1). Note that the CAA uses and defines the term "major source" under other programs, in the general provisions of § 302, and in § 112(r) of the Act (which address risk management and contains a different definition of "major source"). Section 112 adopts the definition of "stationary source" used for NSPSs under § 111, which is defined as "any building, structure, facility, or installation which emits or may emit any air pollutant." 42 U.S.C. § 7412(a)(3).

[3]40 C.F.R. § 63.2.

[4]National Min. Ass'n v. U.S. E.P.A., 59 F.3d 1351, 40 Env't. Rep. Cas. (BNA) 2089, 25 Envtl. L. Rep. 21390 (D.C. Cir. 1995).

[5]In 2019, EPA proposed to remove the reference to the limitations being "federally enforceable" in the definition of potential to emit. 84 Fed. Reg. 36304, 36337 (July 26, 2019).

[6]Memorandum from J. Seitz, R. Van Heuvelen, Interim Policy on Federal Enforceability of Limitations on Potential to Emit (Jan. 22, 1996), http://www.epa.gov/sites/production/files/2015-08/documents/pottoemi.pdf.

[7]Reclassification of Major Sources under the Clean Air Act, 85 Fed. Reg. 73854 (Nov. 19, 2020).

[8]42 U.S.C. § 7412(a)(2). Notably, motor vehicles and nonroad vehicles are subject to regulation under the Act's mobile source provisions. *See* Part VII.

[9]42 U.S.C. § 7412(c)(3).

[10]42 U.S.C. § 7412(c)(3).

[11]*See* Memorandum from J. Seitz, Potential to Emit for MACT Standards—Guidance on Timing Issues (May 16, 1995).

maintained over time.[12] In 2020, EPA finalized amendments to 40 C.F.R. pt. 63 that reverses the "Once In, Always In" policy. The amendments allow a major source to be reclassified as an area source at any time upon reducing its potential to emit HAPs to below the major source thresholds of 10 tpy of any single HAP and 25 tpy of any combination of HAP.[13]

§ 12:55 Categories of stationary sources of HAPs: listing, review, and delisting

As required by amended CAA § 112(c)(1), EPA finalized the "initial list" of categories and subcategories of all major and area sources in 1992, containing 174 categories—166 major source categories and eight area source categories.[1] EPA must review the source category list no less frequently than once every eight years and, if appropriate, revise the list "in response to public comment or new information."[2] Over time, EPA has added categories and subcategories to the HAP source list, as well as delisted some.[3]

To delist a source category, EPA must make specific determinations, which are provided in § 112(c)(6), on its own motion or in response to a petition.[4] Categories emitting carcinogenic HAPs may be deleted from the list only on a showing that no major source or group of area sources in that category emits such pollutants in amounts that cause an increased lifetime cancer risk of greater than one in one million to the individual most exposed.[5] For categories emitting other types of HAPs, EPA may delete such a category if no source in the category (or group of sources, in the case of area sources) emits such HAPs in quantities that exceed a level adequate to protect public health with an ample margin of safety and if no adverse environmental effect will result from emissions from any such source (or group of area sources).[6] EPA must grant or deny a petition to delete a source category within one year after a petition is filed.[7]

§ 12:56 Technology-based emission standards: MACT and GACT

Section 112(c)(2) requires EPA to set emission standards for every category of sources listed under § 112(c)(1). For categories of new and existing major sources of HAPs, the emission standards must reflect the "maximum degree of reduction in emissions of the hazardous air pollutants subject to this section (including a prohibition on such emissions, where achievable) that the Administrator, *taking into consideration the cost* of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new and existing sources in the category or subcategory to which such emis-

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[12] *See* Memorandum from J. Seitz, Potential to Emit for MACT Standards—Guidance on Timing Issues (May 16, 1995).

[13] Reclassification of Major Sources as Area Sources Under Section 112 of the CAA, 85 Fed. Reg. 73854 (Nov. 19, 2020) (effective on January 19, 2021).

[Section 12:55]

[1] 57 Fed. Reg. 31576 (July 16, 1992).

[2] 42 U.S.C. § 7412(c)(1).

[3] EPA list § 112 source categories on its EPA Air Toxics website. *See* Source Category List and Promulgation Schedule, https://www3.epa.gov/airtoxics/socatlst/socatpg.html. *See also* EPA, Delisted Source Categories, https://www3.epa.gov/ttn/atw/delisted.html.

[4] 42 U.S.C. § 7412(c)(9).

[5] 42 U.S.C. § 7412(c)(9)(B)(i).

[6] 42 U.S.C. § 7412(c)(9)(B)(ii).

[7] 42 U.S.C. § 7412(c)(9).

sion standard applies . . . .”[1] These technology-based standards are known as the MACT standards: “maximum achievable control technology” standards.

The MACT analysis (as with other technology-based standards under the Act) requires a review of the emission control achievements of other sources. MACT standards must meet minimum stringency requirements, known as the “MACT floors,” that “apply without regard to either costs or the other factors and methods listed in section 7412(d)(2).”[2]

The MACT floor is different for new and for existing HAP sources. The minimum HAP emission limit for *new* sources is the best-controlled source that EPA determines is similar.[3] The MACT floor for existing sources depends on the number of sources in the category. In categories with more than 30 sources, the minimum HAP emission limit is the average emission reduction achieved by the best performing 12% of the existing sources, excluding certain sources.[4] For sources in categories with fewer than 30 sources, EPA must base the standard on the average emission reduction achieved by the five best-performing sources in the category.[5] EPA has established MACT standards for all listed major source categories.[6]

Once EPA establishes the MACT floor, EPA evaluates whether stricter standards are “achievable.”[7] EPA may set emission limits that are more stringent (i.e., go “beyond the floor”) than the MACT floor, considering cost, energy requirements, and certain non-air-quality health and environmental impacts.[8]

For area sources, EPA may choose to base standards on “generally available control technology” (GACT) instead of MACT.[9] EPA may set GACT standards that are less stringent than MACT standards, considering costs and technical feasibility.[10] EPA is not required to conduct a minimum control or “floor” analysis for GACT standards.

§ 12:57 Technology-based emission standards: review and revision

EPA must review and revise the MACT standards “as necessary (taking into account developments in practices, processes, and control technologies), no less

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[Section 12:56]

[1]42 U.S.C. § 7412(d)(2). In setting standards for publicly owned treatment works (POTWs), EPA may require “process or product substitutions or limitations.” 42 U.S.C. § 7412(n)(3); 57 Fed. Reg. 31576, 31585 (July 16, 1992). EPA has similar authority to regulate consumer products under the ozone nonattainment provisions of Title I. *See* 42 U.S.C. § 7483(e). The same is true under the stratospheric ozone protection provisions of Title VI.

[2]National Lime Ass’n v. E.P.A., 233 F.3d 625, 629, 51 Env’t. Rep. Cas. (BNA) 1737, 31 Envtl. L. Rep. 20375, 31 Envtl. L. Rep. 20494 (D.C. Cir. 2000), as amended on denial of reh’g, (Feb. 14, 2001).

[3]42 U.S.C. § 7412(d)(3).

[4]42 U.S.C. § 7412(d)(3)(A). Excluded from the best performing 12% of existing sources are those sources that complied with the lowest achievable emission rate as defined in CAA § 102(a)(2) within 18 months before an applicable MACT standard is proposed, or within 30 months before the MACT standard is promulgated. CAA § 102(a)(2).

[5]42 U.S.C. § 7412(d)(3)(B).

[6]*See* 40 C.F.R. Part 63, Subpts. A-XX.

[7]42 U.S.C. § 7412(d)(2).

[8]42 U.S.C. § 7412(d)(2). *See also* National Lime Ass’n v. E.P.A., 233 F.3d 625, 629, 51 Env’t. Rep. Cas. (BNA) 1737, 31 Envtl. L. Rep. 20375, 31 Envtl. L. Rep. 20494 (D.C. Cir. 2000), as amended on denial of reh’g, (Feb. 14, 2001).

[9]42 U.S.C. § 7412(d)(5).

[10]42 U.S.C. § 7412(d)(5).

frequently than every 8 years."[1]

In general, EPA completes its MACT review and revision in conjunction with its residual risk review for the source categories. Section 112(f)(2) requires EPA to conduct risk assessments within eight years after setting MACT standards for the source category. The purpose of these regular risk assessments is to determine if additional standards are needed "to provide an ample margin of safety to protect public health," taking into account developments in practices, processes, and control technologies.[2] EPA refers to this joint review as the risk and technology review (RTR). § 12:58 reviews the history of the residual risk program and EPA's approach to the RTRs.

§ 12:58 Section 112(f) residual risk program*

While Congress's 1990 amendments to § 112 relied primarily on technology-based standards for HAPs, the legislators nevertheless recognized one of the key limitations of such a system. Regulated sources in an industry might still pose a very real risk to the public health, even after implementing the best controls to reduce their emissions. Therefore, as a backstop to the MACT standards, Congress mandated a second round of regulations that would analyze the remaining or residual risk and potentially set limits more stringent than those based on technology alone.[1] This health-based safety net, codified in § 112(f), has come to be called the residual risk program.

Congress based the residual risk program on EPA's pre-1990 methods for regulating HAPs. Concerned, though, about the delays under that old system,[2] Congress also directed the Agency to study how best to address the public health risks remaining after the new MACT standards and to write a report with "recommendations as to legislation."[3] The report was due in 1996, but EPA did not submit it until 1999.[4] EPA did not recommend any changes to the residual risk program, instead finding that "the legislative strategy embodied in the 1990 amendments provides the Agency with adequate authority" and "a complete strategy for dealing with a variety of risk problems."[5] EPA proceeded to implement § 112(f) as written in 1990.

Section 112(f)(2)(A) specifies two different types of standards. Most critically, EPA must set standards that "provide an ample margin of safety to protect public health."

[Section 12:57]

[1]42 U.S.C. § 7412(d)(6).

[2]42 U.S.C. § 7412(f)(2)(A).

[Section 12:58]

*By **Patricia Ross McCubbin.**

[1]42 U.S.C. § 7412(f)(2). *See also* Sierra Club v. E.P.A., 353 F.3d 976, 980, 57 Env't. Rep. Cas. (BNA) 1878, 34 Envtl. L. Rep. 20014 (D.C. Cir. 2004) (describing legislative history of § 112). This *Sierra Club* decision is often cited in residual risk cases for background on § 112, but it is not actually a residual risk case. It involves only a challenge to a MACT standard. At most, there is a brief discussion at the end of the opinion about the connection between the Endangered Species Act and the residual risk program, all of which is arguably dicta. Sierra Club v. E.P.A., 353 F.3d 976, 980, 992, 57 Env't. Rep. Cas. (BNA) 1878, 34 Envtl. L. Rep. 20014 (D.C. Cir. 2004).

[2]*See* § 12:51.

[3]42 U.S.C. § 7412(f)(1).

[4]Office of Air Quality Planning and Standards, U.S. EPA, Residual Risk Report to Congress (1999).

[5]Office of Air Quality Planning and Standards, U.S. EPA, Residual Risk Report to Congress (1999) at 102–103.

Notably, this provision borrows the language from the pre-1990 version of § 112.[6] Those health-based standards apply only to major sources; the smaller "area" sources are specifically exempted from the residual risk program.[7]

As an alternative, EPA is authorized to set a standard that is even more stringent than the health-based one if it "is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect."[8] The Agency has not yet implemented the environmental-based alternative, so the remainder of this section focuses simply on the health-based standards.

For "known, probable or possible" carcinogens, § 112(f)(2)(A) directs EPA to act if a risk assessment of a given source category reveals that, even after the MACT standard, the "lifetime excess cancer risks to the individual most exposed" is not "less than one in one million."[9] The U.S. Court of Appeals for the D.C. Circuit, in its 2008 *Natural Resources Defense Council (NRDC) v. EPA* decision, held that the one in one million risk level is a *trigger* for EPA to go beyond the technology-based limits, but it does not specify how stringent the resulting standards have to be.[10] In other words, the Agency is not required to lower the cancer risks below the one in one million threshold for all exposed individuals, but simply must set a limit that provides an ample margin of safety.

The *NRDC* court based its conclusion on three key factors. First, the statutory language does not explicitly direct EPA to *eliminate* a cancer risk greater than one in one million risk. The provision simply states that, if that level of risk is found, then the Agency "shall promulgate standards under this subsection." The subsection also only directs EPA to establish standards that provide "an ample margin of safety."[11]

Second, Congress could have easily specified a particular risk level to be eliminated, but it did not. Indeed, in the legislative history, Congress rejected the Senate version of the bill which mandated a bright line standard for carcinogens.[12] The court concluded that § 112(f)(2)(A) is "a deliberately ambiguous compromise."[13]

Third, Congress clearly intended to build the residual risk program directly on EPA's pre-1990 interpretation of the phrase "ample margin of safety." Section 112(f)(2)(A) does not simply mimic the language from the pre-1990 statute; rather, it explicitly refers to providing "an ample margin of safety to protect public health *in accordance with this section (as in effect before November 15, 1990)*."[14] Additionally, in § 112(f)(2)(B), Congress specifically affirmed EPA's pre-1990 methodology as "set forth in the Federal Register of September 14, 1989 (54 Federal Register 38044)."[15] In that Federal Register notice, EPA promulgated what is known as the "Benzene NESHAP," an important rule written shortly before the 1990 CAA

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[6]42 U.S.C. § 7412(f)(2)(A).

[7]42 U.S.C. § 7412(f)(5).

[8]42 U.S.C. § 7412(f)(2)(A).

[9]42 U.S.C. § 7412(f)(2)(A).

[10]Natural Resources Defense Council v. E.P.A., 529 F.3d 1077, 1081–82, 66 Env't. Rep. Cas. (BNA) 1897 (D.C. Cir. 2008).

[11]Natural Resources Defense Council v. E.P.A., 529 F.3d 1077, at 1081–82, 66 Env't. Rep. Cas. (BNA) 1897 (D.C. Cir. 2008).

[12]Natural Resources Defense Council v. E.P.A., 529 F.3d 1077, at 1081 & n.4, 66 Env't. Rep. Cas. (BNA) 1897 (D.C. Cir. 2008).

[13]Natural Resources Defense Council v. E.P.A., 529 F.3d 1077, at 1081, 66 Env't. Rep. Cas. (BNA) 1897 (D.C. Cir. 2008).

[14]42 U.S.C. § 7412(f)(2)(A) (emphasis added).

[15]42 U.S.C. § 7412(f)(2)(B). The petitioners claimed the provision was merely a savings clause for pre-1990 rulemakings, but the *NRDC* court disagreed. 529 F.3d at 1082.

amendments. The Agency articulated, in the Benzene NESHAP, how it would apply the "ample margin of safety" standard.[16]

As the *NRDC* court noted, EPA explained in the Benzene NESHAP that to be "acceptable," the risk from HAP emissions had to be no greater than *100* in one million for even the most exposed individual.[17] By contrast, the risk level of *one* in one million (two orders of magnitude less risky) would be EPA's goal for the "vast majority" of the exposed population, but it would not be out of the question to have at least some portion of the population exposed to a one in one million risk.[18] On the basis of Congress incorporating the Benzene NESHAP into the residual risk program, the court held that the Agency was not required to eliminate the one in one million risk for *all* individuals.

The court also ruled, in a one-paragraph analysis, that EPA could consider costs when setting the ample margin of safety to protect public health.[19] The court recognized that § 112(f)(2) does not expressly mention the word "costs," but also acknowledged that EPA, indeed, did consider costs in establishing the Benzene NESHAP. The court reasoned that, because Congress had affirmed the Benzene NESHAP, cost considerations were appropriate.[20]

The court's conclusion on costs arguably should have been more subtle. The Benzene NESHAP set up a two-step process for implementing the ample margin of safety standards, and EPA ostensibly considered costs (and the related topic of technical feasibility) only at the second step, and not at the first.[21] This two-step approach was compelled by a 1987 case known as the *Vinyl Chloride* decision.[22] The *Vinyl Chloride* court held that the Agency must first determine the "acceptable" level of emissions based solely on the risk posed to the public without any consideration of the cost and feasibility of reducing emissions. Only *after* this initial, health-based determination of "acceptable" emission levels could EPA—when determining how much more stringently to regulate in order to provide the additional "ample margin of safety" required by the statute—consider the availability and cost-effectiveness of pollution control technologies.[23] The Benzene NESHAP, written in 1989, was the first § 112 rule issued after *Vinyl Chloride* and, consistent with that opinion, EPA claimed to be considering costs only at the second step of determining the "acceptable" risk.

Thus, when the *NRDC* court, in 2008, approved the use of costs in the residual risk program,[24] perhaps it should have only done so for a second step in EPA's standard-setting. In reality, though, even in the Benzene NESHAP there was interplay between EPA's two analytical steps, and costs and technical feasibility

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[16]54 Fed. Reg. 38044 (Sept. 14, 1989).

[17]54 Fed. Reg. 38044–45 (Sept. 14, 1989).

[18]54 Fed. Reg. 38051–52 (Sept. 14, 1989).

[19]Natural Resources Defense Council v. E.P.A., 529 F.3d 1077, at 1083, 66 Env't. Rep. Cas. (BNA) 1897 (D.C. Cir. 2008).

[20]Natural Resources Defense Council v. E.P.A., 529 F.3d 1077, 66 Env't. Rep. Cas. (BNA) 1897 (D.C. Cir. 2008) (quoting 54 Fed. Reg. at 38045: EPA considered "health information . . . costs and economic impacts, technological feasibility, and other factors.").

[21]54 Fed. Reg. at 38045–46 (discussing the health-related factors to be considered in judging acceptable risk).

[22]Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987) (en banc).

[23]Natural Resources Defense Council, Inc. v. U.S.E.P.A., 824 F.2d 1146, 1165, 26 Env't. Rep. Cas. (BNA) 1263, 17 Envtl. L. Rep. 21032 (D.C. Cir. 1987).

[24]529 F.3d at 1083.

were very likely informing the Agency's analysis throughout the rulemaking.[25] As a result, the *NRDC* decision may simply reflect a realistic understanding of cost considerations in the HAPs rulemaking process.

EPA wrote its first residual risk standard in 2005—for coke oven batteries.[26] This category, until then, was subject only to the original MACT limits written in 1993.[27] The Agency, in 2005, tightened those standards through a combined "RTR" process—which, as discussed earlier, refers to a "risk and technology review," meaning EPA both conducted a risk-based assessment and reviewed the latest technology, ultimately revising the MACT standards accordingly, as required by § 112(d)(6).[28]

EPA subsequently conducted RTRs for various categories. The Agency at times concluded that the risks from the existing MACT standards were unacceptable and further restrictions were required. For example, in 2012, EPA adopted more stringent limits for chromium electroplating facilities.[29] The Agency found that the amended standards would provide the "ample margin of safety" required by § 112(f)(2).[30] The D.C. Circuit upheld the rule against various environmental and industry challenges (mostly as to the technology-based inquiry of the RTR), noting, among other things, that the Agency deserves "wide latitude" when making an "expertise-informed choice of data-gathering methodology."[31]

Likewise, EPA conducted an RTR for secondary lead smelters and imposed more stringent standards than the original MACT rule.[32] Industry challengers claimed that the Agency should have allowed existing sources three years to comply with the revised standards under § 112(i)(3). The court nevertheless agreed with EPA that the two-year extension expressly included in the residual risk provisions of § 112(f)(4) was controlling.[33]

EPA's RTRs for other industrial categories led to the conclusion that the existing MACT standards *did* provide an ample margin of safety to protect public health. In the *NRDC* case discussed above, for example, EPA decided not to change the existing MACT limits for facilities producing or using synthetic organic chemicals. The Agency based its reasoning on the fact that the risk to the most exposed individual would be no greater than 100 in one million, which was consistent with its pre-1990 Benzene NESHAP approach.[34]

Similarly, in its RTR for pulp mills, EPA concluded that the existing MACT standard provided an ample margin of safety, but it also identified more effective means to control emissions from the category.[35] The Agency consequently adopted revised limits to reflect the technology developments. The D.C. Circuit remanded the rule to the Agency, but only because of issues as to the technology review, stating that the environmental petitioners "do not here challenge EPA's section 112(f)(2) risk

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[25]*See* McCubbin, *Amending the CAA to Establish Democratic Legitimacy for the Residual Risk Program*, 22 VA. ENVTL. L.J. 1, 17-26 (2003).

[26]70 Fed. Reg. 19992 (Apr. 15, 2005).

[27]58 Fed. Reg. 57898 (Oct. 27, 1993).

[28]70 Fed. Reg. at 19992; 42 U.S.C. § 7412(d)(6).

[29]77 Fed. Reg. 58220 (Sept. 19, 2012).

[30]77 Fed. Reg. 58226, 58229 (Sept. 19, 2012).

[31]National Association for Surface Finishing v. E.P.A., 795 F.3d 1, 17, 80 Env't. Rep. Cas. (BNA) 1937 (D.C. Cir. 2015).

[32]77 Fed. Reg. 556 (Jan. 5, 2012).

[33]Association of Battery Recyclers, Inc. v. E.P.A., 716 F.3d 667, 671, 76 Env't. Rep. Cas. (BNA) 1609 (D.C. Cir. 2013).

[34]71 Fed. Reg. 76603 (Dec. 21, 2006).

[35]82 Fed. Reg. 47328 (Oct. 11, 2017).

assessment."[36]

EPA has been quite slow in implementing the residual risk program. Section 112(f)(2)(C) requires the Agency to issue a risk-based standard eight years after the promulgation of a MACT rule for a category. Yet EPA's very first residual risk rule (on coke oven batteries) was promulgated after 12 years, and the Agency has missed the eight-year deadline repeatedly for many other industries. A result is multiple lawsuits for unlawful delays, with the courts entering a series of consent decrees establishing fairly tight schedules for dozens of RTRs.[37]

Until recently, an open question existed as to whether EPA's duty to review the risk posed by a MACT standard was a one-time obligation, to be fulfilled only once within eight years of the *original* MACT rule for a category, or whether instead it is a recurring obligation that must be fulfilled after any revisions to the MACT limits. The issue arose in the context of coke oven batteries, one of the few categories in which EPA has written *both* an original and an updated MACT standard, in addition to one residual risk standard.[38]

Environmental petitioners claimed that the Agency was obligated to conduct a second risk review within eight years of the updated MACT rule. In *Citizens for Pennsylvania's Future v. Wheeler*, a federal district court declared that the residual risk review is a one-time obligation, only triggered by the initial issuance of a MACT standard.[39] The statute directs EPA to address the risks "8 years after *promulgation*" of the MACT rule for a category.[40] The court concluded that the term "promulgation" does not include revisions to the MACT standards because, *inter alia*, often Congress refers to "promulgation *or* revision" of requirements in the CAA.[41] Thus, the court did not order EPA to update its original (and only) residual risk review for coke oven batteries.[42]

§ 12:59 Compliance with NESHAPs

Under § 112, no person may construct any new major source or reconstruct any existing major source subject to an emission standard, unless EPA determines that the source will comply with the applicable MACT standard.[1] Major new sources and reconstructions commenced after proposal of standards must comply with the standards. However, an exception exists if the final standards are more stringent than the proposal; in that case, major sources may defer compliance with the final standards for up to three years, provided that they comply with the proposed stan-

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[36]Louisiana Environmental Action Network v. Environmental Protection Agency, 955 F.3d 1088, 1093 (D.C. Cir. 2020).

[37]*See*, *e.g.*, California Communities Against Toxics v. Pruitt, 241 F. Supp. 3d 199, 207, 84 Env't. Rep. Cas. (BNA) 1126 (D.D.C. 2017) (requiring 20 RTRs over three years); Community In-Power and Development Association, Inc. v. Pruitt, 304 F. Supp. 3d 212 (D.D.C. 2018) (ordering nine RTRs over 3.5 years); Blue Ridge Environmental Defense League v. Pruitt, 261 F. Supp. 3d 53, 57 (D.D.C. 2017) (similar); Club v. McCarthy, 82 Env't. Rep. Cas. (BNA) 1531, 2016 WL 1055120, at *3 (N.D. Cal. 2016) (imposing deadline for pulp mill RTR).

[38]58 Fed. Reg. 57898 (Oct. 27, 1993) (original MACT standard for coke oven batteries); 70 Fed. Reg. 19992 (April 15, 2005) (updated MACT standard and initial residual risk standard).

[39]Citizens for Pennsylvania's Future v. Wheeler, 469 F. Supp. 3d 920 (N.D. Cal. 2020).

[40]42 U.S.C. § 7412(f)(2) (emphasis added).

[41]2020 WL 3481425 at *6–7 (emphasis added by court in quote from statute).

[42]The court did order EPA to conduct a *technology* review of coke oven batteries because that obligation under § 112(d)(6) is recurring. The court also ordered the Agency to conduct an initial risk review and a technology review for the "pushing, quenching, and battery stacks" category. EPA conceded that it failed to meet the deadlines for those tasks. 2020 WL 3481425 at *10.

[Section 12:59]

[1]42 U.S.C. § 7412(i)(1).

dards in the interim.[2]

Existing major sources must comply by a deadline specified by EPA in the standards themselves. This deadline cannot be later than three years after the effective date of the NESHAP, upon granting of an extension by EPA or the state Title V permitting program.[3] Existing sources may be granted one-year extensions from complying with the MACT standards, or two-year extensions from residual risk standards, if necessary, in order to install controls.[4]

In addition to existing, new, and reconstructed sources, § 112(g)(2)(A) applied NESHAPs to most modified sources. A *modification* is any change in a major source that results in an increase in HAP emissions in greater than a *de minimis* amount, unless the increase in emissions is offset by equal or greater decreases in emissions of the same or a more hazardous pollutant.[5]

Notably, EPA never finalized regulations, proposed in 1994, to implement the modification provision.[6] The proposal set forth *de minimis* levels for HAPs that would trigger § 112 requirements; these levels are similar to "significance levels" for criteria and other NSR-regulated pollutants in the PSD and NNSR programs.[7] If a major HAP source exceeded the proposed threshold levels, EPA would require a source-specific review of control technology for the modified source. In 1996, EPA decided that it would not "implement [§ 112(g)(2)(A)] which requires existing source MACT determinations for modifications of existing sources," explaining that the "greatest benefits to be derived from section 112(g) would be from the control of major source construction and reconstruction in the period before MACT standards go into effect."[8]

The President may grant national security exemptions of up to six years total, presumably from either the MACT or residual risk standards.[9]

§ 12:60 Implementation of NEHAPS: delegation to states

Under § 112(l), states or tribal authority may implement and enforce the full or partial NESHAP program upon EPA approval.[1] A delegated state or tribal authority would have the authority to implement and enforce NESHAPs.[2] EPA cannot delegate to the state the "authority to set standards less stringent than those promulgated by the Administrator . . . ."[3] Further, EPA does not delegate certain authorities to states, including approval of alternative emission standards and ma-

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[2]42 U.S.C. § 7412(i)(2).

[3]42 U.S.C. § 7412(i)(3).

[4]42 U.S.C. § 7412(f)(4)(B), (i)(3)(B). An extension of the residual risk standard also requires a showing that no imminent endangerment will result. 42 U.S.C. § 7412(f)(4)(B). An additional three-year extension may be granted to mining waste operations upon a showing of need for extra time to dry and cover the waste. 42 U.S.C. § 7412(i)(3)(B).

[5]42 U.S.C. § 7412(g)(1). 59 Fed. Reg. 15504, 15549 to 15563 (Apr. 1, 1994).

[6]59 Fed. Reg. 15504 (Apr. 1, 1994).

[7]*See* Part XI.

[8]61 Fed. Reg. 68384, 68386 (Dec. 27, 1996).

[9]42 U.S.C. § 7412(i)(4).

[Section 12:60]

[1]A tribal authority may submit a program for approval to obtain delegation of the federal NEHSAP program, provided that the tribal authority has received approval under the tribal authority rules, 40 C.F.R. Part 49, for administering federal rules under CAA § 112. 40 C.F.R. § 63.90. *See also* 42 U.S.C. § 7601(d) (authorizing eligible tribes to implement their own tribal air programs).

[2]40 C.F.R. § 63.91.

[3]42 U.S.C. § 7412(l)(1). *See* 40 C.F.R. §§ 63.90 to 63.99 (regulating procedures for states seeking EPA approval to delegate the NESHAP program).

jor alternatives to monitoring, testing, record-keeping, and reporting requirements.

§ 12:61 Implementation of NESHAPS: section 112 general provisions

The NESHAP general provisions, laid out in 40 C.F.R. Part 63, Subpart A, apply to each regulated HAP source category. These provisions include applicability criteria, common definitions applicable to all categories, performance testing and monitoring provisions, general record-keeping and reporting requirements, and standards for control devices and work practice requirements.[1]

To ensure national consistency in implementing the NSPS and NESHAP programs, EPA compiles a web-based Applicability Determination Index (ADI). The ADI is a data system that includes over 3,000 EPA letters and memoranda pertaining to the applicability, monitoring, recordkeeping, and reporting requirements of the NSPS, NESHAP, emission guidelines and Federal Plans for existing sources, and stratospheric ozone regulations.[2] Furthermore, the ADI contains regulatory interpretations that EPA has written in response to inquiries about the broad range of regulatory requirements in 40 C.F.R. parts 60 through 63 as they pertain to a whole source category, including the type of sources to which the regulation applies. On occasion, EPA publishes a notice in the *Federal Register* of new applicability determinations related to NESHAP and other CAA programs.[3]

§ 12:62 Regulation of special source categories: electric utility steam generating units

In the 1990 amendments, Congress laid out specific requirements for selected industry sectors.[1] For electric utility steam generating units, also known as power plants, Congress established a process for EPA to regulate HAP emissions from fossil fuel-fired power plants. CAA § 112(n) required EPA to study the "hazards to public health reasonably anticipated to occur" from HAPs emitted by power plants (after the industry has complied with acid rain controls), and to regulate those emissions if the agency "finds such regulation is appropriate and necessary after considering the results of the study . . . ."[2] If EPA finds that such controls are "appropriate and necessary," the agency must regulate HAPs from power plants.[3]

EPA's efforts to regulate HAPs emitted by power plants has resulted in numerous rulemakings and legal challenges. In 1998, EPA completed the study required under § 112(n)(1).[4] In 2000, EPA determined that it "appropriate and necessary" to regulate HAPs from coal- and oil-fired power plants, and subsequently listed them as a source of HAPs.[5] However, in 2005, EPA reversed the 2000 finding, concluding the Agency had erred in the 2000 rule by relying solely on environmental factors

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[Section 12:61]

[1]40 C.F.R. §§ 63.1 et seq.

[2]*See* EPA, Compliance Monitoring, Applicability Determination Index, https://cfpub.epa.gov/adi/.

[3]*See, e.g.*, 85 Fed. Reg. 1071 (Feb. 25, 2020) (providing a summary of 78 documents added to the ADI on Feb. 7, 2020).

[Section 12:62]

[1]42 U.S.C. § 7412(n)(1). EPA also may conduct studies and promulgate special requirements for publicly owned treatment works, oil and gas extraction wells (to control hydrogen sulfide), and facilities using hydrofluoric acid. 42 U.S.C. § 7412(n)(3), (5), (6).

[2]42 U.S.C. § 7412(n)(1).

[3]42 U.S.C. § 7412(n)(1).

[4]EPA, STUDY OF HAZARDOUS AIR POLLUTANT EMISSIONS FROM ELECTRIC UTILITY STEAM GENERATING UNITS—FINAL REPORT TO CONGRESS (Feb. 1998), http://www3.epa.gov/ttn/atw/combust/utiltox/utoxpg.html.

[5]65 Fed. Reg. 79825 (Dec. 20, 2000).

without considering the potential mercury emissions reductions achievable under the acid rain program and NSPS requirements.[6] EPA determined that, in light of these potential reductions, regulating power plant emissions under § 112 was neither appropriate nor necessary, and it delisted power plants as a source of HAP emissions.

In 2008, in *New Jersey v. EPA*, the D.C. Circuit vacated the 2005 delisting of power plants as a HAP source because EPA failed to make the health and environmental findings set forth in § 112(c)(9) prior to delisting the source category.[7] Further, the court vacated the Clean Air Mercury Rule (CAMR) that EPA issued in 2005 pursuant to CAA § 111(b) for new power plants and § 111(d) for existing power plants.[8] CAMR set mercury performance standards for new power plants and created a voluntary mercury cap-and-trade program for new and existing power plants. The court explained, and EPA conceded, that if existing power plants are listed under § 112(c), EPA lacked authority to regulate them under § 111(d). The court also vacated and remanded CAMR as applied to new power plants, in part because EPA issued the § 111(b) new source performance standards based on the erroneous "vital assumption[]" that EPA would not regulate new power plants under § 112.[9]

In 2012, EPA promulgated the Mercury and Air Toxics (MATS) Rule under § 112.[10] The MATS Rule reaffirmed the 2000 Appropriate and Necessary (A&N) Finding and determined that setting HAP emissions standards for most existing coal- and oil-fired power plants under § 112 was "appropriate and necessary" based on additional analysis and information. As part of the Rule, EPA concluded that it was not "appropriate to consider costs" when making an A&N finding.

The D.C. Circuit upheld the MATS Rule in 2014,[11] but the Supreme Court reversed the decision in *Michigan v. EPA*.[12] The Court held that EPA must consider cost when determining whether it is "appropriate and necessary" to regulate HAP emissions from power plants. The Court, and the D.C. Circuit on remand, did not vacate the MATS Rule.

In response to the Supreme Court's ruling, EPA finalized a supplemental finding in 2016, which concluded that the 2000 Finding that regulating power plant emissions is "appropriate and necessary" was still valid after taking into account the MATS Rule's estimated costs.[13] However, in May 2020, EPA reversed its 2016 supplemental finding, concluding that HAP emission limits for power plants are not "appropriate and necessary" under § 112.[14] EPA found that its prior analysis was flawed because it gave equal weight to the benefits (HAP emission reductions) and co-benefits (non-HAP reductions) of the regulation. Excluding co-benefits from the cost-benefit comparison led EPA to conclude that regulation of HAP emissions from power plants is not "appropriate and necessary," on the basis of monetized costs

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[6]70 Fed. Reg. 15994 (Mar. 29, 2005).

[7]New Jersey v. E.P.A., 517 F.3d 574, 65 Env't. Rep. Cas. (BNA) 1993 (D.C. Cir. 2008).

[8]70 Fed. Reg. 28606 (May 18, 2005).

[9]New Jersey v. E.P.A., 517 F.3d 574, 583, 65 Env't. Rep. Cas. (BNA) 1993 (D.C. Cir. 2008).

[10]77 Fed. Reg. 9304 (Feb. 16, 2012).

[11]White Stallion Energy Center, LLC v. E.P.A., 748 F.3d 1222, 78 Env't. Rep. Cas. (BNA) 1757 (D.C. Cir. 2014), judgment rev'd, 576 U.S. 743, 135 S. Ct. 2699, 192 L. Ed. 2d 674, 80 Env't. Rep. Cas. (BNA) 1577 (2015).

[12]Michigan v. E.P.A., 576 U.S. 743, 135 S. Ct. 2699, 192 L. Ed. 2d 674, 80 Env't. Rep. Cas. (BNA) 1577 (2015).

[13]81 Fed. Reg. 24420 (Apr. 25, 2016). Industry groups challenged the 2016 Supplemental Finding, but in 2017, the D.C. Circuit paused the litigation while EPA reconsidered it. Murray Energy Corp. v. EPA, No. 16-1127 (D.C. Cir. 2016).

[14]85 Fed. Reg. 31286 (May 22, 2020).

exceeding the monetized benefits of HAP-specific emissions reduction.

The 2020 rulemaking does not, however, remove coal- and oil-fired power plants from the § 112 source category list. Consistent with *New Jersey v. EPA*, EPA recognized that it could not delist power plants by reversing an appropriate and necessary finding. The Agency would also need to satisfy the health risk delisting criteria set forth in CAA § 112(c)(9). Finding that the estimated cancer risk from exposure to power plant HAPs would fail to meet the health risk criteria, EPA noted that it is "extremely unlikely that any EPA Administrator could (much less would) lawfully exercise his or her discretion [under CAA § 112(c)(9)] to 'de-list' the coal- and oil-fired power plant source category."[15] As long as oil- and coal-fired power plants remain listed as a source category, EPA concluded that it is required to promulgate emission standards regulating such sources. Therefore, the MATS Rule emissions limits remain in effect. Various stakeholders are challenging the 2020 determination in the D.C. Circuit.[16]

§ 12:63 Conclusion

HAPs are a large, special category of pollutants that are often acutely toxic and arise from discrete sources across the country, rather than the more pervasive NAAQS pollutants. Congress's approach to reducing HAPs shifted dramatically since 1970. Prior to the 1990 CAA Amendments, EPA struggled to address individual HAPs with the required health-based standards. The 1990 CAA Amendments rebuilt and expanded the regulatory scheme for HAPs by requiring EPA to set emission standards for industrial sectors that emitted HAPs listed under CAA § 112.

Under the current § 112 framework, EPA has implemented hundreds of HAP emission standards for a wide range of industries, making significant progress in regulating these toxic pollutants. EPA has also used the health-based backstop of the residual risk program to strengthen standards when appropriate. EPA's implementation of § 112 has generated considerable litigation and will continue to do so in the future.

VII. PREVENTION OF ACCIDENTAL RELEASES (SECTION 112(R))*

§ 12:64 Prevention of accidental releases

Section 112 also creates a comprehensive regulatory program—known as EPA's Risk Management Program (RMP)—to prevent the accidental release of specific substances and to minimize the adverse consequences should such releases nevertheless occur.[1] An "accidental release" is an "unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source," such as the emission of gases or particulate resulting from an explosion or fire.[2]

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[15]85 Fed. Reg. 31286, 31312 n.57 (May 22, 2020).

[16]Westmoreland Mining Holdings, LLC v. EPA, Nos. 20-1160 and consolidated cases (D.C. Cir. 2020).

*By **Steven L. Addlestone.** Updates prior to Fall 2021 by **Phillip D. Reed**, updated by **Alan J. Gilbert.**

[Section 12:64]

[1]Clean Air Act § 112(r), as added by § 301 of the 1990 Clean Air Act Amendments. EPA's comprehensive regulations implementing the Accidental Release Prevention Program were promulgated on June 20, 1996. 61 Fed. Reg. 31667 (June 20, 1996). The program is codified at 40 C.F.R. Part 68.

[2]Clean Air Act § 112(r)(2)(A). An example of such a release is the Arkema Inc. chemical plant fire in 2017 in Crosby, Texas that resulted when flooding from Hurricane Harvey disabled the refrigeration

The program required EPA to produce an initial list of at least 100 substances that pose the greatest risk to human health or the environment from accidental releases.[3] The CAA Amendments of 1990 list 16 substances which had to be included in EPA's list.[4] Congress required EPA to establish a threshold quantity for each substance and, by November 15, 1993, promulgate regulations for the prevention and detection of, and for responding to, accidental releases of any of these substances.[5]

EPA's RMP rules identify these regulated substances.[6] Storage of these substances in excess of a threshold quantity in a process gives rise to coverage under the regulatory program.[7] The program applies to owners and operators of "stationary sources"—including, generally, all buildings and stationary activities "from which an accidental release may occur"[8]—which produce, process, handle, or store a regulated substance.[9] Although few have, states can apply for authorization to administer the program if that program is at least as stringent as the federal program.[10]

Section 112(r) obligates owners and operators of regulated stationary sources to develop and register with EPA a Risk Management Plan for detecting, preventing, or minimizing accidental releases.[11] The rules establish three program levels,[12] substantially based on the *process* involved. A "process" is any activity involving a regulated substance and includes the use, storage, manufacturing, handling, or onsite movement of such substances, or combination of these activities.[13] Any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, are considered a single

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system at the plant. For more information, *see* the Chemical Safety Board Incident Report, Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding, Crosby, Texas (May 2018), available at https://www.csb.gov/assets/1/20/final_arkema_draft_report_2018-05-23.pdf?16272.

[3]Clean Air Act § 112(r)(3), as added by § 301 of 1990 Clean Air Act Amendments. EPA's list of regulated substances under the accidental release program was promulgated on January 31, 1994. 59 Fed. Reg. 4478 (Jan. 31, 1994).

[4]Clean Air Act § 112(r)(3) ("The initial list shall include chlorine, anhydrous ammonia, methyl chloride, ethylene oxide, vinyl chloride, methyl isocyanate, hydrogen cyanide, ammonia, hydrogen sulfide, toluene diisocyanate, phosgene, bromine, anhydrous hydrogen chloride, hydrogen fluoride, anhydrous sulfur dioxide, and sulfur trioxide.").

[5]Clean Air Act § 112(r)(5), (7)(A), (B), as added by § 301 of the 1990 Clean Air Act Amendments. EPA determines the threshold quantity "taking into account the toxicity, reactivity, volatility, dispersibility, combustibility, or flammability of the substance and the amount of the substance which, as a result of an accidental release, is known to cause or may reasonably be anticipated to cause death, injury or serious adverse effects to human health" for each substance.

[6]40 C.F.R. § 68.130.

[7]9 Fed. Reg. 4478, 4493 (January 31, 1994); redesignated at 61 Fed. Reg. 31717 (1997), as amended at 62 Fed. Reg. 45132 (1997), 63 Fed. Reg. 645 (1998); 65 Fed. Reg. 13250 (2000); 82 Fed. Reg. 4702 (2017), codified at 40 C.F.R. §§ 68.115 and 68.130.

[8]Clean Air Act § 112(r)(2)(C), as added by § 301 of the 1990 Clean Air Act Amendments.

[9]Clean Air Act § 112(r)(1), as added by § 301 of the 1990 Clean Air Act Amendments.

[10]Tribes with implementing legislation at least as strict as the federal program may apply for authorization to administer the Chemical Accident Prevention Program. *See* Clean Air Act Tribal Air Rule (40 C.F.R. Part 49) and U.S. EPA Chemical Emergency Preparedness and Prevention on Tribal Lands (Aug. 2020), available at https://www.epa.gov/sites/production/files/2018-04/documents/tribal_fact_sheet_06-16-16_logo.pdf.

[11]Clean Air Act § 112(r)(7)(B)(ii), as added by § 301 of the 1990 Clean Air Act Amendments.

[12]40 C.F.R. §§ 68.10 and 68.12.

[13]40 C.F.R. § 68.3.

process.[14]

- *Program Level 1* imposes the least stringent requirements and applies to processes that would not affect the public in the event of a worst-case release; when there has not been a release of an RMP-regulated substance that caused a fatality, injury, or response or restoration activities for an exposure of any environmental receptor within the past five years; and where response actions have been coordinated with local emergency planning and response agencies.[15]
- *Program Level 2* is for a process not eligible for Program Levels 1 or 3 and imposes more streamlined requirements than the most highly regulated processes.[16]
- *Program Level 3* is the most stringent level. It applies to processes subject to the Occupational Safety and Health Administration's (OSHA) Process Safety Management Standard, as well as certain specified North American Industry Classification System (NAICS) codes.[17]

Program Levels 2 and 3 must address each of the three RMP Plan components: hazard assessment, a prevention program, and an emergency response program.[18] The prevention program requirements are similar to the requirements of OSHA's Process Safety Management Standard.[19]

Part of the hazard assessment in the RMP plan includes a potential off-site consequence analysis based on the worst-case scenario analyses for the scenarios estimated to create the greatest distance to defined endpoints for both flammable and toxic substances.[20] Additional scenarios may be required for a worst-case release from another covered process at the facility if it potentially affects different public receptors.[21] The source also must evaluate the potential reach and effect of alternative accidental releases that are more likely to occur than the worst-case scenarios.[22] These analyses must be included in a Risk Management Plan that the facility submits to EPA.[23] Other components of this plan include a five-year accident his-

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[14]40 C.F.R. § 68.3.

[15]40 C.F.R. § 68.10(g).

[16]40 C.F.R. § 68.10(h).

[17]40 C.F.R. § 68.10(i). NAICS divides the economy into 20 sectors, grouping industries according to production criterion. *See* North American Industry Classification System, Office of Management and Budget (2017).

[18]40 C.F.R. § 68.12.

[19]40 C.F.R. Part 68, Subparts C and D. For an overview of OSHA's Process Safety Management ("PSM") standard, *see* https://www.osha.gov/process-safety-management (last visited Apr. 30, 2021).

[20]61 Fed. Reg. 31718 (June 20, 1996), as amended at 64 Fed. Reg. 28700 (May 26, 1999) codified at 40 C.F.R. § 68.25(a)(2)(i) to (ii). EPA does not specify how to conduct this analysis but does provide a simple, browser-based program called RMP*Comp, which is available free on its website. https://www.epa.gov/rmp/rmpcomp (last visited Mar. 30, 2021). EPA also allows use of the ALOHA® model for consequence analysis. More detailed guidance on worst-case and alternative worst-case analyses is available at Chapter 4 of U.S. EPA General Guidance on Risk Management Programs for Chemical Accident Prevention (40 C.F.R. Part 68) (Mar. 2009), available at https://www.epa.gov/rmp/general-rmp-guidance-chapter-4-offsite-consequence-analysis and U.S. EPA Risk Management Program Guidance for Offsite Consequence Analysis (March 2009), available at https://www.epa.gov/sites/production/files/2013-11/documents/oca-chps.pdf.

[21]40 C.F.R. § 68.25(a)(2)(iii).

[22]40 C.F.R. § 68.28.

[23]40 C.F.R. § 68.165. EPA and the Department of Justice (DOJ) rules limit public access to most facility off-site consequence analyses because of security concerns related to terrorist and other activities. These documents are not available through the Freedom of Information Act or online, and a limited number of paper copies are available at EPA Reading Rooms. *See* U.S. EPA and DOJ final rule regarding Chemical Safety Information, Site Security and Fuels Regulatory Relief Act: Public Distribu-

tory, emergency response information, and a signed certification.[24]

Enforcement of the accidental release prevention requirements has increased over recent years.[25] Additionally, when EPA determines that an actual or threatened release of a regulated substance may cause an imminent and substantial endangerment to human health or welfare or to the environment, it has broad authority to seek an injunction or issue an appropriate order, after giving notice to the affected state.[26]

Rulemaking involving the RMP rule has been active in the last several presidential administrations. On August 1, 2013, President Obama issued Executive Order 13650 instructing EPA, OSHA, and the Department of Homeland Security (DHS) to strengthen chemical safety and security, largely as a result of the West, Texas incident.[27] EPA released revisions to the RMP regulations on December 21, 2016, and published them in the Federal Register on January 13, 2017, in the last days of the Obama administration.[28] This version of the RMP introduced several new requirements, including third-party compliance audits triggered either when a RMP-covered accidental releases occurs at a stationary source or when an implementing agency requires a third-party audit due to conditions at the stationary source that could lead to an accidental release of a regulated substance.[29] In the latter case, a third-party audit may have been required when a previous third-party audit failed to meet the competency or independence criteria of the regulations.[30] The 2017 version of the rule also required Safer Technology Alternatives Analysis as part of the process hazard analysis required for industries with certain NAICS codes, and an expanded scope of information required to be disclosed to local

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tion of Off-Site Consequence Analysis Information (Aug. 2000), available at https://www.epa.gov/sites/production/files/2013-11/documents/ocafactsheet.pdf.

[24]40 C.F.R. Part 68, Subpart G details the requirements for the Risk Management Plan.

[25]At the time of this writing, EPA had a National Compliance Initiative on Reducing Accidental Releases at Industrial and Chemical Facilities, predicated on § 112(r), that included enforcement of the RMP requirements. U.S. Environmental Protection Agency, National Compliance Initiative: Reducing Accidental Releases at Industrial and Chemical Facilities, https://www.epa.gov/enforcement/national-compliance-initiative-reducing-accidental-releases-industrial-and-chemical. For example, Ferrellgas, Inc., doing business as Blue Rhino, settled an action under CAA § 112(r) that resulted from fires and explosions at a facility in Florida on July 29, 2013. *See* Press Release, EPA and DOJ Reach Settlement Agreement with Ferrellgas, Inc. to Prevent Chemical Accidents at Florida Facility, available at https://www.epa.gov/newsreleases/epa-and-doj-reach-settlement-agreement-ferrellgas-inc-prevent-chemical-accidents (last visited Apr. 22, 2021). EPA alleged that Blue Rhino failed to identify hazards that may result from accidental releases of propane gas using appropriate hazard assessment techniques. EPA further alleged that the company failed to design and maintain a safe facility. *See also* Harcros Chemicals, Inc. and MGP Ingredients, Inc. where each of two defendants agreed to pay $1 million criminal fines for negligent violations of the Clean Air Act resulting in a Chlorine gas release. *See* Press Release, Two Kansas Companies Fined $1 Million Each In Atchison Chlorine Gas Case https://www.justice.gov/usao-ks/pr/two-kansas-companies-fined-1-million-each-atchison-chlorine-gas-case. EPA also has targeted facilities that use ammonia as part of their refrigeration systems in its enforcement. *See, e.g.,* Press Release, U.S. EPA requires Hawaii's largest refrigerated food warehouse to improve chemical safety, available at https://www.epa.gov/newsreleases/us-epa-requires-hawaiis-largest-refrigerated-food-warehouse-improve-chemical-safety.

[26]Clean Air Act § 112(r)(9), as added by § 301 of the 1990 Clean Air Act Amendments. *See* 56 Fed. Reg. 24393 (1991) (guidance on use of EPA order authority under § 112(r)(9)).

[27]Executive Order 13650, Improving Chemical Facility Safety and Security (Aug. 1, 2013), published at 78 Fed. Reg. 48029 (Aug. 7, 2013). Investigators from the Bureau of Alcohol, Tobacco, Firearms and Explosives later determined that the West, Texas incident was caused by arson. *See Fire That Left 15 Dead at Texas Fertilizer Plant Is Ruled Intentional*, New York Times (May 11, 2016), available at https://www.nytimes.com/2016/05/12/us/texas-fertilizer-plant-explosion.html.

[28]82 Fed. Reg. 4594 (Jan. 13, 2017).

[29]82 Fed. Reg. 4594 (Jan. 13, 2017), codified at 40 C.F.R. § 68.79(f) (2017).

[30]82 Fed. Reg. 4594 (Jan. 13, 2017), codified at 40 C.F.R. § 68.79(f) (2017).

authorities.[31] In 2019, under the Trump administration, EPA promulgated a revised RMP rule, known as the Reconsideration Rule, which largely undoes the novel requirements of the 2017 rule.[32] Several groups petitioned EPA for reconsideration of this revised rule, which the Agency denied.[33]

In addition to the RMP, EPA also exercises authority under the General Duty Clause of § 112(r)(1). Compliance with the clause requires stationary sources to identify hazards that may result from accidental releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases when they do occur.[34] EPA applies the General Duty Clause as a performance standard and expects regulated entities to comply with industry standards and generally recognized safe practices.[35] EPA may have authority under the RMP regulations, the General Duty Clause, or both. Unlike the RMP, where there exists a list of regulated substances, EPA's authority under the General Duty Clause applies to any stationary source producing, processing, handling, or storing regulated substances or other extremely hazardous substances.[36] These include those regulated substances managed under the RMP requirements as well as any other chemicals that may be considered extremely hazardous.[37] EPA has interpreted the scope of its authority under the General Duty Clause broadly to include all manner of substances.[38] Although EPA has not promulgated regulations implementing the General Duty Clause, it has set forth the scope and expectations of stationary sources under this authority in guidance.

Finally, § 304 of the 1990 Amendments required the Department of Labor, in coordination with EPA, to issue a chemical process safety standard under the Occupational Health and Safety Act to protect workers from hazards associated with

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[31]A Safer Technologies Alternative Analysis is included in a process hazard analysis and evaluates alternative risk management measures applicable to eliminating or reducing risk from process hazards. 40 C.F.R. § 68.67(c)(8) (2017). It involves consideration of inherently safer technology or design to minimize the use of regulated substances, substitute less hazardous substances, moderate the use of regulated substances, or simplify covered processes. 40 C.F.R. § 68.3 (2017).

[32]84 Fed. Reg. 69834 (Dec. 19, 2019).

[33]85 Fed. Reg. 55286 (Sept. 4, 2020). At the time of this writing, three challenges are pending to the various RMP rules: (1) industry's challenge to the denial of its petition for reconsideration of the Obama rule, (2) the challenge to the Reconsideration Rule, and (3) the challenge to EPA's denial of the petition for reconsideration of the Reconsideration Rule. EPA is reviewing the RMP rule in accordance with Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (Jan. 20, 2021), published at 86 Fed. Reg. 7037 (Jan. 25, 2021). As part of this review, EPA held two Virtual Public Listening Sessions in June and July 2021 and is developing a regulatory proposal to revise the RMP regulation again. 86 Fed. Reg. 28828 (May 25, 2021).

[34]*See* U.S. EPA Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1) (May 2000) at 11, available at https://www.epa.gov/sites/production/files/documents/gendutyclause-rpt.pdf.

[35]*See, e.g., U.S. v. Margiotta*, CR 17-143-BLG-SPW-2 (U.S. District Court Montana, September 13, 2019), in which the court upheld the prosecution of the defendant for knowing violation of the CAA's General Duty Clause. The prosecution alleged that the defendant directed operations at a facility that lacked "industry standard 'explosion-proof wiring, ventilation, and other safety measures.' " An explosion at that facility injured three employees. The defendant unsuccessfully argued that the government could not bring a criminal prosecution under the CAA General Duty Clause and that the General Duty Clause was unconstitutionally vague.

[36]Clean Air Act § 112(r)(1).

[37]Clean Air Act § 112(r)(1).

[38]*See* U.S. EPA Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1) at 10-11. EPA's enforcement policy applicable to 112(r) matters also coverages alleged violations under General Duty Clause. Final Combined Enforcement Policy for Clean Air Act Section 112(r)(1), 112(r)(7) and 40 C.F.R. Part 68 (June 20, 2012), available at https://www.epa.gov/sites/production/files/documents/112rcep062012.pdf.

accidental releases.[39] As required by the Amendments, the standard includes a list of 100 highly hazardous chemicals, with threshold quantities.[40] Chemicals on the list are drawn from a variety of lists of hazardous chemicals used in other regulatory programs.[41] Under the OSHA standard, coverage is triggered by the presence of a threshold quantity of a substance in a single process at one point in time; quantities of substances at various locations in a plant are not aggregated.[42]

VIII. REGULATION UNDER 129, CAA (SOLID AND HAZARDOUS WASTE)*

§ 12:65 Regulation under CAA § 129

a. Introduction

The incineration of solid waste in the United States began to increase in the 1970s. This was in part due to stricter controls on landfills beginning in the 1970s, along with the passage of the federal Public Utility Regulatory Policies Act in 1978 that allowed public utilities to purchase electric power from incinerators under certain circumstances.[1] With the incineration of waste came new concerns about air pollutants emitted by the incinerators.

The 1970 Clean Air Act Amendments created the New Source Performance Standards (NSPS) program, requiring EPA to maintain a list of stationary source categories that "cause, or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."[2] The NSPS address criteria pollutants (or precursors) for which an ambient air quality standard has been established.[3] EPA began regulating particulate matter (PM) emissions from municipal waste combustors (MWCs) under the NSPS program in 1971 (subpart E).[4] EPA later proposed PM standards for commercial and industrial steam generators that combusted municipal solid waste in 1984, finalizing those standards at subpart Db in 1986.[5]

As the regulatory community became increasingly aware of hazardous air pollutant emissions from solid waste incinerators, however, a number of events spurred the creation of new federal requirements for these sources. Some states began regulating solid waste incineration units on their own.[6] The 1984 Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA) required EPA to report to Congress on dioxin emissions from MWCs.[7] In 1986, the Natural Resources Defense Council and several states petitioned the EPA

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[39]Section 304 of the 1990 Clean Air Act Amendments.

[40]57 Fed. Reg. 6304 (1991). *See* 57 Fed. Reg. 7847 (1991); 57 Fed. Reg. 23060 (1991); 57 Fed. Reg. 38600 (1991).

[41]57 Fed. Reg. 6304, 6364 (1991). The lists of chemicals covered by the RMP and the OSHA Process Safety Management Standard are not coextensive.

[42]57 Fed. Reg. 6304, 6403 (1991), codified at 29 C.F.R. § 1910.119(a). *See also* 57 Fed. Reg. 6364 (1991).

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[Section 12:65]

[1]16 U.S.C. § 824a-3.

[2]42 U.S.C. § 7411(b)(1)(A).

[3]*See, e.g.,* 31 Fed. Reg. 24,876 (Dec. 23, 1971).

[4]*See, e.g.*, 54 Fed. Reg. 52251, 52259 (Dec. 20, 1989) (providing an early history of MWC regulations).

[5]51 Fed. Reg. 43728 (Nov. 25, 1986).

[6]56 Fed. Reg. 5488 (Feb. 11, 1991).

[7]42 U.S.C. § 6905(b)(2)(A)(i).

Administrator to adopt new standards for MWCs under §§ 111 and 112—leading to a consent decree where EPA agreed to promulgate new rules by 1991.[8] Finally, the Medical Waste Tracking Act of 1988 spurred fact-finding on the extent of medical waste incinerators.[9] All of these steps culminated in the inclusion of § 129 in the 1990 Clean Air Act Amendments, mandating that EPA regulate air emissions from solid waste incinerators.[10]

Congress took a hybrid approach to solid waste incinerators, and § 129 pulls from other regulatory schemes in the Act. Under § 129, *new* units subject to § 129 are covered by NSPS standards promulgated in part 60, while *existing* ones are regulated under the § 111(d) state and federal plan framework.[11] Emission standards must reflect the maximum degree of reductions, mirroring the MACT requirements in § 112 (though § 129 applies to the same 10 pollutants across each source category, unlike the NESHAP standards which apply to different hazardous air pollutants depending on the source category).[12] Finally, all incinerators under § 129 are required to obtain title V permits.[13] This section of the treatise discusses the broad requirements for both new and existing units and provides more detail for each of the source categories listed in § 129(a)(1).

b. Regulated waste

Understanding the scope of § 129 requires delving into several key terms. "Solid waste" in § 129 is given the same meaning as in RCRA—generally speaking, any discarded material.[14] Section 129(g) defines "solid waste incineration unit" to exclude units regulated under a RCRA treatment, storage, and disposal license, materials recovery facilities, certain small power or cogeneration facilities that burn homogenous waste, and air curtain incinerators that burn wood or yard wastes.[15] Air emissions from hazardous waste incinerators were regulated for many years through conditions set forth in RCRA treatment licenses.[16] With the expansion of the NESHAP program in the 1990 Amendments, EPA began promulgating standards to regulate hazardous air pollution from hazardous waste incinerators under § 112 (and state-issued air permits).[17] Section 129 clearly precludes NESHAP standards, on the other hand, for any combustion units subject to §§ 111 and 129.[18]

Whether a unit combusts "solid waste" or "fuel" determines the applicability of either § 129 or § 112: "solid waste incineration units" are covered by § 129, while "boilers" are regulated under separate § 111 NSPS and § 112 NESHAP standards.[19] EPA attempted to untangle this issue in 2005 with a rule establishing definitions

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[8]New York v. Reilly (No. 89-1729 D.D.C.).

[9]Pub. L. No. 100-582, Nov. 1, 1988, 102 Stat 2950.

[10]42 U.S.C. § 7429. RCRA is the principal federal law in the United States governing the disposal of solid waste and hazardous waste.

[11]*See, infra*, paragraph d.; 42 U.S.C. §§ 7429(a) and (b).

[12]42 U.S.C. § 7429(a)(2). The regulated pollutants are PM (total and fine), opacity (as appropriate), SO_2, HCl, NO_x, CO, Pb, Cd, Hg, and dioxins/furans.

[13]42 U.S.C. § 7429(e); *see also* 40 C.F.R. § 70.2.

[14]42 U.S.C. §§ 6903(27), 7429(g)(6). As the principal federal law in the United States governing the disposal of solid waste and hazardous waste, RCRA contains definitions for solid waste and hazardous waste.

[15]42 U.S.C. § 7429(g)(1).

[16]*See* 42 U.S.C. § 6925.

[17]*See, e.g.,* 64 Fed. Reg. 52828, 52833 to 834 (Sept. 30, 1999).

[18]42 U.S.C. § 7429(h)(2).

[19]*See, e.g.,* 40 C.F.R. § 63.7575 (defining "boiler" as "an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water.").

for commercial and industrial solid waste incinerators (CISWI), which included only waste that was not combusted for heat or power generation.[20] This rule, as well as a rule establishing a boiler NESHAP, were remanded with vacatur in *Natural Resources Defense Council v. EPA* in 2007.[21] Reading EPA's definition alongside the broader characterization of "solid waste incineration unit" in § 129, the Court found a contradiction in terms that could not survive Step One of *Chevron*.[22] In short, the D.C. Circuit determined that all solid waste combustion must be regulated under § 129.[23]

As a result of the Court's decision in *NRDC*, EPA promulgated the "Non-Hazardous Secondary Materials (NHSM) Rule."[24] The purpose of this rulemaking—codified at 40 CFR part 241—was to clarify what materials could be legitimately combusted for fuel without meeting the definition of "solid waste" and thus triggering § 129.[25] Non-hazardous secondary materials will not be subject to § 129 standards when they meet certain legitimacy criteria in addition to other elements. The remaining requirements are as follows:

- the materials are used as fuel in a combustion unit that remains within the control of the generator;[26]
- the materials are used as an ingredient in a combustion unit;[27] and
- the solid waste has undergone additional processing to produce a fuel or ingredient.[28]

The rule adopts a concept of "legitimacy" similar to that used in the RCRA hazardous secondary materials exclusion: the materials must be used within reasonable time frames, it must not contain contaminants at a higher concentration than analogous materials, must have a meaningful heating value if used as a fuel, and (in the case of ingredients) must be used to produce a valuable product or intermediate.[29]

This rule was challenged by a number of industry and environmental groups, and was upheld in an unpublished per curiam D.C. Circuit opinion.[30] EPA has revised the rule several times since 2011—largely to incorporate a mechanism for sources to request non-waste determinations (which resembles the procedure used in the RCRA rules) and to adopt those determinations when they are made.[31]

c. New or modified units

The 1990 Amendments directed EPA to establish "emission limitations and other

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[20]70 Fed. Reg. 55568 (Sep. 22, 2005).

[21]Natural Resources Defense Council v. E.P.A., 489 F.3d 1250, 64 Env't. Rep. Cas. (BNA) 1673 (D.C. Cir. 2007).

[22]Natural Resources Defense Council v. E.P.A., 489 F.3d 1250, 1255–1258, 64 Env't. Rep. Cas. (BNA) 1673 (D.C. Cir. 2007).

[23]Natural Resources Defense Council v. E.P.A., 489 F.3d 1250, 64 Env't. Rep. Cas. (BNA) 1673 (D.C. Cir. 2007).

[24]78 Fed. Reg. 9112 (Feb. 7, 2013).

[25]40 C.F.R. § 241.3.

[26]40 C.F.R. § 241.3(b)(1).

[27]40 C.F.R. § 241.3(b)(3).

[28]40 C.F.R. § 241.3(b)(4).

[29]76 Fed. Reg. 15456, 15563 to 64 (Mar. 11, 2011); 40 C.F.R. § 241.3(d). Note that the analogous contaminants requirement must only be considered in the context of the RCRA HSM exclusion. 40 C.F.R. § 260.43.

[30]Solvay USA Inc. v. E.P.A., 608 Fed. Appx. 10 (D.C. Cir. 2015) (unpublished).

[31]40 C.F.R. § 241.4; *see* 40 C.F.R. pt. 260, subpt. C.; 78 Fed. Reg. 9111 (Feb. 7, 2013); 81 Fed. Reg. 6687 (Feb. 8, 2016); 83 Fed. Reg. 5317 (Feb. 7, 2018).

requirements" under § 111 for new or modified solid waste incineration units.[32] Section 129(a) then proceeded to establish a schedule for these NSPS categories: large MWC standards were required to be promulgated no later than 12 months after the effective date of the Amendments (driven by the consent decree referenced above); standards for small MWCs and units combusting hospital waste, medical waste, and infectious waste incinerators (HMIWIs) were to be promulgated no later than 24 months after the effective date; CISWIs 48 months after the effective date; and EPA was to set a schedule for regulating other categories of solid waste incinerators (OSWIs) within 18 months of the effective date.[33] For more information on how EPA sets NSPS emission limits, refer to Part V.

d. Existing units and 111(d) plans

Congress addressed existing units in § 129(b). This section required EPA to establish emission guidelines for sources that predated the promulgation of proposed rules for new sources.[34] There are key differences between the emission guidelines for existing sources and the new source performance standards required under § 129(a). Emission *guidelines* are just that—they are not direct requirements for covered units, nor are they enforceable.[35] Within a year of the promulgation of emission guidelines, however, states must submit a plan that is at least as protective as EPA's guidelines.[36] In lieu of a plan, states can also certify through a negative declaration that no units of a particular source category exist in that state.[37] EPA then has 180 days to approve or disapprove the state plan, and the Act gives states the chance to revise and resubmit their plans if they are not initially approved.[38] States may also adopt more stringent requirements for solid waste incineration units that are also regulated under § 129.[39]

Under § 129(b)(3), sources in states that fail to submit an approvable plan within 2 years of the applicable NSPS standards are subject to a federal plan.[40] The current approval status for all 50 states, as well as the federal plan requirements, can be found in 40 C.F.R. part 62. States subject to the federal plan with approved title V programs must still include these part 62 requirements in operation permits, since they are "applicable requirements."[41] Once a federal plan applies, states may still seek approval of a state plan, or may reach an agreement with EPA to acquire primary implementation and enforcement responsibilities for the federal plan.[42]

e. Municipal waste incinerator standards

The regulation of MWCs under the Clean Air Act predates § 129 by almost 20 years. EPA promulgated Subpart E of the NSPS standards in 1971, and regulated PM emitted by municipal incinerators with a capacity of more than 50 tons per

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[32] 42 U.S.C. §§ 7429(a) and 7411.

[33] 42 U.S.C. § 7429(a).

[34] 42 U.S.C. § 7429(g)(2).

[35] *See, e.g.,* 62 Fed. Reg. 48348, 48351 (Sept. 15, 1997).

[36] 42 U.S.C. § 7429(b)(2).

[37] 40 C.F.R. § 62.06.

[38] 40 C.F.R. § 62.06.

[39] 42 U.S.C. § 7429(h)(1).

[40] *See also* 40 C.F.R. § 60.27(c).

[41] 40 C.F.R. § 70.2 ("applicable requirements" definition includes "[a]ny standard or other requirement governing solid waste incineration, under section 129 of the Act.").

[42] *See, e.g.,* 64 Fed. Reg. 60689 to 60699 (Nov. 8, 1999).

day.[43] As mentioned in subsection a. above, increasing public concern over hazardous air pollutants from incinerators prompted Congress to require, in the 1984 RCRA amendments, an EPA study on dioxin emissions.[44] In August 1986, NRDC and three states petitioned EPA to make findings that §§ 111 and 112 required EPA to regulate MWCs and to revise the existing NSPS for MWCs.[45] In responding to the petition, EPA agreed that NSPS was an appropriate regulatory vehicle for MWC emissions and issued an advance notice of proposed rulemaking.[46]

Several years later, EPA agreed to a consent decree with the petitioners that required the Agency to propose new MWC standards by November 1989.[47] Between the proposed rulemaking and the final rule, however, Congress amended the Clean Air Act. Section 129(a)(1)(B) required EPA to promulgate, by November 15, 1991, standards for solid waste incineration units with the capacity to combust more than 250 tons per day of municipal solid waste.[48] The Act included a savings clause that referenced the consent decree, however, stating that nothing in § 129(a)(1)(B) altered the schedule in any consent decree entered before November 15, 1990.

Thus, in early 1991, EPA promulgated emission guidelines for large MWCs and NSPS standards for MWCs for which construction commenced between 1989 and 1994.[49] Specifically, the rules covered new MWC units with a capacity of more than 250 tons per day, and existing units at MWC facilities with a total capacity of more than 250 tons per day.[50] These rules conformed to the earlier § 111 requirements, however, and not to the more recent § 129 mandates. In 1994, EPA proposed new rulemaking to bring the subpart Cb emission guidelines into conformity with § 129, and also outlined new standards for sources constructed after 1994 (40 CFR 60 subpart Eb).[51] EPA finalized the subpart Cb and Eb requirements in 1995, and also made changes to subpart Ea in a direct final rule that smoothed out some of the interplay between the subparts.[52] The standards and guidelines in the 1995 rule took a plantwide approach, applying to MWC units at plants with the total capacity to combust between 40 and 250 tons per day of solid waste (small MWCs) and those at plants with the total capacity to emit more than 250 tons per day (large MWCs).[53]

The 1995 rule was challenged in the D.C. Circuit by municipal petitioners, who argued that EPA's plant-based method of determining applicability exceeded the statutory authority in § 129.[54] Upon review, the Court agreed with the petitioners' interpretation of the Act, finding that § 129(a)(1) clearly required the agency to

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[43]40 C.F.R. pt. 60 subpt. E; 54 Fed. Reg. 52251, 52259 (Dec. 20, 1989).

[44]*Supra* note 4.

[45]52 Fed. Reg. 25399, 25407 (July 7, 1987).

[46]52 Fed. Reg. 25399, 25407 (July 7, 1987).

[47]New York v. Reilly (No. 89-1729 D.D.C.).; 54 Fed. Reg. 5,251 (Dec. 20, 1989).

[48]42 U.S.C. § 7429(1)(a)(B).

[49]56 Fed. Reg. 5488 (Feb. 11, 1991) (performance standards); 56 Fed. Reg. 5514 (Feb. 11, 1991) (emission guidelines). Emission guidelines were codified at 40 C.F.R. pt. 60, subpt. Cb, while the NSPS standards were codified at 40 C.F.R. pt. 60, subpt. Ea.

[50]56 Fed. Reg. 5488 (Feb. 11, 1991) (performance standards); 56 Fed. Reg. 5514 (Feb. 11, 1991) (emission guidelines). Emission guidelines were codified at 40 C.F.R. pt. 60, subpt. Cb, while the NSPS standards were codified at 40 C.F.R. pt. 60, subpt. Ea.

[51]59 Fed. Reg. 48198 (Sept. 20, 1994).

[52]60 Fed. Reg. 65387 (Dec. 19, 1995); 60 Fed. Reg. 65382 (Dec. 19, 1995).

[53]60 Fed. Reg. 65387.

[54]Davis County Solid Waste Management v. U.S. E.P.A., 101 F.3d 1395, 1401, 43 Env't. Rep. Cas. (BNA) 1673, 27 Envtl. L. Rep. 20476 (D.C. Cir. 1996), opinion amended on reh'g, 108 F.3d 1454, 44 Env't. Rep. Cas. (BNA) 1193, 27 Envtl. L. Rep. 20729 (D.C. Cir. 1997).

promulgate rules based on the capacity of individual units.[55] As a result, the rule was vacated insofar as it applied to MWC units with a capacity of less than 250 tons per day and cement kilns.[56] EPA's response to the decision was to bifurcate the requirements for large and small MWC units. EPA clarified in a 1997 rulemaking action that the existing standards and guidelines applied only to large MWC units.[57] The agency revisited the large MWC requirements in 2005 pursuant to the § 129 requirement to do so every five years, and finalized changes to emission limits and compliance demonstration requirements that reflected real-world observation of these units.[58] EPA received and granted a petition for reconsideration from Earthjustice on the modified rule, though it has not taken any additional rulemaking actions to this point.[59]

In 2000, EPA finalized NSPS (at 40 C.F.R. subpart AAAA) and emission guidelines (at 40 C.F.R. subpart BBBB) for small MWC units, which are those units with a capacity to combust between 35 and 250 tons per day of solid waste.[60] Small MWC units were further sorted within the rules as either Class I or Class II units: Class I units are located at plants with an aggregate capacity of more than 250 tons per day and were subject to more stringent NO_x requirements, while Class II units are located at plants with an aggregate capacity of less than or equal to 250 tons per day.[61] After EPA denied petitions for reconsideration, these rules were challenged by both industry and environmental petitioners.[62] The industry groups alleged that the subcategorization of small MWC units violated the Court's ruling in *Davis County*, while the environmental groups faulted both EPA's methods in setting the MACT floors and the Agency's justifications for not setting "beyond-the-floor" standards for hazardous metals and dioxins.[63] The Court remanded the rules back to EPA to provide additional justification for the subcategorization approach, to establish new MACT floors, and to readdress the "beyond-the-floor" standards.[64] EPA has not taken any further actions on the small MWC rules to date.[65]

f. Commercial and Industrial Solid Waste Incineration (CISWI)

Section 129(a)(1)(D) required EPA to promulgate final standards for incineration units combusting commercial or industrial waste by no later than November 19,

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[55]Davis County Solid Waste Management v. U.S. E.P.A., 101 F.3d 1395, 1401, 1412, 43 Env't. Rep. Cas. (BNA) 1673, 27 Envtl. L. Rep. 20476 (D.C. Cir. 1996), opinion amended on reh'g, 108 F.3d 1454, 44 Env't. Rep. Cas. (BNA) 1193, 27 Envtl. L. Rep. 20729 (D.C. Cir. 1997).

[56]Davis County Solid Waste Management v. U.S. E.P.A., 101 F.3d 1395, 1401, 43 Env't. Rep. Cas. (BNA) 1673, 27 Envtl. L. Rep. 20476 (D.C. Cir. 1996), opinion amended on reh'g, 108 F.3d 1454, 44 Env't. Rep. Cas. (BNA) 1193, 27 Envtl. L. Rep. 20729 (D.C. Cir. 1997). The decision originally completely vacated the rule, but on EPA's petition for rehearing on remedy the vacatur was narrowed. Davis County Solid Waste Management v. U.S. E.P.A., 108 F.3d 1454, 44 Env't. Rep. Cas. (BNA) 1193, 27 Envtl. L. Rep. 20729 (D.C. Cir. 1997).

[57]62 Fed. Reg. 45116 (Aug. 25, 1997).

[58]42 U.S.C. § 7429(1)(a)(5); 71 Fed. Reg. 27324–325 (May 10, 2006).

[59]72 Fed. Reg. 13016 (Mar. 20, 2007).

[60]65 Fed. Reg. 76350 (Dec. 6, 2000) (40 C.F.R. pt. 60 subpt. AAAA); 65 Fed. Reg. 76478 (40 C.F.R. pt. 60 subpt. BBBB).

[61]65 Fed. Reg. 76351, 76358 (Dec. 6, 2000).

[62]Northeast Maryland Waste Disposal Authority v. E.P.A., 358 F.3d 936, 941, 57 Env't. Rep. Cas. (BNA) 2121 (D.C. Cir. 2004).

[63]Northeast Maryland Waste Disposal Authority v. E.P.A., 358 F.3d 936, 941, 942–56, 57 Env't. Rep. Cas. (BNA) 2121 (D.C. Cir. 2004).

[64]Northeast Maryland Waste Disposal Authority v. E.P.A., 358 F.3d 936, 941, 956, 57 Env't. Rep. Cas. (BNA) 2121 (D.C. Cir. 2004).

[65]Though the agency did finalize state plan requirements under 40 C.F.R. pt. 62 subpt. JJJ that retained the Class I and Class II categories in 2003. 68 Fed. Reg. 5144 (Jan. 31, 2003).

1994.[66] EPA found that it had insufficient information to comply with this mandate, however, publishing an advance notice of proposed rulemaking late in 1994 and chartering an advisory committee in 1996.[67] A federal consent decree filed after the November 1994 date required EPA to promulgate final CISWI standards and emission guidelines by November 15, 2000, which they did in subparts CCCC and DDDD.[68] The NSPS standards (in 40 C.F.R. 60 subpart CCCC) regulate the 10 pollutants required by § 129(a)(4) and set operating limits for sources using wet scrubbers to control those emissions—which were the same for both new and existing units.[69] Sources using other control technologies must petition the EPA Administrator (or the Administrator of a delegated state agency) for alternate operating limits.[70] The NSPS also requires new sources to submit a siting analysis that requires a consideration of alternatives that minimize potential risks to public health or the environment.[71] In addition, all CISWIs subject to the standard must prepare a waste management plan, obtain and maintain operator training, conduct regular performance testing, and conduct other monitoring and recordkeeping.[72]

EPA received a petition for reconsideration of the 2000 rule, under CAA § 307(d)(7)(B). The petition maintained that EPA's introduction of a definition for "commercial and industrial waste" in the final rule had bypassed the notice-and-comment requirements of the Administrative Procedure Act.[73] After receiving public input, EPA promulgated a definitions rule in 2005 that made minor changes and only included waste that was not combusted for heat or power generation.[74] This rule was remanded with vacatur in *NRDC v. EPA* (described in greater detail in the "Regulated Waste" section above).[75] Beyond the Non-Hazardous Secondary Materials Rule, the *NRDC* decision also prompted EPA to modify key elements of the CISWI rule. In 2011, EPA modified the CISWI rules to encompass energy recovery units (ERUs) and waste-burning kilns that burn solid waste.[76] This was a marked departure from the 2000 rule definitions vacated by *NRDC*, which specifically exempted units at commercial and industrial facilities that recovered energy from solid waste.[77]

EPA received a petition for reconsideration on the 2011 rule and responded in 2013 by denying the petition and making minor, unrelated changes.[78] This update incorporated an additional ramification from the *NRDC* decision, clarifying when ERUs and cement kilns that stopped burning solid waste would become subject to § 112 requirements.[79] EPA also set the effective date for the rules: existing sources were required to comply by February 7, 2018 (depending on the approval of state

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[66]42 U.S.C. § 7429(1)(a)(D).

[67]65 Fed. Reg. 75338, 75339 (Dec. 1, 2000).

[68]65 Fed. Reg. 75338, 75339 (Dec. 1, 2000).

[69]65 Fed. Reg. 75340 to 75341 (Dec. 1, 2000).

[70]65 Fed. Reg. 75341 (Dec. 1, 2000).

[71]*See* 40 C.F.R. §§ 60.2045, 60.2050.

[72]*See* 40 C.F.R. §§ 60.2065, 60.2080, 60.2085, 60.2125, 60.2165, 60.2175.

[73]70 Fed. Reg. at 55570.

[74]70 Fed. Reg. at 55570.

[75]*Infra* § 12:65(b).

[76]76 Fed. Reg. 15704, 15706 (Mar. 21, 2011); the rule also included new provisions that simplified the process for switching from waste-to-fuel burning and vice versa, *see, e.g.,* 76 Fed. Reg. 15714–15715 (Mar. 21, 2011).

[77]76 Fed. Reg. 15,709 (Mar. 21, 2011); previously, such facilities had been regulated under § 112 standards. 76 Fed. Reg. 15,714 (Mar. 21, 2011).

[78]78 Fed. Reg. 9112, 9115 to 116 (Feb. 7, 2013).

[79]78 Fed. Reg. 9117 (Feb. 7, 2013).

plan), and new sources either on August 7, 2013 or after beginning construction (whichever is later).[80] Like its predecessors, the 2013 rule was subject to both a petition for review in the D.C. Circuit and a petition for reconsideration. EPA responded to the reconsideration petition with a June 2016 rule, which:

- changed a startup and shutdown definition to apply differently to ERUs or waste-burning kilns;
- changed the waste-burning kiln PM limits to reflect test averages instead of individual test runs;
- incorporated a fuel variability factor for coal-burning ERUs; and
- included a definition of "kiln" that was consistent with the use of the term in the Portland Cement NESHAP.[81]

The legal challenge was decided only one month later in *U.S. Sugar Corp. v. EPA*, which consolidated challenges to the 2013 CISWI rule with major and area source boiler rules established under § 112.[82] While the CISWI rule was largely upheld, the D.C. Circuit did instruct EPA to promulgate standards regulating cyclonic burn barrels on remand, and to consider whether burn-off ovens, foundry sand reclamation units, soil treatment units, and space heaters were CISWI units.[83] EPA has not yet taken final action on the CISWI rule in response to the *U.S. Sugar* decision, although the agency did finalize some technical amendments to the rule in 2019.[84] Given the history of the CISWI rules, however, it seems likely that litigation will follow when the Agency abides by its mandate and expands the applicability of the rules in future rulemakings.

g. Medical waste incineration

In the summer of 1988, the country was momentarily gripped by what became known as the "syringe tide," when medical waste washed up on beaches in five eastern states.[85] News stories like this were becoming increasingly common, prompting a reassessment of society's role in creating pollution and eventually leading to new federal legislation. The Medical Waste Tracking Act of 1988 (MWTA) established a two-year program in four states and Puerto Rico.[86] The MWTA largely consisted of a tracking system to better understand the generation and ideal treatment of medical waste, along with inspection and enforcement authority for EPA.[87] States largely began regulating medical waste once EPA's authority under the MWTA expired in 1991.[88]

Equipped with some of the information collected under the MWTA, Congress took

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[80]78 Fed. Reg. 9116 (Feb. 7, 2013).

[81]81 Fed. Reg. 40956, 40958 (June 23, 2016).

[82]United States Sugar Corporation v. Environmental Protection Agency, 830 F.3d 579, 82 Env't. Rep. Cas. (BNA) 2107 (D.C. Cir. 2016), on reh'g en banc, 671 Fed. Appx. 822 (D.C. Cir. 2016) and on reh'g en banc in part, 671 Fed. Appx. 824 (D.C. Cir. 2016).

[83]United States Sugar Corporation v. Environmental Protection Agency, 830 F.3d 579, 642–44, 82 Env't. Rep. Cas. (BNA) 2107 (D.C. Cir. 2016), on reh'g en banc, 671 Fed. Appx. 822 (D.C. Cir. 2016) and on reh'g en banc in part, 671 Fed. Appx. 824 (D.C. Cir. 2016).

[84]84 Fed. Reg. 15846 (April 16, 2019); On August 24, 2020, EPA proposed changes to CISWI in response to *U.S. Sugar* decision, but has not finalized that effort as of publication. 85 Fed. Reg. 52198 (Aug. 24, 2020).

[85]The Council of State Governments, *Model Guidelines for State Medical Waste Management* (1992), available at https://www.epa.gov/sites/production/files/2016-02/documents/model_guidelines_for_state_medical_waste_management.pdf.

[86]Pub. L. No. 100-582, Nov. 1, 1988, 102 Stat 2950.

[87]Pub. L. No. 100-582, Nov. 1, 1988, 102 Stat 2950.

[88]*See, e.g.,* U.S. EPA, *Medical Waste*, https://www.epa.gov/rcra/medical-waste.

a more aggressive approach in the 1990 Clean Air Act Amendments.[89] Section 129 of the Amendments included requirements for EPA to develop standards for units with the capacity to combust hospital waste, medical waste, and infectious waste (collectively known HMIWIs).[90] In the proposed rules implementing this congressional mandate, EPA noted that medical waste incinerators were large emitters of dioxin, hydrogen chloride, lead, cadmium, and mercury.[91] EPA finalized rules for new and existing HMIWIs in 1997.[92]

The subpart Ec NSPS initially regulated individual HMIWIs that commenced construction after June 20, 1996, while the subpart Ce emission guidelines applied to HMIWIs that commenced construction on or before that date.[93] Both standards used the "medical/infectious waste" definition from the MWTA, which includes "waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals that [is listed in any of 7 subcategories]."[94] Household waste, incinerator ash, human remains intended for interment or cremation, and domestic sewage materials excluded from the RCRA hazardous waste rules were also excluded from the definition of "medical/infectious waste."[95] In addition, EPA exempted several types of units, including pyrolysis units, cement kilns firing hospital or medical/infectious waste, and units combusting less than 10% hospital or medical/infectious waste.[96]

As mentioned in subsection (a) above, EPA applied MACT to 10 pollutants when promulgating standards for incineration units covered by § 129.[97] The 1997 NSPS standards and emission guidelines were remanded back to the Agency following a 1999 ruling, *Sierra Club v. EPA*, in which the D.C. Circuit held that EPA failed to adequately justify the MACT floors used to create the standards.[98] In 2009, EPA promulgated major revisions to subparts Ce and Ec that both incorporated the mandates from the *Sierra Club* decision, other recent caselaw on MACT, and the § 129(a)(5) requirement to reassess incinerator standards at regular intervals.[99]

The 2009 standards were challenged by several industry groups in *Medical Waste Institute & Energy Recovery Council v. EPA*.[100] The most significant argument raised by petitioners (and the only one not dismissed on jurisdictional grounds) was that EPA impermissibly narrowed its sample set in revisiting the MACT floor.[101] In considering "the average emissions limitations achieved by the best performing 2 percent of units in the category" when setting the MACT floor in 1997, EPA did so

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[89]60 Fed. Reg. 10654, 10667 (Feb. 27, 1995).

[90]42 U.S.C. § 7429(a)(1)(C) ("Standards under section 7411 of this title and this section applicable to solid waste incineration units with capacity equal to or less than 250 tons per day combusting municipal waste and units combusting hospital waste, medical waste and infectious waste shall be promulgated not later than 24 months after November 15, 1990.").

[91]60 Fed. Reg. 10654 (Feb. 27, 1995).

[92]62 Fed. Reg. 49348 (Sept. 15, 1997).

[93]40 C.F.R. § 60.32e(a).

[94]62 Fed. Reg. at 48355, 48384.

[95]62 Fed. Reg. at 48355, 48384.

[96]*See, e.g.,* 40 C.F.R. §§ 60.32e, 60.50c.

[97]62 Fed. Reg. 49348, 48351 (Sept. 15, 1997).

[98]Sierra Club v. U.S. E.P.A., 167 F.3d 658, 48 Env't. Rep. Cas. (BNA) 1161, 29 Envtl. L. Rep. 20645 (D.C. Cir. 1999).

[99]42 U.S.C. § 7429(a)(5); 74 Fed. Reg. 51368 (Oct. 6, 2009).

[100]Medical Waste Institute and Energy Recovery Council v. E.P.A., 645 F.3d 420, 73 Env't. Rep. Cas. (BNA) 1135 (D.C. Cir. 2011).

[101]Medical Waste Institute and Energy Recovery Council v. E.P.A., 645 F.3d 420, 73 Env't. Rep. Cas. (BNA) 1135 (D.C. Cir. 2011).

using a population of 2,400 incinerators.[102] When reconsidering the MACT floor in 2008, however, EPA found that 98% of HMIWIs had either shut down or obtained exemptions, leaving only 57 existing or new units.[103] Industry groups alleged that this reliance on emissions data from the only remaining HMIWIs equated to a revision of the standards, which would have required EPA to consider costs.[104] The D.C. Circuit saw things differently: because *Sierra Club* had remanded the rules back to EPA, the agency's evaluation of the MACT floor was less of a revision of the existing standards and more of a "reset."[105]

Finally EPA promulgated federal standards in 2000 for states that failed to submit either negative declarations or § 111(d) plans.[106] EPA revised these standards in 2013 to incorporate the changes made to the NSPS subparts Ce and Ec after the *Sierra Club* decision.[107] As EPA noted in proposed rulemaking after the *Sierra Club* decision, regulations affecting HMIWIs have pushed generators of these wastes to explore alternate treatment and disposal methods.[108] As a result, most medical waste is now sterilized before being disposed of as a solid waste.[109]

h. Other solid waste incineration (OSWI)

The list of source categories in § 129(a)(1) ends with a catchall: EPA must regulate "other categories of solid waste incineration units" (OSWI).[110] Instead of requiring rules by a certain date, however, the 1990 Amendments merely required EPA to publish a schedule for the promulgation of standards within 18 months of the effective date of the statute.[111] After 22 months, Congressman Henry Waxman (one of the authors of the 1990 Amendments) and an environmental group sued EPA to force action on the publication of a schedule. The Agency did so on November 2, 1993.[112]

The rulemaking schedule identified seven categories of OSWI that EPA intended to regulate by 2000.[113] EPA's justification for the delayed action was pragmatic: the Agency would focus on the major sources identified elsewhere in § 129 before redirecting resources to the smaller incinerators.[114] The seven OSWI categories were:

- Very small MWCs;
- Residential incinerators;
- Agricultural waste incinerators;
- Wood waste incinerators;
- Construction and demolition waste incinerators;
- Crematories; and

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[102]42 U.S.C. § 7429(a)(2); 73 Fed. Reg. 72962, 72967 (Dec. 1, 2008).

[103]42 U.S.C. § 7429(a)(2); 73 Fed. Reg. 72962, 72967 (Dec. 1, 2008).

[104]Medical Waste Institute, 645 F.3d at 425; 42 U.S.C. § 7411(a)(1).

[105]Medical Waste Institute, 656 F.3d. at 426.

[106]65 Fed. Reg. 49868 (Aug. 15, 2000).

[107]78 Fed. Reg. 28052 (May 13, 2013).

[108]73 Fed. Reg. at 72967.

[109]*See, e.g.,* U.S. EPA *Treatment and Disposal of Medical Waste*, https://www.epa.gov/rcra/medical-waste#Treatment and Disposal of Medical Waste and Infectious Waste Incinerator.

[110]42 U.S.C. § 7429(a)(1)(E).

[111]42 U.S.C. § 7429(a)(1)(E).

[112]CONSENT DECREE in Waxman v. Browner (D.C.C. Case No. 92-CV-1320) (date?); 58 Fed. Reg. 58498 (Nov. 2, 1993).

[113]58 Fed. Reg. 58498, 58499 (Nov. 2, 1993).

[114]58 Fed. Reg. 58498, 58499 (Nov. 2, 1993).

- Contaminated soil treatment facilities.[115]

EPA added sewage sludge incinerators (SSI) as an eighth category in 1997.[116]

After an EPA proposal to push back the rulemaking schedule in late 2000, followed by additional litigation and a new consent decree, EPA promulgated NSPS for new units (at 40 C.F.R. part 60 subpart EEEE) and emission guidelines for existing units (at subpart FFFF) in 2005.[117] These requirements narrowed the scope from EPA's 1993 list, and regulated very small MWCs (with a capacity of less than 35 tons per day) and units incinerating institutional waste (IWIs).[118] EPA determined that crematories were not incinerators since human remains were not solid waste subject to regulation under § 129, and that many of the other categories initially intended for regulation were either too scarce or emitted too little to regulate.[119] EPA proposed federal plan requirements for existing OSWIs in 2006, but has yet to finalized those.[120]

Sewage sludge incineration units were also excluded from the 2005 rules, on the basis that SSIs were combusting POTW waste and not "solid waste material from commercial or industrial establishments or the general public," and thus were not regulated under § 129.[121] EPA revisited this decision several years later in light of the CISWI definitions litigation described above, where the D.C. Circuit held that any unit combusting solid waste was covered by § 129—even if it did not meet the definition of "solid waste incineration unit."[122]

i. Sewage sludge incineration (SSI)

The majority of domestic wastewater in the United States is treated by publicly owned treatment works. The wastewater treatment process creates sewage sludge, which is generally disposed of in landfills, applied to the land for beneficial purposes, or incinerated.[123] In 2011, EPA promulgated NSPS requirements and emission guidelines for new and existing sewage sludge incineration (SSI) units.[124] At the time the rule was promulgated, EPA estimated that there were 204 SSIs in use around the country.[125] The rules affected SSI units "located at wastewater treatment facilities designed to treat domestic sewage sludge," and regulated the pollutants described by § 129(a)(2), with the exception of opacity.[126]

Like many of EPA's earlier attempts to regulate under § 129, the 2011 rules were challenged by a diverse group of petitioners.[127] The named petitioner—the National Association of Clean Water Agencies (NACWA)—challenged EPA's authority to regulate under § 129 instead of § 112.[128] EPA argued that the definition of solid waste incineration unit in § 129(g)(1) applied to SSI as combustors of "any solid

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[115]58 Fed. Reg. 58498, 58499 (Nov. 2, 1993).

[116]62 Fed. Reg. 1868 (Jan. 14, 1997).

[117]70 Fed. Reg. 74870, 74871 (Dec. 16, 2005).

[118]70 Fed. Reg. 74870, 74871 (Dec. 16, 2005).

[119]70 Fed. Reg. at 74876 to 81.

[120]71 Fed. Reg. 75816 (Dec. 18, 2006).

[121]71 Fed. Reg. 74880 (Dec. 18, 2006).

[122]489 F.3d at 1255-1258; 76 Fed. Reg. 15372, 15375 (Mar. 21, 2011).

[123]76 Fed. Reg. at 15375 (Mar. 21, 2011).

[124]76 Fed. Reg. 15372.

[125]76 Fed. Reg. 15387.

[126]76 Fed. Reg. 15380.

[127]National Ass'n of Clean Water Agencies v. E.P.A., 734 F.3d 1115, 77 Env't. Rep. Cas. (BNA) 1473 (D.C. Cir. 2013).

[128]NACWA, 734 F.3d at 1125; note that regulation under §§ 112 and 129 are exclusive. 42 U.S.C.

waste material from . . . the general public."[129] NACWA reasoned that EPA misapplied the definition, since sewage sludge was generated by POTWs and not by "the general public." In considering the definition, however, the D.C. Circuit applied *Chevron* to EPA's interpretation of the ambiguous definition in § 129 and ultimately upheld the rules.[130]

Several aspects of the final rule were remanded without vacatur back to EPA, however, on the basis that the Agency failed to adequately describe the methodology used to develop the MACT floors for the rules.[131] The D.C. Circuit asked EPA to justify the use of assumptions based on control technology to fill gaps in the available data regarding the best-performing sources.[132] The problem with this approach, according to Sierra Club and the Court, was that the use of technology as a substitute ignored real world factors (like the age of a unit and its method of operation) that would affect emissions.[133] The Court also required EPA to provide a better explanation of EPA's use of a statistical tool to account for variability between SSI units and to determine whether the data EPA obtained for existing units was sufficient to create a MACT floor.[134] As of 2016, when EPA promulgated federal plan requirements for SSI units in part 62, the Agency had not provided the additional information requested in the remand.[135]

j. Conclusion

Thirty years of EPA rulemaking decisions from the D.C. Circuit have answered fundamental questions about the scope and procedural requirements of § 129, but the regulation of solid waste incineration under § 129 of the Clean Air Act continues to evolve since the creation of § 129 in the 1990 Amendments. Rules for several categories of incinerators have yet to be regulated or are subject to remands, and—if history is any indication—litigation will shape the next steps of EPA's approach.

IX. INTERSTATE POLLUTION*

§ 12:66 Introduction

Air pollution respects no jurisdictional border. Harmful pollution often travels hundreds of miles from its origin, making it no surprise that air pollutants blowing across state boundaries pose some of today's most difficult challenges in protecting the public health and environment under the CAA. Because downwind states suffering adverse consequences cannot exercise jurisdiction over upwind sources, the states need the federal government to intercede.

Yet in 1970, when Congress created the modern CAA, interstate pollution was not the primary focus. The problem was not well understood, and heavy, localized concentrations of air pollution were of much greater concern. The 1970 statute addressed air pollution primarily as a local problem, and the long list of elements in § 110 that each state had to include in its state implementation plan (SIP) focused

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§ 7429(h)(2).

[129]NACWA, 734 F.3d at 1125; 42 U.S.C. § 7429(g)(1).

[130]NACWA, 734 F.3d at 1125–1130.

[131]NACWA, 734 F.3d at 1131–1135. The D.C. Circuit relied heavily on Sierra Sierra Club v. U.S. E.P.A., 167 F.3d 658, 48 Env't. Rep. Cas. (BNA) 1161, 29 Envtl. L. Rep. 20645 (D.C. Cir. 1999) in this part of the decision. *Supra* note 98.

[132]NACWA, 734 F.3d at 1134–39.

[133]NACWA, 734 F.3d at 1134–39.

[134]NACWA, 734 F.3d at 1141–50.

[135]81 Fed. Reg. 26040, 26055 (Apr. 29, 2016).

*By **Patricia Ross McCubbin,** with section 12:66 updating earlier work by **Phillip D. Reed** and **Alan J. Gilbert.**

almost exclusively on measures to bring air *within* its borders into compliance with the NAAQS. Congress included only one nod to interstate pollution, in § 110(a)(2)(E), but it simply required SIPs to include "adequate provisions for intergovernmental cooperation" on interstate pollution.[1]

In 1977, Congress strengthened and added provisions to address interstate pollution, as growing evidence showed that pollutants could be transported long distances from their source and create serious pollution problems downwind.[2] Congress modified § 110(a)(2)(E) to prohibit emissions from "any stationary source within the State . . . which will . . . prevent attainment or maintenance by any other State of [the NAAQS]."[3] That welcome change from the 1970 version went beyond merely asking states to provide for intergovernmental cooperation in their SIPs. Nevertheless, the provision still proved ineffective because it focused only on stationary sources—not mobile sources—and because it addressed only emissions that outright "prevent" NAAQS compliance downwind, rather than merely contribute to the problem.[4]

Congress at this juncture also created § 126 which, for the first time, enabled downwind states to seek relief from upwind emissions.[5] The provision allowed a state to petition EPA for a finding that a major stationary source in another state emits or would emit any air pollutant in violation of § 110(a)(2)(E). If EPA made the requested finding, it became unlawful for "any major existing source to operate more than three months after such finding" unless EPA established "emission limitations and compliance schedules" to bring the source into compliance with § 110(a)(2)(E) "as expeditiously as practicable, but in no case later than three years after the date of such finding."[6]

However, because § 126 was tied to enforcing § 110(a)(2)(E), it suffered from the same weaknesses of focusing only on stationary sources and only on emissions that "prevented" downwind NAAQS compliance. EPA repeatedly delayed or denied § 126 petitions. As then-Judge Ruth Bader Ginsburg observed in 1988: "EPA has taken *no* action against sources of interstate air pollution under either § 126(b) or § 110(a)(2)(E) in the decade-plus since those provisions were enacted [in 1977]."[7]

In 1990, Congress again strengthened the provisions addressing interstate pollution. Congress amended § 110(a)(2)(E)—which was renumbered to be § 110(a)(2)**(D)**—to focus not only on stationary sources, but also "other type[s] of emissions activit[ies]" within an upwind state (such as automobiles).[8] In addition, rather than focusing on emissions that "prevent" compliance with the NAAQS, the revised provision requires states to address emissions that "*contribute significantly* to [NAAQS] nonattainment in [another state], or interfere with maintenance [of the NAAQS] by" another state.[9]

Section 126 was modified to cross-reference the newly strengthened § 110(a)(2)(D).

[Section 12:66]

[1]CAA § 110(a)(2)(E) (1970), codified at 42 U.S.C. § 1857c-5(a)(2)(E) (1970).

[2]Air Pollution Control Dist. of Jefferson County v. EPA, 739 F.2d 1071, 1088, 14 ELR 20573 (6th Cir. 1984) ("a major objective of the 1977 amendments was to deal with the problem of interstate air pollution").

[3]42 U.S.C. § 7410(a)(2)(E) (1977).

[4]Connecticut v. EPA, 696 F.2d 147, 156–57, 13 ELR 20135 (2d Cir. 1982).

[5]42 U.S.C. § 7426.

[6]*Id.* § 7426(b) and (c).

[7]New York v. EPA 852 F.2d 574, 581, 18 ELR 21194 (D.C. Cir. 1988) (Ginsburg, J., concurring).

[8]42 U.S.C. § 7410(a)(2)(D)(i)(I).

[9]42 U.S.C. § 7410(a)(2)(D)(i)(I) (emphasis added).

The provision also now allows a downwind state to petition EPA, not just regarding a single source, but a "group of stationary sources."

Congress in 1990 also adopted two brand-new provisions addressing transboundary pollution problems. Under § 176A, EPA may designate "transport regions"—areas of the country that are affected by a common interstate air pollution problem—and may establish a "transport commission" comprised of state representatives to recommend control measures for the transport region.[10] In § 184, Congress established one particular transport region: the Northeast Ozone Transport Region, composed of 11 northeastern and Mid-Atlantic states in their entirety, the District of Columbia, and northern Virginia (included as part of the D.C. "Consolidated Metropolitan Statistical Area").[11]

Since 1990, the science of interstate pollution transport has become more refined, and downwind states have pressed EPA to address upwind emissions. As a result, the Agency has used the statutory provisions added or strengthened in 1990 to write a series of rules regulating interstate pollution. This Subchapter IX will first discuss EPA's rules implementing § 110(a)(2)(D) along with the caselaw reviewing those rules. Then the subchapter will discuss the rules and cases under §§ 126, 176A, and 184.

§ 12:67 The 1998 NO_x SIP Call and the *Michigan* Decision

Section 110(a)(2)(D) requires SIPs to:

> (D) contain adequate provisions—
>
> (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—
>
> (I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.[1]

Section 110(a)(2)(D) is known as the "good neighbor" provision because it requires each state to help other states with transboundary pollution.

In 1998, EPA promulgated its first rule regulating stationary sources under the good neighbor provision.[2] In that groundbreaking rule, the Agency demanded that 22 states and the District of Columbia—nearly half the nation—revise their SIPs to reduce emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that together were contributing to ozone pollution downwind.

When EPA demands revisions of a previously approved SIP, that demand is known as a "SIP call," and so this rule was informally called the "NO_x SIP Call."[3] The NO_x SIP Call was very complex, from a technical perspective, and highly in-

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[10] 42 U.S.C. § 7506a.

[11] *Id.* § 7511c(a).

[Section 12:67]

[1] 42 U.S.C. § 7410(a)(2)(D).

[2] Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region, 63 Fed. Reg. 57356 (Oct. 27, 1998). This description of the NO_x Sip Call is loosely based on the author's work in Patricia Ross McCubbin, *Michigan v. EPA: Interstate Ozone Pollution and EPA's "NO_x SIP Call,"* 20 ST. LOUIS U. PUB. L. REV. 47 (2001).

[3] EPA's authority for a SIP call is contained in § 110(k)(5). 42 U.S.C. § 7410(k)(5). Congress explicitly added this provision to the CAA in 1990 because, until then, EPA's authority to require a state to revise its SIP was only implied by the CAA. *See* Virginia v. EPA, 108 F.3d 1397, 1407, 27 ELR 20718 (D.C. Cir. 1997) (discussing pre-1990 implicit authority for EPA to require SIP revisions under § 110(a)(2)(H)*), modified on other grounds*, 116 F.3d 499, 27 ELR 21380 (D.C. Cir. 1997) (per curiam).

novative in its policy choices.

On the technical side, EPA had to determine, as a scientific matter, which upwind states' emissions were contributing to ozone pollution in downwind states. To determine those state-to-state linkages, EPA relied on sophisticated air quality data and modeling to predict which downwind receptors would not attain the NAAQS. Then it analyzed the extent to which an upwind state was contributing to the nonattainment downwind. The Agency "linked" an upwind state to downwind nonattainment unless the upwind state's impacts were *de minimis* (defined as less than one percent of the relevant NAAQS).

As noted above, § 110(a)(2)(D) prohibits an upwind state's emissions that "contribute significantly" to a downwind state's nonattainment *or* that "interfere with maintenance" of a NAAQS. However, in the NO_x SIP Call, EPA focused only on the nonattainment prong and not the maintenance prong. EPA's modeling examined nonattainment under two different ozone NAAQS.[4] One was the original ozone standard written in 1979, which set the permissible level of ozone in the ambient air at 120 parts per billion (ppb), averaged over a one-hour interval.[5] The second was the 1997 ozone standard, which tightened the allowable level to 80 ppb and changed the averaging interval to eight hours.[6] The result was EPA-identified linkages between upwind states and downwind nonattainment areas.

On the policy side, EPA made three innovative choices to implement § 110(a)(2)(D).

First, the Agency had to determine which emissions would be considered "significant," because the good neighbor provision bans only "significant" contributions to downwind nonattainment. EPA decided to define the "significant" contributions based on *control costs*—that is, on what types of pollution sources were found in a state and whether "highly cost-effective" pollution controls were available.[7] The Agency studied various options and determined that measures costing no more than $2,000 per ton of NO_x removed were highly cost-effective. EPA then decided that—out of the hundreds of emitters that a state might regulate—highly cost-effective controls were available for four types of sources: (1) large boilers and turbines that generate electricity at power plants; (2) large boilers and turbines at industrial facilities; (3) cement kilns; and (4) stationary internal combustion engines (such as pipeline compressors). For these sources, EPA declared that the "significant" emissions—i.e., the emissions required be eliminated under § 110(a)(2)(D)—were those that could be controlled using the highly cost-effective measures.

Second, EPA assigned to each state an "emissions budget"—that is, a cap on the total amount of NO_x emissions permitted from that state. In setting the budget, EPA calculated the amount of NO_x that would be emitted if sources in the state used the highly cost-effective controls identified in the prior step.[8] EPA did not dictate that the states actually impose the highly cost-effective controls; instead, each state could choose to regulate any number or variety of sources—not limited to the four types of sources EPA highlighted—with any mix of controls, as long as the

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[4]Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region, 63 Fed. Reg. at 57387-88.

[5]40 C.F.R. § 50.9 (1979). The standard is technically written in parts per million (ppm), but this sub-chapter uses the more common ppb measurements for all NAAQS.

[6]In May 1999, the U.S. Court of Appeals for the D.C. Circuit remanded the 1997 ozone NAAQS in *American Trucking Associations, Inc. v. EPA*. 175 F.3d 1027 (D.C. Cir. 1999), *reh'g granted in part and denied in part*, 195 F.3d 4 (D.C. Cir. 1999), *cert. granted and reversed sub nom.*, Whitman v. American Trucking Associations, Inc., 531 U.S. 457, 31 ELR 20512 (2001). As a result, the NO_x SIP Call findings based on the 1997 standard were stayed.

[7]Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region, 63 Fed. Reg. at 57399–402.

[8]*Id.* at 57378.

state did not exceed its emissions budget.

Third, the Agency established an optional emissions trading program that enabled regulated entities to buy and sell NO_x emissions "allowances" under an over-arching regional cap.[9] Under this regional cap and trade program, a regulated source could (1) emit NO_x up to the amount covered by the allowances it held, (2) over-control its emissions and sell its unneeded allowances to other facilities or bank them for future use, or (3) emit more NO_x than covered by its allowances and buy allowances from other facilities to cover the excess. As a result, while emissions in some states might exceed their budgets, emissions in other states might be lower than the budgets. Consequently, the total emissions would not exceed the cap across the entire region.

Under the NO_x SIP Call, states had to submit their revised SIPs by September 30, 1999, and implement the emissions budgets by May 1, 2003. If a state failed to submit adequate SIP revisions by the 1999 deadline, EPA would impose a federal implementation plan (FIP).

The U.S. Court of Appeals for the D.C. Circuit generally upheld the NO_x SIP Call in its 2000 *Michigan v. EPA* opinion.[10] The majority held that, although Congress had not explicitly authorized EPA to consider control costs when identifying significant emissions in upwind states, nothing in the text of § 110(a)(2)(D), the overall structure of the CAA, or its legislative history indicated that Congress intended to bar EPA from doing so.[11] The Agency, therefore, could exercise its discretion under the statute. This proved a controversial decision, with Judge David B. Sentelle dissenting because, in his view, EPA could not consider pollution control costs unless Congress expressly provided that authority.[12]

The majority also upheld EPA's authority to establish budgets for the regulated states. The challengers argued that the budgets upset the careful balance between federal and state authority embedded in the "cooperative federalism" model of the CAA. They argued the budgets upset that balance by essentially forcing each state to impose the highly cost-effective measures on which the budgets were based. The *Michigan* court disagreed, finding that, even if a state chose not to mandate the *highly* cost-effective measures, it could still mandate *reasonably* cost-effective measures, including programs to reduce NO_x emissions from automobiles.[13] Because "real choice exists for the covered states," the *Michigan* court concluded that EPA had not contravened the cooperative federalism of the CAA.[14]

The challengers did not attack the overall validity of the trading program for emissions allowances, but did balk at EPA's decision on which sources could participate in the trading program. The court rejected that criticism.[15]

The *Michigan* court also agreed with EPA on several other issues, including that: (1) the Agency was not obligated to convene a transport commission under sections 176A and 184 prior to issuing the NO_x SIP Call; (2) the rule did not conflict with earlier EPA decisions that certain upwind contributions did *not* violate the pre-1990 version of the good neighbor provision; and (3) EPA reasonably imposed uniform control requirements on all the states subject to the rule, rather than varying the

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[9] *Id.* at 57430-31, 57456-57.

[10] *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000).

[11] *Id.* at 679.

[12] *Id.* at 695 (Sentelle, J., dissenting).

[13] *Id.* at 687–88 (citing 63 Fed. Reg. at 57438).

[14] *Id.* at 688.

[15] *Id.* at 689-90.

controls based on geographic considerations.[16]

§ 12:68 The 2005 Clean Air Interstate Rule and the *North Carolina* Decision

Despite progress under the NO_x SIP Call, air quality in many states continued to deteriorate, in significant part because of emissions from upwind jurisdictions. Concentrations of ground-level ozone and its NO_x and VOC precursors continued to increase. Concentrations of fine particles, caused by NO_x as well as sulfur dioxide (SO_2), also endangered the public health in many states. As a result, in 2005 EPA adopted a second rule under § 110(a)(2)(D) to address interstate pollution under the 1997 ozone NAAQS and the 1997 fine particulate matter ($PM_{2.5}$) NAAQS. That second rule, the Clean Air Interstate Rule (CAIR), required 28 upwind states to reduce their NO_x and SO_2 emissions to alleviate ozone and $PM_{2.5}$ downwind.[1]

CAIR built on the NO_x SIP Call, using similar analytical methods first to identify downwind nonattainment areas and then to determine which upwind states were contributing more than *de minimis* levels of pollution to them. EPA proceeded to set state emissions budgets that considered the cost-effectiveness of pollution controls. The Agency also provided for two optional trading programs: one for NO_x and another for SO_2.

The D.C. Circuit reviewed CAIR in 2008, in *North Carolina v. EPA*.[2] The court's ruling generally adhered to some of the key holdings from the *Michigan* decision. For example, the court continued to allow the Agency to consider the cost-effectiveness of pollution controls when identifying the emissions that were significantly contributing to downwind pollution.[3] The court also approved EPA's focus on helping downwind areas that would be predicted (or modeled) to be in nonattainment at a particular date in the future, rather than focusing on current nonattainment.[4]

The *North Carolina* decision also continued to authorize EPA to set emissions budgets for the states. However, the court found the CAIR emissions budgets to be arbitrary. The judges reasoned that last-minute changes to EPA's calculations appeared to shift emissions allocations from state to state primarily to share costs among the states, rather than to address each state's contributions to downwind pollution.[5]

In a surprise move, though, the *North Carolina* panel struck down the NO_x and SO_2 trading programs.[6] As noted above, the validity of the trading program in the NO_x SIP Call had not been litigated in *Michigan*. Here, in reviewing CAIR, the court did not ban interstate emissions trading altogether under the good neighbor provision of § 110(a)(2)(D). However, the judges expressed concern that CAIR's regionwide trading program was so flexible as to allow upwind sources in one state

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[16] *Id.* at 671-74, 679-80.

[Section 12:68]

[1] Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule), 70 Fed. Reg. 25162 (May 12, 2005). This description of CAIR is loosely based on the author's work in Patricia Ross McCubbin, *Cap and Trade Programs Under the Clean Air Act: Lessons from the Clean Air Interstate Rule and the NO_x SIP Call*, 18 PENN STATE L. REV. 102 (2001).

[2] *North Carolina v. EPA*, 531 F.3d 896, 38 ELR 20172 (D.C. Cir. 2008), *modified on reh'g in part*, 550 F.3d 1176, 39 ELR 20306 (D.C. Cir. 2008) (per curiam).

[3] *Id.* at 916-17.

[4] *Id.* at 913-14. EPA took this same approach in the NO_x SIP Call, but the issue was not litigated there.

[5] *Id.* at 918-921.

[6] *Id.* at 907-08.

to "purchase enough NO_x and SO_2 allowances to cover all their current emissions, resulting in no change in [that state's] contribution" to downwind pollution.[7] The court held that any trading program must assure some "measurable" emission reductions in *each* upwind state.[8]

The *North Carolina* court also rejected EPA's approach to the "maintenance" prong of § 110(a)(2)(D) (an issue not litigated in the NO_x SIP Call). Section 110(a)(2)(D) prohibits an upwind state from "contribut[ing] significantly" to a downwind state's nonattainment *or* "interfer[ing] with maintenance" of a NAAQS. EPA interpreted the maintenance prong to apply only to downwind areas that previously were in nonattainment. Thus, rather than using the maintenance prong to separately identify downwind areas needing protection, EPA simply interpreted the maintenance prong as a corollary to the nonattainment analysis. The court found this interpretation too narrow, ignoring downwind areas that had never fallen into nonattainment but were barely meeting the NAAQS. The judges ruled that the maintenance prong was designed to address upwind emissions that *could* cause a downwind area to fail to meet the NAAQS in the future, even if that area is currently in attainment.[9]

Finally, the *North Carolina* decision rejected the extended deadline EPA gave to upwind states for reducing their emissions. The *downwind* states had to come into compliance with the SO_2 NAAQS no later than 2010 (pursuant to a separate provision of the CAA); a similar compliance deadline applied for the ozone NAAQS. Yet CAIR gave the *upwind* states until 2015 to reduce their contributions to downwind pollution. The court held this to be unlawful, noting that this mismatch between the dates essentially required downwind states to make greater emissions reductions for five years than legally required because they would not be benefiting from the reductions expected from upwind states under § 110(a)(2)(D).[10]

The court initially vacated the entire rule on the basis of CAIR's "fatal flaws."[11] The vacatur could potentially have created turmoil in the market for emissions allowances.[12] On rehearing, however, the court left the rule in place and remanded it to EPA, encouraging the Agency to act promptly to address CAIR's identified weaknesses.[13]

§ 12:69 The 2011 Cross-State Air Pollution Rule and the *Homer* Decisions

EPA adopted another interstate pollution rule in 2011, in response to the remand of CAIR in the *North Carolina* decision.[1] Originally EPA referred to it as the Transport Rule, and later as the "Cross-State Air Pollution Rule" (CSAPR). This discussion will refer to the regulation by another common moniker, "the Cross-State Rule."

The Cross-State Rule required 27 upwind states to reduce their emissions of NO_x and SO_2 to achieve downwind attainment of three different NAAQS: the 1997 ozone

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[7] *Id.* at 907.

[8] *Id.* at 908.

[9] *Id.* at 909-10.

[10] *Id.* at 911-12.

[11] *Id.* at 901.

[12] *Id.* at 929-30.

[13] North Carolina v. EPA, 550 F.3d 1176, 39 ELR 20306 (D.C. Cir. 2008).

[Section 12:69]

[1] Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48208 (Aug. 8, 2011).

NAAQS, the 1997 $PM_{2.5}$ NAAQS, and the 2006 $PM_{2.5}$ NAAQS.[2]

The Cross-State Rule shared common approaches with the NO_x SIP Call and CAIR. For example, EPA identified upwind-downwind state linkages and screened out certain states only if their contributions downwind were *de minimis*. EPA then considered control costs when determining which emissions were "significant" and should be eliminated. The Agency ultimately determined that the cut-off for cost-effective reductions was $500 per ton of NO_x removed, because "moving beyond the $500 cost threshold . . . would result in only minimal additional ozone season NO_x emission reductions . . . ."[3] Based on the cost-effective controls, EPA calculated emissions budgets for each regulated state as part of a FIP and established an allowance trading program.

EPA addressed and corrected deficiencies in the previous rule identified by the *North Carolina* decision. For example, the Agency incorporated into the Cross-State Rule "assurance" requirements to guarantee that sources in each upwind state would have to make *some* reductions on their own, rather than simply buying allowances to cover all their emissions.[4] EPA additionally gave full effect to the maintenance prong of § 110(a)(2)(D), independently analyzing whether upwind emissions interfered with maintenance of NAAQS downwind.[5]

In a significant departure from both CAIR and the NO_x SIP Call, EPA did not grant the upwind states time to revise their SIPs to implement EPA's budgets, which would have allowed the states to choose precisely which sources to control and to what degree. Rather, the Agency immediately promulgated the FIP and made the source-specific choices itself, assigning each regulated source a portion of the state's emissions budget.[6]

The D.C. Circuit struck down the Cross-State Rule in its entirety in the 2012 case, *EME Homer City Generation, L.P. v. EPA (Homer I)*.[7] The Court of Appeals ruled that EPA could not promulgate FIPs before giving the states an opportunity to implement their own SIPs to address the budgets EPA had developed.[8] In addition, the appellate court held that EPA could use cost considerations only to *excuse* an upwind state from its obligation to reduce certain emissions—after first using only air quality metrics to determine which upwind states to regulate and how stringently to do so.[9] The court found that judging the "significant" emissions based on cost considerations might unlawfully lead to "over-control"—that is, requiring an upwind state to reduce its emissions beyond its contribution to downwind air pollution, simply because cost-effective emissions controls were available.[10]

The U.S. Supreme Court reversed the D.C. Circuit in 2014 in *EPA v. EME Homer City Generation, L.P. (Homer II)*.[11] The Court upheld the Cross-State Rule in a 6–2 decision, giving EPA a very significant win. For the first time, the highest court in the land held that, under § 110(a)(2)(D), EPA could use innovative regulatory means to address the very complicated issue of interstate pollution. Indeed, one of the most

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[2] *Id.* at 48209.

[3] *Id.* at 48256.

[4] *Id.* at 48212.

[5] *Id.* at 48254.

[6] *Id.* at 48212.

[7] *EME Homer City Generation, L.P. v. EPA (Homer I)*, 696 F.3d 7, 42 ELR 20177 (D.C. Cir. 2012), *rev'd*, 572 U.S. 489, 44 ELR 20094 (2014).

[8] *Id.* at 21-22.

[9] *Id.* at 28.

[10] *Id.* at 23-24.

[11] *EPA v. EME Homer City Generation, L.P. (Homer II)*, 572 U.S. 489, 44 ELR 20094 (2014).

important elements of the *Homer II* decision is the Court's recognition of the complexities of addressing upwind emissions impacting downwind states. As Justice Ginsburg explained in her majority opinion:

> [C]urtailing interstate air pollution poses a complex challenge for environmental regulators. First, identifying the upwind origin of downwind air pollution is no easy endeavor. Most upwind States propel pollutants to more than one downwind State, many downwind States receive pollution from multiple upwind States, and some States qualify as both upwind and downwind. The overlapping and interwoven linkages between upwind and downwind States with which EPA had to contend number in the thousands.[12]

The Supreme Court did not rule expressly on EPA's authority to set budgets for the states or to establish an emissions allowance trading program. Yet the opinion implicitly approved both innovations. Justice Ginsburg wrote approvingly of the trading program, noting that "[t]his type of 'cap-and-trade' system cuts costs while still reducing pollution to target levels."[13] Likewise, the Court (and the D.C. Circuit, as well) treated the budgets as a given and simply determined whether the states should have an opportunity to implement those budgets before EPA imposed its FIP.

On the FIP timing issue, the Court relied on the plain text of the statute to rule in EPA's favor. Justice Ginsburg explained that the statute requires EPA, once the Agency has disapproved a SIP for not meeting the good neighbor provision, to issue a FIP *any time* within two years after the disapproval.[14] The statute does not mention any opportunity for the states, after the disapproval, to revise their SIPs in response to EPA's budgets. The Court hinted that perhaps such an approach would be "sensible," but it is not what the statutory text requires.[15]

The challengers noted that, both in the NO_x SIP Call and in CAIR, the Agency first issued the budgets and then gave the states time to revise their SIPs in light of those targets. The Supreme Court stated that the practice in the prior two rules was simply an exercise of EPA's discretion, not something compelled by the statute.[16]

The Court additionally approved EPA's consideration of control costs when determining how much pollution each upwind state should eliminate. It held that § 110(a)(2)(D) is silent on whether costs may be considered—notably, unlike the NAAQS provision of § 109, which the Court earlier held to ban costs as a factor in the standard-setting process.[17] The Court also held that EPA's approach was "efficient and equitable," because it focused on reducing the pollution that was "easier, i.e., less costly, to eradicate" and because it asked more of "those states that have done relatively less in the past to control their pollution."[18]

In the majority's view, the idea of using only air quality measurements, and not costs, to assign reductions to the upwind states (as suggested by the lower court) was simply unworkable. The Justices reasoned that an upwind state's measurable contribution to downwind pollution differs depending on which downwind state one considers. As EPA wrote, and Justice Ginsburg quoted favorably: "While it is possible to determine an emission reduction percentage if there is a single downwind receptor, most upwind states contribute to multiple downwind receptors (in multiple

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[12] *Id.* at 496-97.

[13] *Id.* at 503 n.10.

[14] *Id.* at 508 (citing 42 U.S.C. § 7410(c)(1)).

[15] *Id.* at 508-09.

[16] *Id.* at 510-11.

[17] *Id.* at 520 n.21 (distinguishing Whitman v. American Trucking Assns., Inc., 531 U.S. 457, 31 ELR 20512 (2001)).

[18] *Id.* at 519.

states) and would have a different reduction percentage for each one."[19] Thus, because the "nonattainment of downwind States results from the *collective and interwoven* contributions of multiple upwind States," air impacts alone could not be the basis for the allocations.[20] Consequently, EPA's reliance on costs was a logical decision.

Nevertheless, in approving EPA's reliance on control costs to allocate responsibility among the upwind states, the Supreme Court agreed with the lower court that EPA's cost considerations must not lead to over-control. Justice Ginsburg wrote: "EPA cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State . . . ."[21] Likewise, referring to the criterion by which EPA screened out certain states altogether, she stated: "Nor can EPA demand reductions that would drive an upwind State's contribution to every downwind State to which it is linked below one percent of the relevant NAAQS [the screening threshold]."[22]

On the other hand, the majority emphasized that, just as EPA has a duty to avoid over-control, the Agency is also obligated to avoid "under-control," and "a degree of imprecision is inevitable in tackling the problem of interstate air pollution." Thus, with the Agency "[r]equired to balance the possibilities of under-control and over-control, EPA must have leeway in fulfilling its statutory mandate."[23]

The Supreme Court ultimately held that the potential for over-control did not require invalidation of the Cross-State Rule "on its face."[24] It remanded the case to the lower court to hear state-specific, as-applied challenges based on concerns about over-control.

On remand in *EME Homer City Generation, L.P. v. EPA (Homer III)*, the D.C. Circuit found 13 states were over-controlled under the Cross-State Rule.[25] For example, the state of Texas was regulated for SO_2 emissions because it was linked to only one locale—Madison, Illinois. The calculations in EPA's record indicated that if all the upwind states contributing to Madison's $PM_{2.5}$ used controls costing only $100 per ton, rather than the $500 per ton EPA demanded, Madison would come into attainment with the $PM_{2.5}$ NAAQS. That result, the court concluded, was "over-control" for the state of Texas. It invalidated the SO_2 budget for Texas and, for similar reasons, the state's NO_x budget, along with the SO_2 or NO_x budgets for 12 other states that likewise resulted in over-control.[26]

The court also heard various other follow-up issues on the Cross-State Rule, such as challenges to the precise methodology EPA used for the maintenance prong of § 110(a)(2)(D) and challenges to EPA's models. The court rejected all of those additional claims.

§ 12:70 The 2016 Update Rule Implementing the 2008 Ozone NAAQS and the *Wisconsin* Decision

The 2016 Update Rule is best understood in context—namely, recognizing that EPA has adopted increasingly stringent ozone NAAQS over the years. In 2008, the Agency tightened the ozone NAAQS to 75 ppb, down from 80 ppb under the stan-

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[19] *Id.* at 515 (internal brackets omitted).

[20] *Id.* at 514 (emphasis added).

[21] *Id.* at 521.

[22] *Id.* at 521-22.

[23] *Id.* at 523.

[24] *Id.* at 524.

[25] *EME Homer City Generation, L.P. v. EPA (Homer III)*, 795 F.3d 118 (D.C. Cir. 2015).

[26] *Id.* at 128-30.

dard promulgated in 1997.[1] Even though EPA issued the 75 ppb standard in 2008 and promulgated the Cross-State Rule (discussed in the prior section) in 2011, the Cross-State Rule did not address that 2008 NAAQS, but instead focused on the 1997 NAAQS. That odd overlap was due to the considerable time involved in developing a new NAAQS and in writing a rule to address interstate pollution. As a result, often the latter cannot take account of any NAAQS revisions that were concurrently under development.[2]

The promulgation of the 2008 NAAQS triggered a three-year deadline for states to submit SIPs satisfying various CAA requirements, including the good neighbor provision.[3] Many states did not meet this deadline. Consequently, in July 2015, EPA published a rule finding that 24 upwind states failed to comply with § 110(a)(2)(D) as to the 2008 ozone NAAQS.[4]

Under § 110(c)(1), once EPA determines that a state failed to comply with its SIP obligations, the Agency has two years to issue a FIP addressing the deficiency.[5] That placed a 2017 deadline on the Agency to issue a FIP for each upwind state to fully implement § 110(a)(2)(D) for the 2008 ozone NAAQS.

In October 2016, EPA took an admittedly partial step toward satisfying its FIP obligation with the Cross-State Air Pollution Rule Update,[6] here given the moniker "Update Rule" to emphasize that the regulation does not merely mimic the Cross-State Rule. Rather, it represents its own important development by both focusing on a new NAAQS and embodying a controversial Agency choice that eventually led to a judicial remand.

The Update Rule followed the same four-step process seen in prior rules to regulate upwind emissions. First, EPA identified the downwind receptors it projected would be unable to attain or maintain compliance with the tighter NAAQS. The Agency applied projections of air quality in the 2017 ozone season (May 1 through September 30).[7]

Second, EPA used complex modeling to identify the upwind states contributing to the downwind air quality effects. It screened out upwind contributions that were deemed *de minimis*.

Third, EPA analyzed the amount of NO_x emissions that each upwind state could reduce with cost-effective measures and established state emission budgets based on those controls. Responding to the Supreme Court decision in *Homer II* and the remand in *Homer III*, EPA performed an over-control analysis to ensure no upwind state was being required to reduce its emissions more than called for by § 110(a)(2)(D).

Finally, the Agency implemented the budgets via a regional trading system for emissions allowances. In particular, EPA issued a FIP for each upwind state that

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[Section 12:70]

[1]National Ambient Air Quality Standards for Ozone, 73 Fed. Reg. 16436 (Mar. 27, 2008).

[2]In 2015, EPA again tightened the ozone NAAQS to 70 ppb. See § 12:73 below for EPA's action under § 110(a)(2)(D) as to the 2015 ozone NAAQS.

[3]42 U.S.C. §§ 7410(a)(1), 7410(a)(2)(D).

[4]Findings of Failure to Submit a Section 110 State Implementation Plan, 80 Fed. Reg. 39961 (July 13, 2015).

[5]42 U.S.C. § 7410(c)(1).

[6]Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 81 Fed. Reg. 74504 (Oct. 26, 2016).

[7]*Id.* at 74507. EPA selected this target date in recognition that some downwind states, with so-called "moderate" nonattainment areas, would have to comply with the new NAAQS as early as July 2018. The 2017 ozone season would be the last full season from which data could be used to determine whether areas were complying with the NAAQS by that deadline.

required regulated sources, beginning with the 2017 ozone season, to participate in a trading program similar to the original one in the Cross-State Rule but with revised emissions allocations to reflect the latest state budgets.

In a notable deviation from past practice, however, EPA described the Update Rule as representing only a "first, partial step" toward forcing upwind states to eliminate their significant downwind contributions under the new 2008 ozone NAAQS.[8] The rule did not require upwind states to eliminate *all* of their significant contributions downwind. Rather, as EPA explained, it was "only quantifying a *subset* of each state's emission reduction obligation."[9] The subset was focused solely on one sector—electric generating units (EGUs) at power plants—and only on immediately available controls for those units, rather than more sophisticated controls that would require more time to implement.

EPA did not quantify emissions reductions from non-EGUs (such as cement kilns or industrial boilers) for two reasons. First, the Agency claimed to have "greater uncertainty in the non-EGU emission inventory estimates than for EGUs." Second, EPA suggested that NO_x reductions from non-EGUs were not feasible before the beginning of the 2017 ozone season.[10]

The Agency's air quality modeling revealed that, with only limited emission reductions from EGUs, certain downwind locations would not be able to meet the new ozone NAAQS as of 2017. Rather, EPA acknowledged that, beyond 2017, "a full resolution" of the upwind states' obligations to eliminate significant downwind contributions would require emissions reductions from non-EGUs and additional EGU emissions reductions.[11] EPA accordingly conceded that the Update Rule only "partially addresses" its own duty to promulgate FIPs for the upwind states.[12]

In its opinion issued for the September 2019 case of *Wisconsin v. EPA*, the D.C. Circuit remanded the Update Rule. The panel held that EPA must require upwind states to *fully* eliminate their significant contributions to downwind ozone levels by the same deadline that the downwind states faced for complying with the latest ozone NAAQS.[13] This conclusion was compelled, the court found, by its earlier opinion in *North Carolina*, which rejected the five-year extension EPA had given to upwind states in CAIR. The judges chided EPA for not setting *any* deadline by which the upwind states must fully eliminate their harmful emissions, arguably more egregious than the extended deadline the Agency set for upwind states in CAIR.[14]

The court rejected EPA's argument that it was not feasible for upwind sources to reduce their emissions more quickly. The panel acknowledged that, if it truly was "impossible" to meet the statutory obligations in a timely fashion, then EPA might be justified in giving the upwind sources and states more time to reduce their emissions. Nothing in the record for the Update Rule, however, suggested such an impossibility existed.[15]

§ 12:71 The 2018 Close-Out Rule on the 2008 Ozone NAAQS and the *New York* Vacatur Order

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[8] *Id.* at 74522.

[9] *Id.* at 74520-21 (emphasis added).

[10] *Id.* at 74521.

[11] *Id.* at 74522.

[12] *Id.* at 74504.

[13] *Wisconsin v. EPA*, 938 F.3d 303, 314, 49 ELR 20149 (D.C. Cir. 2019).

[14] *Id.*

[15] *Id.* at 318-19.

The next interstate pollution rule EPA issued was the so-called "Close-Out Rule," promulgated in December 2018.[1] The rule was compelled by a district court order, stemming from EPA's admission that the Update Rule (discussed in the prior section) only partially satisfied its FIP obligation. The U.S. District Court for the Southern District of New York ordered EPA, in *New York v. Pruitt*, to fully address the good neighbor obligations under the 2008 ozone NAAQS for five upwind states by December 6, 2018.[2] EPA Administrator Wheeler signed the Close-Out Rule on the date of that deadline.[3] All of that took place before the Update Rule, the basis for the Close-Out Rule, was itself remanded by the *Wisconsin* decision discussed previously.

The Close-Out Rule represents a fascinating development, in that it imposes no actual obligation on any party. Instead, the rule constitutes a statement from EPA that upwind states are *not* required to take any steps beyond the Update Rule to limit their NO_x emissions so as to help downwind states achieve the 2008 ozone NAAQS. Rather, two years after declaring that the Update Rule constituted only *partial* satisfaction of the upwind states' obligations, EPA switched gears and declared that the Update Rule "fully addresse[d]" the upwind states' significant downwind contributions and, thus, eliminated the Agency's duty to impose FIPs.[4]

Ostensibly, EPA based this conclusion on "additional information and analysis."[5] Careful observation reveals, however, that EPA moved the goalposts: while the Update Rule had been focused on helping downwind states meet the 2018 NAAQS compliance date in *moderate* areas, in this Close-Out Rule, EPA focused on the *serious* and *severe* nonattainment areas, which had to meet the new ozone NAAQS by 2021 and 2027, respectively.[6]

EPA then chose 2023 as the "appropriate future analytic year"—not the earlier deadline of 2021.[7] Unsurprisingly, when EPA ran air quality modeling for 2023, its projections showed that "there would be no remaining [downwind] monitors expected to have difficulty attaining or maintaining the 2008 ozone NAAQS." By this logic, the upwind states had no further duty to reduce their emissions, and EPA had no outstanding FIP obligation.[8]

EPA justified its decision to analyze data as of 2023 on the basis of the technical challenges of installing pollution control technologies. The Agency explained:

> The EPA identified and analyzed the feasibility and timing needed for installing additional NO_x emissions controls. . . . EPA believes it is appropriate to assume that planning for, installing, and commencing operation of new controls, regionally, for EGUs and non-EGUs would take up to 48 months, and possibly more in some cases, following

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[Section 12:71]

[1]Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard, 83 Fed. Reg. 65878 (Dec. 21, 2018).

[2]New York v. Pruitt, No. 1:18-cv-00406-JGK, 2018 U.S. Dist. LEXIS 99240, 48 ELR 20095 (S.D.N.Y. June 12, 2018).

[3]83 Fed. Reg. at 65924.

[4]*Id.* at 65878.

[5]*Id.* at 65885.

[6]*Id.* at 65892. EPA shifted its focus ostensibly because the deadline for moderate areas to meet the ozone NAAQS had passed. The Agency accordingly claimed the only upcoming deadlines it could analyze were for serious and severe areas. *Id.* Yet EPA also acknowledged that there currently were no serious or severe nonattainment areas for the 2008 ozone NAAQS in the eastern portion of the U.S. covered by the rule. *Id.* at 65892 n.64.

[7]*Id.* at 65878.

[8]*Id.* at 65879.

promulgation of a final rule requiring appropriate emission reductions.[9]

The Agency also considered administrative feasibility—specifically, the time EPA required to develop and promulgate a rule establishing emission reduction requirements to fully address the upwind states' contributions.[10]

Although the Close-Out Rule was compelled by an order from a federal district court, once the rule was issued, the D.C. Circuit appellate court heard the challenges to its substance. That court, by an order in *New York v. EPA* issued October 1, 2019, vacated the Close-Out Rule in its entirety.[11] The order was released just a little more than two weeks after a different panel of the D.C. Circuit issued the *Wisconsin* decision remanding the Update Rule, on which the Close-Out Rule was based. As noted earlier, in *Wisconsin* the court declared that EPA could not excuse the upwind states from their obligations under § 110(a)(2)(D) because of mere feasibility concerns (and only if compliance were "impossible"). The *New York* panel vacated the Close-Out Rule, for the very same reason, in a four-page per curiam order.

§ 12:72 The *New Jersey* Opinion Directing FIPs on the 2008 Ozone NAAQS by March 2021

To recap the developments discussed thus far as to the 2008 ozone NAAQS and interstate pollution: Many states did not submit SIPs satisfactory to implement their good neighbor obligations as to the 2008 NAAQS and, in 2015, EPA made a finding of those state failings. That finding compelled EPA to adopt a FIP to address the noncompliant upwind state emissions. EPA's attempt at partially satisfying its FIP obligation—the Update Rule—was remanded by the *Wisconsin* court in September 2019. EPA's follow-up attempt to declare full satisfaction—the Close-Out Rule—was vacated the next month by the *New York* court.

Consequently, the U.S. District Court for the Southern District of New York, in its July 2020 opinion in the case of *New Jersey v. Wheeler*,[1] ordered EPA to fulfill its duty under the statute; namely, to issue FIPs containing requirements that would ensure upwind sources fully eliminate their emissions that significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS downwind. Ostensibly the order pertained only to seven upwind states, but it effectively forced EPA to address its outstanding obligations generally. The court ordered the Agency "to resolve the EPA's statutory duty to promulgate FIPs fully addressing the Good Neighbor obligations of the Upwind States with respect to the 2008 ozone NAAQS through a final rulemaking issued by March 15, 2021."[2] The court's language suggested that full resolution required EPA to impose emissions limitations not only on EGUs through the use of state-of-the-art technology, but also on non-EGUs.

On October 30, 2020, EPA proposed a rule responding to the *Wisconsin* remand, the *New York* vacatur, and the *New Jersey* scheduling order.[3] The Agency described the rule, if finalized, as "resolv[ing] 21 states' outstanding interstate ozone transport

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[9] *Id.* at 65904.

[10] *Id.*

[11] New York v. EPA, 781 Fed. App'x 4, 49 ELR 20162 (D.C. Cir. 2019).

[Section 12:72]

[1] *New Jersey v. Wheeler*, 475 F. Supp. 3d 308, 50 ELR 20179 (S.D.N.Y 2020).

[2] *Id.* at 334.

[3] Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 85 Fed. Reg. 68964 (Oct. 30, 2020).

obligations with respect to the 2008 ozone NAAQS."[4]

§ 12:73 Implementation of the Good Neighbor Provision as to the 2015 Ozone NAAQS

EPA further tightened the ozone NAAQS in 2015, reducing the allowable level to 70 ppb.[1] In late 2019, EPA found that seven upwind states failed to meet their good neighbor obligations under § 110(a)(2)(D) as to the 2015 ozone NAAQS.[2] That finding triggered the Agency's obligation to issue FIPs for the noncompliant states within two years.[3] EPA had not met its obligation as the time of this writing, but it has until late 2021 to do so.

§ 12:74 Section 126 Petitions from Downwind States

Section 126 is a corollary to the good neighbor provision of § 110(a)(2)(D). The provision allows downwind states to petition EPA to impose limits directly on upwind stationary sources that violate the good neighbor provision. The statute provides:

> Any State or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of section [1]10(a)(2)(D)(ii) of this title or this section. . . . [If EPA makes such a finding] it shall be a violation . . . for any major existing source to operate more than three months after [the] finding.[1]

Section 126 refers several times to "the prohibition of § [1]10(a)(2)(D)***(ii)***." Those references were held to be a scrivener's error because sub-subsection (ii) simply cross-references back to § 126, making the two provisions circular. Instead, the language is understood, per *Appalachian Power v. EPA*, to mean the prohibition of § 110(a)(2)(D)***(i)***—i.e., the good neighbor provision.[2]

Section 126 implements the good neighbor provision of § 110(a)(2)(D) in a manner that differs from the SIP/FIP process EPA uses to implement that provision, in two key respects.

First, § 126 authorizes EPA to *directly* regulate an individual source—without any connection whatsoever to what the upwind state's SIP requires or whether EPA disapproves that SIP. EPA's authority to directly regulate sources of air pollutants stems from § 126(c). That provision allows the Agency to extend the operation of a noncompliant source beyond the standard three-month ban and to set "emission limitations and compliance schedules" to bring the source into compliance with the good neighbor provision "as expeditiously as practicable, but in no case later than three years after the date of such finding."[3]

Second, § 126 allows a downwind state or political subdivision to initiate the review of interstate pollution, rather than simply waiting on EPA to act. That

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[4] *Id.*

[Section 12:73]

[1] National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65292 (Oct. 26, 2015).

[2] Findings of Failure to Submit a Clean Air Act Section 110 State Implementation Plan, 84 Fed. Reg. 66612 (Dec. 5, 2019).

[3] 42 U.S.C. § 7410(c)(1).

[Section 12:74]

[1] 42 U.S.C. § 7426.

[2] *Appalachian Power v. EPA*, 249 F.3d 1032, 1036, 1040–44, 31 ELR 20635 (D.C. Cir. 2001) (upholding in part and rejecting in part EPA's first major rule under § 126 of the Clean Air Act since the 1990 amendments).

[3] 42 U.S.C. § 7426(b) and (c).

makes § 126 a potentially powerful tool for downwind states.

The *GenOn Rema, LLC v. EPA* case exemplifies both of those key elements of § 126.[4] New Jersey filed a petition in 2010, requesting that EPA restrict SO_2 emissions from the Portland Generating Station, a coal-fired power plant located in Pennsylvania directly across the Delaware River from Warren County, New Jersey.[5] New Jersey claimed that the Portland Generating Station was significantly contributing to the state's inability to attain or maintain the NAAQS. After reviewing modeling and other technical information, EPA agreed with New Jersey and issued a rule imposing emission limits and compliance schedules on the facility. New Jersey's petition presents a classic example of the need for § 126—a major emitting facility immediately across the river that was causing difficulties for the downwind counties in meeting the NAAQS.

Beyond looking at a specific source, a § 126 petition can spur EPA to take regional action under the SIP/FIP process of § 110(a)(2)(D). This holds especially true if several states submit coordinated petitions. For example, § 126 petitions helped encourage EPA to issue the NO_x SIP Call. New York, Connecticut, and other northeastern states had filed repeated but unsuccessful petitions asking the Agency to regulate upwind NO_x emissions.[6] Although EPA was initially reluctant to intercede in the states' disputes over interstate ozone pollution, the continuing pressure of the petitions, as well as the growing scientific evidence of the nature of interstate pollution, led to EPA action.

A similar dynamic played out with respect to CAIR. In 2004, to pressure EPA into adopting a more aggressive regulatory scheme after the NO_x SIP Call, the state of North Carolina petitioned the Agency under § 126, asking EPA to directly regulate the sources in upwind states that were adversely affecting North Carolina's air quality. Preferring to rely on coordinated multi-state actions rather than direct federal control of sources, EPA denied the § 126 petition and adopted CAIR to achieve regional emissions reductions.[7]

Section 126 is ultimately a tool to implement the good neighbor provision of § 110(a)(2)(D), and so EPA uses analytical steps that are somewhat similar in both types of rulemaking. First, the Agency analyzes whether the downwind petitioning state is indeed likely to have difficulties attaining or maintaining a particular NAAQS in the future. Technically, under § 126, the petitioning state bears the initial burden of making this demonstration, and yet EPA often proceeds to carry out its own independent analyses, just as under § 110(a)(2)(D).[8]

Second, EPA determines whether the emissions from the upwind state(s) targeted in the petition are linked to the downwind state's air pollution. The Agency's regulatory authority under § 126 is limited to *major* stationary sources and does not encompass small stationary sources or mobile sources. Yet the Agency bases its analyses of the upwind-downwind linkages, at this second step, on *all* emissions in an upwind state, as it does under § 110(a)(2)(D). The D.C. Circuit upheld this approach, recognizing that Congress intended the two provisions to be implemented in a consistent manner.[9]

Third, assuming the Agency has identified an upwind-downwind linkage, EPA determines whether the petitioning state has carried its burden to demonstrate that

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[4]*GenOn Rema, LLC v. EPA*, 722 F.3d 513, 43 ELR 20167 (3d Cir. 2013).

[5]*Id.* at 516, 518.

[6]See Vickie L. Patton, *The New Air Quality Standards, Regional Haze and Interstate Air Pollution Transport*, 28 ELR 10155, 10166 n.89 (Apr. 1998).

[7]Rulemaking on Section 126 Petition From North Carolina, 71 Fed. Reg. 25328 (Apr. 28, 2006).

[8]Maryland v. EPA, 958 F.3d 1185, 1195–97, 50 ELR 20121 (D.C. Cir. 2020).

[9]Appalachian Power v. EPA, 249 F.3d 1032, 1049–50, 31 ELR 20635 (D.C. Cir. 2001).

there are cost-effective measures that EPA could impose on the source(s) identified in the petition. One petitioning state, New York, tried to satisfy its burden by submitting the same type of data on EGUs that the Agency uses in its § 110(a)(2)(D) rulemakings, and the court chastised EPA for rejecting that data without "a coherent explanation."[10]

Given the similarities between the analytical steps under sections 110(a)(2)(D) and 126, it was to be expected that the judicial decisions under the two provisions are also similar. For example, under § 126—just as under § 110(a)(2)(D)—after EPA determines that upwind emissions are adversely affecting a downwind state, the Agency need not give the upwind state time to respond, and can move forward immediately with its own regulatory action.[11] In addition, under both provisions, EPA cannot use an analytical date (e.g., the year 2023) that is later than the downwind states' attainment deadline (e.g., the year 2021).[12] Likewise, the courts will defer to EPA's decisions on highly technical issues, even if the Agency's modeling is not exact, recognizing that some level of imprecision is necessary if EPA is to address interstate pollution.[13]

Although the first three steps of EPA's analysis under both sections 110(a)(2)(D) and 126 are fairly similar, Congress arguably intended the fourth step—the remedy—to be quite different under § 126. Yet the Agency blends the remedies to some degree, to the consternation of some downwind states. In particular, while EPA has indeed imposed source-specific emission limits directly on individual sources, consistent with § 126, it has also allowed those same regulated sources to meet their obligations by simply buying emission allowances in an EPA-created emissions trading system. Using the § 126 rule at issue in *Appalachian Power*, for example, EPA directly imposed the NO_x SIP Call emissions limits on certain upwind sources under § 126, but it also allowed those sources to participate in the NO_x SIP Call trading program.[14]

Trading is problematic from the perspective of a downwind state. If, for example, the GenOn facility, sitting just across from New Jersey on the Pennsylvania side of the river, simply bought emission allowances to cover its emissions and continued to release SO_2, that would provide no relief to the downwind New Jersey counties that

[10]New York v. EPA, 964 F.3d 1214, 1222, 50 ELR 20172 (D.C. Cir. 2020) (discussing EGU emission rate data submitted by the petitioning state).

[11]*Appalachian Power*, 249 F.3d at 1046–48 (under § 126, EPA not required to wait for SIP revisions before directly regulating upwind sources); GenOn Rema, LLC v. EPA, 722 F.3d 513, 519–25 43 ELR 20167 (3d Cir. 2013) (same); EPA v. EME Homer City Generation, L.P. (Homer II), 572 U.S. 489, 508–09 44 ELR 20094 (2014) (under § 110(a)(2)(D), EPA not required to wait for SIP revisions before imposing FIP).

[12]*New York*, 964 F.3d at 1226 (under § 126, EPA required to align upwind and downwind deadlines); Wisconsin v. EPA, 938 F.3d 303, 312–13, 49 ELR 20149 (D.C. Cir. 2019) (same alignment required under § 110(a)(2)(D)).

[13]*Homer II*, 572 U.S. at 523 (under § 110(a)(2)(D), "EPA must have leeway" when dealing with complex issues of interstate pollution); West Virginia v. EPA, 362 F.3d 861, 867–68 (D.C. Cir. 2004) (in a § 126 case, citing the "familiar standard" that "agency determinations based upon highly complex and technical matters are entitled to great deference") (internal quotations and citations omitted). The *West Virginia* case is a particularly interesting example on this point because it was responding to a remand from the *Appalachian Power* decision in which, despite the usually extremely high deference to expert agencies' modeling and predictions, the D.C. Circuit simply could not accept EPA's prediction that electric usage in 2007 would be *lower* than in 1998. *Appalachian Power*, 249 F.3d at 1053–54. By the time the *West Virginia* case was decided, EPA had explained itself well enough that the court was willing to defer to EPA's electricity usage modeling. 362 F.3d at 869–71.

[14]Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 65 Fed. Reg. 2674 (Jan. 18, 2000); *Appalachian Power*, 249 F.3d at 1039–40 (describing § 126 rule, the interplay with the NO_x SIP Call, and the budget trading program).

were the basis of the state's § 126 petition to EPA.

Recently, states have been pushing back on the use of trading in the context of § 126 petitions, asking EPA or a court to impose emission limits on individual sources with no opportunity for trading. The litigation surrounding EPA's response to petitions filed by Maryland and Delaware provides an example.[15] EPA did not agree with the petitioning states that the upwind sources should have individual limits and, instead, determined that the trading program of the Update Rule was appropriate. When the states challenged EPA's decision, the court did not address the trading issue.[16] Instead it upheld the rule in part and remanded in part on various other grounds.[17] The trading question therefore remains open in the context of § 126 petitions.

§ 12:75 Regional Planning Under Sections 176A and 184

Under § 176A, EPA may designate "transport regions"—areas of the country that are affected by a common interstate air pollution problem—and may establish a "transport commission" comprised of state representatives to recommend control measures for the transport region.[1] A transport commission may ask EPA to make a finding that the SIP for one or more upwind states is not adequately implementing the good neighbor provision of § 110(a)(2)(D). If EPA agrees, then the Agency is authorized to "call" the upwind state's SIP to demand revisions per § 110(k)(5).

In § 184, Congress established one especially important transport region: the Northeast Ozone Transport Region, encompassing twelve states and the District of Columbia, running from Maine to northern Virginia.[2] When establishing this particular transport region in 1990, Congress obligated each of the states to include specific emissions controls in their SIPs, including enhanced vehicle inspection and maintenance programs and "reasonably available control technology" for sources of VOCs.

Representatives from the 13 jurisdictions in that transport region comprise the membership of the Northeast Ozone Transport Commission (NOTC). The NOTC is responsible for providing EPA and member states with recommendations on measures to address interstate ozone problems. The NOTC has produced dozens of analyses, policy papers, and model rules for its members. The Commission has also periodically attempted to collaborate with EPA in pursuit of the federal government imposing measures under § 184 on some or all of the states.

In 1994, a majority of the NOTC members voted to recommend that EPA require the thirteen NOTC jurisdictions to enact a "Low Emission Vehicle" (LEV) program to help reduce intra- and interstate ozone pollution.[3] In response, the Agency issued the so-called "NOTC LEV Rule."[4] The rule represented EPA's first effort to implement the good neighbor provision of § 110(a)(2)(D) as to mobile sources (followed by the NO_x SIP Call, the first rule for stationary sources). The rule mandated that the

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[15]Maryland v. EPA, 958 F.3d 1185, 1193, 50 ELR 20121 (D.C. Cir. 2020) ("Maryland requested source-specific limitations" and criticized "EPA's regional cap-and-trade approach").

[16]*Id.* at 1206 (declining to "address the second" argument by EPA, which went to the cap-and-trade issue).

[17]*Id.* at 1189, 1211.

[Section 12:75]

[1]42 U.S.C. § 7506a.

[2]42 U.S.C. § 7511c(a).

[3]Ozone Transport Commission; Recommendation That EPA Adopt Low Emission Vehicle Program for the Northeast Ozone Transport Region, 59 Fed. Reg. 12914 (Mar. 18, 1994).

[4]Final Rule on Ozone Transport Commission; Low Emission Vehicle Program for the Northeast Ozone Transport Region, 60 Fed. Reg. 4712 (Jan. 24, 1995).

NOTC states reduce NO_x and VOC emissions either by implementing a LEV program or by implementing alternative controls. However, a state that chose to impose alternative measures would have to achieve far greater emissions reductions than if it implemented the LEV program: NO_x reductions would have to be 3.5 times greater, and VOC reductions would have to be 6.5 times greater.

The Commonwealth of Virginia, one of the NOTC states that had voted against the recommendation, challenged the rule.[5] Virginia claimed that, although the rule ostensibly allowed states the ability to choose alternatives, it effectively mandated only one control measure—the LEV program—because the burden of choosing otherwise was so harsh. In the state's view, this compulsory approach was contrary to the cooperative federalism embedded in the CAA.

The D.C. Circuit agreed, concluding that, because "only a very foolish state" would choose to implement alternative controls that would require much greater emissions reductions, EPA had not provided the states any real alternatives to the LEV program.[6] Consequently, the court invalidated the rule.

As an example of more recent activity undertaken by the NOTC, in June 2020, the Commission submitted to EPA a recommendation under § 184(c) addressing a dispute between Pennsylvania and some of its downwind neighbors. The NOTC recommended that EPA require Pennsylvania to regulate certain coal-fired power plants with daily NO_x limits at least as stringent as the limits on those types of plants in Delaware, Maryland, or New Jersey.

In July 2020, EPA issued a Federal Register notice announcing the NOTC recommendation and its intention to hold a public hearing.[7] On December 15, 2020, EPA set the dates for the public hearing (February 2, 2021) and the close of the comment period (March 8, 2021).[8]

§ 12:76 Conclusion

As the Supreme Court recognized in *Homer II*, regulating interstate pollution is a complicated task because of the thousands of "overlapping and interwoven linkages between upwind and downwind states."[1] The courts allow EPA to use innovative policy approaches to address the technical and policy complexities, even though §§ 110(a)(2)(D), 126, 176A, and 184 do not explicitly authorize the Agency's methods. Judicial opinions, for example, permit EPA to consider pollution control costs when determining how aggressively upwind states should abate their emissions to help downwind states—even though the statutory provisions nowhere mention cost considerations. Likewise, caselaw authorizes the Agency to both set emissions budgets for the states and allow interstate emissions trading, without explicit statutory authorization to do either.

Yet the courts will not allow EPA to stretch the interstate provisions of the CAA beyond recognition. The Agency's budgets, for instance, cannot require over-control of an upwind state. Similarly, EPA's trading program must assure that sources in upwind states reduce their own emissions to some degree, rather than simply buy-

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[5]Virginia v. EPA, 108 F.3d 1397, 27 ELR 20718 (D.C. Cir. 1997)*, modified on other grounds*, 116 F.3d 499, 27 ELR 21380 (D.C. Cir. 1997) (per curiam).

[6]*Id.* at 1404-05.

[7]Ozone Transport Commission; Recommendation That EPA Require Daily Limits, 85 Fed. Reg. 41972 (July 13, 2020).

[8]Ozone Transport Commission Recommendation that EPA Require Daily Limits for Emissions of Nitrogen Oxides From Certain Sources in Pennsylvania, 86 Fed. Reg. 4049 (Jan. 15, 2021).

[Section 12:76]

[1]EPA v. EME Homer City Generation, L.P. (Homer II), 572 U.S. 489, 496–97, 44 ELR 20094 (2014).

ing allowances to cover all their emissions. The Agency also is compelled to align the deadlines for upwind and downwind action, so that downwind states benefit in a timely manner from upwind reductions. In addition, EPA must allow the upwind states to choose from a variety of pollution control measures, and not simply from one set of measures preferred by the Agency.

With the policy approaches allowed by the courts, EPA has made good progress in reducing the transport of harmful pollutants across state boundaries. In the future, the Agency will have to continue to think creatively about addressing interstate pollution, as new and ongoing cross-state issues arise.

CAA Interstate Pollution Provisions

§ 110(a)(2)(D): Known as the "good neighbor provision," this section requires each state to include, in a SIP, provisions prohibiting emissions that will "contribute significantly to [NAAQS] nonattainment" in another state or that will "interfere with [another state's] maintenance" of a NAAQS.

§ 126: Allows downwind states to petition EPA to impose emission restrictions on upwind stationary sources that violate the good neighbor provision.

§ 176A: Authorizes EPA to designate areas of the country that are affected collectively by interstate pollution as "transport regions" and to establish a "transport commission" comprised of state representatives to recommend control measures for the transport region.

§ 184: Establishes the Northeast Ozone Transport Region, encompassing 12 states from Maine to Virginia and the District of Columbia, and allows the Northeast Ozone Transport Commission to make recommendations to EPA on measures needed within the region to implement the good neighbor provision.

X. VISIBILITY IMPAIRMENT AND REGIONAL HAZE*

§ 12:77 Background

EPA regulations define "visibility impairment" or "anthropogenic visibility impairment" as "any humanly perceptible difference due to air pollution from anthropogenic [originating in human activity] sources between actual visibility and natural visibility on one or more days."[1] Air pollution affects visibility conditions when sunlight encounters particles that scatter light, reducing visual range and affecting perception of color. Particulate matter (PM) is the major source of anthropogenic visibility impairment. It can be emitted directly or it can form through the interaction of precursor pollutants and atmospheric chemistry. Accordingly, the anthropogenic air pollutants of greatest significance for visibility include PM, oxides of nitrogen (NOx), oxides of sulfur (SOx), and volatile organic compounds (VOCs).

Congress recognized that visibility impairment caused by manmade air pollution was an issue of concern when it enacted the 1977 Clean Air Act Amendments. Congress particularly expressed concern with the effect air pollution was having on visibility conditions within "Class I federal areas," or national parks and wilderness areas of a certain size. The resulting § 169A of the Clean Air Act called on EPA to address this visibility impairment. In particular, EPA was to confront the phenome-

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[1]40 C.F.R. § 51.301 (definition of visibility impairment or anthropogenic visibility impairment).

non of "regional haze," a category of visibility impairment that "is caused by the emission of air pollutants from numerous anthropogenic sources located over a wide geographic area."[2] Regional haze can occur when the pollutants that cause haze are transported hundreds of kilometers from their sources through complex atmospheric chemistry and meteorological interactions.

EPA and the states failed to make significant progress to address regional haze after passage of the 1977 Amendments. This spurred Congress to take action on visibility once again in the 1990 Clean Air Act Amendments. The new § 169B directed EPA to undertake a rigorous program of research in partnership with the National Park Service—an agency that would go on to play a significant role in the development and implementation of the regional haze program. It also provided for the establishment of visibility transport commissions, consisting of state officials, to, among other responsibilities, undertake joint technical analysis of the transport of visibility impairing pollutants. Finally, § 169B set a deadline for EPA to, after receipt of these technical evaluations, promulgate the rules needed to implement the regional haze program called for in § 169A. EPA adopted its first set of regional haze rules (RHR) in 1999. This set the stage for the subsequent contentious period of implementation, litigation, and rule revision.

§ 12:78 The Regional Haze Program

A. Basic Requirements of the Program

Section 169A of the CAA established, as a national goal, "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution."[1] States are to develop state implementation plans (SIPs) to achieve "reasonable progress" toward meeting the national goal, including a 10-15 year "long-term strategy" (LTS).[2] To ensure reasonable progress, the CAA requires these SIPs to incorporate "emission limits, schedules of compliance and other measures as may be necessary."[3]

The reasonable progress requirement also mandates certain classes of major sources that began operation between 1962 and 1977 to install and operate the "best available retrofit technology" (BART) to eliminate or reduce haze-causing emissions.[4]

EPA's RHR mirrors these statutory provisions. It provides that regional haze SIPs must contain three main components:

1) BART requirements for certain large stationary sources;
2) Reasonable progress goals (RPGs), which are visibility goals for each Class I area;[5] and
3) An LTS, which includes the measures a state has identified for meeting the

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[2]40 C.F.R. § 51.301 (definition of regional haze).

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[1]CAA § 169A(a)(1).

[2]CAA §§ 169A(b)(2), 169A(b)(2)(B).

[3]CAA §§ 169A(b)(2), 169A(b)(2)(B).

[4]CAA § 169A(b)(2)(A).

[5]RPGs are expressed in units known as deciviews (dv) and must "reflect the visibility conditions that are projected to be achieved by the end of the applicable implementation period as a result of those enforceable emissions limitations, compliance schedules, and other measures required" under the Regional Haze Rule. 40 C.F.R. § 51.308(f)(3). The Regional Haze Rule further requires that an RPG "provide for an improvement in visibility for the most impaired days since the baseline period and ensure no degradation in visibility for the clearest days since the baseline period." 40 C.F.R. § 51.308(f)(3).

RPGs.

The RHR also specifies that states must develop new or revised regional haze SIPs every 10 years, so as to continue making reasonable progress toward the national goal.[6] These 10-year periods are referred to as *regional haze planning periods* or *implementation periods*. The major components of these SIPS are each described in greater detail below.

B. BART

The BART requirement applies to 26 source categories if they are both "BART-eligible" and "subject to BART."[7] A *BART-eligible* source has the potential to emit at least 250 tons per year of a visibility impairing pollutant and meets the Act's date of existence requirement—e.g., the source existed as of August 7, 1977, but was not operational prior to August 7, 1962.[8] A source is *subject to BART* if its emissions "may reasonably be anticipated to cause or contribute to any impairment of visibility" in a Class I area.[9] EPA's BART Guidelines allow states to assume that all BART-eligible sources are subject to BART,[10] and "to make BART determinations for all of them."[11] The Guidelines also permit states to exempt sources from further evaluation by demonstrating, through source-specific modeling, that they are *not* anticipated to cause or contribute to visibility impairment.[12] The guidelines assume sources responsible for a 1.0 deciview (dv) change or more "cause" visibility impairment; the threshold for determining whether sources "contribute" to visibility impairment is set at no higher than 0.5 deciviews."[13]

The state with jurisdiction then determines BART for sources that are both BART eligible and subject to BART by weighing five factors:

1) The costs of compliance;
2) The energy and non-air quality environmental impacts of compliance;
3) Any existing pollution control technology in use at the source;
4) The remaining useful life of the source; and
5) The degree of improvement in visibility which may reasonably be anticipated to result from the use of emission control technology.[14]

The BART Guidelines describe how to assess these factors, how states should undertake BART analyses, and the information that states should consider when making BART determinations. The Guidelines address, for instance, the manner in which states should evaluate costs, including a recommendation that states apply information contained in EPA's Air Pollution Control Cost Manual (Cost Manual)

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[6]40 C.F.R. § 51.308(f).

[7]40 C.F.R. § 51.301.

[8]40 C.F.R. § 51.301.

[9]40 C.F.R. § 51.308(e)(1)(ii).

[10]70 Fed. Reg. 39103, 39104 (July 6, 2005) (codified at 40 C.F.R. Pt. 51 App. Y). Despite their name, EPA promulgated the BART Guidelines through notice-and-comment rulemaking. Thus, they are binding, to the extent they purport to be, as to the sources to which they refer. (Any requirements technically fall on the states implementing the provisions of the BART Guidelines.) It is important to note, however, that many of the provisions of the BART Guidelines are by their own terms voluntary or provide only one example for how to conduct a lawful BART analysis.

[11]40 C.F.R. Pt. 51 App. Y, § III.

[12]40 C.F.R. Pt. 51 App. Y, § III.

[13]40 C.F.R. Pt. 51 App. Y, § III(A)(1).

[14]CAA § 169A(g)(2).

"where possible."[15] The Guidelines also contain presumptive BART limits for NOx and SO_2 emissions from electric generating units (EGUs) and information on how states should consider visibility improvements.[16] As discussed further below, many of these issues, including interpretation of various parts of the BART Guidelines, were controversial during the first planning period.

Although some facilities that were not BART-eligible underwent reasonable progress analyses and were subjected to specific reasonable progress emission control requirements during the first planning period, application of BART (or, as discussed below, an alternative to BART) largely satisfied the CAA's regional haze requirements for the first planning period in many states. In addition, as EPA has stated, BART is a one-time determination, to be implemented in the first planning period, that need not be revisited in subsequent planning periods.[17] Accordingly, the reasonable progress requirement will be the principal focus of the regional haze program during the second and subsequent planning periods.

C. Reasonable Progress

The reasonable progress requirement, of which BART is technically a component, is the core of the CAA's regional haze provisions.[18] As noted above, the central directive of CAA § 169A is that states make reasonable progress toward the national goal of preventing and eliminating manmade visibility impairment in Class I areas. On January 10, 2017, EPA published revisions to the RHR that updated requirements for the second planning period.[19] Revisions to the reasonable progress requirements for the second planning period, which runs from 2018 to 2028, were a major component. EPA also published guidance (the draft in 2016, and then the substantially revised final guidance in 2019) on the reasonable progress requirements.[20]

Under the revised RHR and 2019 guidance, states are to review individual sources (or categories of sources) for potential controls of visibility-impairing emissions based on consideration of the four "reasonable progress factors" listed in the CAA (hence the phrase "four-factor analysis" that is often used to describe reasonable progress assessments). Those factors are:

1) The costs of compliance;
2) The time necessary for compliance;
3) The energy and non-air quality environmental impacts of compliance; and
4) The remaining useful life of the source being assessed.[21]

After a state makes reasonable progress determinations for sources or source categories (i.e., after the state makes emission control determinations for sources), the

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[15]70 Fed. Reg. 39127, 39166 (July 6, 2005).

[16]70 Fed. Reg. 39131 to 36 (July 6, 2005).

[17]82 Fed. Reg. 3078, 3083 (Jan. 10, 2017); U.S. EPA, Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (Aug. 20 2019), *available at* https://www.epa.gov/sites/default/files/2019-08/documents/8-20-2019_-_regional_haze_guidance_final_guidance.pdf. ("2019 Guidance"), Appendix A at A-3. However, according to EPA, sources that were subject to BART, or were potentially subject to BART, "may need to be re-assessed for additional controls in future implementation periods under the CAA's reasonable progress provisions." 82 Fed. Reg. at 3083.

[18]*See* Central Arizona Water Conservation Dist. v. U.S. E.P.A., 990 F.2d 1531, 36 Env't. Rep. Cas. (BNA) 1177, 143 Pub. Util. Rep. 4th (PUR) 110, 23 Envtl. L. Rep. 20678 (9th Cir. 1993).

[19]82 Fed. Reg. 3078 (Jan. 10, 2017).

[20]U.S. EPA, Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (Aug. 20 2019), *available at* https://www.epa.gov/sites/default/files/2019-08/documents/8-20-2019_-_regional_haze_guidance_final_guidance.pdf.

[21]CAA § 169A(g)(1); *see also* 40 C.F.R. § 51.308(f)(2)(i).

state then develops a regional haze SIP containing an LTS that includes those measures.

That regional haze SIP would also include RPGs, expressed in dv, for each Class I area located within the state. The RPGs reflect the emission reductions that implementation of the LTS control measures will achieve by the end of the planning period (again, 2028 for the second planning period).

In setting RPGs, states must determine and take into account the "uniform rate of progress," often called the "URP" or the "glidepath," that would have to be achieved and maintained in order to attain natural visibility conditions by the year 2064.[22] EPA developed guidance to help states determine what those natural conditions would be for the first planning period,[23] and updated its guidance with new methodologies for the second planning period.[24] The RHR also establishes that the relevant baseline period used to draw the URP is 2000-2004, which is a relatively straightforward linear calculation from point to point. Once a state has drawn the URP, it must compare its RPGs, based on its source- or source category-specific reasonable progress analysis, to the RPG as determined by the URP. A state may establish an RPG that is above *or* below the URP, but if the state's RPG is not at or *below* the glidepath—i.e., it would make less reasonable progress than the glidepath—the state must demonstrate that the URP would not be reasonable (and the slower rate of progress selected by the state therefore is reasonable).[25]

A significant change effected by the 2016 RHR revisions, and reflected in the 2019 Guidance, allows states to propose an adjustment to the URP to account for the impacts of international emissions and wildland prescribed fires on visibility impairment.[26] Allowing these adjustments means that states do not need to somehow compensate for emissions they cannot control when developing their SIPs. This could help many states demonstrate that they are below the glidepath under current conditions, or that they can reach the glidepath with less onerous control requirements.

To adjust the URP, the Rule requires the state to "add the estimated impact(s) to the natural visibility condition and compare the baseline visibility condition for the most impaired days to the resulting sum."[27] In December 2018, EPA released guidance on making the URP adjustment in order to account for international emissions.[28] That guidance and the 2019 Guidance also specify that the information and procedures used to adjust the URP to address international emissions may also

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[22]40 C.F.R. § 51.308(f)(1)(vi)(A).

[23]U.S. EPA, Office of Air Quality Planning and Standards, Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program (June 1, 2007), *available at* https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20070601_wehrum_reasonable_progress_goals_reghaze.pdf.

[24]U.S. EPA, Office of Air Quality Planning and Standards, Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program (Dec. 20, 2018), *available at* https://www.epa.gov/sites/default/files/2018-12/documents/technical_guidance_tracking_visibility_progress.pdf.

[25]40 C.F.R. § 51.308(f)(3)(ii).

[26]The 2016 rule provides that a state "may propose (1) an adjustment to the uniform rate of progress for a mandatory Class I Federal area to account for impacts from anthropogenic sources outside the United States and/or (2) an adjustment to the uniform rate of progress for the mandatory Class I Federal area to account for impacts from wildland prescribed fires." 40 C.F.R. § 51.308(f)(1)(vi)(B). To qualify as a wildland prescribed fire, the fire must have been "conducted with the objective to establish, restore, and/or maintain sustainable and resilient wildland ecosystems, to reduce the risk of catastrophic wildfires, and/or to preserve endangered or threatened species during which appropriate basic smoke management practices were applied." 40 C.F.R. § 51.308(f)(1)(vi)(B).

[27]40 C.F.R. § 51.308(f)(1)(vi)(B).

[28]Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program (Dec. 20, 2018) ("2018 Technical Guidance").

be used to adjust the URP for prescribed wildland fires.[29]

EPA later produced an additional technical document showing its own modeled adjustments to account for international emissions.[30] That modeling shows that the majority of Class I areas reach or are below the glidepath for 2028 without any additional controls.[31] The significance placed on that modeling for implementation of the program will likely be a contentious issue, given some visibility advocates will likely prefer that states require additional emission reductions regardless of whether a RH SIP is projected to meet or exceed the URP.

§ 12:79 Implementation During the First Planning Period

A. History of RHR

The current version of the RHR was developed through a succession of rulemakings, prompted by the 1977 and 1990 amendments to the Clean Air Act and associated judicial decisions.[1]

1. Various Revisions and Legal Challenges to the RHR

a. 1980 Regulations

In 1980, EPA promulgated its first regulations under the original provisions related to visibility impairment that were included in the 1977 CAA Amendments.[2] These regulations addressed visibility impairment or plume blight that was "reasonably attributable"[3] to one source or to a small number of sources. However, the regulations applied to only the 36 states that contained at least one Class I Federal area; the requirements did not apply to states not containing a Class I Federal area even if emissions from that state caused visibility impairment at a Class I Federal area in another state.[4] At the time, EPA indicated that "[f]uture phases will extend the visibility program by addressing more complex problems such as regional haze and urban plumes" and that it would "propose and promulgate future phases when improvement in monitoring techniques provides more data on source-specific levels of visibility impairment, regional scale models become refined, and our scientific knowledge about the relationships between emitted air pollutants and visibility impairment improves."[5]

The 1980 regulations required those 36 states to undertake the following actions:

- *SIPs*—Revise their SIPs to assure reasonable progress toward the national

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[29]2018 Technical Guidance at 17; 2019 Guidance at 27 n.60. Relatedly, the Regional Haze Rule requires states to consider smoke management practices for prescribed fire used for agricultural and wildland vegetation. 40 C.F.R. § 51.308(f)(2)(iv)(D). The 2019 Guidance describes two relatively straightforward ways in which states can meet this obligation. 2019 Guidance at 26-27.

[30]U.S. EPA, Office of Air Quality Planning and Standards, Technical Support Document for EPA's Updated 2028 Regional Haze Modeling (Sept. 19 2019), *available at* https://www.epa.gov/sites/default/files/2019-10/documents/updated_2028_regional_haze_modeling-tsd-2019_0.pdf.

[31]2028 is the end of the second planning period.

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[1]*See* 1999 Regional Haze Rule (64 Fed. Reg. 35714, July 1, 1999), as amended in 2005 (70 Fed. Reg. 39156, July 6, 2005), 2006 (71 Fed. Reg. 60631, October 13, 2006), and 2012 (77 Fed. Reg. 33656, June 7, 2012).

[2]*See* July 14, 1955, ch. 360, title I, § 169A, as added Pub. L. 95-95, title I, § 128, Aug. 7, 1977, 91 Stat. 742, *and* 45 Fed. Reg. 80084 (Dec. 2, 1980).

[3]"[V]isibility impairment in any mandatory Class I Federal area 'is reasonably attributable' to an existing stationary facility through visual observation or any other technique the State deems appropriate." 45 Fed. Reg. 80086 (Dec. 2 1980) (Preamble).

[4]*See* 45 Fed. Reg. 80085 (Dec. 2 1980).

[5]45 Fed. Reg. 80086 (Dec. 2 1980).

visibility goal of preventing future and remedying existing impairment of visibility in mandatory Class I Federal areas;

- *BART*—Determine whether certain existing stationary facilities should install BART for controlling those pollutants which impair visibility;[6]
- *Long-Term Strategies*—Develop, adopt, implement, and evaluate long-term strategies for making reasonable progress toward remedying existing and preventing future impairment in the mandatory Class I Federal areas; and
- *NSR*—Adopt certain measures regarding visibility impacts that will supplement the state's new source review program.[7]

b. Legal Challenges to the 1980 Regulations

Section 110 of the CAA required all 36 states subject to the rule to promulgate final plans for the protection of visibility by September of 1981.[8] As of December 20, 1982, only one had promulgated a final plan. Consequently, the Environmental Defense Fund and other plaintiffs filed a lawsuit in the U.S. District Court for the Northern District of California against EPA for failing to perform a nondiscretionary duty to adopt federal implementation plans (FIPs) for the delinquent states.[9] This case resulted in a settlement agreement, which addressed compliance in two parts: (1) it required SIP provisions for a visibility monitoring strategy and for assessment of visibility impacts of new sources;[10] and (2) it addressed new source review (NSR) and monitoring strategies for integral vistas, which include vistas identified by federal land managers (FLMs) as important to visitors' visual experience of mandatory Class I Federal areas.[11] On July 12, 1985, EPA completed the first part of the settlement agreement by promulgating regulations for visibility new source review for 16 states and a visibility monitoring strategy for 19 states that failed to submit revised SIPs.[12]

c. 1999 Regional Haze Rule

As mentioned in the Preamble to the 1980 regulations, EPA initially focused on the "impairment attributable" to specific sources, because visibility impairment attributable to multiple sources across broad geographic regions was not well understood; this was due to insufficient data on the relationship between emissions, transport, and visibility impairment.[13] Ten years after EPA promulgated these

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[6]The Preamble of the 1980 regulations indicates that EPA, at the time of promulgation, did not believe that the 1980 regulation would impact existing sources. *See* 45 Fed. Reg. 80084 (Dec. 2 1980) (Preamble) ("Preliminary analyses have identified no existing sources which will need to install additional controls under these regulations. Some large new sources will be required to analyze their potential impact on visibility in mandatory Class I Federal areas; the State will retain final authority over construction permits for those sources.").

[7]*See* 45 Fed. Reg. 80086.

[8]42 U.S.C. § 7410.

[9]*See* Environmental Defense Fund v. Gorsuch, No. C-82-6850 (N.D. Calif.).

[10]40 C.F.R. §§ 51.305, 51.307.

[11]*See* 49 Fed. Reg. 20647 *and* 40 C.F.R. § 51.304(a).

[12]*See* 50 Fed. Reg. 28544 (July 12, 1985).

[13]"The 1980 visibility regulations, which apply to states containing at least one Class I area, addressed visibility impairment reasonably attributable to one source, or to a small number of sources. *See* 45 Fed. Reg. 80085. EPA limited the reach of the 1980 regulations to impairment attributable to specific sources and deferred any action on regional haze attributable to multiple sources located across broad geographic regions because there was insufficient data regarding the relationship between emitted pollutants, pollutant transport and visibility impairment." American Corn Growers Ass'n v. E.P.A., 291 F.3d 1, 54 Env't. Rep. Cas. (BNA) 1417, 32 Envtl. L. Rep. 20658 (D.C. Cir. 2002).

regulations, Congress once again amended the CAA.[14] In the 1990 CAA Amendments, Congress affirmed the national visibility goal, emphasized its commitment to addressing regional haze, directed EPA to further address these concerns,[15] and required it to research, identify, and evaluate sources and source regions of both visibility impaired and non-impaired regions that impact class I Federal areas.[16] Visibility monitoring and research continued through the 1980s and 1990s.[17] In 1993, the National Academy of Sciences concluded that "current scientific knowledge [was] adequate and control technologies [were] available for taking regulatory action to improve and protect visibility."[18] EPA was able to develop a proposed rule to address *regional* visibility impairment based on this research, the analyses of information obtained through the previous regulations and associated actions, and other advances in scientific and technical knowledge. The Agency published its notice of proposed rulemaking for the Regional Haze Rule in 1997.

On July 1, 1999, EPA published the final version of these regulations ("1999 Regional Haze Rule" or "1999 RHR").[19] The 1999 RHR modified 40 C.F.R. §§ 51.300 to 307 (including the addition of a few definitions in 40 C.F.R. § 51.301); it also added new sections to address regional haze visibility impairment on a national level and to specifically address visibility impairment in the Grand Canyon at 40 C.F.R. §§ 51.308 and 51.309.[20] The goal of the 1999 RHR is to improve visibility in all Class I Federal areas to natural visibility conditions (*i.e.*, background levels) by the year 2064.[21] This goal is to be achieved by requiring all 50 states to periodically conduct an analysis of available reasonable measures and implement those measures. EPA now required all 50 states—and not just those containing Class I Federal areas—to take action because the Agency determined that *every* state contains sources with emissions that contribute to regional haze.[22]

As part of the 1999 Regional Haze Rule, all states were required to submit a state Implementation Plan for Regional Haze (RH SIP). The statute itself required that RH SIPs include a BART determination for certain major stationary sources and establish a long-term strategy for making reasonable progress toward meeting the

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[14]*See* July 14, 1955, ch. 360, Title I, § 169B, as added Pub. L. 101-549, Title VIII, § 816, 104 Stat. 2695 (Nov. 15, 1990) ("1990 CAA Amendments").

[15]In 1990, Congress amended the Clean Air Act again, adding § 169B in an attempt to prompt EPA to further address visibility impairment in national parks and wilderness areas. *See* Clean Air Act Amendments, Pub. L. No. 101-549, § 816, 104 Stat. 2695 (1990) (CAA § 169B, 42 U.S.C. § 7492) (Section 169B(e) calls for EPA "to carry out the Administrator's regulatory responsibilities under [Section 169A], including criteria for measuring 'reasonable progress' toward the national goal.").

[16]*See* CAA § 169B(a)(1), 42 U.S.C. § 7492(a)(1).

[17]*See* 64 Fed. Reg. 35714, 35715–19 (July 1, 1999).

[18]*See* 64 Fed. Reg. 35714 (July 1, 1999).

[19]*See* Regional Haze Regulations; Final Rule, 64 Fed. Reg. 35714, 35715 (July 1, 1999).

[20]Section 169B requires, among other things, that EPA undertake research to identify "sources" and "source regions" of visibility impairment in Class I Federal areas, consider designating transport commissions to study the interstate movement of pollutants, and establish a transport commission for the Grand Canyon National Park. *See* CAA § 169B, 42 U.S.C. § 7492. EPA established the Grand Canyon Visibility Transport Commission (GCVTC) in 1991 to assess information about the adverse impacts on visibility in and around 16 Class I areas on the Colorado Plateau region and to provide policy recommendations to EPA to address such impacts. *See* 56 Fed. Reg. 57522 (Nov. 12, 1991). The GCVTC issued its report to EPA in 1996.

[21]*See* 42 U.S.C. § 7492, 64 Fed. Reg. at 35732–33.

[22]The 1999 RHR applies to all states, because the EPA concluded that all states contain sources with emissions "reasonably anticipated to contribute to regional haze in a Class I area." 64 Fed. Reg. at 35721; *see also* American Corn Growers Ass'n v. E.P.A., 291 F.3d 1, 54 Env't. Rep. Cas. (BNA) 1417, 32 Envtl. L. Rep. 20658 (D.C. Cir. 2002).

national goal.[23] In developing the 1999 RHR, EPA determined that the BART requirements set forth in CAA § 169A(b)(2)(A) were a central component of the visibility protection program.[24] However, neither the statute nor the rule specified the type of program or emission controls that were required.[25] Instead of predetermining specific control measures, the statute and the rule provided discretion to the states to develop an appropriate program; however, as previously discussed, the statute and the rule did enumerate five factors for the states to take into consideration in making BART determinations.[26] The rule, however, extended the fifth factor—to consider the degree of visibility improvement that could reasonably be anticipated to result from the implementation of BART—to include the improvement that would result from *all* BART subject sources located in the region (*i.e.*, the group approach) and not just the specific source at issue (*i.e.*, the source-by-source approach).[27]

In making a BART determination, a state was required to first determine which sources were BART-eligible sources, which BART-eligible sources are subject to BART, and lastly to determine the best available retrofit technology for controlling emissions from a source. In determining which sources are subject to BART, the 1999 RHR required the states to determine whether the BART-eligible sources emit "any air pollutant 'which may reasonably be anticipated to cause or contribute' to any visibility impairment in a Federal Class I area."[28] In this regard, EPA called on the states to use a group approach rather than a source-by-source approach.[29] In other words, as long as a source was located in a region that may contribute to visibility impairment, the states were required to subject *all* BART-eligible sources in that geographic area to BART requirements regardless of whether an individual

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[23]*See* 64 Fed. Reg. at 35727 (stating that, at minimum, CAA requires RH SIPs to include a "long-term strategy and provisions for BART for certain major stationary sources."); *see also* 42 U.S.C. § 7491(b)(2)(A). CAA § 169A(b)(2)(A) requires each major stationary source in existence from 1962-1977 which, "as determined by the State . . . emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area, [to install and maintain] the best available retrofit technology." 64 Fed. Reg. at 35727.

[24]*See* 64 Fed. Reg. at 35737 (listing source categories potentially subject to BART requirements). EPA found that "a major concern motivating the adoption of the visibility provisions was 'the need to remedy existing pollution in the Federal mandatory class I areas from existing sources.' " 64 Fed. Reg. at 35737.

[25]*See* 64 Fed. Reg. at 35721 ("EPA is not specifying in this final rule what specific control measures a State must implement in its initial SIP for regional haze. That determination can only be made by a State once it has conducted the necessary technical analyses of emissions, air quality, and the other factors that go into determining reasonable progress.").

[26]*See* CAA § 169A(g)(2), 42 U.S.C. § 7491(g)(2).

[27]*See* 64 Fed. Reg. at 35741, 35767; *see also American Corn Growers Assoc. v. EPA*, 291 F.3d at 3 ("In the Haze Rule, EPA extracts one of the five statutory factors listed in § 169A(g)(2) and treats it differently than the other four. *See* 64 Fed. Reg. at 35741 (providing that only 'the degree of improvement in visibility that would be expected at each Class I area as a result of imposing BART' is to be considered on a group rather than a source-specific basis.").

[28]*See* 64 Fed. Reg. at 35740 (arguing it would be inappropriate to focus on contributions of specific sources, because "the States will not face the same need to define the precise contribution from one particular source to the visibility problem," and "establishing the contribution from one particular source to the problem of regional haze would require lengthy and expensive studies and pose substantial technical difficulties."), and 35739 ("EPA believes that this determination should not require extremely costly or lengthy studies of contribution of specific sources to regional haze."); *see also* 42 U.S.C. § 7491(b)(2)(A) (mentioning requirements for controlling emissions that contribute to haze).

[29]*See* 64 Fed. Reg. at 35739. ("Unlike the 1980 regulatory program, which addresses the visibility impairment that is reasonably attributable to a specific source or small group of sources, [the final 1999 RHR] addresses the problem of visibility impairment resulting from emissions from a multitude of sources located across a wide geographic area.").

source contributes to visibility impairment in a Class I area.[30] Moreover, in addition to using the group approach in making the "cause or contribute" determination, states were also required to consider the visibility improvement that would result if the technology were used at all comparable BART sources when establishing emission limits for BART sources (rather than just the improvement that a particular control measure would result in at a specific source).[31] EPA explained in the preamble to the Haze Rule that "[t]he approach taken here [*i.e.*, collective contribution or group analysis] is consistent with that taken in the programs for acid rain and ozone, programs which also address regional air quality problems caused by transported pollutants. These programs do not require a specific demonstration of each source's contribution to the overall problem."[32] Under the 1999 RHR, states were also provided flexibility to adopt an emissions trading program or other alternative program in lieu of a source-specific BART determination as long as the alternative program provided greater reasonable progress toward improving visibility than the implementation of BART (and satisfied certain other conditions set forth in the rule).[33]

As discussed in more detail earlier in § 12:78 on "Basic Requirements," the 1999 RHR also required states with Class I Federal areas to establish RPGs for Class I Federal areas within their borders,[34] and to develop a LTS to achieve reasonable progress toward meeting the national goal of achieving natural visibility conditions by 2064.[35] These requirements are inextricably linked, because the rule requires that the long-term strategy "include enforceable emission limitations, compliance schedules, and other measures as necessary to achieve the *reasonable progress goals* established by states having mandatory Class I Federal areas."[36] Although these RPGs are not enforceable,[37] the states are required to demonstrate in their RH SIPs how these factors were considered in selecting the RPGs for the least impaired and most impaired days for each applicable Class I Federal area.[38] In their RH SIPs, states were required to provide for an improvement in visibility during the most impaired days over the planning period covered by the SIP, and to ensure no degradation in visibility for the least impaired days over the same period. As a result, states needed to establish two separate RPGs for each Class I Federal area: one for

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[30]*See* 64 Fed. Reg. at 35740 ("Where emissions from a region are considered to contribute to regional haze in a Class I area, any emissions from BART-eligible sources in that region should also be considered to cause or contribute to the regional haze problem.").

[31]*See* 40 C.F.R. § 51.308(e)(1)(ii)(B)(1999); *see also* 64 Fed. Reg. at 35741 ("EPA interprets the language 'from the use of such technology' to refer to the application of BART level controls to all sources subject to BART . . . . . [I]t is reasonable to interpret this provision as requiring the State to consider, as part of its source-specific analysis, the cumulative impact of applying retrofit controls to all sources subject to BART to estimate the degree of visibility improvement which may reasonably be anticipated to result from the use of BART."), and at 35767 (The state must conduct "[a]n analysis of the degree of visibility improvement that would be achieved in each mandatory Class I Federal area as a result of the emission reductions achievable from all sources subject to BART located within the region that contributes to visibility impairment in the Class I area . . . .").

[32]64 Fed. Reg. at 35740; *see also* 63 Fed. Reg. at 57376.

[33]*See* 40 C.F.R. § 51.308(e)(2), *see also* 40 Fed. Reg. at 35767 to 68.

[34]Congress gave EPA the responsibility of promulgating regulations under CAA § 169A to "assure . . . reasonable progress toward meeting the national goal." *See* 91 Stat. at 742–43, *codified at* 42 U.S.C. § 7491(a)(4); *see also* 40 Fed. Reg. at 35730, 35766.

[35]*See* 40 C.F.R. § 308(d)(1); 64 Fed. Reg. at 35766.

[36]40 C.F.R. § 51.308(d)(3) (emphasis added).

[37]64 Fed. Reg. at 35754.

[38]*See* 40 Fed. Reg. at 35766.

the most impaired and one for the least impaired days.[39]

The 1999 RHR further requires the states to reassess progress toward the national visibility goal in five- and 10-year increments with the first progress assessment occurring around 2013 for the first milestone year of 2018.[40] In regard to SIPs specifically, EPA required the states to develop and submit an initial Regional Haze SIP by no later than December 31, 2008 (but possibly sooner depending on attainment status),[41] and then to submit a Regional Haze SIP revision by July 31, 2018, and again every 10 years thereafter.[42] Each revision must reevaluate and reassess all of the elements considering improvements in monitoring and analysis techniques, control technologies, and other relevant factors.[43] In addition to the required 10-year RH SIP revisions, states are required to submit five-year progress reports.[44]

d. Legal Challenges to 1999 RHR

As demonstrated by the number of comments received during the rulemaking process, the 1999 RHR was fairly controversial. Once the rule was finalized, numerous lawsuits were filed in the U.S. Court of Appeals for the District of Columbia. The cases were consolidated and the court issued a decision in *American Corn Growers Assoc. v. EPA* on May 24, 2002.[45] The primary issues raised by the petitioners and intervenors were related to the provisions in the rule governing the manner in which states were required to assess BART obligations, and whether EPA acted outside of its authority and in an arbitrary and capricious manner in promulgating the "natural visibility" goal and the "no degradation" requirement in the 1999 RHR. The petitioners and intervenors argued that the rule violated the CAA: first, by requiring the states to use a group approach rather than a source-by-source approach when determining whether emissions may reasonably be anticipated to cause or contribute to any visibility impairment in a Federal Class I area; and second, by requiring states to consider the visibility improvement that would result if the control measures were used at all comparable BART sources when establishing emission limits for BART sources (rather than just the improvement that a particular control measure would result in at a specific source).[46] The petitioners argued, and the Court of Appeals agreed, that EPA essentially called on the states to ef-

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[39]*See* 40 Fed. Reg. at 35766.

[40]*See* 40 C.F.R. §§ 51.308(f), (g).

[41]*See* 40 C.F.R. § 51.308(b); 64 Fed. Reg. at 35765; *see also* 82 Fed. Reg. at 3082 ("[S]tates were required to submit SIPs addressing regional haze visibility impairment in 2007, which covered what [EPA] refers to as the first implementation period (2008–2018).").

[42]*See* 40 C.F.R. § 51.308(f); 64 Fed. Reg. at 35768; *see also* 82 Fed. Reg. 3082 ("The 1999 RHR also required states to submit periodic comprehensive revisions of their regional haze SIPs. Under 40 CFR 51.308(f) of the 1999 RHR, states were required to submit the first such revision by no later than July 31, 2018, and every 10 years thereafter.").

[43]*See* 40 C.F.R. § 51.308(f); 64 Fed. Reg. at 35768; *see also* 82 Fed. Reg. 3082 ("The 1999 RHR also required states to submit periodic comprehensive revisions of their regional haze SIPs. Under 40 CFR 51.308(f) of the 1999 RHR, states were required to submit the first such revision by no later than July 31, 2018, and every 10 years thereafter.").

[44]*See* 40 C.F.R. § 51.308(f); 64 Fed. Reg. at 35768; *see also* 82 Fed. Reg. 3082 ("[e]ach State . . . must submit a report to the Administrator every 5 years evaluating progress towards the reasonable progress goal for each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State which may be affected by emissions from within the State.").

[45]*See* American Corn Growers Ass'n v. E.P.A., 291 F.3d 1, 54 Env't. Rep. Cas. (BNA) 1417, 32 Envtl. L. Rep. 20658 (D.C. Cir. 2002).

[46]As previously described, the 1999 RHR extended the statutory range of the sources included in the required "analysis of the degree of visibility in each mandatory Class I Federal area as a result of the emission reductions achievable" to also include "*all sources subject to BART located within the region that contributes to visibility impairment in the Class I area . . . .*"). *See* 40 C.F.R.

fectively place the greatest weight on the factor related to "the degree of visibility improvement," by requiring states to consider the aggregated visibility improvements that would result from all BART sources implementing the required control measures rather than focusing on the improvement that would be gained from implementing those measures at individual sources.

As noted in *American Corn Growers Assoc. v. EPA*, the Court of Appeals recognized that the CAA gave states discretion in developing their visibility protection programs,[47] but required states to consider and weigh five factors when determining the type of emission controls measures that constituted BART for a particular source.[48] The Court noted that, under the 1999 RHR, only four of the five statutory factors were required to be considered on a source-specific basis when making a BART determination (*i.e.*, the costs of compliance, the environmental impacts of compliance, any existing pollution control technology in use at the source, and the remaining useful life of the source), while the fifth statutory factor (the degree in improvement) was required to be considered on the group basis.

The Court of Appeals for the D.C. Circuit concluded that the 1999 RHR's BART provisions were contrary to the text, structure, and history of CAA § 169A, because the rule impermissibly isolated § 169A(g)(2)'s benefit calculation and constrained the authority provided to the states under the statute. Accordingly, the Court remanded the BART provisions back to EPA and, essentially, required the agency to establish a source-by-source approach to BART determinations. Although it remanded the BART portions of the rule, the Court upheld the goals related to natural visibility conditions and the no-degradation requirements.

e. 2005 RHR Revision

In the *American Corn Growers* case, the Court of Appeals for the D.C. Circuit remanded the BART provisions of the 1999 RHR back to EPA. On May 5, 2004, in response to the Court's ruling, EPA proposed new BART provisions and reproposed the BART guidelines, which were originally proposed on July 20, 2001.[49] On July 6, 2005, EPA finalized the 2005 RHR Revision. These requirements (which again apply to all 50 states, the District of Columbia, and the U.S. Virgin Islands) made the following changes to the 1999 RHR:

- The BART determination now includes an analysis of the degree of visibility improvement resulting from the use of control technology *at each source* subject to BART (*i.e.*, the source-specific approach);
- The deadlines for submission of RH SIPs for the initial planning period were extended to no later than December 17, 2007;[50]
- The BART Guidelines set forth in a new Appendix Y to 40 C.F.R. Part 51 were adopted in order to govern state efforts to address visibility impairment;

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§ 51.308(e)(1)(B) (1999); 64 Fed. Reg. at 35767 (emphasis added).

[47]*See American Corn Growers Assoc. v. EPA*, 291 F.3d at 8 (confirm[ing] that Congress intended the states" and not EPA "to decide which sources impair visibility and what BART controls should apply to those sources."), *citing* H.R. Conf. Rep. No. 96-564 (1977), U.S.C.C.A.N. 1977 at 1502. The Court also noted that the States "play the lead in designing and implementing regional haze programs," that "Congress directed States to make" the judgment as to how to weigh the BART factors and that the 1999 RHR was ultimately "inconsistent with the Act's provisions giving the states broad authority over BART determinations." *American Corn Growers Assoc. v. EPA*, 291 F.3d at 2, 6, 8.

[48]*See* CAA § 169A(g)(2), 42 U.S.C. § 7491(g)(2).

[49]*See* 69 Fed. Reg. 25184 (May 5, 2004).

[50]The existing regulatory text in 40 C.F.R. § 51.308(b) was revised and the text in 40 C.F.R. § 51.308(c) was deleted in response to congressional legislation amending the deadlines for submittal of RH SIPs (see Consolidated Appropriations Act for Fiscal Year 2004, Public Law 108-199, January 23, 2004).

- New regulatory text was added, and the existing text was revised, at 40 C.F.R. § 51.308(e), requiring that BART emission limits be established pursuant to the BART Guidelines of Appendix Y; and
- The regulatory text in 40 C.F.R. § 51.302 was revised to clarify the relationship between New Source Performance Standards (NSPS) and BART for reasonably attributable visibility impairment.[51]

In addition, EPA also promulgated the CAIR=BART Rule, discussed elsewhere in this chapter.

f. Legal Challenges to the 2005 RHR Revision

The 2005 RHR Revision and the BART Guidelines (including the CAIR=BART Rule), were also challenged in the U.S. Court of Appeals for the D.C. Circuit.[52] In *Utility Air Regulatory Group,* the D.C. Circuit again affirmed the states' discretion to develop alternatives to BART as long as those alternatives achieve greater reasonable progress than BART. In other words, the states have the flexibility to develop different regulatory mechanisms, such as an emissions trading program, that may not necessarily meet BART requirements, but which could achieve greater visibility improvement in a more cost-effective manner.[53]

2. Significant Guidance

The EPA has provided guidance to the states and the Tribes in implementing the amended 1999 RHR. As part of the 1999 RHA, EPA published the "Guidelines for BART Determinations Under the Regional Haze Rule" at Appendix Y to 40 C.F.R. Part 51 (BART Guidelines).[54] These BART Guidelines are intended to assist the states in determining which sources should be subject to the BART requirements within each state and in determining the appropriate emission limits and/or control measures for each applicable source. In addition, EPA has also provided less formal guidance to assist in the implementation of the amended RHR during the first planning period, such as:

- Guidance for Tracking Progress Under the Regional Haze Rule (September 2003); and
- Guidance for Setting Reasonable Progress Goals Under the Regional Haze Program (June 1, 2007)

With the exception of the BART Guidelines, the guidance documents referenced above and elsewhere in this Chapter are not regulations and do not alter any requirements under the CAA or the amended 1999 RHR. Rather, these documents provide assistance to the states, local governments, and Tribes in implementing the requirements.

B. Reliance on Other CAA Programs

1. BART Alternatives

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[51] *See* 70 Fed. Reg. 39104 (July 6, 2005). Where an NSPS exists for a source category, the level of control equivalent to the NSPS should be considered as a control option, but EPA no longer considered the NSPS level of control to automatically represent "the best these sources can install." An analysis of the BART factors may still result in the selection of the NSPS level of control; however, such a conclusion should only be reached after consideration of the full range of control options.

[52] *See* Utility Air Regulatory Group v. E.P.A., 471 F.3d 1333, 63 Env't. Rep. Cas. (BNA) 1481 (D.C. Cir. 2006).

[53] *See also* Center for Energy and Economic Development v. E.P.A., 398 F.3d 653, 59 Env't. Rep. Cas. (BNA) 1993, 35 Envtl. L. Rep. 20044 (D.C. Cir. 2005) (similarly affirming the concept of BART alternatives). The D.C. Circuit also approved the CAIR=BART Rule as a valid alternative to BART.

[54] *See* 70 Fed. Reg. 39156 (July 6, 2005).

In addition to requiring source-specific BART determinations based on application of the five statutory BART factors listed above, the RHR provides for "BART alternatives."[55] A BART alternative is permissible if the alternative would "achieve greater reasonable progress [toward visibility improvement] than would be achieved through the installation and operation of BART."[56]

The RHR provides three tests for determining whether a given BART alternative achieves greater reasonable progress than would be achieved through BART. A state may establish a BART alternative if it:

- *First test.* Demonstrates, "based on the clear weight of evidence that the trading program or other alternative measure achieves greater reasonable progress than would be achieved through the installation and operation of BART at the covered sources."[57]
- *Second test.* Demonstrates that "the distribution of emissions [under the BART alternative] is not substantially different than under BART, and the alternative measure results in greater emission reductions" than BART.[58]
- *Third test.* Demonstrates that "the distribution of emissions is significantly different" but air quality dispersion modeling shows that for the worst and best 20% of days for the affected Class I areas, (i) visibility does not decline in any Class I area, and (ii) there is an overall improvement in visibility, determined by comparing the average differences between BART and the alternative over all affected Class I areas.[59]

The D.C. Circuit has upheld EPA's authority to issue BART alternatives.[60]

Many companies took advantage of the BART alternative provisions to develop regional haze plans that were more workable or cost-effective than by following source-by-source BART requirements, and they did so on an individualized basis for their particular facilities.[61] Some of those alternatives included creative compliance mechanisms, such as seasonal operational curtailments and unit shutdowns, combined, in some cases, with less expensive combustion controls for NOx emissions (as opposed to costlier post-combustion controls that may have been mandated as BART).[62]

EPA has also approved reliance on other CAA regulatory programs as BART alternatives. In separate rulemakings, EPA determined, for instance, that compliance with interstate NOx and SO_2 emission allowance trading programs in the eastern half of the country—specifically, the Clean Air Interstate Rule (CAIR) and Cross-State Air Pollution Rule (CSAPR) programs—can satisfy BART obligations for those pollutants for the facilities that are subject to those programs.[63] These rules are often referred to as the CAIR-for-BART and CSAPR-for BART rules, or the

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[55]40 C.F.R. § 51.308(e)(2).

[56]40 C.F.R. § 51.308(e)(2). In 2006, EPA promulgated broadly applicable rules authorizing BART alternatives. 71 Fed. Reg. 60612 (Oct. 13, 2006).

[57]This option is provided for in 40 C.F.R. § 51.308(e)(2)(i)(E).

[58]Specific criteria stated in 40 C.F.R. § 51.308(e)(3).

[59]Specific criteria stated in 40 C.F.R. § 51.308(e)(3).

[60]*E.g.*, Utility Air Regulatory Group v. E.P.A., 471 F.3d 1333, 63 Env't. Rep. Cas. (BNA) 1481 (D.C. Cir. 2006); Center for Energy and Economic Development v. E.P.A., 398 F.3d 653, 59 Env't. Rep. Cas. (BNA) 1993, 35 Envtl. L. Rep. 20044 (D.C. Cir. 2005).

[61]*See, e.g.*, 79 Fed. Reg. 46514 (Aug. 8, 2014) (establishing BART alternative for Navajo Generating Station and describing its development in response to initial BART determination).

[62]*See, e.g.*, 82 Fed. Reg. 46903 (Oct. 10, 2017) (final EPA rule approving an Arizona SIP revision establishing a BART alternative for the Coronado Generating Station that includes, among other things, requirements for seasonal curtailment of operations).

[63]70 Fed. Reg. at 39142 to 43 (CAIR); 77 Fed. Reg. 33642 (June 7, 2012) (CSAPR); 82 Fed. Reg.

CAIR=BART and CSAPR=BART rules.

Litigation in the D.C. Circuit concerning the 2005 rules included an environmental group challenge to the CAIR-for-BART rule.[64] That litigation was resolved in 2006 with a court decision affirming EPA's rulemaking actions, specifically including the CAIR-for-BART rule. Thereafter, most states that were subject to CAIR adopted and submitted CAIR-for-BART SIPs to EPA.

Subsequently, the D.C. Circuit remanded CAIR to EPA, leaving CAIR in place while EPA undertook a new rulemaking.[65] EPA promulgated CSAPR as CAIR's replacement. After issuance of CSAPR, EPA promulgated another rule that, among other things, deemed CSAPR a valid "better-than-BART" alternative and that included limited disapprovals of SIPs that relied on CAIR-for-BART. EPA replaced the portions of those SIPs with FIPs that relied on the new CSAPR-for-BART rule for the 12 states that were subject to the limited disapprovals.[66] The CSAPR-for-BART rule was also challenged in the D.C. Circuit, and the rule was ultimately upheld.[67] While that litigation was pending, however, separate challenges to CSAPR itself resulted in a remand to EPA to revise the CSAPR emission allowance budgets,[68] an action that some of the parties to the CSAPR-for-BART litigation believed cast doubt on the CSAPR-for-BART rule itself.[69] EPA received a petition for reconsideration asking the Agency to address that issue; the Agency rejected that petition on July 6, 2020, and presented a new technical analysis in support of its conclusion that CSAPR remained a valid better-than-BART alternative.[70] Environmental groups filed a petition for review of the July 2020 action denying the petition for reconsideration along with an additional petition for reconsideration addressing EPA's technical analysis presented along with that final rule. Pursuant to an EPA motion, the litigation challenging the July 2020 action has been placed in abeyance.

C. Implementation Plan Rulemakings

If a state fails to submit a RH SIP or if EPA determines all or a portion of a state's RH SIP is insufficient and thus disapproves it in whole or in part, then EPA must promulgate a FIP (unless a state submits and EPA approves a SIP in the interim).[71] On January 15, 2009, EPA published a finding that 37 states, the District of Columbia, and the U.S. Virgin Islands had failed to submit RH SIPs.[72] Numerous states submitted the required SIPs after the 2009 finding of failure to submit; however, EPA generally did not meet the applicable deadlines to either approve

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45481 (Sept. 29, 2017) (reaffirming, in light of intervening developments, the continued validity of EPA's determination as to CSAPR).

[64]Utility Air Regulatory Group v. E.P.A., 471 F.3d 1333, 63 Env't. Rep. Cas. (BNA) 1481 (D.C. Cir. 2006).

[65]North Carolina v. E.P.A., 531 F.3d 896, 67 Env't. Rep. Cas. (BNA) 1151 (D.C. Cir. 2008), on reh'g in part, 550 F.3d 1176 (D.C. Cir. 2008).

[66]77 Fed. Reg. 33642 (June 7, 2012). For a variety of reasons, the remaining states that had submitted CAIR-for-BART SIPs or that might have otherwise been authorized to rely on CSAPR-for-BART were given more time to develop their own regional haze SIPs and to decide whether to rely on the CSAPR-for-BART rule.

[67]Utility Air Regulatory Group v. Environmental Protection Agency, 885 F.3d 714, 85 Env't. Rep. Cas. (BNA) 2764 (D.C. Cir. 2018).

[68]E.P.A. v. EME Homer City Generation, L.P., 572 U.S. 489, 134 S. Ct. 1584, 188 L. Ed. 2d 775, 78 Env't. Rep. Cas. (BNA) 1225 (2014).

[69]82 Fed. Reg. 45481 (Sept. 29, 2017).

[70]85 Fed. Reg. 40286 (July 6, 2020).

[71]*See* CAA § 110(c)(1)(A), 42 U.S.C. § 7410(c)(1)(A).

[72]*See* Finding of Failure To Submit State Implementation Plans Required by the 1999 Regional Haze Rule, 74 Fed. Reg. 2392 (Jan. 15, 2009).

those submissions or promulgate a FIP.[73] As a result, several environmental groups filed lawsuits seeking to compel EPA action under CAA § 304.[74] This litigation resulted in a Consent Decree which established new deadlines for EPA action.

As previously discussed, many states relied on CAIR or CSAPR to satisfy BART obligations for EGUs located in states that were subject to those rules. Many other states made source-specific BART determinations for similar facilities within their states. These case-by-case determinations varied from state to state.

Where EPA exercised direct regulatory authority (such as on certain tribal lands), EPA typically required stringent control measures, such as scrubbers for SO_2 emissions and selective catalytic reduction (SCR) for NO_x emissions. EPA often approved SIPs that contained similar BART determinations. On the other hand, EPA frequently disapproved SIPs when states, after applying the five BART factors, opted for less stringent and less costly controls. Those disapproval actions were usually accompanied by EPA FIPs requiring stringent emission controls.

Many of the RH FIPs promulgated by EPA were ultimately replaced with approved state plans. In a few instances, the states revised and resubmitted RH SIPs prior to formal disapproval by EPA of an initial SIP. In many other cases, EPA's actions (including full or partial disapprovals and the resulting FIPs), were challenged by the submitting state, regulated industries, and/or other stakeholders. These challenges focused on the extent of discretion afforded to the states and EPA, and the role of each in developing regional haze implementation plans. Examples of this litigation are described below.

1. Key SIP and FIP Rulemaking Actions and Associated Litigation

ARIZONA

On February 28, 2011, Arizona submitted its RH SIP for the first planning period. Arizona's RH SIP included, among other provisions, BART determinations for emission units at three power plants. In several separate actions, EPA disapproved, in part, the state's BART determinations, in significant part because the Agency disagreed with how the state evaluated costs and visibility impacts.[75] EPA then promulgated a FIP imposing its own emission limits.[76]

On October 13, 2014, Arizona and a number of the regulated sources filed a petition for review of EPA's rulemaking actions in the U.S. Court of Appeals for the Ninth Circuit. During the pendency of the litigation, several sources were able to negotiate settlements.[77] On February 24, 2016, the Ninth Circuit issued an opinion denying the petitions for review of EPA's disapproval of Arizona's RH SIP and promulgation of a FIP for the Coronado Generating Station.[78] In its decision, the Ninth Circuit held that the " 'EPA is not limited to the "ministerial" role of verifying

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[73] *See* Nat'l Parks Conservation Ass'n v. EPA, No. 11-CV-01548 (D.D.C.).

[74] *See* Nat'l Parks Conservation Ass'n v. EPA, No. 11-CV-01548 (D.D.C.).

[75] 77 Fed. Reg. 72512 (Dec. 5, 2012); *see also* 78 Fed. Reg. 46142 (July 30, 2013) (EPA action addressing remaining elements of the Arizona RH SIP, including disapproval of the State's analysis of reasonable progress measures for point sources of NOx).

[76] 79 Fed. Reg. 52420 (Sept. 3, 2014).

[77] *See, e.g.*, 84 Fed. Reg. 11455 (Mar. 27, 2019) (revised source-specific RH SIP revision for the Cholla Power Plant requiring two units at the facility to ultimately stop burning coal); 80 Fed. Reg. 19220 (Apr. 10, 2015) (establishing a BART alternative for Apache Generating Station).

[78] *See* Arizona ex rel. Darwin v. U.S. E.P.A., 815 F.3d 519, 81 Env't. Rep. Cas. (BNA) 2225 (9th Cir. 2016). On October 10, 2017, EPA approved a source-specific SIP revision for the Coronado Generating Station. *See* 82 Fed. Reg. 46903 (Oct. 10, 2017). This approved revision allows Arizona to require alternative technology control measures that require a temporary shutdown of the facility in order to meet regional haze requirements. This approach is distinct from implementing the EPA's proposed control technology that would have resulted in continuously lower NOx emissions.

whether a determination was made; it must' review the substantive content of the BART determination."[79] In affirming EPA's disapproval of Arizona's RH SIP, the Ninth Circuit recognized that the CAA provides great discretion to the States in making BART determinations; the court nevertheless deferred to EPA's judgment regarding the reasonableness of Arizona's determination, in particular noting that "the State did not provide an adequate explanation of its underlying [cost] analysis, if any."[80] The Ninth Circuit also deferred to EPA's decision to use a cumulative approach to evaluate visibility impacts and rejected arguments that EPA underestimated costs in its FIP and failed to reasonably consider the presumptive BART limits contained in its own BART Guidelines.[81]

NEBRASKA

On July 13, 2011, Nebraska submitted its RH SIP for the first implementation period. In relevant part, Nebraska's SIP required no SO_2 controls for the Gerald Gentleman Station, because the state concluded the cost was unreasonably high and the visibility improvement insignificant. EPA disapproved that element of the Nebraska RH SIP.[82] Nebraska filed a petition for review in the U.S. Court of Appeals for the Eighth Circuit. In the case, "Nebraska claim[ed] EPA performed its own analysis and substituted its determinations for the state's when it should have assessed the reasonableness of Nebraska's determinations."[83] The Eighth Circuit held that EPA properly executed its statutory role in determining that the state's rationale was unreasonable, and deferred to EPA in denying the petition for review.[84]

NEW MEXICO

On December 31, 2003, New Mexico submitted its original RH SIP for the first planning period. Without acting on that SIP, on August 22, 2011, EPA published a final FIP for the state that included BART limits for the San Juan Generating Station that were more stringent than those selected by New Mexico.[85] The Office of the Governor of New Mexico, the New Mexico Environment Department, and Public Service Company of New Mexico filed petitions for review in the Court of Appeals for the Tenth Circuit.[86] The case was fully briefed and argued, addressing legal issues such as EPA's authority to promulgate a FIP without acting on a duly submitted SIP and the scope of state discretion under the regional haze program. The parties negotiated a settlement based on a BART alternative for the San Juan Generating Station, and the case was dismissed without a decision on the merits. On October 9, 2014, EPA approved the state's revised RH SIP revision and withdrew the FIP.[87]

NORTH DAKOTA

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[79]Arizona ex rel. Darwin v. U.S. E.P.A., 815 F.3d 519, 531, 81 Env't. Rep. Cas. (BNA) 2225 (9th Cir. 2016).

[80]Arizona ex rel. Darwin v. U.S. E.P.A., 815 F.3d 519, 537, 81 Env't. Rep. Cas. (BNA) 2225 (9th Cir. 2016).

[81]Arizona ex rel. Darwin v. U.S. E.P.A., 815 F.3d 519, 539–542, 81 Env't. Rep. Cas. (BNA) 2225 (9th Cir. 2016).

[82]*See* 77 Fed. Reg. 40150, 40151 (July 6, 2012) ("EPA is disapproving the SO_2 BART determinations for Units 1 and 2 of GGS because they do not comply with EPA's regulations. EPA is also disapproving Nebraska's long-term strategy insofar as it relied on the deficient SO_2 BART determination at GGS.").

[83]Nebraska v. U.S. E.P.A., 812 F.3d 662, 81 Env't. Rep. Cas. (BNA) 2113 (8th Cir. 2016).

[84]*See* Nebraska v. U.S. E.P.A., 812 F.3d 662, 81 Env't. Rep. Cas. (BNA) 2113 (8th Cir. 2016).

[85]*See* 76 Fed. Reg. 52388 (Aug. 22, 2011).

[86]*See Public Service Company of New Mexico v. EPA*, Case No. 11-9557) (Document No. 01018714287).

[87]*See* 79 Fed. Reg. 60978, 60985.

On April 6, 2012, EPA partially approved and partially disapproved North Dakota's RH SIP, and promulgated a FIP.[88] In particular, EPA disapproved North Dakota's BART and reasonable progress NOx limits for two facilities because they "failed to properly consider the cost of compliance in any meaningful sense . . . because the cost of compliance analysis was based upon fundamentally flawed and greatly inflated cost estimates."[89] In its FIP, EPA established emissions limits based on costly NO_x controls.[90] North Dakota filed a petition for review in the U.S. Court of Appeals of the Eighth Circuit. In that case, the Eighth Circuit upheld EPA's decision to disapprove North Dakota's RH SIP because the state's BART determination was based on an admitted and substantial error in the cost calculations.[91] The court also held that "EPA is left with more than the ministerial task of routinely approving SIP submissions," and that the "EPA's review of a SIP extends not only to whether the state considered the necessary factors in its determination, *but also to whether the determination is one that is reasonably moored to the CAA's provisions*."[92] The Eighth Circuit did, however, reject a portion of EPA's FIP related to another power generating station, the Coal Creek Station, because EPA's failure to consider the emission control technology already in place at the Station was in violation of the CAA (which requires consideration of existing controls as part of BART determination).[93]

OKLAHOMA

On December 28, 2011, EPA partially disapproved Oklahoma's 2010 RH SIP, rejecting the state's decision not to require emission limits based on SO_2 scrubbers for six EGUs, reasoning that the state had incorrectly assessed control costs.[94] Concurrently, EPA promulgated a FIP requiring SO_2 emission limits that essentially required either the installation of the SO_2 scrubbers or switching the units to natural gas.

In regard to two of the six coal-fired EGUs, Oklahoma submitted a revision to the 2010 RH SIP, reflecting a Settlement Agreement reached among EPA, Oklahoma, AEP/PSO, and other stakeholders. The revision allowed the units to avoid installation of SO_2 scrubbers in the short-term, but required one coal-fired unit to permanently shut down by April 16, 2016, and the other to incrementally decrease capacity utilization beginning in 2021 and completely shut down by December 31, 2026. On August 21, 2013, EPA approved Oklahoma's revision to the 2010 RH SIP and withdrew the FIP provisions applicable to these units.[95]

EPA's actions for the remaining units were the subjects of petitions for review filed with the Tenth Circuit.[96] Although a two-judge panel granted a temporary stay of EPA's final rule pending resolution of the litigation, a different panel of judges from the Tenth Circuit ultimately upheld EPA's action.[97] The Court stated that

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[88]*See* 77 Fed. Reg. 20894 (Apr. 6, 2012).

[89]*See* 77 Fed. Reg. 20894 (Apr. 6, 2012).

[90]*See* 77 Fed. Reg. 20894 (Apr. 6, 2012).

[91]*See* North Dakota v. U.S. E.P.A., 730 F.3d 750, 761, 77 Env't. Rep. Cas. (BNA) 1137 (8th Cir. 2013).

[92]North Dakota v. U.S. E.P.A., 730 F.3d 750, 766, 77 Env't. Rep. Cas. (BNA) 1137 (8th Cir. 2013) (emphasis added).

[93]North Dakota v. U.S. E.P.A., 730 F.3d 750, at 764, 77 Env't. Rep. Cas. (BNA) 1137 (8th Cir. 2013); CAA § 169A(g)(2), 42 U.S.C. § 7491(g)(2).

[94]*See* 76 Fed. Reg. 81727, 81728 (Dec. 28, 2011).

[95]*See* 78 Fed. Reg. 51686 (Aug. 21, 2013).

[96]*See* Oklahoma v. EPA, Case Nos. 12-9526 and 12-9527.

[97]*See* Oklahoma v. U.S. E.P.A., 723 F.3d 1201, 77 Env't. Rep. Cas. (BNA) 1047 (10th Cir. 2013).

"EPA reviews all SIPs to ensure that they comply with the [CAA]," and "EPA may not approve any plan that 'would interfere with any applicable requirement' of [the CAA]."[98] Further, the Court held that EPA had properly exercised its authority to disapprove the 2010 RH SIP's SO_2 BART determinations and accepted EPA's finding that the state's consideration of the BART cost factor was inconsistent with the BART Guidelines and that the information on site-specific costs Oklahoma provided was not adequately documented.[99] The Tenth Circuit's decision has been often cited in subsequent challenges to EPA determinations concerning regional haze obligations. While acknowledging the states' role in developing regional haze plans, the case arguably recognizes significant policy-making authority within EPA.

TEXAS

Texas, in particular, has been involved in a complicated series of regional haze proceedings and related litigation. The state's original regional haze SIP was partially disapproved,[100] in part, for its reliance on CAIR, which, as described elsewhere in this chapter, was remanded to EPA by the D.C. Circuit and was subsequently determined by the agency to no longer be an appropriate BART alternative.[101]

On January 5, 2016, EPA partially disapproved a revised RH SIP for Texas and promulgated a FIP, which included more stringent SO_2 controls for 15 EGUs at eight power plants.[102] As part of that same action, EPA also partially disapproved a revision to the Oklahoma RH SIP related to reasonable progress and the establishment of RPGs for the Class I area located within the state; its decision was based in significant part on inadequate interstate consultation between Texas and Oklahoma. On March 1, 2016, Texas and several industry groups filed petitions for review of EPA's actions in the U.S. Court of Appeals for the Fifth Circuit.[103] On July 15, 2016, the Court stayed the rule, and, on February 23, 2017, the Fifth Circuit granted EPA's motion to remand the rule to the Agency for reconsideration. These developments suggested potential weaknesses in the EPA actions.

On October 17, 2017, EPA again took final action to address BART for NOx and SO_2 for Texas sources.[104] That rule allowed Texas to address NOx BART requirements through participation in CSAPR, and it addressed SO_2 BART through a new intrastate SO_2 trading program patterned after the CSAPR SO_2 trading program requirements. On December 15, 2017, a group of environmental organizations filed a petition for review of the final rule in the Fifth Circuit. The groups also filed a petition directly with EPA to reconsider the rule. In response to that litigation, on June 29, 2020, EPA issued a final rule affirming the validity of Texas' intrastate SO_2 trading program.[105]

UTAH

On December 14, 2012, EPA partially approved and partially disapproved the

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[98]*Oklahoma v. EPA*, 723 F.3d at 1204.

[99]*Oklahoma v. EPA*, 723 F.3d at 1212 (The court concluded that EPA "had a reasonable basis for rejecting" cost estimates not in compliance with its guidelines.).

[100]77 Fed. Reg. 33642 (June 7, 2012).

[101]*See infra* (B)(1).

[102]*See* 81 Fed. Reg. 295 (Jan. 5, 2016).

[103]*See* State of Texas v. EPA, Case No. 16-60118. Litigation was also filed in the D.C. Circuit and there were proceedings to address which court properly had jurisdiction.

[104]82 Fed. Reg. 48324 (Oct. 17, 2017).

[105]85 Fed. Reg. 49170, 49187 (Aug. 12, 2020).

2011 Utah RH SIP.[106] The partial approval applied to Utah's adoption of the Western Backstop Sulfur Dioxide Trading Program and Emission Inventories, and the partial disapproval applied to the state's NOx and PM BART determinations. In 2013, environmental groups challenged EPA's approval of the SO_2 Backstop Trading Program as an alternative to BART for certain Transport Region States, including Utah, in the U.S. Court of Appeals for the Tenth Circuit. On October 21, 2014, the Tenth Circuit upheld EPA's action, including the finding that the trading program could serve as a BART alternative.[107] Utah submitted additional regional haze SIP revisions to respond to EPA's partial disapproval.[108]

WYOMING

On January 30, 2014, EPA partially approved and partially disapproved Wyoming's RH SIP and promulgated a FIP.[109] The State of Wyoming, Basin Electric Power Cooperative, and others filed petitions for review in the U.S. Court of Appeals for the Tenth Circuit.[110] On April 24, 2017, EPA, Wyoming, and the Basin Electric Power Cooperative reached a Settlement Agreement. Pursuant to that agreement, Wyoming submitted a revised RH SIP to EPA for review on April 5, 2018, and on May 20, 2019, EPA approved the revised RH SIP and revised the FIP.[111]

* * *

In summary, the outcomes of some of the cases discussed above have been interpreted by many to suggest that Congress' intent—that the states be afforded significant discretion as the primary decision makers in regard to BART determinations and policy decisions associated with ensuring reasonable progress toward the national visibility goal—[112]has been considerably eroded in regard to implementation of the 1999 RHR as amended.[113] Instead of allowing states to exercise the discretion and flexibility previously recognized, it appears that a more uniform regional haze implementation policy is being applied and that state plans deviating from this uniform policy are being disapproved in whole or in part and replaced with FIPs.

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[106]*See* 77 Fed. Reg. 74355 (Dec. 14, 2012).

[107]*See* WildEarth Guardians v. U.S. E.P.A., 770 F.3d 919, 79 Env't. Rep. Cas. (BNA) 1493 (10th Cir. 2014).

[108]*See* 81 Fed. Reg. 43894 (July 5, 2016).

[109]*See* 79 Fed. Reg. 5032 (Jan. 30, 2014).

[110]*See* Basin Electric Cooperative v. EPA, No. 14-9533 (10th Cir. March 31, 2014); Wyoming v. EPA, No. 14-9529 (10th Cir. March 28, 2014).

[111]81 Fed. Reg. 96450 (Dec. 30, 2016); 84 Fed. Reg. 22711 (May 20, 2019).

[112]*See* American Corn Growers Ass'n v. E.P.A., 291 F.3d 1, 8, 54 Env't. Rep. Cas. (BNA) 1417, 32 Envtl. L. Rep. 20658 (D.C. Cir. 2002) ("confirm[ing] that Congress intended the states" and not EPA "to decide which sources impair visibility and what BART controls should apply to those sources"), *citing* H.R. Conf. Rep. No. 96-564 (1977), U.S.C.C.A.N. 1977 at 1502. The Court also noted that the states "play the lead in designing and implementing regional haze programs," that "Congress directed States to make" the judgment as to how to weigh the BART factors, and that the 1999 RHR was ultimately "inconsistent with the Act's provisions giving the states broad authority over BART determinations." American Corn Growers Ass'n v. E.P.A., 291 F.3d 1, 2, 6, 8, 54 Env't. Rep. Cas. (BNA) 1417, 32 Envtl. L. Rep. 20658 (D.C. Cir. 2002).

[113]*See* National Parks Conservation Ass'n v. E.P.A., 788 F.3d 1134 (9th Cir. 2015). Similarly, National Parks Conservation Ass'n v. U.S. E.P.A., 803 F.3d 151, 167, 81 Env't. Rep. Cas. (BNA) 1630 (3d Cir. 2015) (stating, in deciding to remand EPA's approval of Pennsylvania's RH SIP, that "[i]n the end, the EPA has identified a host of problems with Pennsylvania's BART analysis. What it has not done, however, is provide a sufficient explanation as to why it overlooked these problems and approved Pennsylvania's SIP. Because we, as a reviewing court, need an agency to show its work before we can accept its conclusions, we will remand this case to the EPA for further consideration.").

§ 12:80 Implementation During the Second Planning Period

A. EPA's 2017 RHR Revisions

On May 4, 2016, EPA proposed revisions to the amended RHR.[1] During the rulemaking process, EPA received more than 180,000 comments. On December 14, 2016, EPA finalized revisions to the amended rule (effective January 10, 2017), which were codified at 40 C.F.R. Parts 51 and 52.[2] The 2017 RHR Revisions focused on the second planning period (*i.e.*, the RH SIPs with reasonable progress goals for 2028). Some of the significant changes included the following:

- Clarification of the relationship between long-term strategies and reasonable progress goals and the long-term strategy obligation of all states (even if the rate of progress in some Class I areas is meeting or exceeding the uniform rate of progress necessary to achieve natural visibility conditions by 2064, the state is still required to conduct an analysis and determine whether additional progress would be reasonable based on the four factors);[3]
- Clarification and modification of the requirements for periodic comprehensive revisions of SIPs;
- Modification of certain requirements related to the timing and form of progress reports, including the removal of the requirement that Regional Haze Progress Reports be SIP Revisions; and
- Extension of the July 31, 2018, RH SIP revision submittal deadline (contained in § 308(f) of the 1999 RHR) to July 31, 2021. This provided States with sufficient time to ensure that the SIP revisions align with steps taken to address other CAA actions. Although the 2017 RHR Revision extended the SIP submittal date, the end date for the second implementation period remains 2028.

Other changes provided in the 2017 Revision include: Changes to Definitions and Terminology Related to How Days Are Selected for Tracking Progress; Impacts on Visibility from Anthropogenic Sources Outside the U.S.; Impacts on Visibility from Wildland Fires Within the U.S.; Clarification of and Changes to the Required Content of Progress Reports; Changes to making the Reasonably Attributable Visibility Impairment Provisions of the Rule More Explicit; Changes to the FLM Consultation Requirements; and Changes to Requirements Related to the GCVTC.[4]

Legal Challenges to the 2017 RHR Revision

On January 18, 2017, the State of Texas petitioned the U.S. Court of Appeals for the D.C. Circuit to review the 2017 RHR Revision.[5] Alaska, North Dakota, and Arkansas subsequently filed petitions for review, and so did industry groups, individual companies, and environmental groups. Environmental groups and industry representatives also moved to intervene as respondents to help defend aspects of the 2017 RHR Revision. In addition to the petitions for review filed in the D.C. Circuit,

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[Section 12:80]

[1] *See* 81 Fed. Reg. 26942.

[2] *See* 82 Fed. Reg. 3078 ("2017 RHR Revisions").

[3] *See* 82 Fed. Reg. 3092 ("The States must calculate baseline and natural visibility conditions before they can compare their RPGs to the glidepath. "[B]ecause [EPA] intended states to develop their RPGs by modeling, among other things, the measures in the long-term strategy, the measures in the strategy are necessary to achieve the RPGs. For example, BART is one of the measures in the long-term strategy, and the discussion previously clearly states that 'the visibility improvement resulting from BART (or a BART alternative) *is included in the development of the RPG*.' We proposed the structural revisions to 40 CFR 51.308(f) in part to eliminate this cart- before-the-horse ambiguity.") (emphasis in original).

[4] *See* 82 Fed. Reg. 3078 (Jan. 10, 2017).

[5] *See* State of Texas, et al v. EPA, et al, No. 17-1021 (D.C. Cir.).

several entities (including the State of Alaska and several industry groups) directly petitioned EPA to stay and/or reconsider the final rule. As discussed in the Expected Next Steps section below, EPA responded to the petition letters and announced its intent to review the 2017 RHR Revisions.

Before any substantive filings were made in the litigation, on January 30, 2018, the D.C. Circuit granted an EPA motion to hold the case in abeyance pending its review and possible reconsideration of the final rule. The case remains in abeyance while EPA reconsiders aspects of the 2017 RHR Revision.

B. New Guidance and Technical Materials

As with the initial planning period, the EPA has issued numerous guidance documents to assist the states, Tribes, and local governments with progress reports and with implementation of regional haze requirements for the second planning period.[6] These include:

- General Principles for 5-year Regional Haze Progress Reports (April 2013);
- Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations (May 2017);
- Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program (December 20, 2018);
- Technical Support Document for EPA'S Updated 2028 Regional Haze Modeling (September 19, 2019);
- Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (August 20, 2019);
- Memo and Technical Addendum on Ambient Data Usage and Completeness for the Regional Haze Program (June 3, 2020); and
- Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period (July 8, 2021).

C. Regional Planning Organization (RPO) Activities

As described above, there are five RPOs assisting with regional planning across the United States. The RPOs use different methods to coordinate activities and are at different points in the process. The following are two examples of approaches being taken by the RPOs for the second planning period: one by SESARM and the other by WRAP.

Southeastern Air Pollution Control Agencies (SESARM)

Members of the SESARM comprise the governing body of the VISTAS project. "VISTAS" stands for the Visibility Improvement State and Tribal Association of the Southeast, and it is the RPO responsible for collaborating on regional air quality analysis work necessary to support the development of RH SIPs. VISTAS was originally formed to assist with work related to the first planning period, and it recently entered into a second phase of regional haze analysis designed to assist the member states during the second planning period. The VISTAS II project is structured into four subcommittees (the State and Tribal Air Directors, the Coordinating Committee, the Technical Analysis Work Group, and the SIP Development Work Group).[7]

Western Regional Air Partnership (WRAP)

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[6]These documents are available at U.S. EPA, *Visibility—Guidance Documents*, https://www.epa.gov/visibility/visibility-guidance-documents.

[7]The VISTAS II project schedule for the second planning period was as follows: (1) December 2017—Initiation of VISTAS Regional Haze Project (Phase II); (2) April 2018—Initiation of technical work; (3) September 30, 2020—All technical work completed; (4) October 30, 2020—Reasonable prog-

The WRAP formed its Regional Haze Planning Work Group (RHPWG) in order to develop a framework to support regional planning efforts necessary for the 15 states and the City of Albuquerque within the Western States Air Resources Council (WESTAR) and WRAP region to timely develop and submit RH SIPs for the second planning period. As part of this effort, the RHPWG formed several subcommittees from among its members to coordinate and track work by other WRAP Work Groups and contractors, in order to address elements necessary for SIP preparation.[8]

D. Expected Next Steps

On January 17, 2018, then EPA Administrator E. Scott Pruitt announced, in a response to petitions for reconsideration of the 2017 RHR Revision, that EPA would initiate the rulemaking process to potentially address portions of the 2017 RHR Revision, which could include, among other elements, the Reasonably Attributable Visibility Impairment provisions and the FLM consultation provisions. In addition, the announcement indicated that EPA planned to finalize one or more guidance documents for RH SIP revisions due in 2021, which would possibly address some or all of the issues raised in the petitions for reconsideration.[9]

On April 12, 2018, President Trump directed the EPA Administrator to review the Agency's engagement with states as part of the regional haze program.[10] The memorandum recognized that "[i]n recent years, States have spent significant time and resources developing Regional Haze Program SIPs. EPA, however, has rejected several of them, in whole or in part, and issued FIPs in their place, which often impose more costly and burdensome measures." In the memorandum, the president specifically directed the EPA Administrator to: (1) ensure the timely processing of SIPs (endeavor to take final action within 18 months of submission of a SIP); (2) develop options for states to replace FIPs with approvable SIPs; (3) endeavor to take final action on applications for preconstruction permits within one year of receiving a complete application; (4) provide relief to state and local air agencies in addressing emissions beyond their control; (5) provide flexibility to states in identifying and achieving offsets (including intrastate and regional inter-precursor trading); and (6) timely issue and review regulations, guidance, and procedures related to the regional haze program.

On September 10, 2018, then Acting Administrator of the EPA Andrew Wheeler announced EPA's new Regional Haze Reform Roadmap. The Roadmap prioritized providing more power to the states in determining the appropriate emissions controls measures and in relying on other CAA programs to improve visibility. A memorandum to staff indicated that EPA was developing a rulemaking to modify portions of the Regional Haze Rule. On August 20, 2019, EPA issued its "Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (August 20, 2019)." This non-binding guidance document is related to and con-

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ress analyses due from surrounding states (AR, MO, IN, OH, and PA); (5) October 2020-July 2021—SIP development, FLM consultation, public comment periods, and responses to public comments by each VISTAS state; and (6) February 26, 2021—Completion of all project reports, data transfers, archival, and contract expiration.

[8]These elements include: (1) Inventories—current and future (growth projections and methodologies by source categories); (2) Development of a transparent and complete monitoring data metric for planning and model projection purposes; (3) Database management (including the TSS database); (4) Four-factor analysis for control measures; (5) Regional photochemical modeling; (6) Assessment of "unknowns" and uncertain categories (natural conditions, international emissions, fire and dust emission, et cetera; (7) Development of Regional Haze SIP package content and progress report template; and (8) Develop control strategies menu for major western state sources.

[9]*See* Letter from E. Scott Pruitt, EPA Adm'r, to Sw. Pub. Serv. Co., Entergy Services Inc., and Cleco Power LLC (Jan. 17, 2018).

[10]*See* 83 Fed. Reg. 16761 (Apr. 16, 2018).

sistent with the 2018 Reform Roadmap.

As discussed above, the courts have often sided in favor of EPA's decisions during the first implementation period of the regional haze program. These Agency decisions appear to apply a uniform national approach to implementing the RHR, rather than deferring to the significant discretion of the states in making such determinations as was intended by Congress—and arguably provided in the existing regulations. Under the Trump administration, EPA made progress on several initiatives related to the regional haze program that would have potentially resulted in a different approach; however, with a new administration as of January 20, 2021, the future of these recent EPA initiatives is unclear. In the meantime, in accordance with the 2017 RHR Revisions, RH SIP revisions for the second implementation period were due on July 31, 2021.

XI. NEW SOURCE REVIEW*

§ 12:81 Introduction

The New Source Review (NSR) preconstruction permit program for new and modified major stationary sources is implemented by EPA in coordination with states through approved state implementation plans (SIPs) and delegation.[1] Tribes are encouraged, but not required to, establish NSR permitting programs for sources located in Indian Country and within their jurisdiction through a tribal implementation plan (TIP) or through delegation.[2] EPA remains the permitting authority when there is no applicable, approved SIP/TIP or delegation. This section focuses on the federal superstructure and does not cover the content of the various SIPs/TIPs and delegation agreements. Practitioners should examine the specific content of the applicable SIPs/TIPs and delegation agreements and also take into account interpretations of NSR requirements by EPA and relevant state/local/tribal officials. One important resource is EPA's online, indexed, and searchable digest of NSR-related letters and memoranda covering many of the key topics in this subject area, some of which is binding and some of which is not.[3]

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[Section 12:81]

[1]Clean Air Act § 110(a)(2)(C), 42 U.S.C. § 7410(a)(2)(C).

[2]Clean Air Act § 301(d), 42 U.S.C. § 7601(d). Indian Country is defined at 18 U.S.C. § 1151 and 40 C.F.R. § 71.3 as "(a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state; and (c) all Indian allotments, the indicant titles to which have not been extinguished, including rights-of-way running through the same." States do not have regulatory jurisdiction within these boundaries.

[3]EPA NEW SOURCE REVIEW POLICY AND GUIDANCE INDEX, https://www.epa.gov/nsr/new-source-review-policy-and-guidance-document-index. As of early 2021, EPA confirmed its intent to continue maintaining and populating this database as it has in the past even though some of the documents do not meet the definition of "guidance document" under 40 C.F.R. § 2.503, established pursuant to Executive Order 13891, such as adjudications and statements directed to particular parties about circumstance-specific questions. The database also includes guidance that is no longer active, but that may be referenced to establish historical facts. Some of the documents in this database meet the definition of "guidance" and are also included in the official "EPA Guidance Portal" established under 40 C.F.R. pt. 2 pursuant to Executive Order 13891: https://www.epa.gov/guidance. For more information on what constitutes binding guidance, *see* Administrative Procedures for Issuance and Public Petitions, 85 Fed. Reg. 66230 (Oct. 19, 2020) (to be codified at 40 C.F.R. pt. 2). However, this guidance makes little reference to case law decisions and significant instruction for PSD and NNSR permitting comes directly from such

§ 12:82 40 C.F.R. Sections 51.160–51.166 and 52.21–52.24: the basic program

Congress intended for the NSR program to be a joint administration between the federal government and the states/tribes through cooperative federalism. The goal was for EPA to set national ambient air quality standards (NAAQS) and establish the general minimal elements for SIPs and TIPs.[1] States, local governments, and tribes could then establish their own rules to implement the NSR program and submit those as a plan to EPA for "approval."[2]

In situations where the state or tribe has not sought approval for a program, or where the state's or tribe's proposed plan has not been fully approved by EPA, EPA retains the primary jurisdiction for the NSR program, or at least for the portion of the NSR program not fully approved. Approval could be limited by pollutant, by source category, or in another manner depending on the circumstances leading to the partial approval. To the extent the state's or tribe's program is approved by EPA, the state/tribe would issue the NSR permit. If a state's or tribe's program is not fully approved, then EPA may issue an NSR permit, either for the entirety of the project or in addition to a state's permit on a pollutant-specific basis.

If a state or tribe would prefer to rely solely on the federal rules, rather than seeking "approval" of an NSR program through a SIP/TIP, states and tribes can pursue full or partial "delegation" from EPA (referred to as "delegated programs").[3] If EPA allows the state or local agency to prepare, sign, and issue the final permit, this is referred to as "full delegation"; however, if EPA insists on the state sending the permit to EPA for signature and issuance, this would be a "partial delegation." EPA may also withhold delegation for a portion of a state or region, as it has done in Nevada and California.

The federal NSR regulations are codified at 40 C.F.R. §§ 51.160 to 51.166 and appendix S, and 52.21 to 52.24. Appendix S and §§ 52.21 and 52.24 establish the requirements applicable when the permitting is delegated or administered directly by EPA. Sections 51.160–51.166 enumerate the required elements of an approvable SIP/TIP program for the preconstruction review of new major stationary sources and of major modifications to existing major stationary sources:[4] A basic NSR program:

(1) Applies to any new major stationary source or major modification at an existing major stationary source that would contribute in significant amounts to concentrations of any regulated NSR pollutant;[5]

(2) Requires the owner or operator of the project to show, prior to construction, that the project will be able to adhere to the SIP/TIP and will not cause or contribute to any exceedance of a NAAQS or PSD increment; and

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decisions. Sources should account for this fact when engaging in NSR permitting.

[Section 12:82]

[1]*See discussion* in Train v. Nat. Res. Def. Council, Inc., 421 U.S. 60, 95 S. Ct. 1470, 43 L. Ed. 2d 731, 7 Env't Rep. Cas. (BNA) 1735, 5 Envtl. L. Rep. 20264 (1975).

[2]Approvals may be obtained for both the PSD and NNSR programs. The non-attainment new source review or NNSR program will be explained later in this chapter.

[3]Almost all states have SIP-approved PSD programs; at the time of publishing, 40 C.F.R. § 52.21 applied statewide only in Hawaii, Illinois, Maine, and New Jersey. Territories such as Guam, Virgin Islands, and Puerto Rico would similarly be subject to the permitting requirements of 40 C.F.R. § 52.21 without an approved SIP.

[4]These elements are listed in Clean Air Act § 110(a)(2)(C).

[5]For NNSR permitting, only sources located within a nonattainment area must consider applicability of the NNSR program. Only criteria pollutants and their precursors that are associated with the particular nonattainment designation are taken into account when determining whether NNSR permitting is triggered. For example, in a particulate matter (PM) nonattainment area, an applicant would analyze PM emissions for NNSR permitting purposes rather than PSD permitting.

(3) Gives the public advance notice and opportunity to comment on the project. Opportunity for public participation must include: (a) availability of the relevant information in at least one location in the affected area or on a public website; (b) notice by "prominent advertisement" of the location of the information and the opportunity for comment; and (c) in general, 30 days for the submittal of comments.[6]

The implementing EPA regulations in 40 C.F.R. §§ 51.160 to 51.164 and corresponding SIP/TIP measures can govern not only NSR permitting but also "minor" NSR permitting applicable when a new stationary source or changes to an existing stationary source do not trigger full NSR review. These minor NSR permits are important because they provide a mechanism by which sources can avoid requirements applicable to new major sources or modifications. Minor NSR permits are also important because they are routinely issued to existing major stationary sources making changes that do not constitute a "major modification."

As discussed more fully in other sections, a source generally may take pollution controls and operational restrictions into account on a plantwide basis when quantifying its emissions to determine applicability under major NSR. In order for these limitations to confer "minor source" status on a new source or modification (sometimes called a "synthetic minor"), they must be embodied in an enforceable instrument that includes terms that can be "practically enforced."[7] In addition, emission reductions at sources providing external offsets must be made federally enforceable. Note the difference in requirements. "Practically enforceable terms" are those terms that can be implemented and enforced as a practical matter. On the other hand, "federally enforceable conditions" are those terms that, if violated, would be enforceable by EPA or by means of a citizen suit as well as by a state or local agency.[8]

Minor NSR permits under an EPA-approved SIP/TIP program are a frequently used means to this end. Although neither the Act nor EPA's regulations specify a size threshold for SIP/TIP minor NSR permit programs, 40 C.F.R. § 51.160(e) allows the exclusion of certain types and sizes of sources from a state/local/tribal program if justified. Many SIPs/TIPs have therefore, on their face or by state policy, established their own "sub-de minimis" applicability levels.

With respect to delegated programs, the party seeking permits in such instances will need to identify how NSR authority has been delegated from EPA to the state, local program, or tribe; take into account the provisions of any applicable SIP/TIP; and consult with the appropriate delegated agency to determine how any synthetic minor or minor NSR permits are being issued. For example, there are specific provisions under 40 C.F.R. part 49 that address how sources would pursue synthetic minor and minor NSR construction permits in Indian Country when EPA is the is-

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[6]Air Quality Implementation Plans; Restructuring SIP Preparation Regulations, 51 Fed. Reg. 40669 (proposed Nov. 7, 1986) (to be codified at 40 C.F.R. pt. 51, 52); 40 C.F.R. §§ 51.161, 51.163.

[7]The limitations must be "federally enforceable" or, if the limitations do not meet EPA's definition of federally enforceable, they must be legally and practically enforceable by a state, tribe, or local air pollution control agency for EPA to recognize them in determining the potential to emit (PTE) of the source. This is important because EPA can unilaterally initiate an enforcement action when it believes the source should have obtained a major NSR permit even if the state agency felt that a minor NSR permit was appropriate. For additional discussion of conditions surrounding the creation and enforcement of synthetic minor permit limitations, see the report of the Office of the Inspector General, EPA Should Conduct More Oversight of Synthetic-Minor-Source Permitting to Assure Permits Adhere to EPA Guidance (July 8, 2021) found at ww.epa.gov/office-inspector-general/report-epa-should-conduct-more-oversight-synthetic-minor-source-permitting.

[8]*See* EPA LIMITING POTENTIAL TO EMIT (PTE) & SYNTHETIC MINOR SOURCES, https://www.epa.gov/title-v-operating-permits/limiting-potential-emit-pte-synthetic-minor-sources.

suing agency.[9]

§ 12:83 Applicability—Interlocking coverage—Nonattainment New Source Review (NNSR) SIPs/TIPs

Sections 51.165 and 51.166 of 40 C.F.R. express the balance of the requirements of CAA § 110(a)(2)(C). Section 51.165(a) requires each SIP/TIP to contain a permit program for new "major" projects emitting regulated NSR pollutants to be located in areas designated nonattainment. Specifically, the program would apply to any new "stationary source" or "modification" to an existing stationary source that would emit in "major" amounts any regulated NSR pollutant for which the area is designated nonattainment (the "nonattainment" pollutant). The only pollutants for which areas have been designated as nonattainment under § 107 of the Act are carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter, lead, and ozone.[1] To obtain a permit, an applicant must satisfy the relevant substantive requirements, such as offsets, for each nonattainment pollutant emitted in "major" amounts.[2]

In contrast, 40 C.F.R. § 51.165(b) requires NNSR permits for new "major" projects locating in an attainment or unclassifiable area but nevertheless affecting a nonattainment area.[3] Specifically, the program is to apply to any new "stationary source" or "modification" to an existing stationary source that would: (1) emit a particular regulated NSR pollutant in "major" amounts; (2) be located in an area designated attainment or unclassifiable for that pollutant; and (3) cause or contribute to a violation of a NAAQS.[4] Section 51.165(b) defines a "significant contribution" by reference to air quality concentrations in section III of the Offset Ruling.[5] To obtain a permit, an applicant must satisfy the relevant substantive requirements—mainly an offset requirement—for each criteria pollutant for which the project would be subject to the permit requirement.[6]

§ 12:84 Applicability—Interlocking coverage—Prevention of Significant Deterioration (PSD) Review—SIPs/TIPs

Section 51.166 of 40 C.F.R. complements § 51.165**(a)** and overlaps § 51.165**(b)**. It

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[9]*See* 40 C.F.R. §§ 49.151–164.

[Section 12:83]

[1]40 C.F.R. § 51.165(a)(2); Air Quality Implementation Plans; Restructuring SIP Preparation Regulations 51 Fed. Reg. 40672 (Nov. 7. 1986) (to be codified at 40 C.F.R. pts. 51, 52); Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52711 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124); Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of State Implementation Plans, 45 Fed. Reg. 31307, 31309–10 (May 13, 1980) (to be codified at 40 C.F.R. pts. 51, 52).

[2]Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 45 Fed. Reg. at 52711.

[3]Under 40 C.F.R. pt. 81, there are only three possible designations for compliance with the ambient air quality standards: attainment, unclassifiable, and nonattainment. The designations are made by EPA. States or tribes seeking to change the designation of an area would request the redesignation from EPA, which would evaluate the justification for such change and, if approved, make such change as a formal redesignation via Federal Register notice. The official designations are listed by State in 40 C.F.R. pt. 81.

[4]40 C.F.R. § 51.165(b); Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 45 Fed. Reg. at 31309–310.

[5]40 C.F.R. pt. 51, app. S, § III(A). An example of a significant contribution is 1.0 microgram per cubic meter (annual average) for sulfur dioxide.

[6]*See* Regulations for Implementing Revised Particulate Matter Standards, 50 Fed. Reg. 13130, 13150 (proposed Apr. 2, 1985) (to be codified at 40 C.F.R. pts. 50, 51, 52, 53, 58, 81).

requires SIPs to include a PSD permit program that applies in general to any new "source" or "modification" that would be "major" for any regulated NSR pollutant and would be located in any area that is designated attainment or unclassifiable for any pollutant that the source or modification would emit in significant amounts.[1] PSD programs are optional but encouraged for TIPs; if there is no applicable approved or delegated PSD program in the TIP, EPA implements the program in Indian Country under 40 C.F.R. § 52.21.

"Regulated NSR pollutant" for purposes of the PSD program includes any pollutant for which an ambient air quality standard has been promulgated (and their precursors), any pollutant subject to a standard promulgated under CAA § 111 (NSPS), any Class I or Class II substance subject to a standard established under CAA Title VI to protect the stratospheric ozone layer, and any pollutant that otherwise is subject to regulation under the CAA. This includes, but is not limited to, certain gaseous emissions from a source or activity that condense to form particulate matter at ambient temperatures, certain identified pollutants that are constituents or precursors for ozone formation (such as VOCs and NO_x) and $PM_{2.5}$ (including SO_2, NO_x, VOCs, and, in specified circumstances, ammonia).[2] The regulated NSR pollutants identified to date are: PM_{10}, $PM_{2.5}$,[3] SO_2, NO_2,[4] ozone, CO, lead, particulate matter (PM), fluorides, sulfuric acid mist, hydrogen sulfide (H_2S), total reduced sulfur, reduced sulfur compounds (equivalent to H_2S), ozone depleting substances, municipal waste combustor (MWC) acid gases, MWC metals, MWC organics, and municipal solid waste landfill nonmethane organic compound emissions; greenhouse gases (GHGs) can also be regulated NSR pollutants, but only for BACT applicability.[5]

A pollutant may be subject to PSD review, NNSR, or both depending upon the pollutant and the attainment status for the area. An example is NO_2. This pollutant could be subject to NNSR if the areas fails to meet the attainment status for the NO_2 NAAQS, but it could also be subject to review under the PSD program (as a precursor for ozone formation) if the area is in attainment for the ozone NAAQS (or vice versa).

There are two main exceptions to PSD review for pollutants that are not considered "regulated NSR pollutants." First, PSD review does not apply to pollutants listed under the new CAA § 112 (hazardous air pollutants, HAPs).[6] A HAP could still be subject to PSD review, however, to the extent that it is part of a more general class of pollutant—for example, VOCs, which are regulated for their contribution to ozone.[7] In addition, a BACT analysis must still take into account the effect

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[Section 12:84]

[1] *See* 40 C.F.R. § 51.166(a)(7).

[2] *See, e.g.,* 40 C.F.R. §§ 51.165(a)(1)(xxxvii), 51.166(b)(49), 52.21(a)(50).

[3] SO_2 and NO_x are precursors of $PM_{2.5}$ on a national basis. However, in attainment areas, VOC and ammonia will not be considered precursors of $PM_{2.5}$ unless a state has determined that these emissions do significantly contribute to $PM_{2.5}$. Also, in nonattainment areas, VOCs and ammonia are considered precursors unless the State demonstrates they are not significant contributors. Note that direct $PM_{2.5}$ emissions includes the sum of both condensable and filterable $PM_{2.5}$.

[4] NO_2 is a criteria pollutant, but significant emissions of and the potential to emit of NO_2 are based upon all oxides of nitrogen (NO_x).

[5] GHGs include carbon dioxide, nitrous oxide, methane, sulfur hexafluoride, and numerous compounds of perfluorocarbons and hydrofluorocarbons.

[6] Clean Air Act § 112(b)(6), 42 U.S.C. § 7412(b)(6); 40 C.F.R. § 51.166(b)(49).

[7] Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, New Source Review (NSR) Program Transitional Guidance 3 (Mar. 11, 1991).

that different controls for nonexempt pollutants would have on the exempt ones.[8]

Second, 40 C.F.R. § 51.166 itself expressly allows an exception for any project that emits in significant amounts only nonattainment pollutants.[9] Since every area of the country is designated attainment or unclassifiable for some pollutant, 40 C.F.R. § 51.166 in effect requires PSD review for any new project that would emit any regulated NSR pollutant in "major" amounts, except for any project that would emit only nonattainment pollutants in significant amounts.[10] To obtain a permit, an applicant in general must satisfy the substantive PSD requirements not only for the pollutants the project would emit in "major" amounts, but also for the pollutants it would emit in "significant" amounts.[11] The significance thresholds vary across a broad range of values.[12] The applicant may ignore—for PSD purposes—any nonattainment pollutants the project would emit.[13] It should be noted that 40 C.F.R. § 51.166 requires not only a permit program, but also periodic assessment of increment consumption and SIP tightening as necessary to attain and maintain the increments.[14]

In October 1990, EPA issued a draft workshop manual for PSD and nonattainment permitting that has been used by permitting agencies and the regulated community for many years as a guideline for working through numerous issues involved in the relevant permitting programs. The manual covers a wide range of topics including applicability, control technology evaluation, air quality impacts analysis, additional impacts analysis, Class I Area Impacts considerations, and nonattainment review.[15] Although portions of the 1990 manual are outdated,[16] the chapters on the substantive requirements are still for the most part pertinent and

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[8]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, New Source Review (NSR) Program Transitional Guidance 3 (Mar. 11, 1991).

[9]*See* 40 C.F.R. § 51.166(i)(5). Notably, this exemption is only implicit in 40 C.F.R. § 51.166(i)(5), inasmuch as that provision only exempts emissions of nonattainment pollutants from the substantive PSD requirements. EPA, however, has interpreted the provision to exempt a project that emits only nonattainment pollutants in "major" amounts from the permit requirements as well. *See* Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52711 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124). The regulations also contain a little-used exemption that applies to any source that would constitute "a nonprofit health or nonprofit educational institution" or any modification that would occur at such an institution. *See* Clean Air Act § 169(1), 42 U.S.C. § 7479(1); *see* 40 C.F.R. § 51.166(i)(4)(i). For a specific application of this exemption, *see* Prevention of Significant Deterioration of Air Quality (PSD); Final Determination of Exemption; Medical Area Total Energy Plant, Boston, Massachusetts, 46 Fed. Reg. 30194 (June 5, 1981); *see also* Town of Brookline v. Gorsuch, 667 F.2d 215, 16 Env't Rep. Cas. (BNA) 1857, 12 Envtl. L. Rep. 20115 (1st Cir. 1981). In addition, a state under certain conditions may exempt a previously permitted portable source from obtaining a new PSD permit when it temporarily relocates. 40 C.F.R. § 51.166(i)(4)(iii).

[10]Thus, geothermal power plants, which typically emit only hydrogen sulfide in "major" amounts, are subject to PSD permitting. *See* Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approvaland Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52676 (item 8) (to be codified at 40 C.F.R. pts. 51, 52, 124). Sources that are major only with respect to a nonattainment pollutant, of course, are subject to 40 C.F.R. § 51.165.

[11]*See* 40 C.F.R. § 51.166(i)(2), (j)(2), (m)(1)(i); Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 45 Fed. Reg. at 52711.

[12]*See* 40 C.F.R. § 51.166(b)(23)(i).

[13]40 C.F.R. § 51.24(i)(5); Detailed examples of how these rules for geographic and pollutant applicability work for both PSD and nonattainment purposes appears at Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52711–12 (1980) (to be codified at 40 C.F.R. pts. 51, 52, 124).

[14]*See* 40 C.F.R. § 51.166(a), (c).

[15]EPA, NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING 39 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf. Previously, in 1980, EPA put together a manual on the coverage and content of the

recognized as such by EPA and the courts.

§ 12:85 Applicability—Interlocking coverage—NNSR and PSD—EPA Authority and Delegated Authority to States/Tribes

When considering new source review permitting, it is important to recognize the potential for interaction between programs under the PSD program and the NNSR program.[1] Which programs will be implicated will depend upon the approval status for PSD and nonattainment programs within the area for the proposed project, the designation of air quality for that area, and the pollutants that will be involved in the project at significant levels and triggering permit requirements. Note that a given project may trigger more than one program (PSD and NNSR, and addressed in a single permit or two separate permits); and a given project could also be subject to permitting at the state/local/tribal level as well as need a permit from EPA. Section 52.21, which parallels the general requirements for an approved PSD program in 40 C.F.R. § 51.166, includes the PSD permitting requirements that will apply to sources seeking to locate in an attainment area where there is no fully approved SIP for the relevant regulated NSR pollutant. EPA may delegate to a state/tribe the authority to issue PSD permits under 40 C.F.R. § 52.21, and if no delegation agreement is in place, then EPA would issue the permits.

Paragraph (a) of 40 C.F.R. § 52.24 addresses statutory restrictions on major new and modified sources emitting regulated NSR pollutants for which the area is designated as nonattainment and where a SIP/TIP addressing nonattainment requirements for that pollutant has not been fully approved. Paragraph (b) of § 52.24 applies in those instances where the Administrator has determined that the applicable SIP/TIP is not being adequately implemented for the nonattainment or transport region in which the proposed source is proposed to be constructed or modified as covered under the nonattainment program.

EPA can delegate authority to issue PSD and NNSR permits under 40 C.F.R. § 52.21 and § 52.24 to states/tribes/local programs. If there is no delegation agreement in place, then EPA would issue the permits. Finally, EPA will issue PSD and nonattainment permits for covered sources seeking to locate covered new or modified sources in the outer continental shelf.

§ 12:86 Begin actual construction (what is allowed prior to permit issuance)

The NSR program prohibits a person from beginning actual construction without an NSR permit when one is required.[1] To "begin actual construction" means, in general, to initiate physical, on-site construction activities of a permanent nature,

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PSD regulations. EPA, OFF. OF AIR QUALITY PLAN. & STANDARDS, PREVENTION OF SIGNIFICANT DETERIORATION WORKSHOP MANUAL (EPA-450/2-80-081) (Oct. 1980) https://www.epa.gov/sites/default/files/2015-07/documents/1980wman.pdf. This document provided an outline of an approach and instructions with reference to permitting for the new 1980 PSD rules. That manual was followed by additional draft guidance documents in 1985 and 1988.

[16]For example, the chapter on applicability has been superseded by the 2002 NSR "Reform Rule" and the chapter on modeling impact analyses has been superseded by updates to 40 C.F.R. pt. 51, appendix W.

[Section 12:85]

[1]The PSD program elements are set forth in 40 C.F.R. §§ 51.166 (for SIPs) and 52.21 (for delegations and FIPs). The NNSR program elements are set forth in 40 C.F.R. §§ 51.165 (for SIPs) and 52.24 (for delegations and FIPs).

[Section 12:86]

[1]40 C.F.R. § 51.166(a)(7).

including "installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures."[2] Traditionally, EPA (and many state agencies) have taken the position that limited preliminary activities such as site-clearing and ordering of materials are allowed, but occur at the risk of the applicant and do not guarantee that a permit will be issued.[3] Entering construction contracts does *not,* however, constitute the prohibited "beginning of actual construction" when it occurs prior to the issuance of a PSD/NNSR permit.[4] The prohibition on actual construction includes the "emissions unit," which is defined as any part of an source that would emit any regulated NSR pollutant.[5] Historically, EPA has interpreted "emissions unit" broadly to include almost any installation of a permanent nature that is necessary to accommodate any unit subject to regulation under any part of the Act, including a building specifically designed to house an emissions unit. Thus, it has been considered that if the construction activity in question was such that it would not occur but for the ultimate inclusion of the emission unit, the PSD permit would need to be obtained before construction of the unit begins.[6]

On March 25, 2020, EPA issued new draft guidance entitled "Interpretation of 'Begin Actual Construction' Under New Source Review Preconstruction Permitting Regulations."[7] In this guidance, EPA clarifies how it is proposing to look at the phrase "begin actual construction" under NSR permitting. EPA notes that its historical interpretation of "begin actual construction" has precluded source owners and operators from engaging in a wide variety of activities that they might desire to undertake for the purpose of ensuring the project is positioned to move forward pending the issuance of an NSR permit. EPA stated that historical application of restrictions on construction has been overly broad and announced its adoption of a revised draft interpretation of the relevant restrictions. These draft revisions would, if adopted, allow physical on-site activities—including activities that may be costly, that may significantly alter the site, and/or that are permanent in nature—provided that those activities do not constitute physical construction of an emissions unit, as that term is defined ("any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant"). Under the revised draft interpretation, any installation necessary to "accommodate" the emissions unit is also *not* considered part of the emissions unit, and construction of such installations may be undertaken in advance of the source owner or operator obtaining the necessary NSR permit.

The Biden administration has placed a hold on any further action on this guidance and will defer action on it while it considers whether a rulemaking may be more appropriate. In addition, authorized or delegated state/local agencies and tribal authorities might apply a different, possibly more stringent, approach to this

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[2]40 C.F.R. § 51.166(b)(11).

[3]Memorandum from Edward E. Reich, Dir., EPA Stationary Source Compliance Div., Off. of Air Quality Plan. & Standards, to Robert R. DeSpain, Chief, Air Programs Branch, EPA Region VIII, Construction Activities Prior to Issuance of a PSD Permit with Respect to "Begin Actual Construction" (Mar. 28, 1986), https://www.epa.gov/sites/production/files/2015-07/documents/begin.pdf.

[4]*See* Memorandum from Peter H. Wyckoff, Att'y, EPA Air, Noise, & Radiation Div., to Reg'l Couns., EPA Regions I-X, Whether the PSD Regulations Prohibit Entering Into Construction Contracts Without a Permit (Jan. 17, 1979).

[5]40 C.F.R. §§ 51.166(b)(7), (11); 52.21(b)(7).

[6]*See* Save the Valley, Inc. v. Ruckelshaus, 565 F. Supp. 709, 710–711, 19 Env't Rep. Cas. (BNA) 1838, 13 Envtl. L. Rep. 20881, 20,881-83 (D.D.C. 1983) (for a related case with an odd twist).

[7]Draft Memorandum from Anne L. Idsal, EPA Prin. Dep'y Assistant Admr., to Reg'l Air Div. Dirs., Interpretation of "Begin Actual Construction" under the New Source Review Preconstruction Permitting Regulations (Mar. 25, 2020), https://www.epa.gov/nsr/draft-guidance-interpretation-begin-actual-construction-under-thew-new-source-review.

interpretation; also, some agencies have a different, often less-stringent, interpretation of what constitutes construction in their minor NSR permitting rules. Careful review of pre-NSR activities with the agency responsible for issuing the permit in question is highly advisable.

§ 12:87 Beginning actual construction versus commencing construction

Beginning actual construction is distinct from "commencing" construction.[1] As discussed above, "begin actual construction"

> means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying underground pipework, and construction of permanent storage structures. With respect to a change in method of operations, this term generally refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.[2]

The owner of a source is obligated to obtain the appropriate major NSR permit before it may "begin actual construction."

In contrast, "commencing construction" is a separate concept. First, in order to have commenced construction, the owner or operator must have all necessary preconstruction approvals or permits. Second the owner or operator must have: "(i) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or (ii) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time."[3] It is impossible under this definition for a source to "commence" construction until it has at least the most "necessary" permit, the preconstruction NSR permit. Once it has the permit, the source must then either begin construction or have a "substantial loss" contract or agreement in place. Therefore, a source can enter into a binding contract before receiving the NSR permit and is then considered to have "commenced" construction as soon as the NSR permit is issued and in effect.

"Commencing construction" is important when evaluating various timing aspects under the NSR program. For example, for delegated programs and for permits issued by EPA, a source is required to "commence construction" within 18 months after receipt of approval for such construction under a PSD permit, or, within 18 months of the projected and approved construction dates for phased project approvals.[4] In addition, certain grandfathering conditions are impacted based upon the date on which construction "commenced."[5] Agencies have, on occasion, confused the definitions and significance of the difference in meaning of the regulatory terms "begin actual construction" (addressing certain on-site construction activities which cannot proceed without issuance of the NSR permit) and "commence construction" (relating to when a certain legal status for the project is achieved). This could result in incorrect interpretations such as that a facility cannot order equipment or undertake binding contracts for a project prior to obtaining an NSR permit because this would be prohibited under the NSR rules—and it is not.

§ 12:88 Definition of "major stationary source"

[Section 12:87]

[1]For the definition of construction, see Clean Air Act § 169(2), 42 U.S.C. § 7479(2)(A).

[2]*See e.g.,* 40 C.F.R. § 52.21(b)(11).

[3]*See, e.g.,* 40 C.F.R. § 52.21(b)(9).

[4]*See* 40 C.F.R. § 52.21(r)(2).

[5]*See, e.g.,* 40 C.F.R. § 52.21(r)(4).

A "major stationary source" is simply any "stationary source" that emits or has the "potential to emit" a threshold amount of a regulated NSR pollutant.[1] When a physical change to an existing minor source, such as the addition of a new emissions unit, would, by itself, qualify as a "major stationary source," the change is to be treated as a new major stationary source.[2] For NSR permitting purposes, the determination of whether a source is major first occurs when a new stationary source is proposed; if major, the source would generally be subject to PSD or NNSR permitting. In addition, each time a stationary source proposes a modification to that source, the first step in determining applicability is establishing whether the existing source is major or minor since there are different thresholds that apply.

§ 12:89 Definition of "major stationary source"—Size threshold

For PSD applicability purposes, the major source threshold is 100 tpy of a regulated NSR pollutant for sources in 28 specifically listed industrial categories, while the major source threshold for sources outside those categories is 250 tpy.[1] Examples of these 28 categories are iron and steel mills, pulp and paper mills, Portland cement plants, municipal incinerators, large electric generating plants, petroleum refineries, and chemical process plants.[2] Sources that are major for VOCs or NOx are considered major for ozone, as precursors of that pollutant.[3] Fugitive emissions are taken into account to determine whether a source is a major stationary source only if the source belongs to one of the 28 listed categories or any other stationary source category that, as of August 7, 1980, is being regulated under §§ 111 or 112 of the Act (NSPS or NESHAP).[4]

For NNSR applicability purposes, the major source threshold is no greater than 100 tpy of a NAAQS pollutant.[5] The major source threshold is lower for sources within an ozone transport region and within nonattainment areas designated as serious, severe, and extreme.

NNSR major source thresholds

Nonattainment areas

Marginal / moderate ozone—VOCs 100 tpy, NOx 100 tpy[6]

- *Serious ozone*—50 tpy VOCs, NOx[7]
- *Serious CO*—100 tpy or 50 tpy CO[8]
- *Serious PM_{10} or $PM_{2.5}$*—70 tpy PM_{10}, $PM_{2.5}$, and any $PM_{2.5}$ precursor

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[Section 12:88]

[1]40 C.F.R. §§ 52.21(b)(1)(i), 51.165(a)(1)(iv)(A).

[2]40 C.F.R. §§ 51.165(a)(1)(iv)(A)(3), 52.21(b)(1)(i)(c).

[Section 12:89]

[1]40 C.F.R. §§ 51.165(a)(1)(iv)(A), 52.166(b)(1), 52.21(b)(1)(i).

[2]§ 52.166(b)(1), 52.21(b)(1). *See also* 7 ENV'T POL'Y DIV., CONG. RES. SERV., A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1977 5261–64 (Comm. Print. 1978) (Senate debates, July 29, 1976) (raw data from EPA from which list probably derived).

[3]40 C.F.R. §§ 51.165(a)(1)(iv)(B), 51.166(b)(1)(ii), 52.21(b)(1)(ii).

[4]§§ 51.165(a)(1)(iv)(C), 51.166(b)(1)(iii), 52.21(b)(1)(iii). *See* EPA NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING 39 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

[5]§ 51.165(a)(1)(iv)(A). *See also* Clean Air Act § 302(j), 42 U.S.C. § 7602(j).

[6]§ 51.165(a)(1)(iv)(A). *See also* Clean Air Act § 302(j), 42 U.S.C. § 7602(j).

[7]40 C.F.R. § 51.165(a)(1)(iv)(A).

[8]40 C.F.R. § 51.165(a)(1)(iv)(A)(1)(v). The lower threshold applies only where stationary sources

(SO_2, NO_x, and, in certain areas, VOCs and/or ammonia)[9]

- *Severe ozone*—25 tpy VOCs, NO_x
- *Extreme ozone*—10 tpy VOCs, NO_x

Ozone transport region

- VOCs 50 tpy, NOx 100 tpy[10]

§ 12:90 Definition of "major stationary source"—Stationary source

NSR applies only to a "stationary source" of air pollution. This term is broadly defined as "any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant."[1] That phrase as a whole is in turn defined as all of the pollutant-emitting activities that: (1) "belong to the same industrial grouping"; (2) "are located on one or more contiguous or adjacent properties"; and (3) "are under the control of the same person (or persons under common control)." This broad "plantwide" definition is crucial in determining both the extent of the stationary source itself (at times, what would appear to be a single facility may by regulatory definition constitute two or more separate stationary sources) and NSR applicability to major modifications.[2]

NSR also applies to certain outer continental shelf (OCS) activities. "Outer continental shelf" is defined to have the meaning provided by 43 U.S.C. § 1331, which is "all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in Section 1301 of this title, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control."[3] Affected sources include drilling platforms and tank and exploratory vessels while attached to drilling platforms and other offshore stationary sources.[4] EPA's OCS regulations effectively federalize existing onshore state NSR programs and apply them to sources within 25 miles of shore. EPA applies federal PSD rules to sources beyond 25 miles.[5]

§ 12:91 Definition of "major stationary source"—Industrial Grouping/2-Digit SIC

Pollutant-emitting activities are deemed part of the same industrial grouping if they "belong to the same 'Major Group' (i.e., which have the same two-digit code) as described in the Standard Industrial Classification [SIC] Manual, 1972 as amended by the 1977 Supplement."[1] Each source is classified according to its "primary activity," which is determined by its principal product produced or distributed, or service

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contribute significantly to ambient CO levels in the area, as determined under rules issued by EPA.

[9]40 C.F.R. § 51.165(a)(1)(iv)(A)(1)(v).

[10]40 C.F.R. § 51.165(a)(1)(iv)(A)(1)(v).

[Section 12:90]

[1]40 C.F.R. §§ 51.165(a)(1)(i), 51.166(b)(5), 52.21(b)(5).

[2]40 C.F.R. §§ 51.165(a)(1)(ii), 51.166(b)(6), 52.21(b)(6).

[3]40 C.F.R. § 55.2 (1992).

[4]*See* Outer Continental Shelf Air Regulations, 57 Fed. Reg. 40792, 40801–02, 40812 to 13 (Sept. 4, 1992) (to be codified at 40 C.F.R. pt. 55, § 55.11).

[5]*See* Outer Continental Shelf Air Regulations, 57 Fed. Reg. 40792 (Sept. 4, 1992) (to be codified at 40 C.F.R. pt. 55).

[Section 12:91]

[1]40 C.F.R. §§ 51.165(a)(1)(ii), 51.166(b)(6), 52.21(b)(6). While the SIC Manual was updated in 1987 and the North American Industrial Classification System replaced the SIC codes and manual in 1997, the rules continue to refer to two-digit SIC codes described in the 1972 Manual and 1977 Supplement.

rendered.[2]

EPA has adopted the "auxiliary establishment" concept from the 1972 SIC code manual, which provided that establishments performing supporting services for other establishments of the same company rather than for the general public or for other business firms fall within a single SIC code. Support facilities are a similar concept—facilities that are typically those that convey, store, or otherwise assist in the production of the principal product.[3] EPA has stated that primary and support facilities may, in certain circumstances, be classified as a single source even when the support facility would otherwise fall under a different SIC code.[4]

§ 12:92 Definition of "major stationary source"—Contiguous or adjacent

In its regulations, EPA does not define what constitutes an "adjacent" property except for oil and gas operations.[1] For these operations, EPA considers activities to be adjacent if they are located "on the same surface site"[2] or if they are "within 1/4 mile of one another (measured from the center of the equipment on the surface site) and . . . share equipment."[3] For all other sources, adjacency is determined on a case-by-case basis.

While historically EPA focused on both proximity and interrelatedness of operations to determine adjacency for operations on non-contiguous property, EPA issued a guidance memorandum in 2019 to establish a more formal policy that focuses exclusively on the physical proximity of the emission sources in making that determination.[4]

Based on this new guidance, EPA no longer takes into account interrelatedness.

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[2]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52695 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124); *see also* LaFleur v. Whitman, 300 F.3d 256, 261, 33 Envtl. L. Rep. 20006 (2d Cir. 2002).

[3]*See* Letter from Steve Rothblatt, Chief, Air & Radiation Branch, EPA Region V, to Robert P. Miller, Exec. Sec'y, Mich. Air Pollution Control Comm'n, July 27, 1990 (expansion of boiler and addition of precipitated calcium carbonate facility at a pulp and paper plant support the same economic enterprise, and thus are considered a single modification for PSD applicability purposes); Letter from William G. Rosenberg, EPA Assistant Adm'r, to Carol Dinkins, Vinson & Elkins, Sept. 5, 1991 (Golden Aluminum Co. facility that smelts 80% of feedstock from used beverage cans to produce rolled aluminum as end product is classified as secondary metals production facility and subject to 100 tons per year PSD applicability threshold).

[4]*See* Letter from Steve Rothblatt, Chief, Air & Radiation Branch, EPA Region V, to Robert P. Miller, Exec. Sec'y, Mich. Air Pollution Control Comm'n, July 27, 1990 (expansion of boiler and addition of precipitated calcium carbonate facility at a pulp and paper plant support the same economic enterprise, and thus are considered a single modification for PSD applicability purposes); Letter from William G. Rosenberg, EPA Assistant Adm'r, to Carol Dinkins, Vinson & Elkins, Sept. 5, 1991 (Golden Aluminum Co. facility that smelts 80% of feedstock from used beverage cans to produce rolled aluminum as end product is classified as secondary metals production facility and subject to 100 tons per year PSD applicability threshold).

[Section 12:92]

[1]Source Determination for Certain Emission Units in the Oil and Natural Gas Sector, 81 Fed. Reg. 35622 (June 3, 2016) (to be codified at 40 C.F.R. pts. 51, 52, 70, 71).

[2]81 Fed. Reg. 35622 (June 3, 2016). The term "surface site" here means "any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed," consistent with 40 C.F.R. § 63.761 (2012).

[3]40 C.F.R. §§ 51.165(a)(1)(ii)(B), 52.21(b)(6)(ii).

[4]Memorandum from Anne L. Idsal, EPA Acting Assistant Adm'r, Interpreting "Adjacent" for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas (Nov. 26, 2019), https://www.epa.gov/sites/production/files/2019-12/documents/adjacent_guidance.pdf. For information on EPA's prior position and an appellate court's interpretation of what is meant by "adjacent," see Summit Petroleum Corp. v. EPA, 690 F.3d 733, 75 Env't Rep. Cas. (BNA) 1129, 177 O.G.R. 927 (6th Cir. 2012).

EPA now considers properties that are not physically touching each other, or that do not share a common boundary or border, to be "adjacent" *only* if the properties are "nearby, side-by-side, or neighboring (with allowance being made for some limited separation by, for example, a right of way)."[5] Determinations of adjacency continue to be made on a case-by-case basis and distances may vary "depending on the nature of the industry involved."[6]

How the above-guidance will be applied in light of the change in administrations is unknown and the permittee should discuss the definition of "contiguous and adjacent" with the involved permitting agency or agencies.

§ 12:93 Definition of "major stationary source"—Common control

A source determination includes consideration as to whether a single entity controls a facility through ownership or contractual relationships. When there are two distinct entities involved, a determination of common control is made on a case-by-case basis. If the two entities share a common parent company, the analysis is more straightforward, and EPA would typically consider them to be under common control.[1] The determination is more difficult when the relationship between two separate, independent commercial entities is an arm's length contractual arrangement. EPA's current policy on determining "common control" for source determinations, adopted in 2018,[2] deviates from EPA's prior ("multi-factor") position of taking into account whether any or all of the following were shared: work forces, management, administrative functions, equipment, intermediates or byproducts, shared pollution control responsibilities, and support/dependency relationships.[3] Noting that the prior multi-factor assessment for common control could lead to impractical and inconsistent determinations, EPA now focuses on a simpler, "common sense notion of a plant" for better clarity and consistency. Under this new policy, "common control" is tied to the authority of one entity to *dictate* decisions of the other entity "that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements.[4] EPA further explained that " 'control' requires more than the ability to influence another entity's decision"—it must "effectively remove[ ] the autonomy of the controlled entity to decide whether or how to [decide] a particular course of

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[5]Memorandum from Anne L. Idsal, EPA Acting Assistant Adm'r, Interpreting "Adjacent" for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas (Nov. 26, 2019), https://www.epa.gov/sites/production/files/2019-12/documents/adjacent_guidance.pdf.

[6]Memorandum from Anne L. Idsal, EPA Acting Assistant Adm'r, Interpreting "Adjacent" for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas (Nov. 26, 2019), https://www.epa.gov/sites/production/files/2019-12/documents/adjacent_guidance.pdf.

[Section 12:93]

[1]Memorandum from Dir., EPA Div. of Stationary Source Enf't, to Diana Dutton, Dir., Enf't Div., EPA Region VI, Definition of Source (Mar. 16, 1979) (on file with EPA); *see also* Memorandum from Dir., EPA Div. of Stationary Source Enf't, to Allyn M. Davis, Dir., EPA Air & Hazardous Materials Div., Region VI, PSD Applicability: TEX-USS High Density Polyethylene Plant (July 17, 1980) (on file with EPA).

[2]Letter from William L. Wehrum, Assistant Adm'r, EPA Off. of Air & Radiation, to Hon. Patrick McDonnell, Sec'y, Pa. Dept of Env't Prot. (Apr. 30, 2018), https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook_2018.pdf.

[3]*See, e.g.*, Letter from William A. Spratlin, Dir., Air, RCRA & Toxics Div., EPA Region VII, to Peter R. Hamlin, Chief, Air Quality Bureau, Iowa Dep't of Nat. Res. (Sept. 18, 1995) (on file with EPA). This position constituted a broadening of EPA's initial position in the 1980s of generally assessing only whether there was common ownership.

[4]Letter from William L. Wehrum, EPA Assistant Adm'r, to Hon. Patrick McDonnell, Sec'y, Pa. Dep't of Env't Prot. (Apr. 30, 2018), https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook_2018.pdf.

action."[5] In particular, EPA will consider the power or authority that one entity has over another in deciding on air pollution control requirements and related compliance.[6]

§ 12:94 Definition of "major stationary source"—Potential to emit for new sources

Because a new source is not yet operational when it undergoes NSR, applicability determinations must be based on the source's "potential to emit." EPA rules define this term as the maximum capacity of a source to actually emit a pollutant under its "physical and operational design."[1]

The rules expressly include air pollution control equipment in the "design" of the source, but only to the extent that a requirement for such equipment is "federally enforceable" or legally and practically enforceable by a state or local air pollution control agency ("enforceable").[2] Thus, on the face of the rules, whether a new source would emit 100 (or 250) tpy of a pollutant is to be determined by reference to the rate of emissions after the application of federally enforceable controls. Similarly, restrictions on hours of operation, or on types or amounts of materials combusted, stored, or processed, generally must be enforceable in order to be considered in determining potential to emit.[3]

EPA considers as "federally enforceable" (meaning that the federal government can enforce such requirements): limits and requirements in permits issued under EPA-approved or delegated permitting programs such as NSR permits, federally enforceable state operating permits, Title V air operating permits, and limits established by rule or general permit that are part of an EPA-approved SIP. The limits and restrictions must, however, be practicably enforceable and of "sufficient quality and quantity to ensure accountability."[4] The 1995 EPA memorandum by John Seitz addressing practical enforceability states "Enforceability for a source-specific permit means that the permit's provisions must specify: (1) A technically-accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, and annual limits such as

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[5]Letter from William L. Wehrum, EPA Assistant Adm'r, to Hon. Patrick McDonnell, Sec'y, Pa. Dep't of Env't Prot. (Apr. 30, 2018) at 7, https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook_2018.pdf.

[6]Letter from William L. Wehrum, EPA Assistant Adm'r, to Hon. Patrick McDonnell, Sec'y, Pa. Dep't of Env't Prot. (Apr. 30, 2018) at 8, https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook_2018.pdf.

[Section 12:94]

[1]*See, e.g.*, 40 C.F.R. §§ 51.165(a)(1)(iii), 51.166(b)(4). EPA originally defined the terms as maximum capacity to emit in the absence of control; *see also* Final Guidance for States in Preparing State Implementation Plan (SIP) Revisions, 43 Fed. Reg. 26380, 26391 to 92 (June 19, 1978). The D.C. Circuit reversed EPA on this point, however. Ala. Power Co. v. Costle, 636 F.2d 323, 352–55, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001, 20006–08 (D.C. Cir. 1979).

[2]40 C.F.R. §§ 51.165(a)(1)(iii), 51.166(b)(4). The requirement for federal enforceability was vacated by D.C. Circuit in Chemical Mfrs. Ass'n v. EPA, 70 F.3d 637 (D.C. Cir. 1995). EPA issued a policy in 1996 whereby it was explained that the vacated term "should now be read to mean 'federally enforceable or legally and practicably enforceable by a state or local air pollution control agency.' " This policy has been upheld by the courts. *See, e.g.,* U.S. v. Questar Gas Management Co., 71 Env't Rep. Cas. (BNA) 2011, 2010 WL 1417856 (D. Utah 2010). One should pay attention to the language in state regulations as they might continue to address this requirement differently.

[3]*See, e.g.*, 40 C.F.R. §§ 51.165(a)(1)(iii), 51.166(b)(4).

[4]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, and Robert I. Van Heuvelen, Dir., EPA Off. of Regul. Enf't, Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act 5 (Jan. 25, 1995), https://www.epa.gov/sites/production/files/2015-07/documents/ptememo.pdf.

rolling annual limits); and (3) the method to determine compliance including appropriate monitoring, recordkeeping, and reporting."[5]

§ 12:95 Reactivated sources

In a 2020 EPA response to comments document, EPA Region 2 indicated that it had too broadly applied its "reactivation" policy. Under this policy, a source that had been shut down would be treated as a newly constructed source for NSR purposes upon reactivation if the shutdown had been viewed to be "permanent."[1] Whether a shutdown was permanent under this policy depended upon the intent of the owner or operator at the time of the shutdown, which was determined from all the facts and circumstances, including the cause of the shutdown and the handling of the shutdown by the state. A shutdown lasting for two years or more, or resulting in removal of the source from the state's emissions inventory, was presumed to be permanent. The owner or operator proposing to reopen such a source had the burden of overcoming the presumption that the shutdown was permanent. In the 2020 response to comment document, EPA indicated an intention to abandon the application of the reactivation policy per se, and looked more specifically at the question of whether the source had "recently come into existence" (although even here, the Agency continued to examine the reactivation policy factors to further support its decision).[2] EPA further explained that

> "new" can also mean the "resumption or repetition of a previous act or thing," id., but in context this refers to iterations that are distinct, such as days or editions. It would stretch this concept to suggest a source after a restart is a distinct thing from the source before idling. This would also suggest that when a source restarts after a routine turnaround for maintenance and it resumes operation, it is "new" source because it resumes a previous act. The absurdity of this result in the regulatory context is sufficient to refute it. Therefore, the best reading of "new" in the applicability procedures is that the source has recently come into existence.[3]

This policy development occurred under the Trump administration and thus is subject to change. In addition, state or tribal permitting authorities may continue to

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[5]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, and Robert I. Van Heuvelen, Dir., EPA Off. of Regul. Enf't, Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act 5 (Jan. 25, 1995) at 6, https://www.epa.gov/sites/production/files/2015-07/documents/ptememo.pdf. For additional recent guidance on conditions for setting limitations on potential to emit, see the report of the Office of the Inspector General, EPA Should Conduct More Oversight of Synthetic-Minor-Source Permitting to Assure Permits Adhere to EPA Guidance (July 8, 2021), ww.epa.gov/office-inspector-general/report-epa-should-conduct-more-oversight-synthetic-minor-source-permitting.

[Section 12:95]

[1]*See* Memorandum, from Dir., EPA Div. of Stationary Source Enf't, to Steven A. Dvorkin, Chief, Gen. Enf't Branch, EPA Region II PSD Requirements (Sept. 6, 1978).

[2]*See* EPA RESPONSE TO COMMENTS ON THE CLEAN AIR ACT PLANTWIDE APPLICABILITY LIMIT PERMIT FOR THE LIMETREE BAY TERMINAL AND LIMETREE BAY REFINING, ST. CROIX, U.S. VIRGIN ISLANDS (Nov. 2020), https://www.epa.gov/sites/production/files/2020-12/documents/response_to_comments-limetree_pal_permit.pdf ("[T]he Agency has determined it is not appropriate to continue applying the Reactivation Policy because the policy was not well-grounded in the NSR regulations, and it is not supported by the current NSR regulations" and "[t]herefore, the best reading of 'new' in the applicability procedures is that the source has recently come into existence."). EPA RESPONSE TO COMMENTS ON THE CLEAN AIR ACT PLANTWIDE APPLICABILITY LIMIT PERMIT FOR THE LIMETREE BAY TERMINAL AND LIMETREE BAY REFINING, ST. CROIX, U.S. VIRGIN ISLANDS at 108 and 110 (Nov. 2020).

[3]EPA RESPONSE TO COMMENTS ON THE CLEAN AIR ACT PLANTWIDE APPLICABILITY LIMIT PERMIT FOR THE LIMETREE BAY TERMINAL AND LIMETREE BAY REFINING, ST. CROIX, U.S. VIRGIN ISLANDS at 110–111 (Nov. 2020). See also, Withdrawal of Plantwide Applicability Limit Permit No. EPA-PAL-VIOO1/2019 (Mar. 25, 2021), https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Attachments%20By%20ParentFilingId/F205141AEB2B4F84852586A3005E68BE/$FILE/Applicability.Limit.Permit.SIGNED.pdf.

apply the factors of the policy in place prior to the November 2020 response to comments document.

§ 12:96 Definition of "major modification"

New major stationary sources and major modifications to existing major stationary sources can be subject to PSD, NNSR, or both. The PSD/NNSR program applies to "construction" of a major stationary source;[1] this term includes not only construction of new sources but also *modifications* as defined in the statutory NSPS program.[2]

The statute defines the term "modification" to mean "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted."[3] Unlike the NSPS program, applicability of the PSD and NNSR programs to modifications since 1980 is generally based on increases in *plantwide* actual *annual* emissions on a tons-per-year basis rather than the maximum *hourly* capacity to emit of an individual emissions unit. Prior to 2007, this discrepancy led to confusion among permitting authorities and the regulated community and disagreement in the courts regarding whether a change that is not a modification for NSPS purposes, *e.g.*, because it does not cause an increase in maximum hourly capacity to emit, could be a modification for PSD/NNSR purposes based on the resulting increase in actual annual emissions.[4] The U.S. Supreme Court resolved this in a 2007 decision, upholding EPA's position and confirming that it may regulate "modifications" differently under the two programs.[5]

Determining whether a physical or operational change at an existing major stationary source is a major modification subject to preconstruction PSD or NNSR permitting is a complex matter requiring several determinations. First, the breadth of the stationary source under evaluation must be determined, as discussed in § 12:97 below. Next, it must be determined whether the change falls within a categorical exclusion, as discussed in § 12:98. Then it must be determined whether the change will cause emissions increases above regulatory applicability thresholds or qualifies for an exemption related to the emissions increase, as discussed in §§ 12:99 through 12:104 below.

§ 12:97 Definition of "major modification"—Definition of source

Applicability determinations under the PSD and NNSR programs generally are based upon plantwide definitions of the term "stationary source." This approach was

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[Section 12:96]

[1]*See* Clean Air Act § 165(a), 42 U.S.C. § 7475(a).

[2]*See* Clean Air Act §§ 169(2)(C), 172(c)(5), 42 U.S.C. §§ 7479(2)(C), 7502(c)(5).

[3]*See* Clean Air Act § 111(a)(4), 42 U.S.C. § 7411(a)(4).

[4]*See, e.g.,* United States v. Duke Energy Corp., 278 F. Supp. 2d 619, 57 Env't Rep. Cas. (BNA) 1548 (M.D. N.C. 2003), aff'd on other grounds, 411 F.3d 539, 60 Env't Rep. Cas. (BNA) 1577, 35 Envtl. L. Rep. 20121 (4th Cir. 2005), judgment vacated, 549 U.S. 561, 127 S. Ct. 1423, 167 L. Ed. 2d 295, 63 Env't Rep. Cas. (BNA) 2088 (2007) and vacated in part, 72 Env't Rep. Cas. (BNA) 1884, 2010 WL 3023517 (M.D. N.C. 2010); New York v. EPA, 413 F.3d 3, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005); U.S. v. Duke Energy Corp., 411 F.3d 539, 60 Env't Rep. Cas. (BNA) 1577, 35 Envtl. L. Rep. 20121 (4th Cir. 2005), *judgment vacated*, 549 U.S. 561, 127 S. Ct. 1423, 167 L. Ed. 2d 295, 63 Env't Rep. Cas. (BNA) 2088 (2007); U.S. v. Ala. Power Co., 372 F. Supp. 2d 1283, 60 Env't Rep. Cas. (BNA) 1901 (N.D. Ala. 2005), order vacated in part, 2008 WL 11383702 (N.D. Ala. 2008); United States v. Cinergy Corp., 458 F.3d 705, 63 Env't Rep. Cas. (BNA) 1545, 36 Envtl. L. Rep. 20167 (7th Cir. 2006).

[5]Env. Def. v. Duke Energy Corp., 549 U.S. 561, 127 S. Ct. 1423, 167 L. Ed. 2d 295, 63 Env't Rep. Cas. (BNA) 2088 (2007) (internal citation omitted).

upheld by the D.C. Circuit in *Alabama Power* for purposes of the PSD program;[1] the court endorsed the so-called "bubble" concept of summing all contemporaneous increases and decreases in emissions at an entire plant—as if it were encased by a bubble with a single opening through which pollutants were vented into the atmosphere—in determining whether major NNSR/PSD review applies to a new source or a modification at an existing major stationary source. Broadly, this approach allows the owner of the plant to compensate for additions or modifications that increase emissions by decreasing emissions elsewhere in the plant.

The initial NNSR rules adopted by EPA during the Carter administration used a more stringent "dual" definition of the stationary source for purposes of determining whether a major modification occurs.[2] Under this approach, a major modification was found to occur if a change caused a threshold emissions increase either on a plantwide basis or at an individual piece of equipment. This dual approach was dropped during President Reagan's administration in favor of a single, plantwide approach, consistent with that used in the PSD program.[3] This decision was upheld in *Chevron v. Natural Resources Defense Council*, where the court held that the CAA is ambiguous regarding the breadth of a stationary source and that the plantwide approach is a permissible construction of the ambiguous statutory term.[4]

Exceptions to the plantwide approach in major NSR currently are few. At least one state—Delaware—has maintained the dual source definition in its NNSR program.[5] In addition, as discussed in section 12:105 below, the plantwide approach is prohibited in ozone nonattainment areas classified as extreme.

§ 12:98 Definition of "major modification"—Physical change or change in method of operation

The expansive statutory definition of "modification"—encompassing any physical change or change in method of operation of an existing major stationary source that causes an emissions increase—is applied more narrowly in the regulations through numerous exclusions, although most are so specific that they are seldom utilized.[1] Examples of the most used and most useful exclusions are routine maintenance, repair, or replacement activities; increases in operating hours or production rates not prohibited by the source's permit; and, with certain exceptions, use of an alternate fuel or raw material that the source is capable of accommodating and is authorized to use. At existing major stationary sources, the term "project" is used to refer to non-excluded physical changes and changes in method of operation.[2]

Efforts by EPA during the administration of President George W. Bush to adopt additional, categorical applicability exclusions and to broaden the exclusion for rou-

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[Section 12:97]

[1]Ala. Power Co. v. Costle, 636 F.2d 323, 401, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001, 20036 (D.C. Cir. 1979).

[2]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52696 to 698 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124).

[3]Requirements for Preparation, Adoption and Submittal of Implementation Plans and Approval and Promulgation of Implementation Plans, 46 Fed. Reg. 50766 (Oct. 14, 1981) (to be codified at 40 C.F.R. pts. 51, 52).

[4]Chevron, U.S.A., v. Nat. Res. Def. Council, 467 U.S. 837, 104 S. Ct. 2778, 81 L. Ed. 2d 694, 21 Env't Rep. Cas. (BNA) 1049, 14 Envtl. L. Rep. 20507 (1984).

[5]7 Del. Admin. Code § 1125 (2016).

[Section 12:98]

[1]See, e.g., 40 C.F.R. § 52.21(b)(2).

[2]See, e.g., 40 C.F.R. § 52.21(b)(52).

tine maintenance, repair, or replacement activities were overturned by the D.C. Circuit Court of Appeals.[3] The court held that the term "any physical change" in the statutory definition is unambiguous and that EPA's authority to create exemptions based on *de minimis* doctrine or administrative necessity is narrow.[4]

EPA first established criteria for determining whether physical changes at a stationary source fall within the exclusion for routine maintenance, repair, or replacement activities in an applicability determination for a life extension project undertaken by the owner of a coal-fired power plant in Wisconsin in 1988.[5] The 7th Circuit upheld EPA's applicability determination and the multi-factor test that EPA had applied (taking into account the nature and "extent, purpose, frequency, and cost of the work, as well as other relevant factors").[6]

Beginning in 1999, EPA began an NSR enforcement initiative targeted largely at coal-fired power plants. In litigation in conjunction with this initiative, numerous courts agreed with EPA's allegations that a number of "maintenance" projects performed at these facilities did not fall within the exclusion for *routine* maintenance, repair, or replacement activities.[7] In contrast, other courts, involved with cases where the United States was not the plaintiff, have found similar activities to fall within that exclusion.[8]

The exclusion for use of an alternative fuel generally applies where the source was capable of accommodating the alternative before January 6, 1975, although it does not apply where such change would be prohibited under any federally enforceable term of an NSR permit established after the same date. One court considering the issue affirmed EPA's determination that a switch to burning higher-sulfur oil is a change in method of operation and does not fall within the capable-of-accommodating exclusion if a post-1975 NSR permit term must be relaxed in order to accommodate the switch.[9]

EPA has asserted that the exclusion for increases in operating hours or produc-

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[3]New York v. EPA, 413 F.3d 3, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005); New York v. EPA, 443 F.3d 880, 61 Env't Rep. Cas. (BNA) 2133, 36 Envtl. L. Rep. 20056 (D.C. Cir. 2006).

[4]New York v. EPA, 413 F.3d 3, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005); New York v. EPA, 443 F.3d 880, 61 Env't Rep. Cas. (BNA) 2133, 36 Envtl. L. Rep. 20056 (D.C. Cir. 2006).

[5]See Letter from Don R. Clay, EPA Acting Assistant Adm'r for Air & Radiation, to John W. Boston, Vice President, Wis. Elec. Power Co., WEPCO Final Determinations (Feb. 15, 1989) (final determination on reconsideration); Letter from Lee M. Thomas, Adm'r, to John W. Boston, Vice President, Wis. Elec. Power Co., (Oct. 14, 1988); Letter from David Kee, Dir., Air Mgmt. Div., EPA Region V, to John W. Boston, Vice President, Wis. Elec. Power Co. (Sept. 12, 1988); Memorandum from Don R. Clay to David Kee, Applicability of Prevention of Significant Deterioration (PSD) and New Source Performance Standards (NSPS) Requirements to the Wis. Elec. Power Co. (WEPCO) Port Wash. Life Extension Project (Sept. 9, 1988).

[6]See Wisc. Elec. Power Co. v. Reilly, 893 F.2d 901, 910–13, 30 Env't Rep. Cas. (BNA) 1889, 20 Envtl. L. Rep. 20414, 20417 (7th Cir. 1990).

[7]See United States v. S. Ind. Gas and Elec. Co., 245 F. Supp. 2d 994, 1009, 56 Env't Rep. Cas. (BNA) 1612 (S.D. Ind. 2003); United States v. Ohio Edison Co., 276 F. Supp. 2d 829, 855, 57 Env't Rep. Cas. (BNA) 1463, 33 Envtl. L. Rep. 20253 (S.D. Ohio 2003); United States v. Duke Energy Corp., 72 Env't Rep. Cas. (BNA) 1884, 2010 WL 3023517, at *7 (M.D. N.C. 2010); Pa., Dept. of Env't Protection v. Allegheny Energy, Inc., 2008 WL 4960090, at *8 (W.D. Pa. 2008); Ala. Power Co. v. Costle, 636 F.2d 323, 401, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001, 20036 (D.C. Cir. 1979); United States v. E. K. Power Co-op., Inc., 498 F. Supp. 2d 976 (E.D. Ky. 2007); United States v. La. Generating, LLC, 2012 WL 4107129 (M.D. La. 2012); United States v. Ameren Mo., 2016 WL 728234 (E.D. Mo. 2016).

[8]See Pa, Dep't of Env't Protection v. Allegheny Energy, Inc., 2008 WL 4960090 (W.D. Pa. 2008); Nat Parks Conservation Ass'n v. Tenn. Valley Auth., 71 Env't Rep. Cas. (BNA) 2198, 2010 WL 1291335 (E.D. Tenn. 2010).

[9]See Hawaiian Elec. Co. v. EPA, 723 F.2d 1440, 20 Env't Rep. Cas. (BNA) 1591, 14 Envtl. L. Rep.

tion rate not prohibited by the source's permit does not cover restart of a facility after an extended period of idling (11 years) and where the source had been removed from the state's emission inventory.[10] "Analysis of whether restart of a facility constitutes a mere increase in the hours of operation or production rate must consider whether the proposed activity is of the kind intended to be covered by the provision."[11] The stated rationale for this interpretation is not grounded in the plain language of the rules.

§ 12:99 Definition of "major modification"—Anti-circumvention policy and project aggregation

Under the plain language of the CAA and the major NSR rules, applicability is determined separately for each "physical change in" and each "change in the method of operation of" an existing major stationary source.[1] However, EPA policy prohibits breaking up a single project into two or more separate changes for purposes of circumventing preconstruction major NSR permitting requirements and, in some cases, requires aggregation of nominally separate changes into a single project for purposes of determining applicability of major NSR.

The anti-circumvention policy was first set forth in a final agency action issued in 1989.[2] This policy, which establishes the intent of the facility owner as the most important factor, was recently applied in the *United States v. Ameren* NSR litigation.[3] The court agreed with EPA that separate component replacements at a single unit constituted a single project because the replacements had been planned together; were initially budgeted together as part of a single project; were consolidated in contract specifications for a single "major mechanical work package"; were undertaken for the same general purpose (i.e., to eliminate future forced outages); and were performed at the same time. The court was not swayed by the fact that some of the replacements were ultimately subjected to separate budgeting and approval processes.

Similarly, EPA's current policy regarding aggregation of nominally separate changes is set forth in a final agency action issued in 2018.[4] Under this policy, the over-arching standard for aggregation of two projects is whether they are techni-

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20328, 86 A.L.R. Fed. 237 (9th Cir. 1984).

[10]See, e.g., In the Matter of Monroe Elec. Generating Plant Entergy La., Proposed Operating Permit, Petition No. 6-99-2, Order Partially Granting and Partially Denying Petition for Objection to Permit, 12 (EPA Adm'r, June 11, 1999), https://www.epa.gov/sites/production/files/2015-07/documents/ccaw_ord.pdf (period of idling extending 11 years, beyond the period for consideration of any allowed baseline period for the facility, and the emissions for the facility had been removed from the state's inventory for same period).

[11]See, e.g., In the Matter of Monroe Elec. Generating Plant Entergy La. Proposed Operating Permit, Petition No. 6-99-2, Order Partially Granting and Partially Denying Petition for Objection to Permit, 12 (EPA Adm'r, June 11, 1999), https://www.epa.gov/sites/production/files/2015-07/documents/ccaw_ord.pdf (period of idling extending 11 years, beyond the period for consideration of any allowed baseline period for the facility, and the emissions for the facility had been removed from the state's inventory for same period).

[Section 12:99]

[1]*See* 40 C.F.R. §§ 52.21(b)(52), 51.165(a)(1)(xxxix), each defining the term "project" as a single change.

[2]*See* Requirements for the Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 54 Fed. Reg. 27274 (June 28, 1989) (to be codified at 40 C.F.R. pts. 51, 52).

[3]*See generally,* United States v. Ameren Mo., 2016 WL 728234 (E.D. Mo. 2016). The 1989 policy was not cited in the opinion and does not appear to have been cited in the plaintiff's briefs, but the rationale applied by the plaintiff and accepted by the court is similar to that set forth in the 1989 policy.

[4]*See* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review

cally or economically related in a substantial way. A substantial relationship can be established by a technical or economic interconnection between the nominally separate changes or by a complementary relationship whereby one change may exist and operate independently but its benefit is significantly reduced without the other change. Timing is relevant because changes that are closer in time are more likely to be substantially related than activities separated by larger time frames, but timing by itself is not indicative of a substantial relationship. The mere fact that two changes both support the overall basic purpose of the facility is also not evidence of a substantial relationship.

§ 12:100 Definition of "major modification"—Emissions increase resulting from project

As noted in section 12:96 above, the statutory definition of the term "modification" is ambiguous as to the method of determining whether a change will cause an emissions increase.

Accordingly, multiple interpretations of the statutory definition are permissible. The federal rules have changed from time to time, and at any given point in time, a number of state, local, and tribal NSR rules will apply criteria different from those in the then-current federal rules. This, and the importance to the practitioner of identifying the applicable NSR rules for a particular facility, is illustrated by the holding of the 7th Circuit in *United States v. Cinergy*. When the utility performed maintenance projects at its facilities in Indiana between 1989 and 1992, major modification applicability determinations under both the then-current federal NNSR rules and the then-current Indiana NNSR rules (not yet approved as part of Indiana's SIP) were based on increases in *plantwide* actual annual emissions. However, at the same time, under the NNSR rules in the federally enforceable SIP for Indiana, applicability was based on maximum *hourly capacity* to emit of an individual emissions unit. Because the plaintiffs had not proven that the maintenance projects caused increases in SO_2 emissions using the criteria in the only applicable, federally enforceable rule (Indiana's SIP), the lower court's finding of liability was reversed.[1]

Currently, the federal rules and most state, local, and tribal rules generally apply a complex, two-part test. A project at an existing major stationary source is a major modification if it causes both a "significant emissions increase" of a regulated NSR pollutant and a "significant *net* emissions increase" of that same regulated NSR pollutant taking into account creditable increases and decreases.[2] These provisions do not apply with respect to a regulated NSR pollutant for which the stationary source is subject to a plantwide applicability limit, as discussed in section 12:105 below.[3] In addition, different criteria apply under the NNSR program with respect to emissions of ozone precursors in ozone nonattainment areas classified as serious, severe, and extreme, as discussed in § 12:104 below.

The major NSR rules prescribe the procedures by which the source owner determines, separately for each regulated NSR pollutant, whether a project will

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(NNSR): Aggregation; Reconsideration, 83 Fed. Reg. 57324 (Nov. 15, 2018) (to be codified at 40 C.F.R. pts. 51, 52) (lifting administrative stay of final rule promulgated in 2009). *See also* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Aggregation and Project Netting, 74 Fed. Reg. 2376 (Jan. 15, 2009) (to be codified at 40 C.F.R. pts. 51, 52); Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Debottlenecking, Aggregation, and Project Netting, 71 Fed. Reg. 54235 (proposed Sept. 14, 2006) (to be codified at 40 C.F.R. pts. 51, 52).

[Section 12:100]

[1]*See* United States v. Cinergy Corp., 623 F.3d 455, 456-459 (7th Cir. 2010).

[2]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(a), (b)(2)(i).

[3]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv), (b)(2)(iv).

cause a significant emissions increase. The prescribed procedure depends upon the type(s) of emissions unit(s) involved in the project.[4] Thus, the owner or operator of a major stationary source must begin the process by identifying all emissions units whose emissions of that pollutant could be affected by the project and then classifying each such unit as either new or existing.[5] Except as provided below for a replacement unit, an emissions unit is a new emissions unit if it is or will be newly constructed and it has existed for less than two years from the date it first operated.[6] An emissions unit is an existing emissions unit if it is not a new emissions unit.[7]

If an emissions unit is a replacement unit, then it is considered an existing emissions unit.[8] A unit is a replacement unit if it meets all of the following criteria: (1) it is a reconstructed unit, as that term is defined in the federal New Source Performance Standards,[9] or it completely takes the place of an existing emissions unit; (2) it is identical to or functionally equivalent to the replaced emissions unit; and (3) the replacement does not alter the basic design parameter(s) of the process unit of which it is a part.[10] The major NSR rules provide that, for the purposes of this third criterion, the owner or operator may select the basic design parameter from several specified parameters relating to input or output capacity and must quantify the basic design parameter using credible information such as design information or historic maximum capability test results.[11] The replaced emissions unit must be rendered inoperable either through physical means or through enforceable permit terms. Finally, with respect to this calculation, no creditable emission reductions are generated as a result of shutting down the existing emission unit that is replaced.[12]

If the project will involve only existing emissions units, the prescribed calculation procedure is the actual-to-projected-actual applicability test. Under this procedure, the emissions change from each emissions unit is calculated as the difference between its projected actual emissions and its baseline actual emissions. The total emissions increase from the project is calculated as the sum of the differences.[13]

If the project will involve only new emissions units, the prescribed calculation procedure is the actual-to-potential applicability test. Under this procedure, the emissions change from each emissions unit is calculated as the difference between its potential to emit following completion of the project and its baseline actual emissions. The total emissions increase from the project is calculated as the sum of the differences.[14] Potential to emit is discussed in detail in § 12:94 above.

If the project will involve both new and existing emissions units, the prescribed calculation procedure is the hybrid applicability test. The actual-to-projected-actual calculation is performed for each existing emissions unit and the actual-to-potential calculation is performed for each new emissions unit. Under this test, as currently

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[4]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(b).

[5]*See, e.g.,* 40 C.F.R. § 52.21(r)(6)(i)(b).

[6]*See, e.g.,* 40 C.F.R. § 52.21(b)(7)(i).

[7]*See, e.g.,* 40 C.F.R. § 52.21(b)(7)(ii).

[8]40 C.F.R. § 52.21(b)(7)(ii).

[9]*See* 40 C.F.R. § 60.15.

[10]*See, e.g.,* 40 C.F.R. § 52.21(b)(33).

[11]*See, e.g.,* 40 C.F.R. § 52.21(cc)(2); *see also* Error Corrections to New Source Review Regulations, 84 Fed. Reg. 70092 (proposed Dec. 20, 2019) (to be codified at 40 C.F.R. pts. 51, 52).

[12]*See* § 12:102 herein for a discussion of creditable emissions reductions and netting.

[13]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(c); *see also* National Environmental Policy Act (NEPA) Compliance, 84 Fed. Reg. 39244 (proposed Aug. 9, 2019) (to be codified at 36 C.F.R. pt. 220).

[14]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(d); *see also* National Environmental Policy Act (NEPA) Compliance, 84 Fed. Reg. 39244 (proposed Aug. 9, 2019) (to be codified at 36 C.F.R. pt. 220).

codified, the total emissions increase from the project is calculated as the sum of the emissions increases rather than the sum of the differences.[15] EPA had proposed to revise this provision to use the sum of the differences, as is required under the tests for existing units and new units in 2019.[16] EPA then allowed project netting for hybrid projects in its final rule effective December 24, 2020.[17]

The baseline actual emissions rate is defined differently for different types and classifications of emissions units. For a new emissions unit, the baseline actual emissions at the time of its initial permitting (i.e., for purposes of determining the emissions increase that will result from the initial construction and operation of the unit) is zero; thereafter, for all other purposes (e.g., when determining whether a modification of a new emissions unit is minor or major) throughout the time the unit remains a new emissions unit, its baseline actual emissions are equal to its then-current potential to emit.[18]

The baseline actual emissions rate for each existing emissions unit generally reflects its actual, annual average emissions—including quantifiable fugitive emissions and emissions associated with startups, shutdowns, and malfunctions and with certain required downward adjustments—over a recent 24-month period selected by the owner or operator.[19] Specifically, the baseline actual emissions rate for an existing emissions unit that is an electric utility steam generating unit is the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month baseline period within the five-year period immediately preceding the date on which the owner or operator begins actual construction of the project. A different baseline period—i.e., a period partially or completely outside the five-year window and/or something other than a consecutive 24-month period—can be used if the permitting authority approves it based on a determination that it is more representative of normal source operation. The baseline actual emissions rate must be "adjusted downward to exclude [] non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable" during the baseline period.[20]

The baseline actual emissions rate for an existing emissions unit that is not an electric utility steam generating unit is the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period within the 10-year period immediately preceding the earlier of (a) the date on which the owner or operator files with the permitting authority a complete application for a minor NSR or major NSR permit for the project or (b) the date on which the owner or operator begins actual construction of the project (i.e., if no construction permit is required). As with electric utility steam generating units, the baseline actual emissions rate must be adjusted downward to exclude noncompliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the baseline period. In addition, the baseline actual emissions rate from a unit that is not an electric utility steam generating unit must be adjusted downward to exclude any emissions that would have exceeded a limitation with which the source must currently comply, except that no adjust-

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[15]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(f).

[16]*See* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Project Emissions Accounting, 84 Fed. Reg. 39244 (proposed Aug. 9, 2019) (to be codified at 40 C.F.R. pts. 51, 52).

[17]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Project Emissions Accounting, 85 Fed. Reg. 74890 (November 24, 2020) (to be codified at 40 C.F.R. pts. 51, 52).

[18]*See, e.g.,* 40 C.F.R. § 52.21(b)(48)(iii).

[19]*See, e.g.,* 40 C.F.R. § 52.21(b)(48)(i) to (ii).

[20]*See, e.g.,* 40 C.F.R. § 52.21(b)(48)(i)(b).

ments generally are required for emission limitations arising under National Emission Standards for Hazardous Air Pollutants codified at 40 C.F.R. part 63.[21]

For projects involving more than one existing emissions unit, the owner or operator must select the same baseline period for all such units in the actual-to-projected-actual calculations for a particular regulated NSR pollutant. However, the owner or operator may select different baseline periods for different regulated NSR pollutants. Also, the owner or operator is not allowed to use a baseline period where information is not adequate to determine annual emissions and to make the required downward adjustments.[22]

The projected actual emissions rate is generally the maximum rate, in tons per year, at which the owner or operator of the major stationary source projects an existing emissions unit will emit a regulated NSR pollutant during a defined period after the unit resumes regular operation following completion of the project.[23] As an alternative to making a projection, the owner or operator may elect to substitute the emissions unit's potential to emit.[24]

If the owner or operator elects to make a projection, then the defined period for the projection is 10 years if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant and if full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source; otherwise, the defined period is five years.[25] Like the baseline actual emissions rate, the projected actual emissions rate includes quantifiable fugitive emissions and emissions associated with startups, shutdowns, and malfunctions.[26]

In making the projection, the owner or operator is required to consider all relevant information.[27] Relevant information is considered regardless of whether that information relates to enforceable requirements; for example, if an existing emissions unit is or will be equipped with air pollution control equipment, the existence of that air pollution control equipment must be considered in calculating projected actual emissions.[28] Similarly, if the owner or operator of the major stationary source intends to actively manage future emissions from one or more existing emissions units on an ongoing basis following the project in order to prevent a significant emissions increase or a significant net emissions increase from occurring, that is relevant information that must be considered.[29]

If the projected actual emissions rate of a regulated NSR pollutant from an existing emissions unit exceeds its baseline actual emissions rate, then an emissions increase is projected to occur. However, because no causal link has yet been established, further analysis is required in order to assess whether and how this

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[21] *See, e.g.,* 40 C.F.R. § 52.21(b)(48)(ii).

[22] *See, e.g.,* 40 C.F.R. § 52.21(b)(48)(i) to (ii).

[23] *See, e.g.,* 40 C.F.R. § 52.21(b)(41)(i).

[24] *See, e.g.,* 40 C.F.R. § 52.21(b)(41)(ii)(d).

[25] *See, e.g.,* 40 C.F.R. § 52.21(b)(41)(i).

[26] *See, e.g.,* 40 C.F.R. § 52.21(b)(41)(ii)(b). For certain categories of stationary sources, a project that is a major modification only due to fugitive emissions will not require a preconstruction major NSR permit. *See* subsection 21 below.

[27] *See, e.g.,* 40 C.F.R. § 52.21(b)(41)(ii)(a).

[28] *See, e.g.,* EPA, In the Matter of Scherer Steam-Electric Generating Plant Juliette, Ga., Order on Petition Nos. IV-2012-1, IV-2012-2, IV-2012-3, IV-2012-4, IV-2012-5 (Apr. 14, 2014), https://www.epa.gov/sites/production/files/2015-08/documents/ga_power_plants_response2012.pdf.

[29] *See* Memorandum from E. Scott Pruitt, EPA Adm'r, to EPA Reg'l Adm'rs, New Source Review Preconstruction Permitting Requirements: Enforceability and Use of the Actual-to-Projected-Actual Applicability Test in Determining Major Modification Applicability (Dec. 7, 2017).

emissions increase will be considered in determining if the project is a major modification. As EPA has explained, "the physical or operational change [must] 'result in' an increase in actual emissions in order to consider that change to be a modification."[30] If there is no causal link between the proposed change and any post-change increase in emissions, NSR should not apply.[31]

In order to implement this requirement for assessing causation, the major NSR rules require that the owner or operator quantify the portion of the emissions increase that will be attributed to the project. Specifically, the rules provide that, in calculating the projected actual emissions rate that will be used in the actual to projected actual test, the owner or operator shall exclude that portion of the unit's emissions following the project that the unit could have accommodated during the baseline period and that are also unrelated to the particular project.[32]

The detailed provisions described above, including the actual-to-projected-actual calculation and the exclusion of projected emissions increases that are not caused by the project, were added to the federal major NSR rules in 2002.[33] These rule changes were upheld in *New York v. EPA I*.[34]

Previously, the codified rule language was ambiguous, referring simply to the increase in actual emissions, where the term "actual emissions" was defined with four different meanings depending on circumstances.[35] One of those meanings—still codified in the federal major NSR rules but no longer used for emissions increase calculations—is that, "[f]or any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date."[36] EPA had attempted to apply this provision to all emissions units constructed, modified, or debottlenecked by a project, but that interpretation was rejected by the courts.[37] Under the federal major NSR rule language as it existed until 2002, which language remains in effect in certain SIPs, a case-by-case analysis is required to determine whether the change is sufficiently significant to support a finding that normal operations have not begun; if the change is not sufficiently significant, then an actual-to-projected-actual calculation is implicitly

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[30]*See* Requirements for Preparation, Adoption and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans; Standards of Performance for New Stationary Sources, 57 Fed. Reg. 32314 (July 21, 1992) (to be codified at 40 C.F.R. pts. 51, 52, 60).

[31]EPA stated this in 1992 in adopting changes to the major NSR rules in response to the adverse decision of the Seventh Circuit in the landmark WEPCO case. *See* Requirements for Preparation, Adoption and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans; Standards of Performance for New Stationary Sources, 57 Fed. Reg. 32314 (July 21, 1992) (to be codified at 40 C.F.R. pts. 51, 52, 60); *see also* Wis. Elec. Power Co. v. Reilly, 893 F.2d 901, 30 Env't Rep. Cas. (BNA) 1889, 20 Envtl. L. Rep. 20414 (7th Cir. 1990).

[32]*See, e.g.,* 40 C.F.R. § 52.21(b)(41)(ii)(c).

[33]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 67 Fed. Reg. 80186 (Dec. 31, 2002) (to be codified at 40 C.F.R. pts. 51, 52).

[34]*See* New York v. EPA, 413 F.3d 3, 10–11, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005).

[35]*See* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 67 Fed. Reg. at 80188.

[36]*See* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 67 Fed. Reg. at 80188. *See also* 40 C.F.R. § 52.21(b)(21)(iv).

[37]*EPA I*, 413 F.3d at 39–40; *see, e.g.,* 40 C.F.R. § 52.21(b)(41).

required.[38]

The codified federal major NSR rule language is unambiguous that the projected actual emissions rate is based on the expectations of the owner or operator of the major stationary source before beginning actual construction of the project.[39] The rule also unambiguously provides that this preconstruction determination is not a safe harbor, stating "a major modification results if the project causes a significant emissions increase and a significant net emissions increase."[40]

Less clear, however, is whether EPA can enforce based on second-guessing the projections of the owner or operator. Current EPA policy is to avoid such second-guessing. EPA intends to "focus on the level of actual emissions during the 5- or 10-year recordkeeping or reporting period after the project for purposes of determining" whether enforcement may be appropriate. If post-project actual emissions data do not indicate that a significant increase occurred, EPA has indicated an intent that it will not initiate enforcement.[41]

At least one court has found, under EPA's prior policy of enforcing if it disagreed with a source's projections, that the agency can prevail in an enforcement action—under what the court termed "an expectations theory"—based on arguments that that the projections made by the owner or operator of the major stationary source were not reasonable and that the owner or operator should have expected a significant emissions increase.[42]

§ 12:101 Definition of "major modification"—Significant

Although the statutory definition of the term "modification" refers broadly to an increase,[1] the major NSR rules apply where the project will result in both an emissions increase of a regulated NSR pollutant and a net emissions increase of the same pollutant in amounts that are "significant."[2] In addition, the term "significant" is used to determine applicability of substantive requirements for new major stationary sources under the PSD program. These aspects of the rules, based on *de minimis* doctrine, were upheld by the D.C. Circuit in *Alabama Power Co. v. Costle*.[3]

The significant emission rate (SER) for a regulated NSR pollutant is generally an emission threshold in tons per year. The SER thresholds for criteria pollutants in the PSD and NNSR rules, including those for municipal waste combustors and municipal solid waste landfills,[4] are listed in the following table.[5] Direct emissions of ozone are treated as *de minimis* regardless of magnitude; only emissions of the ozone precursors, volatile organic compounds and nitrogen oxides, are regulated

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[38] *See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(b).

[39] *See, e.g.,* 40 C.F.R. § 52.21(b)(41).

[40] *See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv)(b).

[41] *See* Memorandum, from E. Scott Pruitt, EPA Adm'r, to Reg'l Adm'rs, New Source Review Preconstruction Permitting Requirements: Enforceability and Use of the Actual-to-Projected-Actual Applicability Test in Determining Major Modification Applicability (Dec. 7, 2017).

[42] United States v. Ameren Mo., 2016 WL 728234 (E.D. Mo. 2016).

[Section 12:101]

[1] *See* Clean Air Act § 111(a)(4), 42 U.S.C. § 7411(a)(4).

[2] 40 C.F.R. §§ 52.21(b)(2), 51.166(b)(2).

[3] 40 C.F.R. §§ 51.165(a)(1)(v)(A), 51.166(b)(2)(i); *see* Ala. Power Co. v. Costle, 636 F.2d 323, 394–99, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001 (D.C. Cir. 1979).

[4] 40 C.F.R. §§ 51.165(a)(1)(v)(A), 51.166(b)(2)(i); *see* Ala. Power Co. v. Costle, 636 F.2d 323, 394–99, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001 (D.C. Cir. 1979).

[5] *See* 40 C.F.R. §§ 52.21(b)(23)(i), 51.165(a)(1)(x)(A).

NSR pollutants for ozone.[6]

Significant Emission Rate (SER) Thresholds

Carbon monoxide (CO)	100 tpy
Volatile organic compounds (VOCs)	40 tpy
Nitrogen dioxide (NO_2)	40 tpy
Nitrogen oxides (NO_x)	40 tpy
Particulate matter (PM)	25 tpy
Particulate matter 10 (PM_{10})	15 tpy
Particulate matter 2.5 ($PM_{2.5}$)	10 tpy
Hydrogen sulfide	10 tpy
Total reduced sulfur	10 tpy
Reduced sulfur compounds[7]	10 tpy
Sulfuric acid mist	7 tpy
Fluorides	3 tpy
Lead (Pb)	0.6 tpy
Municipal waste combustor organics *(measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)*	3.2×10^{-6} megagrams per year (3.5×10^{-6} tpy)
Municipal waste combustor metals *(measured as particulate matter)*	14 megagrams per year (15 tpy)
Municipal waste combustor acid gases *(measured as sulfur dioxide and hydrogen chloride)*	36 megagrams per year (40 tpy)
Municipal solid waste landfills emissions *(measured as nonmethane organic compounds)*	45 megagrams per year (50 tpy)

Under the NNSR program, different SER thresholds apply based on the classification of the designated nonattainment area.

Significant Emission Rate (SER) Thresholds—Nonattainment Areas

Serious CO nonattainment	50 tpy CO if EPA has determined that stationary sources contribute significantly to CO in the area[8]
Serious and severe ozone nonattainment	50 tpy VOCs and NO_x[9]
Extreme ozone nonattainment	any increase
$PM_{2.5}$ nonattainment	state/local/tribal program to define when ammonia is a regulated NSR pollutant due to status as $PM_{2.5}$ precursor[10]

Under the PSD program, if EPA has not established an SER threshold for a specific regulated NSR pollutant, "any emissions rate" increase in that pollutant's emissions is considered significant.[11] This provision currently applies to two categories of pollutants: GHGs and Class I and Class II ozone depleting substances subject to standards promulgated under or established by Title VI of the Clean Air Act. For ozone depleting substances, EPA has proposed but has not finalized a significance

[6] *See* 40 C.F.R. § 51.165(a)(1)(x)(A); *see also* Letter from Dir., EPA Air Quality Pol'y Div., to R.R. Martella, Sidley Austin (Jan. 30, 2013) (on file with author).

[7] *See* 40 C.F.R. § 52.21(b)(23)(i).

[8] *See* 40 C.F.R. § 51.165(a)(1)(x)(B) to (C), (E).

[9] *See* 40 C.F.R. § 51.165(a)(1)(x)(B) to (C), (E).

[10] *See* 40 C.F.R. §§ 51.165(a)(1)(x)(F), pt. 51, app. S, § II.A.10(vi).

[11] *See* 40 C.F.R. § 52.21(b)(23)(ii).

level of 100 tpy.[12] EPA is currently implementing this threshold by policy.[13]

While EPA had initially proposed that GHG emissions qualifying as "regulated NSR pollutants" could cause a source to become a new major stationary source and also trigger PSD review for "significant emission increases" as a major modification, a 2014 U.S. Supreme Court decision rejected this approach and narrowed how the GHG thresholds could be used.[14] Based on this decision, GHG emissions cannot cause a source to become a new major stationary source or a major modification as a result of a "significant emission increase." However, the Supreme Court did find that PSD BACT review could be required for GHGs at sources that triggered PSD review for other regulated NSR pollutants. The Supreme Court's decision further indicated that EPA could establish an appropriate *de minimis* threshold above which BACT review would be required for GHG emissions.[15] This threshold has also been described as a "significance" level, as EPA seeks to establish this threshold, but this emission level is different from other "significance" values in the NSR program that are thresholds for independently triggering PSD or NNSR permitting. As explained, GHG emissions (significant or otherwise) alone cannot trigger a source having to go through PSD review as a result of the Supreme Court's holding.[16]

For GHGs, EPA has proposed a *de minimis* level (also referred to as a Significant Emission Rate or SER) of 75,000 tpy COe for GHGs but has not finalized this value.[17] Without having a formal SER for GHGs, a source might be subject to having to go through a BACT review for any increase in GHG emissions for a newly constructed source or major modification triggering PSD for another regulated NSR pollutant (an "anyway source").[18] However, EPA applies the threshold definition "subject to regulation under the Act" and the definition of "regulated NSR pollutant" to avoid this result.[19]

EPA's PSD regulations defining "subject to regulation" provide that with respect to GHG emissions, the term "emission increase" shall include both a significant emissions increase and a significant net emissions increase in GHG emissions as those increases occur on tpy CO_2e basis, and "significant" is defined as 75,000 tpy

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[12]*See* Prevention of Significant Deterioration (PSD) Nonattainment New Source Review (NSR), 61 Fed. Reg. 38249, 38308 (proposed July 23, 1996) (to be codified at 40 C.F.R. pts. 51, 52).

[13]*See* Letter from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, to G. Von Bodungen, La. Dep't of Env't Quality (Feb. 24, 1998), https://www.epa.gov/sites/production/files/2015-07/documents/ldeq.pdf; *see also* Approval and Promulgation of Implementation Plans; Washington: Prevention of Significant Deterioration and Visibility Protection, 80 Fed. Reg. 838, 840 (proposed Jan. 7, 2015) (to be codified at 40 C.F.R. pt. 52).

[14]*See* Util Air Regul. Grp. v. EPA, 573 U.S. 302, 332, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't Rep. Cas. (BNA) 1585 (2014) ("EPA may require an 'anyway' source to comply with greenhouse-gas BACT only if the source emits more than a *de minimis* amount of greenhouse gases.").

[15]Util. Air Regul. Grp. v. EPA, 573 U.S. 302, 332, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't Rep. Cas. (BNA) 1585 (2014).

[16]Note, given that there is currently no NAAQS for GHGs, a source could not be subject to NNSR for GHGs, since it could not be located in an area not meeting a NAAQS for GHGs.

[17]*See* Revisions to the Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas (GHG) Permitting Regulations and Establishment of a Significant Emissions Rate (SER) for GHG Emissions Under the PSD Program, 81 Fed. Reg. 68110, 68112 (proposed Oct. 3, 2016) (to be codified at 40 C.F.R. pts. 51, 52, 60, 70, 71). GHG emissions on a CO_2e basis are determined by multiplying the mass emission rate of each GHG constituent by its Global Warming Potential (GWP) and summing the products. 81 Fed. Reg. at 68138.

[18]*See* 40 C.F.R. §§ 51.166(b)(23)(ii), 52.21(b)(23)(ii); Revisions to the Prevention of Significant Deterioration (PSD) and Title V Greenhouse (GHG) Permitting Regulations, 81 Fed. Reg. at 68117 24.

[19]*See* 40 C.F.R. § 52.21(b)(12), (b)(49)(i)–(iv).

CO_2e.[20]

As a result, EPA has explained that, even in the absence of an SER for GHGs, it intends to require a PSD BACT review only in situations where:

(a) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(b) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more.[21]

For a modification, EPA has explained the language in (b) above applies only if "the modification results in a GHG emissions increase and a net GHG emissions increase equal to or greater than 75,000 tpy CO_2e and greater than zero on a mass basis."[22] Summarizing these requirements is challenging, but attempting to do so, BACT review of GHGs for PSD permitting is required as follows:

> **New Major:** (1) the stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, (2) the new source will emit or will have the potential to emit 75,000 tpy CO_2e or more, and (3) the new source will emit any amount of GHGs on a mass basis.
>
> **Major Modification:** (1) the stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, (2) the proposed project will cause a significant increase and significant net increase in emissions of a regulated NSR pollutant that is not GHGs, (3) the proposed project will cause an emissions increase and net emissions increase of 75,000 tpy CO_2e or more, and (4) the proposed project will cause an increase and a net increase in GHG emissions in any amount on a mass basis.[23]

As an example of how this concept is implemented, assume there is a landfill that is an existing major stationary source and currently uses a flare to combust landfill gas (i.e., methane). The landfill's baseline actual GHG emissions are 20,000 tpy CO_2 (which, taking GWP into account, equates to 20,000 tpy on a CO_2e basis). The landfill proposes removal of the flare. Post-project emissions are projected to be 7,000 tpy of methane (CH_4) (which, taking a GWP of 25 into account, equates to 175,000 tpy on a CO_2e basis). The increase in emissions is 175,000 tpy of CO_2e emissions, and the net increase in CO_2e emissions is 155,000 tpy (175,000 tpy in future minus 20,000 tpy baseline equals 155,000 tpy), which exceeds the 75,000 tpy threshold. Because the increase and net increase in CO_2e emissions exceed this 75,000 tpy threshold, GHGs are "subject to regulation" and are a "regulated NSR pollutant" for this project. The analysis then turns to whether there is an increase and net increase in mass GHG emissions. Here, there is an increase of 20,000 tpy in mass GHG emissions and a 13,000 tpy *net decrease* in mass emissions (7,000 tpy future mass emissions compared 20,000 tpy baseline emissions results in net decrease in mass emissions of 13,000 tpy). In this example, therefore, PSD review and BACT are not triggered because GHGs are a regulated NSR pollutant for which there is not a significant increase (i.e., any increase) on a mass basis.

Finally, with respect to non-GHG emissions, and irrespective of SER thresholds,

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[20]40 C.F.R. § 52.21(b)(49)(iii) and (iv).

[21]40 C.F.R. § 52.21(b)(49)(iv)(a) and (b).

[22]Revisions to the Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas (GHG) Permitting Regulations, 81 Fed. Reg. at 68113.

[23]*See* 40 C.F.R. §§ 52.21(b)(49), 51.166(b)(48); Prevention of Significant Deterioration and Title V Permitting for Greenhouse Gases: Removal of Certain Vacated Elements, 80 Fed. Reg. 50199, 50202 (Aug. 19, 2015) (to be codified at 40 C.F.R. pts. 51, 52, 70, 71).

when any major stationary source is located within 10 kilometers of a Class I area, ***in addition to the presumptive thresholds in tons per year, any*** emissions rate is considered significant if it would have an impact on such area of at least 1 microgram per cubic meter ($\mu g/m^3$) (24-hour average).[24] EPA expressly determined that this provision does not run afoul of the statutory prohibition against an "automatic or uniform buffer zone" around Class I areas.[25]

§ 12:102 Definition of "major modification"—Net emissions increase

The NSR regulations define "net emissions increase" generally as the sum of the increase in emissions that will result from the project, determined as described above in § 12:100, and "any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable."[1]

The contemporaneous period for netting analyses is defined differently among the major NSR rules. In the federal PSD rule and in the Emission Offset Interpretative Ruling, the period begins on the "date five years before construction on the particular change commences" and ends on the "date that the increase from the particular change occurs."[2] The latter date is generally "when the emissions unit on which construction occurred becomes operational and begins to emit," but a "replacement unit" is deemed to become operational "only after a reasonable shakedown period, not to exceed 180 days."[3]

In the federal blueprint rule for PSD programs in SIPs/TIPs, the contemporaneous period is "a reasonable period (to be specified by the state)."[4]

In the federal blueprint rule for NNSR programs in SIPs/TIPs, an increase or decrease in actual emissions is contemporaneous with the increase from the particular change "if it occurs before the date that the increase from the particular change occurs."[5] In addition, under the NNSR blueprint rule, an increase or decrease in actual emissions is creditable only if it occurs within a "reasonable period to be specified by the reviewing authority."[6]

The NSR rules establish several criteria relating to whether, and to what extent, an increase or decrease in actual emissions is creditable. First, the emissions change is not creditable if the permitting authority "relied on it in issuing a permit" that is currently applicable to the major stationary source in question.[7] EPA clarified the meaning of the phrase "relied on" as used in this provision in the preamble to the 1980 NSR rule revisions:

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[24]*See* 40 C.F.R. § 52.21(b)(23)(iii).

[25]*See* Requirements for Implementation Plans; Air Quality New Source Review, 54 Fed. Reg. 27286, 27287 to 288 (June 28, 1989) (to be codified at 40 C.F.R. Pts. 51, 52); *see also* Clean Air Act § 165(e)(3)(A), 42 U.S.C. § 7475(e)(3)(A).

[Section 12:102]

[1]40 C.F.R. §§ 51.165(a)(1)(vi)(A)(2), 51.166(b)(3)(i)(b).

[2]*See* 40 C.F.R. § 52.21(b)(3)(ii); pt. 51, app. S, § II.A.6(ii).

[3]*See* 40 C.F.R. §§ 52.21(b)(3)(viii); pt. 51, appx. S § II.A.6(vi). Although these provisions use the term "replacement unit," and that term is defined narrowly in the federal major NSR rules as discussed *supra* subsection 12:100, EPA interprets the term broadly—to include any emissions unit that replaces an existing emissions unit—for purposes of these provisions. *See, e.g.*, Limited Approval and Disapproval of Air Quality Implementation Plans; Nevada; Clark County; Stationary Source Permits, 77 Fed. Reg. 64039, 64043–45 (Oct. 18, 2012) (to be codified at 40 C.F.R. pt. 52).

[4]*See* 40 C.F.R. § 51.166(b)(3)(ii).

[5]*See* 40 C.F.R. §§ 51.165(a)(1)(vi)(B); pt. 51, app. S, § II.A.6(ii).

[6]*See* 40 C.F.R. § 51.165(a)(1)(vi)(C)(1).

[7]*See, e.g.,* 40 C.F.R. §§ 52.21(b)(3)(iii)(a), 51.165(a)(1)(vi)(C)(2).

> [A] reviewing authority "relies" on an increase or decrease when, after taking the increase or decrease into account, it concludes that the proposed project would not cause or contribute to a violation of an increment or ambient standard. The purpose of that rule is to "wipe the slate clean." Once the reviewing authority has evaluated a significant net increase in issuing an NSR permit the net increase should not be a factor in deciding whether subsequent events should undergo scrutiny, too.[8]

Relatedly, under the NNSR programs, a decrease in actual emissions is not creditable for netting purposes if it was used to satisfy the emissions offset requirement or if the permitting authority relied on it in demonstrating attainment or reasonable further progress.[9] There is no comparable restriction in the PSD rules. EPA clarified the intent of this provision in the preamble to the 1980 NSR rule revisions:

> [A] permitting authority may not credit a decrease to the extent that any permitting authority has already accepted the decrease in satisfaction of the offset requirements of the applicable nonattainment regulations and consequently has issued a preconstruction permit to any source or modification, including the source at which the decrease occurred. The purpose of that rule is to prevent any "double crediting" of "actual decreases in emissions." Double crediting would allow air quality to deteriorate without prior review.[10]

An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.[11]

A decrease in actual emissions is creditable in a netting analysis only to the extent that it is enforceable as a practical matter at and after the time that actual construction of the project begins, and then only to the extent that the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions.[12] This is important with respect to timing. Most construction will begin as soon as the permit is issued, so often a "new" decrease will be made enforceable in the NSR permit. Of note is the fact that the actual emissions decrease does not have to occur until immediately before the increase from the project in question begins—that decrease just has to be made enforceable before actual construction on the project at issue begins. The enforceability of the commitment is what is critical. If construction on the project relying upon the offset begins before the commitment is enforceable, this is likely to present an issue.

The defined term "baseline actual emissions," discussed above in § 12:100, is used in quantifying creditable increases and decreases in actual emissions.[13] However, the provisions requiring use of the same baseline period for all existing emissions units affected by the project do not apply.[14] In addition, in the provision requiring downward adjustment of actual emissions applicable to existing emissions units other than electric utility steam generating units, " '[c]urrent' in the context of a contemporaneous emissions change refers to limitations on emissions and source operation that existed just prior to the date of the contemporaneous change."[15]

In addition, a decrease in actual emissions is creditable only to the extent it has

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[8]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52701 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124).

[9]*See, e.g.,* 40 C.F.R. § 51.165(a)(1)(vi)(E)(3).

[10]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. at 52701 to 702.

[11]*See, e.g.,* 40 C.F.R. §§ 52.21(b)(3)(v), 51.165(a)(1)(vi)(D).

[12]*See, e.g.,* 40 C.F.R. §§ 52.21(b)(3)(vi)(a) to (b), 51.165(a)(1)(vi)(E)(1) to (2).

[13]*See, e.g.*, 40 C.F.R. §§ 52.21(b)(3)(i)(b), 51.165(a)(1)(vi)(A)(2).

[14]40 C.F.R. §§ 52.21(b)(3)(i)(b), 51.165(a)(1)(vi)(A)(2).

[15]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Lim-

"approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change."[16] Current EPA policy is to assume that an emissions decrease will have approximately the same qualitative significance for public health and welfare as that attributed to an increase, unless the reviewing agency has reason to believe that the reduction in ambient concentrations from the emissions decrease will not be sufficient to prevent the proposed emissions increase from causing or contributing to a violation of any NAAQS or PSD increment.[17] For example, if the decrease is from a 150-foot-tall stack while the concurrent increase in emissions is from a 20-foot-tall stack, the ground-level concentrations outside the fenceline could increase at certain receptors.

§ 12:103 Definition of "major modification"—Fugitive emissions

Although fugitive emissions are counted in evaluating whether projects are major modifications, these emissions alone will not trigger major NSR permit requirements for major modifications at unlisted sources.[1] A quick review of the regulations could yield confusion on this point. In the definition of major modification, a provision states that fugitive emissions "shall not be included in determining for any of the purposes of this section whether a physical change in or change in the method of operation of a major source is a major modification, unless the source belongs to one of the [listed source categories]."[2] However, this language was stayed indefinitely.[3] Despite this stay, the major NSR regulations provide separate language that exempts sources from the substantive major NSR permitting requirements if the modification would be a major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the major modification, and the source is not one of the listed source categories.[4] In addition, for projects that trigger PSD review for at least one regulated NSR pollutant, fugitive emissions must be included for evaluating BACT and are required to be considered in ambient impacts analyses.[5] The source must calculate net emission increases for all regulated NSR pollutants, including fugitive emissions, in this second step.[6] There are similar provisions for NNSR permitting applying to Lowest Achievable Emission Rate (LAER) and offsets.[7] If a stationary source does not fall within a listed category yet is major due to non-fugitive emissions, then all significant emissions (stack and fugitive) are subject to PSD/NNSR review.[8]

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itations, Clean Units, Pollution Control Projects, 67 Fed. Reg. 80186, 80197 (Dec. 31, 2002) (to be codified at 40 C.F.R. pts. 51, 52).

[16]*See, e.g.,* 40 C.F.R. §§ 51.165(a)(1)(vi)(E)(4), 51.166(b)(3)(vi)(c).

[17]EPA NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING A.38-39 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

[Section 12:103]

[1]*See* In re: Masonite Corporation Permittee, 5 E.A.D. 551, 582, 1994 WL 615380 (EPA 1994); 40 C.F.R. §§ 51.165(a)(4); 52.21(i)(1), (i)(1)(vii).

[2]40 C.F.R. §§ 51.165(a)(1)(v)(G), 52.21(b)(2)(v).

[3]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Reconsideration of Inclusion of Fugitive Emissions; Interim Rule; Stay and Revisions, 76 Fed. Reg. 17548, 17556 (Mar. 30, 2011) (to be codified at 40 C.F.R. pts. 51, 52).

[4]40 C.F.R. §§ 51.165(a)(1)(v)(G), (a)(1)(vi)(C)(3); 52.21(i)(1), (i)(1)(vii).

[5]*See* In re Masonite Corp., 5 E.A.D. at 582.

[6]*See* In re Masonite Corp., 5 E.A.D. at 582.

[7]*See* In re Masonite Corp., 5 E.A.D. at 582.

[8]*See* In re Masonite Corp., 5 E.A.D. at 582.

§ 12:104 Definition of "major modification"—Special provisions in certain ozone nonattainment areas

The Clean Air Act (CAA) Amendments of 1990 added new provisions pertinent to NNSR applicability for projects that would increase emissions of ozone precursors—generally VOCs and NO_X—in ozone nonattainment areas classified as serious, severe, and extreme.

In *serious* and *severe* ozone nonattainment areas, a "de minimis" increase in NOx or VOC emissions does not trigger NNSR permitting. Under this rule, the net emissions increase from a project is considered de minimis if this increase, when aggregated with all other net emissions increases of that precursor, is below 25 tons "over any period of five consecutive calendar years that includes the calendar year in which such increase occurred."[1]

The accompanying applicability provisions for projects in serious and severe ozone nonattainment areas require that this *de minimis* threshold be applied to emissions increases at "any discrete operation, unit, or other pollutant emitting activity at the source," effectively constraining use of the plantwide approach in the first step of the emissions increase analysis.[2]

The federal NNSR rules incorporate only the lower numeric *de minimis* threshold (i.e., significant emission rate) of 25 tons per year.[3] The regulatory provisions pertaining to the establishment of a contemporaneous period are unchanged relative to the otherwise applicable major NSR rules and netting is triggered only if the emissions increase from the project, by itself, exceeds the significant emission rate.[4]

For major stationary sources in extreme ozone nonattainment areas, the statute prescribes that *any* change "which results in any increase in emissions from any discrete operation, unit, or other pollutant emitting activity at the source shall be considered a modification."[5] This provision is reflected in the federal NNSR rules.[6]

§ 12:105 Plantwide Applicability Limitations (PALs)

The concept of a plantwide applicability limitation, or PAL, has developed over time in an attempt to relieve some of the uncertainty and burden presented by the traditional NSR applicability determinations and evaluations. As discussed above, there can be tremendous burdens associated with having to evaluate every physical change or change in method of operation to determine whether it results in a significant emission increase and a significant net emissions increase. The progressive steps involved in this type of determination are complex and time-consuming and can be subject to uncertainties.

Before the 2002 NSR Reform rules addressing PALs took effect, a major NSR applicability approach based on plantwide PALs was utilized only on an *ad hoc* basis. This approach was initially determined by EPA to be acceptable under the federal PSD rule for a 3M Company facility in Minnesota where the plantwide annual emission cap was established based on facility-wide actual emissions during a

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[Section 12:104]

[1] *See* Clean Air Act § 182(c)(6), 42 U.S.C. § 7511a(c)(6).

[2] *See* Clean Air Act § 182(c)(7) to (8), 42 U.S.C. § 7511a(c)(7) to (8).

[3] *See* 40 C.F.R. § 51.165(a)(1)(x)(B); pt. 51, app. S § II.A.10(ii).

[4] *See id.* 40 C.F.R. § 51.165(a)(1)(vi)(B), (a)(2)(ii)(A); pt. 51, app. S §§ II.A.6(ii), IV.I.1(i).

[5] *See* Clean Air Act § 182(e)(2), 42 U.S.C. § 7511a(e)(2).

[6] *See* 40 C.F.R. § 51.165(a)(1)(v)(F), (a)(1)(x)(E); pt. 51, app. S §§ II.A.5(v), II.A.10(v).

recent, consecutive two-year period and would expire after five years.[1]

In 1996, when proposing to adopt codified rule provisions governing voluntarily accepted PALs as an alternative compliance mechanism for existing major stationary sources, EPA touted the flexibility afforded by this approach and identified as examples the 3M permit and the long-standing Oregon "plant site emission limit" program.[2]

Under the PAL provisions promulgated as part of the 2002 NSR Reform rules, the owner or operator of a major stationary source can voluntarily apply for a PAL permit containing PALs—emissions caps conferring special PSD applicability provisions—for one or more regulated NSR pollutants. EPA has defined a PAL as "an optional flexible permitting mechanism available to major stationary sources that involves the establishment of a plantwide emission limit, in tons per year, for a regulated NSR pollutant."[3] A PAL is further described by EPA as "a simplified NSR applicability approach that provides a source with the ability to manage physical and operational changes, and the impacts of those changes on facility-wide emissions, without triggering major NSR or the need to conduct project by project major NSR applicability analysis. The added flexibility of a PAL allows a source to respond rapidly to market changes with reduced permitting burdens and greater regulatory certainty."[4]

PALs are not allowed for ozone precursors in ozone nonattainment areas classified as extreme.[5]

The PAL is set at a level calculated as the sum of the baseline actual emissions of the PAL pollutant from all emissions units at the stationary source (except that the contribution of an existing emissions unit for which actual construction began after the selected 24-month baseline period is its potential to emit rather than its baseline actual emissions) plus the significant level for the pollutant.[6] The PAL permit must include stringent monitoring, recordkeeping, and reporting provisions designed to ensure enforceability of the PALs.[7]

Each PAL remains in effect for 10 years.[8] During the period the PAL is in effect, the generally applicable definition of the term "major modification" does not apply

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[Section 12:105]

[1]Memorandum from John B. Rasnic, Dir., Stationary Source Compliance Div., EPA Off. of Air & Radiation, to David Kee, Dir., Air & Radiation Div., EPA Region 5, 3M Tape Manufacturing, Minnesota 2 (July 14, 1992), https://www.epa.gov/sites/production/files/2015-07/documents/3mtape.pdf ("This means that there will be contemporaneity between the acceptance of an emissions cap and the proposed modification, thereby providing assurance that any significant increases will be offset by equivalent decreases during the life of the permit.").

[2]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR), 61 Fed. Reg. 38250, 38264 (proposed July 23, 1996) (to be codified at 40 C.F.R. pts. 51, 52).

[3]Memorandum from Anne L. Austin, EPA Prin. Deputy Assistant Adm'r, to EPA Reg'l Air Div. Dirs., Guidance on Plantwide Applicability Limitation Provisions Under the New Source Review Regulations 1 (Aug. 4, 2020), https://www.epa.gov/sites/production/files/2020-08/documents/pal_2020.pdf.

[4]Memorandum from Anne L. Austin, EPA Prin. Deputy Assistant Adm'r, to EPA Reg'l Air Div. Dirs., Guidance on Plantwide Applicability Limitation Provisions Under the New Source Review Regulations 1 (Aug. 4, 2020), https://www.epa.gov/sites/production/files/2020-08/documents/pal_2020.pdf.

[5]*See, e.g.,* 40 C.F.R. § 51.165(f)(1)(ii).

[6]*See, e.g.,* 40 C.F.R. § 52.21(aa)(6).

[7]*See, e.g.,* 40 C.F.R. § 52.21(aa)(12) to (14).

[8]*See, e.g.,* 40 C.F.R. § 52.21(aa)(2)(vii).

with respect to that pollutant.[9] Instead, if the major stationary source's plantwide actual emissions of the pollutant after a proposed project is implemented remains below the PAL, the project does not constitute a major modification—irrespective of any increases in actual emissions of the pollutant due to the project.[10]

EPA explained the benefit as follows. If you keep the emissions from your facility below a plantwide actual emissions cap, then you need not evaluate whether each change might be subject to the major NSR permitting when you make alterations to the facility or individual emissions units. The cumulative actual emissions become the de facto potential emissions for the plant, and you may emit up to the permitted level without going through major NSR, even if you are making changes to the facility, including adding new emissions units. The PAL allows you to make changes quickly by allowing you to alter your facility without first going through major NSR review. It thus limits the number and complexity of NSR applicability determinations and reduces unnecessary costs and delays. If the emissions remain under the permitted level, the PAL also allows a plant manager to authorize changes without first obtaining NSR review.[11] Note, however, that state, local program, or tribe rules could require permitting even if NSR is not triggered.

A PAL may be increased if the owner or operator of the major stationary source applies for and obtains a major permit for a PAL major modification, making the required demonstration for an increase in the PAL.[12] Among other information, the application must identify the emissions units that will contribute to the increase in emissions and cause the source's emissions to equal or exceed the PAL. Applicable substantive requirements of major NSR (i.e., PSD and/or NNSR) must be met for these emissions units. For example, for new or modified emissions units, the issued PSD permit must include BACT requirements even though such units will also become or remain subject to the PAL. The required demonstration for an increase in the PAL begins with a new PAL-setting calculation, generally performed in the same manner as for the initial PAL, but with a potential downward adjustment to the baseline actual emissions of non-contributing significant and major emissions units to reflect the reductions that would occur from application of BACT to those units.[13] If the required demonstration is made, the permitting authority will issue a revised PAL permit reflecting the increased PAL. The increased PAL will be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.[14] The effective date is reset, starting a new 10-year term.[15]

At the end of the 10-year term, a PAL permit must be renewed or the PAL permit and the PALs in it expire.[16]

The PAL provisions included in the 2002 NSR Reform rules—particularly the 10-year PAL effective period and the use of the five- or 10-year baseline period encompassed within the new definition of the term baseline actual emissions—were

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[9]*See, e.g.,* 40 C.F.R. § 52.21(a)(2)(iv), (b)(2)(iv).

[10]*See, e.g.,* 40 C.F.R. § 52.21(aa)(1)(ii).

[11]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 67 Fed. Reg. 80186, 80206 (Dec. 31, 2002) (to be codified at 40 C.F.R. pts. 51, 52).

[12]*See, e.g.,* 40 C.F.R. § 52.21(aa)(11).

[13]*See, e.g.,* 40 C.F.R. § 52.21(aa)(11)(ii).

[14]*See, e.g.,* 40 C.F.R. § 52.21(aa)(11)(i)(d).

[15]*See, e.g.,* 40 C.F.R. § 52.21(aa)(2)(vi) to (vii).

[16]*See, e.g.,* 40 C.F.R. § 52.21(aa)(9) to (10).

challenged in *New York v. EPA* ("*EPA I*").[17] The challenge, based on a lack of adherence to the requirement for contemporaneity established in *Alabama Power*, was rejected.[18]

The concept of PALs has been encouraged by EPA. As of August 2020, EPA notes that 70 PAL permits have been issued to sources in a wide range of industry categories.[19] In a memorandum dated August 4, 2020, and titled "Guidance on Plantwide Applicability Limitation Provisions Under New Source Review Regulations," EPA attempts to address a number of aspects of PAL permitting under NSR identified by stakeholders as confusing and requiring better understanding.[20] EPA then seeks to address certain areas that stakeholders have identified as being burdensome. This guidance document addresses such items as PAL reopening, expiration, renewal, adjustment, termination, validation testing, and overall advantages of PALs.

§ 12:106 Substantive PSD requirements

The substantive requirements applicable to a new or modified major stationary source as conditions of obtaining a preconstruction PSD permit include a case-by-case determination of the "best available control technology" or BACT,[1] a demonstration by the owner or operator of the source that the project will not cause or contribute to a PSD increment violation or NAAQS exceedance,[2] ambient air quality monitoring,[3] analysis of impacts on air quality related values in Class I areas,[4] analysis of impacts resulting from associated growth,[5] and analysis of additional impacts such as those on soils, vegetation, and visibility.[6]

§ 12:107 Substantive PSD requirements—Best available control technology (BACT)

A new or modified major stationary source to which PSD permitting requirements apply must satisfy BACT "for each pollutant subject to regulation under this Act emitted from, or which results from, such facility."[1] For a new major stationary source, the federal PSD regulations clarify that this requirement applies to each regulated NSR pollutant for which the source's potential to emit would equal or

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[17]New York v. EPA, 413 F.3d 3, 26–27, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005).

[18]New York v. EPA, 413 F.3d 3, 26–27, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005).

[19]Memorandum from Anne L. Austin, EPA Prin. Deputy Ass't Adm'r, to Reg'l Air Div. Dirs., Guidance on Plantwide Applicability Limitation Provisions Under the New Source Review Regulations 1 (Aug. 4, 2020), https://www.epa.gov/sites/production/files/2020-08/documents/pal_2020.pdf.

[20]*See generally* New York v. EPA, 413 F.3d 3, 26–27, 60 Env't Rep. Cas. (BNA) 1791, 35 Envtl. L. Rep. 20135 (D.C. Cir. 2005) ("The purpose of this memorandum is to provide guidance on the PAL regulations to address specific concerns raised by stakeholders and to generally improve the understanding of PALs.").

[Section 12:106]

[1]*See* Clean Air Act § 165(a)(4), 42 U.S.C. § 7475(a)(4).

[2]*See* Clean Air Act § 165(a)(3), 42 U.S.C. § 7475(a)(3).

[3]*See* Clean Air Act §§ 165(a)(7), 165(e)(1) to (2); 42 U.S.C. §§ 7475(a)(3), 7475(e)(1) to (2).

[4]*See* Clean Air Act §§ 165(a)(5), 169A; 42 U.S.C. §§ 7475(a)(5), 7491.

[5]*See* Clean Air Act § 165(a)(6), 42 U.S.C. § 7475(a)(6).

[6]*See* Clean Air Act § 165(e)(3)(B), 42 U.S.C. § 7475(e)(3)(B).

[Section 12:107]

[1]*See* Clean Air Act § 165(a)(4), 42 U.S.C. § 7475(a)(4).

exceed the significant level.[2] For a major modification, the requirement applies to each regulated NSR pollutant for which the project would cause a net emissions increase, and then for each emissions unit at which a net emissions increase—of any magnitude—in that pollutant would occur as a result of a physical change or change in the method of operation in the unit.[3] Activities categorically excluded from being considered physical changes or changes in method of operation, as discussed above in § 12:98, do not subject an individual emissions unit to BACT. Thus, for example, if physical changes are made to a facility to enable delivery of an alternative fuel to an existing boiler, the boiler is not excluded from the calculation of the emissions increases resulting from the project as discussed in § 12:101 above; however, if the project is a major modification, but the boiler emissions unit was capable of accommodating the alternative fuel before January 6, 1975, then the boiler is not subject to BACT.[4]

BACT is defined in the Clean Air Act as follows:

> The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to enactment of the Clean Air Act Amendments of 1990.[5]

The definitions in the federal PSD regulations differ from that in the statute in two minor respects.[6] First, the list of permissible bases for BACT in the regulatory definitions includes "fuel cleaning or treatment" but does not include "clean fuels" and the regulatory definitions do not include the final sentence regarding sources utilizing clean fuels.[7] In this regard, the regulatory definition mirrors the statutory definition as it existed prior to the 1990 Amendments.[8] Second, the statutory definition expresses no preference for numeric emission standards rather than work practice requirements, equipment design standards, or other types of emission limitations falling within the broad statutory definition of this term.[9] Under the regulatory definitions, non-numeric emission limitations are disfavored except where the

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[2]*See supra* § 12:94 for a discussion of potential to emit; *see supra* § 12:101 for a discussion of the significant levels; 40 C.F.R. §§ 51.166(j)(2), 52.21(j)(2).

[3]*See supra* § 12:101 for a discussion of the significant levels; 40 C.F.R. §§ 51.166(j)(2), 52.21(j)(3). *See supra* § 12:102 for a discussion of net emissions increase.

[4]*See* Letter from G.A. Emison, Dir., EPA Off. of Air Quality Plan. & Standards, to M. Sterling, Detroit Edison Co. (Jan. 18, 1990) (on file with author).

[5]Clean Air Act § 169(3), 42 U.S.C. § 7479(3).

[6]40 C.F.R. §§ 51.166(b)(12), 52.21(b)(12).

[7]40 C.F.R. §§ 51.166(b)(12), 52.21(b)(12).

[8]The term "clean fuels" and the final sentence were added by § 403(d) of Pub. L. No. 101-549, 104 Stat. 2399, 2631 (1990).

[9]See Clean Air Act § 302(k), 42 U.S.C. § 7602(k), defining the terms "emission limitation" and "emission standard" to mean "a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under

permitting authority "determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible."[10]

For purposes of the provision establishing standards under CAA §§ 111 and 112 as a legal floor for the BACT determination, EPA interprets the term "applicable" narrowly. Under this interpretation, a standard sets the floor for BACT for a particular emissions unit only if the unit in question is subject to the standard; a standard that is generally applicable to other units in the same category does not set the floor if it does not apply to the particular unit.[11]

The state, local program, or tribe has broad discretion to determine BACT if the permitting authority is a state, local program, or tribe rather than EPA. There are no objective standards other than a potentially applicable floor set by an applicable standard under CAA §§ 111 or 112, and the state, local program, or tribe may set BACT at a level more or less stringent than EPA or another state would. Congress gave states great flexibility to determine BACT on a case-by-case basis, incorporating energy, environmental, and economic impacts and other costs of using the technology and meeting a certain limit. This approach intended to reflect technological improvements more quickly than through federal emission standards (NSPS and NESHAP), which serve as the floor for BACT determinations.

> This directive enables the State to consider the size of the plant, the increment of air quality which will be absorbed by any particular major emitting facility, and such other considerations as anticipated and desired economic growth for the area. This allows the states and local communities to judge how much of the defined increment of significant deterioration will be devoted to any major emitting facility. If, under the design which a major facility propose [sic], the percentage of the increment would effectively prevent growth after the proposed major facility was completed, the State or community could refuse to permit construction, or limit its size. This is strictly a State and local decision; this legislation provides the parameters for that decision.[12]

In addition to broad discretion regarding the weight assigned to the various statutory factors, the judgment of state/local/tribal PSD permitting authorities in technical matters, such as whether a candidate technology is demonstrated in practice, is entitled to deference unless EPA proves it to be unreasonable, arbitrary, or capricious.[13] However, the discretion afforded state/local/tribal PSD permitting authorities in establishing BACT is constrained by EPA authority to enforce CAA requirements,[14] including the requirement to make a "BACT determination [which] is reasonably moored to the Act's provisions."[15]

Although the list of permissible bases for BACT broadly includes "production processes and available methods, systems, and techniques," EPA policy requires consideration of the basic design of a proposed source or modification as a given in

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this Act."

[10]40 C.F.R. §§ 51.166(b)(12), 52.21(b)(12).

[11]*See, e.g.,* EPA REGION 7, FINAL REVIEW FOR SIGNIFICANT AIR QUALITY DETERIORATION UNDER 40 C.F.R. § 52.21: Iowa-Illinois Gas & Electric Company, Louisa Generating Station 1 (undated but approximately Jan. 1981) (on file with author).

[12]S. Rep. No. 95-127, at 31 (1977), *reprinted in* 3 CONG. RSCH. SERV., A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1977, at 1405 (1978).

[13]*See, e.g.*, United States v. Minnkota Power Co-op., 831 F. Supp. 2d 1109, 1121 (D. N. D. 2011) ("North Dakota's conclusions regarding such highly technical matters are entitled to deference unless the EPA proves them to be unreasonable, arbitrary, or capricious.").

[14]*See* Alaska, Dep't. of Env't Conservation v. EPA, 298 F.3d 814, 820–21, 54 Env't Rep. Cas. (BNA) 1961, 32 Envtl. L. Rep. 20793 (9th Cir. 2002), aff'd, 540 U.S. 461, 124 S. Ct. 983, 157 L. Ed. 2d 967, 57 Env't Rep. Cas. (BNA) 1801, 34 Envtl. L. Rep. 20012 (2004).

[15]*See* Alaska Dep't of Env't Conservation v. EPA, 540 U.S. 461, 485, 124 S. Ct. 983, 157 L. Ed. 2d 967, 57 Env't Rep. Cas. (BNA) 1801, 34 Envtl. L. Rep. 20012 (2004).

the analysis—"the project that must be addressed when evaluating BACT is the project for which an application has been submitted"[16]—and does not allow for consideration of emission limitations that would require the applicant to redefine the fundamental purpose or basic design of the project. This policy has generally been upheld by the courts.[17]

The federal PSD rules do not prescribe a method or procedure for determining BACT and the non-binding interpretive guidance issued by EPA has been inconsistent regarding key aspects of the process. For example, guidance issued contemporaneously with the 1980 PSD regulations identified the relative air quality effects of alternative control options—measured as the difference in modeled pollutant concentration in ambient air—as an important factor to be considered by the permitting authority in weighing environmental and other impacts.[18]

Subsequent guidance recommends against consideration of this factor in making the BACT determination.[19]

The term "achievable" in the definition of BACT is interpreted by EPA to mean an emission limitation that is achievable on a continuous basis for the life of the source or emissions unit in question; where data from similar operating facilities forms the basis for the numeric emission limitation established as BACT, it is appropriate to apply a compliance margin or "safety factor."[20] This policy has generally been upheld by the courts.[21]

Determination of BACT generally is finalized at the time of issuance of the PSD permit, although EPA policy recognizes that the close of the public comment period is typically the reference point at which the adequacy of the administrative record is judged.[22] For phased construction projects with independent phases, the permitting authority must review the BACT determination, and modify it as appropriate, "at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project."[23]

In the case of a source or modification constructed in violation of the requirement to obtain a preconstruction PSD permit, the courts may make a BACT determination and order compliance with this BACT determination.[24]

In addition to the BACT requirements, a PSD source must comply with all ap-

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[16]In re Amerada Hess Corp. Port Reading Refinery, 12 E.A.D. 1, 16, 2005 WL 289445 (EPA 2005).

[17]*See, e.g.,* Hancock Cnty. v. EPA, 1984 U.S. App. LEXIS 14024, *21 (6th Cir. 1984); Sierra Club v. EPA, 499 F.3d 653, 655, 65 Env't Rep. Cas. (BNA) 1114 (7th Cir. 2007); Powder River Basin Res. Council v. Wyo. Dept. of Env't Quality, 2010 WY 25, 226 P.3d 809, 823 (Wyo. 2010).

[18]*See* EPA, OFF. OF AIR QUALITY PLAN. & STANDARDS, PREVENTION OF SIGNIFICANT DETERIORATION WORKSHOP MANUAL (EPA-450/2-80-081) (Oct. 1980), https://www.epa.gov/sites/default/files/2015-07/documents/1980wman.pdf.

[19]*See* In the Matter of: Co. Gulf Transmission Co. ID No. 105-0640-0021, Applicant, 2 E.A.D. 824, 831, 1989 WL 266361 (EPA 1989); *see also* EPA NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING B.46 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

[20]*See* In re Newmont Nev. Energy Inv., 12 E.A.D. 429, 442 (EPA EAB 2005).

[21]*See, e.g.,* Chipperfield v. Mo. Air Conservation Com'n, 229 S.W.3d 226, 252 (Mo. Ct. App. S.D. 2007).

[22]*See* In the Matter of: Pennsauken Cnty., N.J., Res. Recovery Facility, 2 E.A.D. 667, 671 n.11, 1988 WL 249035 (1988); *see also* Letter from Gary McCutchen, Chief, New Source Review Section, EPA Off. of Air Quality Plan. & Standards, to John Daniel, Assistant Exec. Dir., Va. Dep't of Air Pollution Control (June 15, 1989) (on file with author).

[23]40 C.F.R. §§ 51.166(j)(4), 52.21(j)(4).

[24]*See, e.g.,* United States v. Ameren Mo., 421 F. Supp. 3d 729, 824-25 (E.D. Mo. 2019), *aff'd in part*, 2021 WL 3700309 (8th Cir. 2021). *See infra* § 12:124 herein for a discussion of EPA's authority to enforce NSR requirements, including pursuit of civil penalties and injunctive relief through civil judicial action.

plicable emission limits in the SIP.[25] Note that a limitation imposed on an emissions for other reasons, such as a limit preventing a source from causing or contributing to a NAAQS exceedance, could be more stringent than the BACT limit determined through the BACT analysis, but that more stringent limit is not BACT because it was not established as such through a BACT analysis.

§ 12:108 Substantive PSD requirements—BACT—Greenhouse gases

In its 2014 decision rejecting EPA's interpretation of the statutory PSD program as considering GHG an air pollutant, the potential emissions of which would be counted toward major source status, the U.S. Supreme Court upheld EPA's authority to subject GHG emissions to BACT when preconstruction PSD permitting requirements are triggered by a source's emissions of conventional pollutants.[1] The Court recognized that EPA had regulated GHGs under the mobile source program.[2] Without establishing an ambient air quality standard, however, EPA could not take into account GHGs when determining whether a source is a "major stationary source" or a "major modification" of an existing major stationary source for purposes of PSD applicability. However, GHGs can trigger BACT when another regulated NSR pollutant triggers PSD.

§ 12:109 Substantive PSD requirements—BACT—Innovative control technology waiver

The federal PSD regulations provide that the permitting authority may temporarily waive the requirement to meet the emission limitation established as BACT where the owner or operator of a source subject to PSD permitting will utilize a system of "innovative control technology."[1] This term is defined to mean

> any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair quality environmental impacts.[2]

The federal PSD regulations require that, before issuing an innovative control technology waiver, the permitting authority must determine that the proposed source will not cause or contribute to an unreasonable risk to public health, welfare, or safety.[3] Ultimately, by a deadline specified by the permitting authority, but in any event no later than four years after initial startup or seven years after permit issuance, the source must meet an emission limitation equivalent to BACT.[4]

§ 12:110 Substantive PSD requirements—Source impact analysis

Section 165(a)(3) of the Act provides that proposed major new sources or modifica-

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[25] *See* Clean Air Act § 165(a)(3), 42 U.S.C. § 7475(a)(3); *see also* 40 C.F.R. §§ 51.166(j)(1), 52.21(j)(1).

[Section 12:108]

[1] *See* Util. Air Regul. Grp. v. EPA, 573 U.S. 302, 332, 134 S. Ct. 2427, 189 L. Ed. 2d 372, 78 Env't Rep. Cas. (BNA) 1585 (2014) ("EPA may require an 'anyway' source to comply with greenhouse-gas BACT only if the source emits more than a de minimis amount of greenhouse gases.").

[2] *See* Util. Air Regul. Grp. v. EPA, 573 U.S. 302, 332, 134 S. Ct. 2427, 2436, 189 L. Ed. 2d 372, 78 Env't Rep. Cas. (BNA) 1585 (2014).

[Section 12:109]

[1] *See* 40 C.F.R. §§ 51.166(s), 52.21(v).

[2] 40 C.F.R. §§ 51.166(b)(19), 52.21(b)(19).

[3] *See* 40 C.F.R. §§ 51.166(s)(2)(i), 52.21(v)(2)(i).

[4] *See* 40 C.F.R. §§ 51.166(s)(2)(ii), 52.21(v)(2)(ii).

tions subject to PSD must demonstrate that they "will not cause or contribute to" a violation of a NAAQS or PSD increment in any area.[1] That is the purpose of the source impact analysis described in the following subsections.

Substantive source impact analysis requirements are addressed in 40 C.F.R. § 51.166(k), (m), (o), and (p). Pursuant to § 165(b) of the Act, 40 C.F.R. § 51.166(i)(7) exempts modifications of less than 50 tpy from the requirements of 40 C.F.R. § 51.166(k), (m), and (o) as they relate to Class II area increments, if the modified source was in existence on March 1, 1978. Forty C.F.R. § 51.166(i)(6) exempts temporary facilities from these requirements if the source will not impact a Class I area or an area where PSD increments are violated. For a discussion of when a source will be deemed to cause or contribute to increment violations in Class I areas, see *infra* § 12:114.

Taken together with CAA § 110(a)(2)(C) and the implementing regulations at 40 C.F.R. §§ 51.165(b) and 51.166, CAA § 165(a)(3) requires any major source or modification locating in a PSD area that would cause or contribute to a NAAQS or increment violation to reduce its prospective impact on air quality insofar as necessary to "compensate" for the adverse impact of its emissions. If a major new stationary source or a major modification of an existing major stationary source would not exceed the significant ambient impact levels (SILs) or monitoring concentrations identified by EPA set forth at 40 C.F.R. § 51.165(b)(2), it will generally be deemed not to cause or contribute to a NAAQS violation. These levels may also be used for some PSD Class II increment purposes.[2] However, the question of whether the emissions from a new project will cause or contribute to a NAAQS or PSD increment violation is a very complex issue, and beyond the scope of the discussion in this chapter. The permit applicant will need to review the issues of how and whether SILs or monitoring concentrations can be used to demonstrate the absence of an adverse impact.[3] For example, $PM_{2.5}$ significant impact levels have previously been challenged and remanded.[4] In 2018, EPA issued additional guidance on use of SILs for $PM_{2.5}$ and ozone.[5] That guidance too was challenged, but the action was dismissed as failing to constitute a final agency action.[6] Thus, sources should be very careful in determining what significant impact levels they can rely upon in a permitting analysis; close consultation with the applicable permitting agency is advised.

In EPA's view, a source or modification in an area already experiencing violations of the relevant NAAQS, but still lacking an adequate SIP, could compensate for its impact only by providing greater than one-for-one emissions offsets and a net air quality benefit. On the other hand, if the area was previously free of violations or

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[Section 12:110]

[1]42 U.S.C. § 7475(a)(3); *see* Memorandum from John Calcagni, Dir., EPA Air Quality Mgmt. Div., Off. of Air Quality Plan. & Standards, to Thomas J. Maslany, Dir., Air, Radiation & Toxics Div., EPA Region III (Sept. 10, 1991).

[2]*See* Requirements for Preparation, Adoption, and Submittal of Implementation Plan; Approval and Promulgation of State Implementation Plans; Partial Stay of Regulations, 45 Fed. Reg. 31307, 31310 (May 13, 1980) (to be codified at 40 C.F.R. pts. 51, 52); Regulations for Implementing Revised Particulate Matter Standards, 52 Fed. Reg. 24672, 24684, 24687 (July 1, 1987) (to be codified at 40 C.F.R. pts. 51, 52); Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR), 61 Fed. Reg. 38250, 38293 (July 23, 1996) (to be codified at 40 C.F.R. pts. 51, 52).

[3]*See* Sierra Club v. EPA, 705 F.3d 458, 464, 76 Env't Rep. Cas. (BNA) 1176 (D.C. Cir. 2013).

[4]Sierra Club v. EPA, 705 F.3d 458, 463–64, 76 Env't Rep. Cas. (BNA) 1176 (D.C. Cir. 2013).

[5]Memorandum from Peter Tsirigotis, Dir., EPA Off. of Air Quality Plan. & Standards, to Reg'l Air Div. Dirs., Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program (the "SILs Guidance") (Apr. 17, 2018).

[6]Sierra Club v. EPA, 955 F.3d 56, 65 (D.C. Cir. 2020).

had a SIP assuring timely attainment and maintenance, the project would need to provide no more than one-for-one offsets and, in some cases, only enough offsets to avoid causing a new violation of the standard. EPA explained:

> In areas [with violations but an inadequate plan], new sources would otherwise continue to "contribute" to existing violations if they merely compensated on a one-for-one basis for their own ambient impact and failed to also provide air quality progress, inasmuch as such areas have yet to satisfactorily provide for attainment through available reductions from existing sources. Only by providing for some air quality improvement could new sources help to remedy the existing nonattainment problems in such areas rather than "contributing" to them.[7]

To demonstrate that a proposed new source would not cause or contribute to NAAQS or increment violations, a permit applicant must assess: (1) the current ambient air quality; and (2) the projected impact of the proposed source on that air quality. In order to accomplish the first task, the PSD regulations require an applicant to account for the background ambient concentration of pollutants that will be emitted in significant amounts by the project. How this is carried out will be discussed *infra* § 12:112.

Preapplication modeling is generally required to demonstrate that the new emissions from the proposed project will not "cause or contribute" to a violation of any applicable NAAQS or PSD increment. Ambient air quality modeling has become more complex with the ever-tightening NAAQS and PSD increments—in terms of allowable concentrations, the shorter-term averaging periods, and the complexity of the considerations for impacts to air quality.[8] For example, with respect to ozone and fine particulate formation and NAAQS impact, the analysis not only considers primary formation through direct contributions, but also secondary formation. With respect to these pollutants, there is specific guidance that instructs how the permit applicant needs to consider the precursors for secondary pollutant impacts.[9] Air quality modeling analyses needed for NSR permits will require input from experts in the field of air pollution emissions modeling, and many of the details concerning this modeling exercise are beyond the scope of this chapter. EPA provides extensive guidance on modeling demonstrations.[10]

The modeling analysis itself can be very involved. Complex considerations for ambient air quality modeling are found in various places. Appendix W of 40 C.F.R. part 51 includes numerous considerations, including model availability, provisions, requirements, alternatives, and much more. Permit applicants must be careful to use the most current version of an ambient air model and are strongly advised to obtain concurrence from the relevant permitting agency that will be responsible for issuing the permit on both the model to be used and the parameters that go into the model. Models are frequently updated, and updates can even occur during the permitting process. There are screening models, refined models, and complex models. There are many choices that need to be made to ensure the appropriate modeling assumptions are used for the particular situation. Proper modeling is a combination of science and art.

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[7] *See* Regulations for Implementing Revised Particulate Matter Standards, 52 Fed. Reg. 24672, 24684, 24684 n. 14 (July 1, 1987) (to be codified at 40 C.F.R. pts. 51, 52).

[8] *See* EPA, Reviewing National Ambient Air Quality Standards (NAAQS): Scientific and Technical Information, https://www.epa.gov/naaqs.

[9] *See* Memorandum from Richard A. Wayland, Dir., EPA Air Quality Assessment Div., to EPA Reg'l Air Div. Dirs., Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program (Apr. 30, 2019), https://www.epa.gov/sites/production/files/2020-09/documents/epa-454_r-19-003.pdf.

[10] *See* EPA, Modeling Guidance and Support, https://www.epa.gov/scram/modeling-guidance-and-support.

The modeling analysis typically proceeds in two phases. Initially, the permit applicant will conduct a "preliminary analysis" to consider whether emissions of the relevant pollutants from the proposed new regulated project will, by themselves, exceed certain specified SILs.[11] If the project emissions do not exceed these levels, the proposed project will have demonstrated the absence of an adverse impact on NAAQS and PSD increments. However, if the project emissions *do* exceed the relevant SILs within the impact area, then a more detailed or "full impact analysis" will typically be required. In this more detailed analysis, dispersion models are used to project the ambient concentrations that will result from project emissions in addition to certain emissions from existing sources located within a specified distance from the project.[12] These projected values are then used to determine whether the proposed project impacts violate a NAAQS or PSD increment. If modeling indicates a potential NAAQS or PSD increment exceedance, the project may still be deemed to not cause or contribute to the exceedance if its impact on the violating receptor at the time of the exceedance is less than the SIL.

A permit applicant must provide this detailed modeling analysis of the ambient air quality impact of the proposed source using the most up-to-date, approved air quality models and using certain worst-case assumptions.[13] An applicant should consult EPA's *Guideline on Air Quality Models* for this purpose or, where the *Guideline* is inappropriate, an EPA-approved modification or substitution developed in accordance with public participation requirements.[14] The *Guideline* is revised periodically. Forty C.F.R. §§ 51.166(h) and 52.21(h) provide that air quality modeling must also conform to EPA's stack height regulations, which require that only so much of a stack's height as is consistent with "good engineering practice" may be considered in assessing the air quality impact of an emissions source.[15] The purpose of these requirements is to discourage the use of dispersion techniques (i.e., so called "tall stacks") in place of emissions controls in meeting ambient air quality standards.

The reviewing authority may also require post-construction monitoring if it is necessary in determining the source's impact.[16] This monitoring is required in certain instances where it is believed that modeling may be limited or otherwise drawn into question for its predictive value and it is believed that "true-up" monitoring will be necessary to assess the "real" or actual adverse impacts that the project will have on ambient air quality.

In assessing detailed air quality impacts, a permit applicant must consider the full amount of "allowable" primary emissions increase from the proposed new source or modification, as well as other "applicable" emissions increases and decreases.[17] In determining the amount of "applicable" background emissions against which the allowable increase from the new or modified source should be assessed to determine

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[11] *See* EPA NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING C.24, C.28 tbl. C-4 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf (listing SILs recommended for use in Class II areas).

[12] *See* EPA NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING C.24 to .53 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

[13] 40 C.F.R. §§ 51.166(l), (n)(3), 52.21(l), (n)(2).

[14] 40 C.F.R. §§ 51.166(l), (n)(3), 52.21(l), (n)(2).

[15] *See* Clean Air Act § 123, 42 U.S.C. § 7423; Regulations to Ensure that the Degree of Emission Limitation Required for the Control of Any Air Pollutant under an Applicable SIP is Not Affected by that Portion of Any Stack Height Which Exceeds Good Engineering Practice, 50 Fed. Reg. 27892 (July 8, 1985) (to be codified at 40 C.F.R. pt. 51); 40 C.F.R. §§ 51.100(hh) to (kk), 51.118(b).

[16] 40 C.F.R. § 51.166(m)(2).

[17] 40 C.F.R. § 51.166(k).

whether it would cause or contribute to a NAAQS violation, EPA formerly called upon applicants to consider the actual level of emissions from existing sources. More recently, EPA has urged permit applicants to instead rely more heavily on the allowable level of emissions from existing sources, in the same manner as is done for demonstrating stationary source compliance with the NAAQS for SIP purposes.[18] However, as NAAQS levels and PSD increment consumption levels approach background concentrations and/or are otherwise consumed, applicants may increasingly need to measure the actual background concentration at or adjacent to its facility to be in a better position to demonstrate the actual impact of a project's emissions.

This full emission impact assessment is similar to the netting calculation conducted in threshold applicability determinations. At a minimum, 40 C.F.R. §§ 51.166(k) and 52.21(k) require a proposed major modification to consider accumulated emissions increases at the source. The failure to sufficiently account for "worst case impacts" in a NAAQS or PSD increment consideration can result in a final permit being rejected on challenge and sent back to the agency for further considerations.[19] An applicant must also account for minor source growth in the area, but typically accomplishes this by using a "background" concentration in the modeling exercise. However, the "secondary emissions" of the proposed source must also be included in the impact analysis.[20] "Secondary emissions" are those that occur as a result of the construction or operation of the source but are not emitted by the source itself. Secondary emissions include those from an offsite support facility that would not occur but for the construction or operation of the major source. Examples include a quarry owned by one company that would be located next to a cement plant that the PSD applicant proposes to build and that would supply the cement plant; the increased emissions from the quarry that would result from providing material to the cement plant are secondary emissions. Secondary emissions do not include any emissions "which come directly from a mobile source."[21]

Beyond the showings relating to NAAQS and increments, an applicant must provide an analysis of existing air quality for any regulated NSR pollutants, other than NAAQS pollutants, that the proposed project would emit in significant amounts.[22] This analysis is to include such monitoring as the permitting authority deems necessary.[23] An applicant may be able to escape this requirement if the project would cause concentrations lower than certain *de minimis* values (*e.g.,* 0.25 micrograms per cubic meter (24-hour average) for fluorides), if existing concentrations are below those values, or if EPA has yet to set *de minimis* values for the pollutant, as is true for certain regulated NSR pollutants for which no NAAQS exist.[24]

§ 12:111 Substantive PSD requirements—Source impact analysis—Ambient Air

Issues sometimes arise over the definition of "ambient air" in determining the

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[18]Memorandum from John Calcagni, Dir., EPA Air Quality Mgmt. Div., to Thomas J. Maslany, Dir., Air Mgmt. Div., EPA Reg. III, Use of Allowable Emissions for NAAQS Impact Analyses Under the Requirements for PSD (Mar. 16, 1989).

[19]*See* In re: N. Mich. Univ. Ripley Heating Plant, Permit No. 60-07, PSD Appeal No. 08-02 (Feb. 18, 2009) (Environmental Appeals Board remands permit to ensure source impacts modeling analyses are conducted on the basis of the maximum, "worst-case" emissions rates of those pollutants).

[20]40 C.F.R. § 51.166(k).

[21]40 C.F.R. § 51.166(b)(18).

[22]40 C.F.R. § 51.166(m)(1)(i), (ii).

[23]40 C.F.R. § 51.166(m)(1)(ii).

[24]40 C.F.R. § 51.166(i)(8).

prospective impact of a PSD source. As a general matter, for purposes of compliance with both increments and NAAQS, EPA historically excluded impacts on the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or other physical barriers.[1] This approach was based upon a narrow reading of the definition of "ambient air" in 40 C.F.R. § 50.1(e) ("that portion of the atmosphere, external to buildings, to which the general public has access") and the requirement in § 107 of the Act that states assure "air quality within the entire geographic area comprising such State." This reading left open to debate whether ambient air would be considered to occur on those portions of the private property on which the source is located that lie beyond the "fence line," because the public might have the physical ability to enter, even if such entry would constitute an illegal trespass.[2]

Another potential issue is how one stationary source's emissions may impact another stationary source's property. EPA considers that second source's property to be ambient air from the perspective of the first source's emissions. For example, if Source A is modeling its impact, it has to address its impacts on property owned and controlled by Sources B, C, D, etc., even if these sources preclude the general public from entering their property. This could be significant. Take, for example, a situation in which a surface mining operation (Source A) is located immediately adjacent to another surface mining operation (Source B). If fugitive particulate emissions at Source A are only a short distance away from the Source B permit property and at ground level, an exceedance of a PSD increment or NAAQS could occur and may even be likely. This can cause problems for Source A, even if the mine at Source B is closed and no one is located on Source B's property to be "exposed." As another example, if the owner of a source leases part of its property to another entity with its own employees, yet the owner source controls access to the property, the employees of the other entity could be considered the general public and the leased property could be considered ambient air.[3]

Even historically, there was some recognition by EPA and state agencies that control over access to property could come through means other than "physical barriers," but guidance on what might be sufficient for this limitation absent the presence of traditional physical barriers was very limited. In a Revised Policy Memo on Exclusions from "Ambient Air," dated December 2, 2019, EPA Administrator Andrew Wheeler issued guidance to the regional EPA administrators concerning what kinds of restrictions would remove areas from being considered "accessible to the general public," thus removing them from being considered "ambient air." This guidance confirms that sources "can in many instances employ measures, other than fencing or other physical barriers, or in combination with fencing or other physical barriers, to effectively preclude public access." Potential measures include options such as video surveillance, monitoring, clear signage, and routine security patrols. Furthermore, the Agency recognizes that there will be future technologies, such as drones and more advanced video surveillance capabilities, that could be used to preclude public access. These restrictions will likely be required to be included in permit conditions to be effective, and such terms may be evaluated on a case-by-

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[Section 12:111]

[1]*See* Letter from Douglas M. Costle, EPA Adm'r, to Jennings Randolph, Chairman, Comm. on Env't and Public Works, U.S. Senate (Dec. 19, 1980).

[2]*See* Memorandum from Walter C. Barber, Dir., EPA Off. of Air Quality Plan. & Standards to Gordon M. Rapier, Dir., Air & Hazardous Materials Div., EPA Region III, Applicability of PSD Increments Over Company Property (May 23, 1977).

[3]*See* Letter from Donald C. Toensing, Chief, EPA Air Permitting Compliance Branch, to W. Clark Smith, Neb. Dep't of Env't Quality (Aug. 1, 2000) (on file with authors).

case basis.[4]

In particular cases, EPA has indicated that ambient air impacts occur over water.[5] EPA, by deferring to the status quo at the state level in Alabama, appears to have accepted that PSD increments do not apply to rooftops.[6] It is also arguable whether "ambient air" should, or even could, be construed to apply in situations where the "general public" would only be present for seconds-to-minutes, such as over rights-of-way, highways, or rail lines, although EPA may contend that these areas are ambient air.

§ 12:112 Substantive PSD requirements—Source impact analysis—Preapplication monitoring and alternatives

The preapplication ambient air quality monitoring requirement is intended to determine a representative background concentration to which the new project will contribute in terms of total impacts on the relevant NAAQS or PSD increments. The requirement in general applies to each regulated NSR pollutant that: (1) a major new stationary source would emit in a significant amount; or (2) that a major modification of an existing major stationary source would emit that constitutes a significant emissions increase and a significant net emissions increase.[1]

Historically there have been two primary exceptions. The validity of the first is currently in question. Applicants could avoid this requirement as to a particular pollutant if the proposed project would cause concentrations lower than certain *de minimis* values (*e.g.,* 10 micrograms per cubic meter (24-hour average) for particulate matter) or existing concentrations are below those values. These values were referred to as significant monitoring concentrations (SMCs) and were considered screening tools to determine whether a source had to submit with the permit application one year's worth of preconstruction air quality monitoring data.[2] However, in *Sierra Club v. EPA*, the U.S. Court of Appeals for the District of Columbia found that "EPA did not have de minimis authority to promulgate the SMC because [it held] Congress was 'extraordinarily rigid' in mandating preconstruction air quality monitoring."[3] While this case involved SMCs for $PM_{2.5}$, this decision could potentially be used to present uncertainty on the validity for using other SMCs.

The second can help an applicant avoid the requirement from providing preconstruction ambient monitoring data as to volatile organic compounds, specifically. To qualify, the applicant must satisfy the requirements of the Offset Ruling (LAER, offsets, state-wide compliance) for that pollutant. EPA has issued

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[4] https://www.epa.gov/sites/default/files/2019-12/documents/revised_policy_on_exclusions_from_ambient_air.pdf.

[5] *See* Letter from David Kee, Dir., Air Div., EPA Reg. V, to Williams, Dir., Ind. EPA (Sept. 4, 1985) (citing earlier memorandum dated Apr. 4, 1985, from Reg. V meteorologist); Letter from O'Keefe, Vice President, Am. Petroleum Inst., to Elkins, Acting Assistant Adm'r, EPA Off. of Air & Radiation, (Dec. 18, 1975); Letter from Emison, Dir., EPA Off. of Air Quality Plan. & Standards, to O'Keefe (Jan. 22, 1986).

[6] *See* Memorandum from Joseph A. Cannon, EPA Assistant Adm'r for Air & Radiation, to Charles R. Jeter, Reg'l Adm'r, EPA Reg. IV, Applicability of PSD Increments to Building Rooftops (Jan. 11, 1984).

[Section 12:112]

[1] 40 C.F.R. § 51.166(m)(1)(i).

[2] *See* 40 C.F.R. § 51.166(i)(5); *but see* Sierra Club v. EPA, 705 F.3d 458, 466, 76 Env't Rep. Cas. (BNA) 1176 (D.C. Cir. 2013) (U.S. Court of Appeals for the District of Columbia finds that "we agree with the Sierra Club that the EPA did not have de minimis authority to promulgate the SMC because we hold Congress was 'extraordinarily rigid' in mandating preconstruction air quality monitoring.").

[3] Sierra Club v. EPA, 705 F.3d 458, 466, 76 Env't Rep. Cas. (BNA) 1176 (D.C. Cir. 2013).

guidelines to assist PSD applicants and reviewing authorities in carrying out this requirement.[4]

When required, the reviewing authority may allow preapplication monitoring for a period shorter than one year—but no shorter than four months—if it determines that a complete and adequate analysis can be accomplished with monitoring data gathered over that shorter period. In practice, only a modest fraction of applicants must perform monitoring themselves; permitting authorities frequently accept data from monitors located in the vicinity of the proposed project collected by state or local agencies as part of their normal monitoring programs. If there are no monitors located in the vicinity of the source, a "regional site"[5] may be used to determine background; in such cases, there may be challenges to the representativeness of the data, especially in mountainous terrain.

The usefulness of monitoring data in showing whether a proposed project will cause or contribute to a violation of NAAQS or increments is compromised by numerous factors. An example is the extent to which credit will be given for use of the effects of dispersion techniques (such as tall stacks) in setting emissions limitations. As another example, monitoring data may reflect concentrations that are lower than modeling would project because modeling corrects for the effects of dispersion techniques and the temporary absence of emissions from sources that have received permits but are not yet operating. Likewise, modeling makes certain assumptions that often prove conservative when compared to actual monitored impacts. In view of this, both EPA and the U.S. District Court of Appeal for the D.C. Circuit have regarded preapplication monitoring as important largely for the purpose of imposing "a certain discipline on the use of modeling techniques" so that they will "be held to earth by a continuing process of confirmation and reassessment."[6]

§ 12:113 Substantive PSD requirements—Source impact analysis—Additional impact analysis

The applicant must also provide an analysis of the impairment to visibility, soils, and vegetation that would be caused by both the proposed source itself and by secondary commercial, residential, and industrial growth associated with the new source.[1] This applies equally to criteria and noncriteria pollutants. There is very little guidance on how to address concentration information related to noncriteria pollutants because they have not been subjected to the analysis to which EPA has subjected the criteria pollutants in the process of setting welfare-protective second-

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[4]40 C.F.R. § 51.166(m)(1)(iii). *See* EPA OFF. OF AIR QUALITY PLAN. & STANDARDS, AMBIENT MONITORING GUIDELINES FOR PREVENTION OF SIGNIFICANT DETERIORATION (PSD), EPA-450/4-80-012 (Nov. 1980) (as revised Feb. 1981, in minor ways); *see also* EPA OFF. OF AIR QUALITY PLAN. & STANDARDS, AMBIENT MONITORING GUIDELINES FOR PREVENTION OF SIGNIFICANT DETERIORATION (PSD) (Draft, Aug. 1984) (incorporating material relating to small particles (PM_{10}) in response to 1984 proposal to revise the PM NAAQS); EPA, OFF. OF AIR QUALITY PLAN. & STANDARDS, EPA-450/4-87-007, AMBIENT MONITORING GUIDELINES FOR PREVENTION OF SIGNIFICANT DETERIORATION (PSD), https://www.epa.gov/nsr/ambient-monitoring-guidelines-prevention-significant-deterioration.

[5]A "regional site" is one that is located away from the area of interest but is impacted by similar natural and distant man-made sources." 40 C.F.R. pt. 51, app. W.

[6]Ala. Power Co. v. Costle, 636 F.2d 323, 372, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001, 20018–19 (D.C. Cir. 1979). *See also* Amendments to Regulations Relating to Prevention of Significant Air Quality Deterioration (PSD) in Order to Implement the New PSD Requirements of the Clean Air Act Amendments of 1977, 43 Fed. Reg. 26380, 26399 (cols. 1–2) (June 19, 1978); Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52703 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124).

[Section 12:113]

[1]40 C.F.R. § 51.166(o).

ary NAAQS.[2] In practice, this analysis often includes impacts on animal life as well. The applicant need not analyze impacts on vegetation having no significant commercial or recreational value.[3] In addition, a reviewing court held that EPA need not consider such factors as community opposition, a "no construction" alternative, alternate sites, and impacts on the local economy.[4]

§ 12:114 Substantive PSD requirements—Source impact analysis—Protection of air quality related values in federal class I areas

Additional impact analysis requirements are applicable to PSD sources that would potentially affect a federal Class I area (specified parks and wilderness areas[1]). Clean Air Act § 165(d)(2)(B) charges Federal Land Managers (FLMs) (the officials responsible for such public land) with an "affirmative responsibility to protect the air quality related values (including visibility)" (AQRVs) of such areas. Clean Air Act § 165(d) and 40 C.F.R. § 51.166(p) establish elaborate procedures to carry out this responsibility.

If the FLM (in consultation with EPA) demonstrates that the emissions from the proposed source would have an adverse impact on AQRVs—even though the source would comply with Class I PSD increments—and the state, tribe, or local program with permitting authority concurs, a permit cannot be issued.[2] Conversely, the state/local program/tribe may provide an increment variance where the permit applicant demonstrates to the FLM that AQRVs will not be adversely affected even though the proposed source would violate Class I increments.[3] If the variance is granted, the source may be permitted if it can comply with alternate statutory increment levels. A similar Class I variance from short-term sulfur dioxide increments may be granted by a state governor upon an appropriate demonstration by the applicant that AQRVs will not be adversely affected and the source can comply with alternative statutory short-term increments.[4] If the FLM does not concur with the governor, an SO_2 variance can be granted only if the President approves it "in the national interest."[5]

If a project could have an adverse impact on a federal Class I area, careful attention needs to be paid to addressing any AQRVs. An applicant should discuss the concerns for Class I areas with the permitting agency at the outset of the planned project. If there is any reason for concern, early discussions with FLMs for the areas

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[2]One such document is to a 1980 Screening Procedures Report, Providing Additional Criteria. A.E. Smith, J.B. Levenson, A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals, EPA 450/2-81-078, (December 12, 1980).

[3]40 C.F.R. § 51.166(o)(1).

[4]Hancock Cnty. v. EPA, 742 F.2d 1455, 22 Env't Rep. Cas. (BNA) 1714, 1719–20 (6th Cir. 1984). See also an EAB decision remanding a permit for inadequate analysis of adverse impacts to vegetation: In re Indeck-Elwood, LLC, PSD Appeal No. 03-04 148 (Sept. 27, 2006), https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/PSD%20Permit%20Appeals%20(CAA)/5B6EB58DEDF35ABC852571F6006865E3/$File/Indeck.pdf.

[Section 12:114]

[1]These parks include: national wilderness areas exceeding 5,000 acres; national memorial parks exceeding 5,000 acres; and national parks exceeding 6,000 acres that existed as of the date of the 1977 CAA Amendments. The boundaries of some of these areas have changed from what they were in 1977, and the CAA Amendments of 1990 requires use of the boundaries in existence as of the date of permit issuance. Sources should check with permitting authorities to verify what areas surrounding any project could be considered Class I areas.

[2]40 C.F.R. § 51.166(p)(3).

[3]40 C.F.R. § 51.166(p)(4).

[4]40 C.F.R. § 51.166(p)(5), (7).

[5]40 C.F.R. § 51.166(p)(6) to (7).

in question would be prudent to avoid latter potential conflicts and delays. The FLMs have issued guidance regarding their preferred approaches to evaluating impacts on AQRVs in federal Class I areas.[6]

The federal PSD rule does not expressly require an analysis of impacts to AQRVs in non-federal Class I areas. However, CAA § 164(e), which addresses redesignations, provides that non-federal Class I areas can also have AQRVs. If requested by an involved state or Indian Tribe, EPA is required to make a recommendation to attempt to resolve disputes while protecting air quality related values of the lands at issue. In 1997, EPA began a rulemaking process intended "to clarify and improve the PSD permit review procedures applicable to proposed sources that may adversely affect non-federal Class I areas" but took no final action.[7]

§ 12:115 Substantive PSD requirements—Source impact analysis—Compliance with increments

Section 163(b) of the Act established statutory increments for sulfur dioxide and particulate matter (i.e., TSP). Different increments were established for Class I, Class II, and Class III areas, with the least growth of pollutant-emitting sources allowed in Class I areas and the most in Class III areas. Currently, the United States has no areas designated as Class III. Thus, all areas not designated as Class I are considered Class II; Class II areas make up the majority of the United States.

As noted *supra* § 12:111, the PSD source impact analysis is conducted in reference to ambient pollution limits established both by PSD increments and by the NAAQS. With respect to the NAAQS, the new or modified source's impact is assessed against the constant NAAQS limits set forth in 40 C.F.R. part 50. Demonstrating compliance with increments, however, is a more complex task that requires several interrelated determinations.

In a nutshell, the increment provision operates as follows: The country is divided up into "baseline areas," which are the areas listed in 40 C.F.R. §§ 81.301 to 356. This is primarily a listing of whether an area is designated as attainment/unclassifiable or nonattainment, but is also used by the PSD program to define baseline areas, which range from very small parcels to the entire state.[1] The most common baseline area is a county.[2]

There are three key dates in the increment program: the major source baseline date, the trigger date, and the minor source baseline date. The major source baseline dates were established by Congress for SO_2 and PM and incorporated into the PSD regulations; for NO_2, PM10, and PM2.5, the major source baseline date was established in the PSD regulations. After the major source baseline date, construction of new major sources and modifications (minor and major) at major sources affect increment (emissions increases consume increment and emissions decreases "expand" the available increment). The "trigger date" for each of these pollutants has also been established in the CAA and/or PSD regulations.

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[6]U.S. DEPT. OF THE INTERIOR, FEDERAL LAND MANAGERS' AIR QUALITY RELATED VALUES WORK GROUP (FLAG) PHASE I REPORT—REVISED 2010, NATURAL RESOURCE REPORT NPS/NPRC/NRR-2010/232.

[7]Prevention of Significant Deterioration of Air Quality (PSD) Program: Permit Review Procedures for Sources That May Adversely Affect Air Quality in Non-Federal Class I Areas, 62 Fed. Reg. 27158 (May 16, 1997) (to be codified at 40 C.F.R. pts. 51, 52).

[Section 12:115]

[1]*See* 40 C.F.R. §§ 81.301 to 356.

[2]40 C.F.R. §§ 81.301 to 356.

Pollutant	Baseline Dates[3]	Trigger Dates
SO_2 and PM/PM_{10}	January 6, 1975	August 7, 1977
NO_2	February 8, 1988	February 8, 1988
$PM_{2.5}$	October 20, 2010	October 20, 2011

The first complete application for a PSD permit (for construction of a major new source or major modification to a major source) in a PSD baseline area after the trigger date triggers a "minor source baseline date" and a "baseline concentration" for the given pollutant in that "baseline area" and in any other baseline area where the proposed source or modification will have an ambient air impact greater than a specified threshold of 0.3 $\mu g/m^3$ for $PM_{2.5}$ or, for the other pollutants, at least a 1 $\mu g/m^3$ increase in the average annual concentration. In addition, it does not matter whether the PSD permit application triggering the minor source baseline date ever results in a permit being issued: the triggering action is the submittal of a complete PSD application. This means that each baseline area in a state could have a different minor source baseline date (or none at all). Applicants would have to obtain information from the appropriate permitting agency on whether the minor source baseline date has been established in the baseline areas affected by the proposed project's emissions.

Under the federal rules, the first PSD permit applicant required to conduct an increment consumption analysis is the one that establishes the minor source baseline date. Even though construction of and at major sources (these projects were already underway prior to the trigger date) affects increment between the major and minor source baseline dates, those sources are not required to perform an increment consumption analysis. It should be noted that emissions from such sources could, in theory, exceed the entire increment, leaving no increment available for even the first PSD applicant after the trigger date (which applicant is the first one having to conduct an increment consumption analysis). However, even if the applicant for a proposed project determines through dispersion modeling that concentrations at a receptor would exceed the allowable increment, the applicant may still obtain a permit if either: (1) it does not cause or contribute to the violation at the time of the violation (i.e., its impact on the receptor is not significant at the time of the violation); or (2) it arranges for enforceable emissions reductions at some other contributing source sufficient to prevent the violation.[4] If approach (1) is used, then the state issues the PSD permit to the proposed project but is also required to remedy the increment violation.[5]

The baseline concentration, established on the minor source baseline date, is not really a concentration: it is actually an inventory of actual emissions for each averaging time (annual and short-term) from all air pollution emissions sources (major and minor stationary sources, area sources, and mobile sources) in the baseline areas for the pollutants for which the minor source baseline date was triggered. After the minor source baseline date, emissions changes from all sources (major, minor, area, mobile) in the triggered baseline areas affect increment.[6] However, 40 C.F.R. § 51.166(f) allows states to exempt some emissions increases from increment consumption. Examples include temporary increases and increases due to certain

[3] 40 C.F.R. pts. 51, 52; § 51.166(b)(14)(i).

[4] 40 C.F.R. § 52.21(p).

[5] *See* 40 C.F.R. § 51.166(a)(3).

[6] EPA NEW SOURCE REVIEW WORKSHOP MANUAL—PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING C.10 (Draft, Oct. 1990), https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

fuel switches.[7] The calculations are complex, although generally the change in emissions is determined by comparing current emissions to baseline emissions.[8] Assume, for example, that Source A had annual "baseline concentration" emissions of 200 tons per year in 1980; it is now 2020 and Source A has shut down. Increment affecting emissions from Source A are -200 tons per year, which expands increment. Increment consumption is determined by modeling increment-affecting emissions only; emissions decreases are modeled as negative emissions.[9] The most difficult part of these calculations is determining the increment-consuming emissions inventory and then modeling those emissions (while ignoring all the non-increment-affecting emissions) to determine whether any receptors would have concentrations higher than the allowable incremental increase in concentration.

Each permittee either consumes or expands the available increment.[10] Where EPA is the permitting authority, it has always allocated available increment on a first-come, first-served basis, using the date of submission of a "complete" application as the benchmark. Subsequent applicants for PSD permits draw upon the amount of increment, if any, remaining following the issuance of earlier permits, if any.

In assessing the impact of fugitive emissions from strip mines, permitting authorities may use "alternative empirical based modeling approaches" instead of the applicable EPA guideline model until such time as EPA revises that model and the accompanying emission factors to eliminate any significant overprediction.[11]

§ 12:116 General visibility NSR program

As discussed elsewhere in the treatise, the Clean Air Act as amended "declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution."[1] Accordingly, the federal NSR rules include requirements intended to prevent future impairment of visibility in Class I areas.[2]

The framework of the visibility NSR program is similar to and integrated with that of the federal major PSD/NNSR program discussed earlier in subsections 12:113 and 12:114. For new major stationary sources and major modifications subject to preconstruction PSD permitting requirements and located in areas *without* an approved state/local/tribal PSD permitting program in the SIP, the applicable

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[7] 40 C.F.R. § 51.166(f)(1)(i), (f)(1)(ii), (f)(1)(v), (f)(4).

[8] EPA NEW SOURCE REVIEW WORKSHOP MANUAL, at C.48–C.50.

[9] EPA NEW SOURCE REVIEW WORKSHOP MANUAL, at C.30.

[10] *See* Hancock Cnty. v. EPA, 742 F.2d 1455, 22 Env't Rep. Cas. (BNA) 1714, 1715 (6th Cir. 1984); Final Guidance to Assist States in Preparing SIPs to Meet New Requirements for the Prevention of Significant Air Quality Deterioration and Final Guidance, 43 Fed. Reg. 26380, 26401 (June 19, 1978) (to be codified at 40 C.F.R. pt. 51). Clearly, states are free to adopt different policies for increment allocation. Ala. Power Co. v. Costle, 636 F.2d 323, 361, 364, 13 Env't Rep. Cas. (BNA) 1993, 10 Envtl. L. Rep. 20001, 20012–14 (D.C. Cir. 1979). 43 Fed. Reg. at 26401.

[11] *See* § 234 of Pub. L. No. 101-549, 104 Stat. 2399 (1990).

[Section 12:116]

[1] *See* Clean Air Act § 169A(a)(1), 42 U.S.C. § 7491(a)(1); for further discussion, see Visibility Protection for Federal Class I Areas, 45 Fed. Reg. 34762 (proposed May 22, 1980) (to be codified at 40 C.F.R. pt. 51); Visibility Protection for Federal Class I Areas, 45 Fed. Reg. 80084 (Dec. 2, 1980) (to be codified at 40 C.F.R. pt. 51); State Implementation Plans for Visibility New Source Review and Monitoring Strategy, 50 Fed. Reg. 28544 (July 12, 1985) (to be codified at 40 C.F.R. pt. 52).

[2] *See generally* 40 C.F.R. §§ 52.27, 52.28 ("The provisions of this section are applicable to any State implementation plan which has been disapproved with respect to protection of visibility, in mandatory Class I Federal areas . . . ."); *see also* 40 C.F.R. § 51.307(a) and *supra* § 12:114 for a discussion of preconstruction PSD permitting program requirements relating to protection of air quality related values, including visibility, in Class I areas.

PSD program is the federal rule codified at 40 C.F.R. § 52.21 and the visibility protection requirements are wholly encompassed within that rule.[3] This includes requirements for EPA or the delegated agency to: (1) notify the FLM following receipt of a PSD permit application for a proposed major stationary source or major modification "the emissions from which may affect a Class I area"; (2) consider in the major NSR permitting process any visibility impairment analysis performed by the FLM; and (3) deny the permit application upon a determination that the proposed source or modification would have an adverse impact on visibility in a federal Class I area.[4]

In other areas, the SIP/TIP will control, and the federal rules establishing the minimum elements include similar requirements to be implemented by the major NSR permitting authority.[5] These rules complement the federal blueprint rules for major NSR permitting programs.[6] Where the SIP does not include state rules satisfying these requirements relating to protection of visibility in federal Class I areas, EPA imposes its rules through a FIP.[7]

Critically, none of the federal visibility NSR provisions includes objective criteria; each leaves it to the discretion and judgment of the permitting authority to make determinations as to whether a proposed major stationary source or major modification may affect a Class I area, thereby triggering the requirement to notify the FLM, and as to whether the proposed source or modification would have an adverse impact on visibility in a federal Class I area. The FLMs have issued technical guidance that describes their preference for how the permitting authority's analyses should be conducted and on adverse impact thresholds.[8] The federal rule governing use of air quality models recommends consultation of this guidance but does not require conformance.[9] The EPA has consistently upheld decisions by major NSR permitting authorities to issue permits notwithstanding adverse impact findings by FLMs, where those decisions are rational and supported by the administrative record.[10]

§ 12:117 Substantive PSD requirements—Source impact analysis—Environmental justice considerations

No provisions in the PSD regulations (nor NNSR regulations) specifically require a permit applicant to conduct an assessment of how impacts from a new source or project will impact particular communities. However, EPA and a number of state

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[3] *See* 40 C.F.R. § 52.21(p).

[4] 40 C.F.R. § 52.21(p).

[5] *See* 40 C.F.R. § 51.307(a) (relating to PSD permit applications) and (b)–(c) (relating to NNSR permit applications).

[6] *Compare* 40 C.F.R. § 52.21(p) *with* § 51.166(p).

[7] *See* 40 C.F.R. §§ 52.27, 52.28; *see also* State Implementation Plans for Visibility New Source Review and Monitoring Strategy, 50 Fed. Reg. 28544 (July 12, 1985) (to be codified at 40 C.F.R. pt. 52).

[8] *See, e.g.,* U.S. DEPT. OF THE INTERIOR, FEDERAL LAND MANAGERS' AIR QUALITY RELATED VALUES WORK GROUP (FLAG) PHASE I REPORT—REVISED 2010, NATURAL RESOURCE REPORT NPS/NPRC/NRR-2010/232, at 4 (2010), https://www.fws.gov/guidance/sites/default/files/documents/FLAG%20Air%20Quality%20Phase%201%20report.pdf ("The FLAG report . . . provide[s] a more consistent approach for the three FLM agencies to provide guidance to permitting authorities and permit applicants regarding necessary AQRV analyses.").

[9] *See* 40 C.F.R. pt. 51, app. W § 6.2.

[10] *See*, *e.g.,* In re Prairie State Generating Co., PSD Appeal No. 05-05, at 161 (EPA EAB Aug. 24, 2006) (upholding Illinois Environmental Protection Agency decision to issue the permit notwithstanding an adverse impact finding by the Federal Land Manager) and In the Matter of Old Dominion Elec. Coop., PSD Appeal No. 91-39 (EPA Adm'r Jan. 29, 1992) (upholding Virginia Department of Air Pollution Control decision to issue the permit notwithstanding an adverse impact finding by the Federal Land Manager).

agencies have expressly addressed the concern that all people, regardless of race, color, national origin, or income receive fair treatment under the law and, in the context of environmental permitting, "no group of people should bear a disproportionate share of negative environmental consequences resulting from industrial, governmental and commercial operations or policies."[1] Executive Order 12898, dated February 11, 1994, directs federal agencies to develop environmental justice strategies to assist federal agencies in addressing situations where an agency program includes some action resulting in a disproportionately high and adverse human health or environmental impact.[2] The Presidential Memorandum accompanying that Executive Order addresses certain existing legal mechanisms that may be considered in addressing the concerns in the memorandum. These mechanisms include Title VI of the Civil Rights Act of 1964.[3]

From time-to-time, EPA has identified certain best tools and practices related to considering environmental justice, as addressed by Executive Order 12898 issued in 1994.[4] For instance, in 2000, EPA issued a Memorandum entitled EPA Statutory and Regulatory Authorities Under Which Environmental Justice Issues May Be Addressed in Permitting. In this Memorandum, EPA explains that "[u]nder the Clean Air Act, section 173(a)(5) provides that a nonattainment NSR permit may be issued only if: 'an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.' For example, this provision authorizes consideration of siting issues." To see how this operates in practice, consider that CAA § 165(a)(2) provides that a PSD permit may be issued only after an opportunity for a public hearing at which the public can appear and provide comment on the proposed source, including 'alternatives thereto' and 'other appropriate considerations.' Section 173(a)(5), read through an environmental justice lens, could allow EPA to take action to incorporate such environmental justice (E.J.) considerations in PSD/NNSR permitting."[5] Multiple EPA Regions have indeed indicated that they will consider EJ in PSD permitting.[6]

The EPA's Environmental Appeals Board (EAB) has indicated that that environmental justice concerns could be considered in PSD permitting, although the conclusions with respect to this point have not been entirely consistent.[7] In many instances, the complaints raised regarding air emissions from a new facility or project

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[Section 12:117]

[1]*See* EPA, LEARN ABOUT ENVIRONMENTAL JUSTICE, https://www.epa.gov/environmentaljustice/learn-about-environmental-justice.

[2]Exec. Order No. 12898 (Feb. 11, 1994), https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf.

[3]Memorandum from President Clinton to the Heads of All Departments and Agencies, *Executive Order on Federal Actions to Address Environmental Justice in Populations and Low-Income Populations* (Feb. 11, 1994), https://www.epa.gov/sites/default/files/2015-02/documents/clinton_memo_12898.pdf.

[4]EPA, REGION 2 ENVIRONMENTAL JUSTICE BEST PRACTICES IN CAA PERMITTING, r2_environmental_justice_best_practices_in_caa_permitting__0.pdf.

[5]Memorandum from Gary S. Guzy, EPA Gen. Couns., to Steven A. Herman, Assistant Adm'r, Off. of Enf't and Compliance Assistance, EPA Statutory and Regulatory Authorities Under Which Environmental Justice Issues May Be Addressed in Permitting 11 (Dec. 1, 2000) https://www.epa.gov/sites/default/files/2015-02/documents/ej_permitting_authorities_memo_120100.pdf.

[6]EPA, ENVIRONMENTAL JUSTICE FOR CAA PERMITS IN REGION 8, https://www.epa.gov/caa-permitting/environmental-justice-caa-permits-region-8; EPA, ENVIRONMENTAL JUSTICE FOR CAA PERMITS IN REGION 8, https://19january2017snapshot.epa.gov/caa-permitting/environmental-justice-caa-permits-region-5_.html.

[7]EPA, ENVIRONMENTAL JUSTICE FOR CAA PERMITS IN REGION 8, https://www.epa.gov/caa-permitting/environmental-justice-caa-permits-region-8 at page 12; In re Prairie State Generating Co., 13 E.A.D. 1,

concern address hazardous air pollutants. Under CAA § 112(b)(6), PSD review does not address these HAP pollutants, other than as a generic consideration of the category of VOCs in the formation of ozone.[8]

More states are moving forward with similar considerations.[9] Thus, any PSD applicant should carefully consider potential EJ impacts. The applicant should consider the EJ Screen data provided by EPA's website,[10] and also review the policies and requirements of the state or tribal agency concerning EJ impacts considerations.

§ 12:118 Current federal requirements—Nonattainment and PSD permitting—Procedural requirements: Permit processing, issuance, and appeals

When EPA is the issuing agency,[1] it has one year after receipt of a complete PSD application within which to issue a preliminary determination that the permit should be approved, approved with conditions, or denied.[2] The purpose of the one-year provision is to prevent PSD requirements from causing even a temporary delay in planned industrial development.[3] The provision protects only PSD applicants, and does not consider third parties seeking to force EPA to release reserved increment to them.[4] In practice, permits are often not issued within the required one-year period. However, failure by EPA to observe the one-year limitation does not deprive the agency of its authority to issue a permit at a later date.[5] Procedures for processing permit applications under 40 C.F.R. § 52.21 are set forth in 40 C.F.R. part 124.[6]

Regardless of the issuing agency, the public and affected parties must be notified of the preliminary determination, and be given an opportunity for a public hearing and submission of written comments. The reviewing authority makes a final determination upon consideration of all comments.[7] Under 40 C.F.R. § 51.166(q), the states have a great degree of latitude in fashioning the details of their procedures for public participation. EPA's Consolidated Permit Regulations, 40 C.F.R. part 124, which are somewhat more detailed and restrictive than § 51.166(q), generally do not apply to EPA's review of state/local/tribal regulations, nor to the permitting process

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123, 2006 WL 2847225 (EPA 2006); In re Knauf Fiber Glass, 8 E.A.D. 121, 174-75, 1999 WL 64235 (EPA 1999) (Knauf I).

[8]Clean Air Act § 112(b)(6), 42 U.S.C. § 7412(b)(6).

[9]*See, e.g.,* N.Y. STATE DEP'T OF ENV'T. CONSERVATION, ENVIRONMENTAL JUSTICE, https://www.dec.ny.gov/public/333.html (last visited Aug. 17, 2021); VA. DEP'T OF ENV'T QUALITY, https://www.deq.virginia.gov/permits-regulations/laws-regulations/search?q=environmental%20justice; N.N. STATE DEP'T OF ENV'T PROT., https://nj.gov/dep/ej/.

[10]EPA, EJSCREEN: Environmental Justice Screening and Mapping Tool, https://www.epa.gov/ejscreen.

[Section 12:118]

[1]As explained previously, there are delegated and authorized NSR programs that can be implemented by the EPA or state and/or tribal authorities. When beginning the permitting process, it is important to determine the program and, more importantly, the agencies that will be involved in issuing and reviewing permits.

[2]Clean Air Act § 165(c), 42 U.S.C. § 7475(c); 40 C.F.R. § 51.166(q)(2)(i).

[3]H.R. Rep. No. 95-294, 95th Cong., 1st Sess. 171 to 72 (1977).

[4]Hancock Cnty. Ky. v. EPA, 742 F.2d 1455, 22 Env't Rep. Cas. (BNA) 1714, 1719 (6th Cir. 1984).

[5]*See Hancock Cnty.,* 22 Env't Rep. Cas. at 1719.

[6]*See* 40 C.F.R. § 52.21(q).

[7]40 C.F.R. § 51.166(q)(2).

under an approved program.[8] The consolidated regulations apply only to the PSD permitting program laid out under 40 C.F.R. § 52.21, which applies when either EPA or a state, tribe, or local authority with a delegated program is the reviewing authority.[9]

Issuance of a PSD permit does not relieve the obligation of the new source owner or operator to comply with applicable SIP provisions or other requirements of federal, state, or local law.[10] This "source obligation" requirement applies upon issuance of a nonattainment NSR permit as well.[11] Thus, for example, recipients of PSD and NNSR permits must still pass muster under the Endangered Species Act.

Once a permit has been issued under 40 C.F.R. § 52.21,[12] construction must "commence" within 18 months or the approval becomes invalid.[13] Section 51.166 places no equivalent time limits requirements for permits issued under an approved SIP, although many states include the same 18-month provision in their rules. Approval of the permit is also invalidated if construction is suspended for more than 18 months, or is not completed within a reasonable time. EPA may extend a 40 C.F.R. § 52.21 permit upon a good cause showing. EPA guidance issued in 2014 indicates that the first request for an extension of the initial 18-month period within which to commence construction should be granted in due course.[14] However, for any additional requests for extensions, the Agency may require additional air quality analyses or a reopening of the BACT determination where a permit is extended.[15] For projects being implemented in stages under a traditional NSR permit approval, construction on each stage must commence within 18 months of the initial construction date unless an extension is granted by the permit authority. This situation is distinguishable from a "phased construction permit" that may allow more than 18 months of inactivity between phases, but the start date of each phase must be specified in the permit and construction must commence by that specified date.[16] For example, a phased NSR permit could allow a source to construct three boilers, with three years between each construction date, while allowing the source to reserve increment consumption for the entire project under one NSR permit.

An owner or operator is deemed to have "commenced" construction if it accomplishes two tasks. First, it must either actually begin a continuous program of on-site construction, or enter into binding contracts for such a program that cannot

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[8] *See* 40 C.F.R. § 124.1(e).

[9] *See* 40 C.F.R. § 52.21(q).

[10] 40 C.F.R. § 51.166(r)(1).

[11] 40 C.F.R. § 51.165(a)(5)(i).

[12] PSD permits are not "effective" until after issuance and the expiration of any period in which they might be challenged. Construction by definition cannot "commence," and actual construction may not "begin," until the expiration of this period. Under state or local law, the time period before the permit becomes "effective" and construction can "commence" may differ. When the permit becomes "effective" should be carefully evaluated in each case.

[13] 40 C.F.R. § 51.21(r)(2).

[14] Memorandum from Stephen D. Page, Dir., EPA Off. of Air Quality Plan. & Standards, to EPA Reg'l Air Div Dirs. (Jan. 31, 2014), https://www.epa.gov/sites/production/files/2015-07/documents/extend14.pdf.

[15] *See* Memorandum from Stephen D. Page, Dir., EPA Off. of Air Quality Plan. & Standards, to EPA Reg'l Air Div Dirs. (Jan. 31, 2014), https://www.epa.gov/sites/production/files/2015-07/documents/extend14.pdf; Memorandum from Darryl D. Tyler, Dir., EPA Control Programs Dev. Div., to EPA Reg'l Air Div. Dirs., Revised Draft Policy on Permit Modifications and Extensions (July 5, 1985), https://www.epa.gov/sites/default/files/2015-07/documents/permmod.pdf.

[16] 40 C.F.R. § 52.21(r)(2).

be cancelled without a substantial loss to the owner or operator.[17] Second, the owner or operator must have obtained all necessary preconstruction approvals or permits required under air pollution laws by any governmental entity.[18] While the statute is far from clear, it appears to treat the *beginning* of a continuous program of on-site construction as the activity for which the owner or operator must have obtained "all permits."[19]

It seems clear that Congress meant to consider projects to have commenced construction where an owner has made a major, legally responsible commitment to a particular site.[20]

Permits issued under 40 C.F.R. § 52.21, including those issued directly by EPA regional administrators and those issued through *delegation* by states (not pursuant to an approved SIP), are considered to be federal permits and may be appealed to the Environmental Appeals Board within 30 days under the procedures established in 40 C.F.R. § 124.19. Exhaustion of this administrative appeals procedure is a prerequisite to federal judicial review, which ultimately includes the court of appeals.[21]

Although the matter is not addressed in 40 C.F.R. § 52.21, it is clear that the provisions for appeals under 40 C.F.R. § 124.19 and for review in the court of appeals extend to § 52.21 permits issued by states (or local permitting authorities or tribes) pursuant to authority delegated by EPA under § 52.21(u).[22]

The state/local/tribal program essentially functions as EPA's agent when acting under delegated authority pursuant to 40 C.F.R. § 52.21(u), and this should not alter the post-issuance treatment of § 52.21 permits. In addition, requiring delegated § 52.21 permits to be appealed to the Administrator rather than through disparate state/local/tribal appellate procedures serves the primary purpose of the federal appeals mechanism "to ensure consistency in a national program and to provide central policy guidance."[23] In other instances, EPA makes only a "partial delegation" under 40 C.F.R. § 52.21(u), granting a state/local/tribal agency authority to conduct the technical and administrative portions of PSD review, but retaining authority to issue the actual permits. It is clear that these permits also are subject to the § 124.19 appeals procedures and review in the federal court of appeals.[24]

Permits issued by a state/tribe/local program under state/tribal/local program rules that have been approved in a SIP/TIP by EPA under 40 C.F.R. § 51.166 are subject to whatever administrative appeal process a state/tribe may have established under its SIP or otherwise. The administrative appeal provisions in 40 C.F.R.

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[17]Clean Air Act § 169(2)(A)(i) to (ii), 42 U.S.C. § 7479(2)(A)(i) to (ii); 40 C.F.R. § 51.166(b)(9)(i) to (ii). A reviewing court has upheld an EPA determination that expenditures of $22.3 million, representing 2.3% of the $790 million total cost of new electrical generating facilities, do not represent a "substantial loss" under these provisions. Mont. Power Co. v. EPA, 608 F.2d 334, 349, 13 Env't Rep. Cas. (BNA) 1385, 9 Envtl. L. Rep. 20667, 20673-74 (9th Cir. 1979).

[18]Clean Air Act § 169(2)(A), 42 U.S.C. § 7479(2)(A); 40 C.F.R. § 51.166(b)(9).

[19]*See* Clean Air Act § 169(2)(B), 42 U.S.C. § 7479(2)(B).

[20]Clean Air Act § 169(2)(A)(i) to (ii), 42 U.S.C. § 7479(2)(A)(i) to (ii); 40 C.F.R. § 51.166(b)(9)(i) to (ii). A reviewing court has upheld an EPA determination that expenditures of $22.3 million, representing 2.3% of the $790 million total cost of new electrical generating facilities, do not represent a "substantial loss" under these provisions. Mont. Power Co. v. EPA, 608 F.2d 334, 349, 13 Env't Rep. Cas. (BNA) 1385, 9 Envtl. L. Rep. 20667, 20673–74 (9th Cir. 1979).

[21]40 C.F.R. § 124.19(e), (f).

[22]*See* Hancock Cnty. v. EPA, 22 Env't Rep. Cas. (BNA) 1714 (6th Cir. 1984); Toyota Mfg. U.S.A., PSD Appeal No. 86–4, Order of EPA Adm'r (Oct. 2, 1986).

[23]Consolidated Permit Regulations; RCRA Hazardous Waste; SDWA Underground Injection Control; CWA National Pollutant Discharge Elimination System; CWA Section 404 Dredge or Fill Programs; and CAA Prevention of Significant Deterioration, 45 Fed. Reg. 33290, 33412 (May 19, 1980) (to be codified at 40 C.F.R. pts. 122, 123, 124, 125).

[24]*See* Valero Gathering Co., PSD Appeal No. 83-1, Order of EPA Adm'r (Dec. 31, 1983).

§ 124.19 do not apply to permits issued under an "approved" § 51.166 state/local/tribal program. Nor must such a program conform to these provisions in order to qualify for EPA approval.[25]

Judicial review of individual 40 C.F.R. § 51.166 *permits* would lie in the state courts, as such permit decisions involve no final action by EPA reviewable in the courts of appeals under § 307(b)(1) of the Act. In contrast, EPA approval of a state's or a tribe's PSD *program* as meeting the requirements of § 51.166 is final agency action reviewable in the appropriate court of appeals under § 307(b)(1) of the Clean Air Act. Also, EPA could challenge in federal district court a state/local/tribe permit issued under an approved PSD program that did not comport with the Act's requirements.[26]

Petitions for administrative review of PSD permits under 40 C.F.R. § 124.19—issued by EPA and states under delegated programs—are analogous to petitions for certiorari in the Supreme Court in that granting review merely allows the petitioner to submit briefs on the merits, and may not provide additional evidence to supplement the record as it existed when the permit was issued.[27] The petitioners must demonstrate that the permit determination is clearly erroneous in fact or law, or involves an exercise of discretion or an important policy consideration that the EAB determines should be reviewed. Judicial review of the EAB decision occurs under the "arbitrary and capricious" standard of review but employs the highly deferential "rational basis" test.[28] Permits appealed to the EAB under 40 C.F.R. § 124.19 are not effective until this review is exhausted.[29]

§ 12:119 Permit rescission or revision

The federal PSD regulation for EPA and delegated states, 40 C.F.R. § 52.21, expressly allows rescission of permits where the owner or operator shows that the PSD rule "would not apply to the source or modification."[1] The federal rules governing SIP/TIP-approved NSR programs do not contain any similar provision.

The federal NSR regulations do not contain any express provisions relating to revisions of NSR permits. EPA has issued interpretive guidance addressing requests made by source owners regarding revisions to emission limits established as BACT, extensions of permitted deadlines for commencement of construction, and other types of permit revisions.

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[25]*See* 40 C.F.R. §§ 124.1(e), 124.41.

[26]*See* Clean Air Act §§ 113(a)(1), 113(a)(5), 167, 42 U.S.C. §§ 7413(a)(1), 7413(a)(5), 7477. *See also infra* § 12:124.

[27]40 C.F.R. § 124.19(c).

[28]For examples of situations where a permit was appealed to a federal appellate court, *see* Hancock Cnty. Ky. v. EPA, 742 F.2d 1455, 22 Env't Rep. Cas. (BNA) 1714, 1719 (6th Cir. 1984) (*citing* Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 416, 91 S. Ct. 814, 28 L. Ed. 2d 136, 2 Env't Rep. Cas. (BNA) 1250, 1 Envtl. L. Rep. 20110 (1971) (*abrogated by* Califano v. Sanders, 430 U.S. 99, 97 S. Ct. 980, 51 L. Ed. 2d 192 (1977)) and Gonzalez v. Roman Cath. Archbishop of Manila, 280 U.S. 1, 16, 50 S. Ct. 5, 74 L. Ed. 131 (1929) (abrogated by, Serbian E. Orthodox Diocese for Am. and Can. v. Milivojevich, 426 U.S. 696, 96 S. Ct. 2372, 49 L. Ed. 2d 151 (1976))); Sur Contra La Contaminacion v. EPA, 202 F.3d 443, 50 Env't Rep. Cas. (BNA) 1001, 30 Envtl. L. Rep. 20358 (1st Cir. 2000); Sierra Club v. EPA, 499 F.3d 653, 65 Env't Rep. Cas. (BNA) 1114 (7th Cir. 2007); Chabot-Las Positas Cmty. Coll. Dist. v. EPA, No. 10-73870 (9th Cir. 2012); Resisting Env't Destruction on Indigenous Lands, REDOIL v. EPA, 704 F.3d 743, 75 Env't Rep. Cas. (BNA) 1769 (9th Cir. 2012), *amended and superseded*, 716 F.3d 1155, 76 Env't Rep. Cas. (BNA) 1815, 2013 A.M.C. 2491 (9th Cir. 2013); Sierra Club v. EPA, 762 F.3d 971, 78 Env't Rep. Cas. (BNA) 2005 (9th Cir. 2014).

[29]*See* 40 C.F.R. §§ 124.15(b)(2), 124.19(f)(1).

[Section 12:119]

[1]40 C.F.R. § 52.21(w). *See also* Rescission of Preconstruction Permits Issued Under the Clean Air Act, 81 Fed. Reg. 78043 (Nov. 7, 2016) (to be codified at 40 C.F.R. pts. 49, 52).

EPA policy regarding revisions to BACT determinations establishes three criteria that should be met prior to re-evaluation: (1) that the source was constructed in conformity with the permit; (2) that the permitted BACT levels are inappropriate as a result of errors, faulty data, or incorrect assumptions; and (3) that the source owner has investigated all available options to reduce emissions and has demonstrated that compliance cannot reasonably be maintained.[2] Once these criteria are met, the BACT analysis is performed as if construction had not yet commenced. Retrofit costs and other costs associated with an already-existing facility, however, may be considered.

EPA policies regarding all other types of requested revisions to major NSR permits are set forth in a 1985 draft policy statement.[3] Under this policy, operational changes that do *not* result in a significant net increase in the emissions that were projected under the original PSD permit application would require a revision of the original permit. Additional PSD review would be necessary, however, only to the extent that the original analysis would have been insufficient if it had reflected the later changes to the original project. Where the requested change *would* result in a significant net increase in emissions over those projected in the original application, the change would require, in addition to a permit revision, updated PSD review as applicable to the change but not the entire new source or modification. An advantage to the permit revision approach, as opposed to an entirely new permitting process, is that the revised application would retain any PSD increment rights gained through the original filing of the complete PSD application. In addition, a revised permit would be exempted from any new PSD requirements added in the intervening time if the source had commenced construction prior to adoption of the new requirement. In processing a revision, the permitting authority should follow the same public participation procedures as are required for original permit applications.

Regardless of whether a change from the original construction or operations plans would result in a significant net increase in emissions, the policy requires an entirely new major NSR permitting process if the change fundamentally affects the nature of the source or involves a large increase in size. A change in the nature of a source would generally be found if it would fall within a different 2-digit SIC code. A 50% increase in fixed capital costs would also typically be deemed a fundamental change. Fundamental changes requiring new permitting actions would not retain any increment allotted by virtue of the original PSD application. Thus, additional actual or planned growth in the area in the intervening time between when the original PSD application was filed and the fundamental change in plans arose might preclude issuance of a new permit.

Under the policy, applications for changes that would affect sources that have already undergone PSD review and been placed in operation typically would undergo a less rigorous process of review. This would acknowledge the obviously extensive commitment a firm has made to an operational source and provide an enhanced

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[2]*See* Memorandum from Gary McCutchen, Chief, EPA New Source Review Section, and Mike Trutna, Chief, EPA Air Toxics Program Section, to J. David Sullivan, Chief, ALO Enf't Section, EPA Region VI, Request for Determination on Best Available Control Technology (BACT) Issues—Ogden Martin Tulsa Municipal Waste Incinerator Facility (Nov. 19, 1987), https://www.epa.gov/sites/default/files/2015-07/documents/ogden.pdf.

[3]*See* Memorandum from Darryl D. Tyler, Dir., EPA Control Programs Dev. Div., to EPA Reg'l Air Div. Dirs., Revised Draft Policy on Permit Modifications and Extensions (July 5, 1985). Although styled a draft policy, the policies appear to have been consistently applied by EPA in responding to requests for PSD permit revisions. *See, e.g.*, Letter from Winston A. Smith, Dir., EPA Air, Pesticides & Toxics Mgmt. Div., EPA Region IV, to J. and S. Crall, Orlando Util. Comm'n, transmitting proposed PSD permit revision for Stanton Energy Center Unit 2 (Sept. 20, 1991); Letter from G. and C. Tidwell, Adm'r, EPA Region IV, to J. and S. Crall, Orlando Util. Comm'n, transmitting final PSD permit revision (Dec. 23, 1991).

degree of repose. However, if the reviewing authority found such a prospective change to be an attempt at circumvention of the policy, it would be treated the same as changes at sources that have not yet begun operation. An example of attempted circumvention is a proposed *de minimis* increase in emissions that should have been included as part of the original permit application.

Current EPA policy regarding extensions of permitted deadlines for commencement of construction is discussed in § 12:118 above.

No revisions to PSD permits are generally required in conjunction with a change in ownership of the permitted stationary source. Where EPA is the PSD permitting authority, its practice is to include in the PSD permit a requirement that the original permittee notify the succeeding owner and operator of the existence of the permit. EPA will also incorporate into the permit a provision clarifying that, in the event of a change in control or ownership, the permit requirements are binding on the new owners and operators.[4]

§ 12:120 Substantive NNSR Requirements

This subsection details the specific substantive NNSR requirements applicable to nonattainment areas. Unlike the applicability rules, which are fairly consistent between the PSD and NNSR programs, these substantive NNSR requirements differ substantially from those applicable to PSD permits.

§ 12:121 Substantive NNSR requirements—NNSR Offsets

Section 173 of the CAA establishes the substantive conditions that an applicant for a permit addressing NNSR must meet.[1] Under § 173(a)(1)(A), the permitting agency must determine that a proposed new major stationary source or major modification of an existing major stationary source will not cause an increase in "allowable emissions" of nonattainment pollutants (or their precursors). This determination must take into account all emissions from existing sources, new sources, modifications that are not major, and the proposed major source or modification under review.

EPA has clarified that, in general, any limits or permit conditions needed to create offsets—reduced emissions—to counter the emissions increase resulting from the new or modified source's emissions must be federally enforceable before the NNSR permit is issued.[2]

The amount of reduced emissions must be sufficient so as to represent, when considered together with the other nonattainment plan provisions, "reasonable further progress" toward attainment of the NAAQS. Section 171(1) of the Act defines "reasonable further progress" as the annual incremental reductions that are sufficient to provide for attainment of the NAAQS by the statutory deadline. Congress inserted the "reasonable further progress" requirement to force states to adopt measures to begin rectifying the nonattainment problem right away rather than allowing them to postpone difficult planning decisions until the statutory deadlines

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[4]Desert View Power PSD Permit NSR-4-4-11, SE 87-01, Complete Consolidated (Sept. 30, 2020), https://www.regulations.gov/document/EPA-R09-OAR-2020-0266-0048.

[Section 12:121]

[1]40 C.F.R. § 51.165(a) simply refers back to section 173 of the Act to describe the bulk of the substantive requirements. *See* 40 C.F.R. § 51.165(a)(2).

[2]*See* Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, to EPA Reg'l Air Dirs., Offsets Required Prior to Permit Issuance (June 14, 1994).

were imminent.[3] This is termed the "offset" requirement.

Section 173 requires that EPA establish by rule what is creditable and what is not for purposes of the offset requirement "in a manner consistent with the assumptions underlying the applicable implementation plan."[4] The Act further specifies that reductions in "actual emissions" are required.[5] While the statute clearly requires that an applicant obtain offsetting reductions that exceed the emissions increases that will result from the new source, it does not specify, with some important exceptions, any particular offset ratio. Ozone is one such exception. For ozone nonattainment areas, the ratios progressively increase in proportion to the severity of the problem: 1.15 to 1 for moderate areas and ozone transport regions, 1.2 to 1 for serious areas, usually 1.3 to 1 for severe areas, and usually 1.5 to 1 for extreme areas.

In practice, EPA has afforded states great leeway in establishing an offset ratio in their NNSR permitting programs, while also requiring several controls on the use of offset credits. These restrictions are intended to ensure that new source growth can be accommodated within a state's overall plan to attain air quality standards.[6] Specifically, the restrictions are designed to ensure that new source growth will result in real air quality improvement.

First, the EPA regulations require consistency between the type of emissions used for nonattainment planning purposes generally and the type used for offset calculations. Thus, where a state's attainment demonstration is based on a combination of actual and allowable emissions, that same combination is also the baseline for offset purposes.[7] Second, different offset baselines may be used for different pollutants where the attainment plan also so provides. Third, EPA places restrictions on the type of emissions reductions that are available as offsets. Inter-pollutant offsets are generally prohibited. Thus, for example, a decrease in sulfur dioxide emissions cannot be used to offset increased VOC emissions.[8] Fourth, the necessary offsets must come from the same nonattainment area as the proposed emissions. The exception allows credit for offsets in another nonattainment area if: (1) the second area has an equal or higher nonattainment classification; and (2) emissions from that area contribute to the nonattainment problem in the first area.[9] The nonattainment regulations also restrict the crediting, for offset purposes, of emissions reductions resulting from the shutdown (or permanent curtailment of production levels or operating hours) of an existing source.

For areas with EPA-approved attainment demonstrations, the restrictions are modest. Credit may not be granted for shutdowns that are already assumed in the demonstration. Hence, credit may not be given for shutdowns that occurred before the most recent attainment demonstration or emissions inventory. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.[10] For areas lacking EPA-approved demonstrations, no credit may be given for shutdowns

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[3]CAA § 173(a)(1)(A), 42 U.S.C. § 7503(a)(1)(A).

[4]*See* CAA § 173(a)(1), 42 U.S.C. § 7503(a)(1).

[5]*See* CAA § 173(c)(1), 42 U.S.C. § 7503(c)(1).

[6]*See* S. Rep. No. 127, 95th Cong., 1st Sess. 55 (1977), *reprinted in* 3 Cong. Rsch. Serv., A Legislative History of the Clean Air Act Amendments of 1977 1429 (Comm. Print 1978), *cited in* Chevron, U.S.A., v. Nat. Res. Def. Council, 467 U.S. 837, 852, 104 S. Ct. 2778, 81 L. Ed. 2d 694, 21 Env't Rep. Cas. (BNA) 1049, 14 Envtl. L. Rep. 20507, 20511 (1984).

[7]40 C.F.R. § 51.165(a)(j)(3)(i).

[8]40 C.F.R. pt. 51, app. S § IV.A., Condition 3.

[9]*See* CAA § 173(c)(1), 42 U.S.C. § 7503(c)(1).

[10]Requirements for Implementation Plans; Air Quality New Source Review, 54 Fed. Reg. 27286, 27299 (June 28, 1989) (to be codified at 40 C.F.R. pts. 51, 52; § 51.165(a)(3)(ii)(C)(1)).

that occurred before the date that the NNSR permit application is filed unless the applicant shows that the proposed new source is a replacement for a shutdown source. Even then, time restrictions apply.[11]

EPA regulations restrict the permissible locations of offsetting sources to help ensure that a net air quality benefit occurs at the location of the new source.[12] EPA's regulations also limit credits available from fuel switches to situations where permit conditions "require the use of a specified alternative control measure which would achieve the same degree of emissions reduction should the [existing] source switch back to a dirtier fuel at some later date."[13] The remaining restrictions bar credit for the difference between allowable limits and potential to emit, where the first exceeds the second; for reductions already relied upon in issuing another permit or in demonstrating attainment; and for switching from one hydrocarbon compound to another of lesser reactivity (with minor exceptions).[14]

How offsets are handled varies greatly from state to state and tribe to tribe, so it will be important to review the applicable SIP/TIP for purposes of determining creditable offsets for a particular project.

§ 12:122 Substantive NNSR requirements—Statewide compliance

Section 173(a)(3) of the Act requires the owner or operator of a proposed new source or modification to demonstrate that all major stationary sources owned or operated by the same entity (or its parent or subsidiary) are in compliance with all emissions limitations applicable under the Act. This provision defines entities in compliance to include entities on a schedule for compliance. It is debatable whether an outstanding NOV could be considered an outstanding "non-compliance," since there has been no substantive determination of a violation.[1]

The statewide compliance requirement extends to all entities that control, are controlled by, or are under common control with, the applicant.[2] For example, EPA has ruled that the Department of the Air Force is an "entity controlling" all Air Force facilities in California. Thus, an Air Force command wishing to construct a rocket testing facility was required to demonstrate statewide compliance by all Air Force facilities even though that command had no authority or control over facilities of other Air Force commands.[3] The demonstration needed under Clean Air Act § 173(a)(3) includes, at a minimum, certification that the relevant sources are in

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[11] 40 C.F.R. § 51.165(a)(3)(ii)(C)(2).

[12] 40 C.F.R. § 51.165(a)(3)(ii)(F); app. S, § IV.D.

[13] 40 C.F.R. § 51.165(a)(3)(ii)(B); app. S, § IV, C.2.

[14] 40 C.F.R. § 51.165(a)(3)(ii)(A), (D), (G); app. S § IV, C.1, 4. *See also* 40 C.F.R. § 51.165(a)(3)(ii)(A), (D), (G); app. S § IV, C.6.

[Section 12:122]

[1] *See* Sierra Club v. EPA, No. 07-11537, 22 (11th Cir. Sept. 2, 2008) ("we find unpersuasive Petitioners' attempt to elevate the EPA's issuance of a violation notice or the initiation of a civil enforcement action to the level of a final resolution of the PSD issue"); N.Y. Pub. Interest Rsch. Grp. Tenn. Auth. v. EPA, 427 F.3d 172 (2d Cir. 2005) (EPA failed to justify its decision not to treat a notice of violation as dispositive).

[2] *See* 44 Fed. Reg. 3274, 3279 (1979); *see also* Sierra Club v. Leavitt, 368 F.3d 1300, 58 Env't Rep. Cas. (BNA) 1449, 34 Envtl. L. Rep. 20030 (11th Cir. 2004) (vacating and remanding EPA's denial of a petition to object to a permit because EPA acted arbitrarily and capriciously by failing to provide an adequate explanation for its decision to consider Oglethorpe Power Corp. as having satisfied the statewide compliance requirement) and *See* Sierra Club v. Administrator, EPA, 496 F.3d 1182, 64 Env't Rep. Cas. (BNA) 1999 (11th Cir. 2007) (affirming EPA's amended order reaching the same conclusion).

[3] *See* Memorandum, Clean Air Act § 173(3) Statewide Compliance Certification Requirement as Applied to Air Force Facilities, from Lawrence J. Jensen, Acting Gen. Couns., to Nancy Marvel, Reg'l Couns., EPA Region IX (May 18, 1988).

compliance.[4] EPA rejected industry contentions that pollution control agencies bear the responsibility for identifying noncomplying sources controlled by the applicant. Relying on the "owner or operator . . . has demonstrated . . . compliance" language of § 173(a)(3), EPA ruled that a permit applicant's duty to comply subsumes a duty to ascertain compliance status.[5] The reviewing authority may also require supporting evidence, such as performance test results, monitoring results, and fuel sulfur content documentation.[6]

§ 12:123 Substantive NNSR requirements—Lowest achievable emission rate

Section 173(a)(2) of the Act requires new major sources and modifications to comply with the "lowest achievable emission rate" (LAER) for nonattainment pollutants and precursors under the NNSR program.[1] This term, LAER, is defined as the emission rate that reflects the most stringent limitation for the relevant "class or category of stationary source" that either is "contained in" any SIP (unless the applicant demonstrates that such limitation is "not achievable" for the proposed new source), or is "achieved in practice." In no event may LAER be less stringent than an applicable NSPS.[2] Courts have upheld agency discretion to define the class or category to which the proposed stationary source belongs.[3] The LAER definition is intended to require the lowest emissions rate that is "actually, not theoretically, possible."[4] Unlike BACT determinations under the PSD program, transfer of technology from other classes or categories of sources is not required in LAER determinations.[5] In determining whether a particular emission rate "achieved in practice" is "not achievable," cost may be taken into account in only a very limited fashion: If the cost of a given control strategy were so great that a new source could not be built or operated, such controls would not be achievable, and thus not required.[6] In a guidance memorandum, EPA has taken the position that, in general, a limitation is achievable for LAER purposes unless costs are so great that *no* new plant in the industry could afford the technology.[7] Only a compelling showing of unusual circumstances would justify a lesser degree of control for a particular

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[4]40 C.F.R. pt. 51, app. S § IV, A.2.

[5]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676 (Aug. 7, 1980) (to be codified at 40 C.F.R. pts. 51, 52, 124).

[6]Requirements for Preparation, Adoption, and Submittal of Implementation Plans.

[Section 12:123]

[1]Clean Air Act § 173(a)(2), 42 U.S.C. § 7503(a)(2).

[2]Clean Air Act § 171(3)(A), (B), 42 U.S.C. § 7501(3)(A), (B); 40 C.F.R. § 51.165(a)(1)(xiii).

[3]Pompeo v. United States, 40 Cust. Ct. 362, 1958 WL 7928 (Cust. Ct. 1 Div. 1958).

[4]Letter from John Calcagni, Dir., EPA Air Quality Mgmt. Div., to EPA Reg'l Air Div. Dirs., Transmittal of Background Statement on "Top-Down" Best Available Control Technology (June 13, 1989) (quoting from S. Rep. No. 95-252, 95th Cong., 1st Sess. 31 (1977), *reprinted in* 3 A Legislative History of the CAA Amendments of 1977 at 537), https://archive.epa.gov/airquality/ttnnsr01/web/html/p8_51.html.

[5]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 48 Fed. Reg. 38742, 38752 (Aug. 25, 1983).

[6]Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 48 Fed. Reg. 38742, 38752 (Aug. 25, 1983).

[7]*See* Memorandum from John Calcagni, Dir., EPA Air Quality Mgmt. Div., to David Kee, Dir., EPA Air & Radiation Div., EPA Region V, Guidance on Determining LAER (Feb. 28, 1989), https://www.epa.gov/sites/production/files/2015-07/documents/gdnclaer.pdf.

plant.[8]

In addition, in the NNSR context, where the Agency discovers that a source has been constructed without a permit, LAER is determined as of the time the final permit is issued, not the time of actual construction.[9]

§ 12:124 EPA's NSR Enforcement Authority

EPA's primary civil enforcement authorities used for enforcing the NSR program retrospectively—where actual construction has already begun—are its general SIP enforcement authorities in CAA §§ 113(a)(1), 113(b), and 113(d). These provisions, discussed in detail in Part XVIII, allow for administrative compliance orders, administrative penalty orders, and civil judicial actions seeking injunctive relief and civil penalties. In addition, CAA §§ 113(a)(5)(A) and 167, respectively, provide NNSR-specific and PSD-specific authority for prospective enforcement. If EPA finds that a state or tribe is not in compliance with any requirement of the CAA related to new and modified major stationary sources, EPA may issue an order prohibiting the construction or modification of any major stationary source or seek injunctive relief to do the same.[1] Section 167 of the CAA provides that:

> The Administrator shall, and a State may, take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of this part, or which is proposed to be constructed in any area designated pursuant to section 107(d) as attainment or unclassifiable and which is not subject to an implementation plan which meets the requirements of this part.[2]

As applied retrospectively to already-completed construction, administrative compliance orders have been found to violate the Constitution's Due Process Clause.[3] However, EPA's authority to issue prospective stop-construction orders pursuant to CAA §§ 113(a)(5)(A) and 167 has been upheld.[4]

The statutory major NSR programs expressly prohibit certain construction activities without first obtaining a preconstruction major NSR permit, but do not prohibit operation of a source that has been constructed in violation of this requirement. Because the CAA does not include a statute of limitations, the general, non-specific five-year statute of limitations found at 28 U.S.C. § 2462 applies. Most courts have concluded that source owners are not subject to civil penalties for violations of the major NSR programs based on failure to obtain a preconstruction major NSR permit

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[8]*See* Memorandum from John Calcagni, Dir., EPA Air Quality Mgmt. Div., to David Kee, Dir., EPA Air & Radiation Div., EPA Region V, Guidance on Determining LAER (Feb. 28, 1989), https://www.epa.gov/sites/production/files/2015-07/documents/gdnclaer.pdf.

[9]Memorandum, from John S. Seitz, Dir., EPA Stationary Source Compliance Div., to Thomas J. Maslany, Dir., Air Quality Mgmt. Div., EPA Region III, LAER Determination for Previously Constructed Source (Aug. 9, 1989), https://archive.epa.gov/airquality/ttnnsr01/web/html/n26_10.html.

[Section 12:124]

[1]Clean Air Act § 113(a)(5)(A), 42 U.S.C. § 7413(a)(5)(A).

[2]Clean Air Act § 167, 42 U.S.C. § 7477.

[3]*See* Tenn. Valley Auth. v. Whitman, 336 F.3d 1236, 56 Env't Rep. Cas. (BNA) 1737, 33 Envtl. L. Rep. 20231 (11th Cir. 2003).

[4]*See* Alaska, Dep't of Env't Conservation v. EPA, 298 F.3d 814, 54 Env't Rep. Cas. (BNA) 1961, 32 Envtl. L. Rep. 20793 (9th Cir. 2002), aff'd, 540 U.S. 461, 124 S. Ct. 983, 157 L. Ed. 2d 967, 57 Env't Rep. Cas. (BNA) 1801, 34 Envtl. L. Rep. 20012 (2004); Alaska Dep't of Env't Conservation v. EPA, 540 U.S. 461, 124 S. Ct. 983, 157 L. Ed. 2d 967, 57 Env't Rep. Cas. (BNA) 1801, 34 Envtl. L. Rep. 20012 (2004) (EPA's orders, enjoining a facility from constructing under a state-issued PSD permit on the grounds that the BACT determination was too lenient, upheld).

more than five years after commencing construction.[5] However, if the SIP prohibits *operation* of a source or modification constructed in violation of the requirement to obtain a preconstruction major NSR permit, an argument might be made that civil penalties were not barred, on the basis of a *continuing* violation, although this seems to contradict the point of NSR permit addressing construction activities.[6] A smaller number of courts have found that, even under the statutory language, operation of a source or modification constructed in violation of the requirement to obtain a preconstruction major NSR permit constitutes a continuing violation such that civil penalties are not time-barred.[7]

Enforcement actions brought under CAA § 113(a)(1) and involving alleged failure to obtain a preconstruction major NSR permit are evaluated based on the express terms of the approved SIP at the time of the construction activity in question, even where the underlying state/local/tribal regulations or the federal regulations have changed.[8]

EPA from time to time uses its NSR-specific enforcement authorities under the CAA in lieu of preconstruction permitting, such as where it seeks to extract an agreement from the source owner to achieve emission reductions not otherwise required by regulation in exchange for EPA's approval to allow construction to proceed without satisfying otherwise required procedural requirements.[9]

EPA, also from time to time, has wielded the objection authorities granted to it under the CAA Title V operating permits program as an enforcement tool,[10] including in circumstances where EPA seeks to apply its new policies retroactively to

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[5]*See, e.g.,* Ogden Projects, Inc. v. New Morgan Landfill Co., 911 F. Supp. 863, 876, 41 Env't Rep. Cas. (BNA) 2064, 26 Envtl. L. Rep. 20843 (E.D. Pa. 1996); United States v. Campbell Soup, 1997 U.S. Dist. LEXIS 3211 (E.D. Ca. 1997); United States v. Murphy Oil USA, 143 F. Supp. 2d 1054, 52 Env't Rep. Cas. (BNA) 1716 (W.D. Wis. 2001); United States v. Westvaco Corp., 144 F. Supp. 2d 439, 442, 52 Env't Rep. Cas. (BNA) 1891 (D. Md. 2001); New York v. Niagara Mohawk Power Corp., 263 F. Supp. 2d 650, 661, 56 Env't Rep. Cas. (BNA) 1992 (W.D. N.Y. 2003); United States v. Cinergy Corp., 397 F. Supp. 2d 1025 (S.D. Ind. 2005); Nat'l Parks & Conservation Ass'n v. Tenn. Valley Auth., 502 F.3d 1316, 65 Env't Rep. Cas. (BNA) 1417 (11th Cir. 2007); Sierra Club v. Otter Tail Power Co., 615 F.3d 1008, 71 Env't Rep. Cas. (BNA) 1551 (8th Cir. 2010); United States v. EME Homer City Generation, L.P., 727 F.3d 274, 77 Env't Rep. Cas. (BNA) 1449 (3d Cir. 2013); United States v. Midwest Generation, LLC, 720 F.3d 644, 647, 76 Env't Rep. Cas. (BNA) 1881 (7th Cir. 2013); Sierra Club v. Oklah. Gas & Elec. Co., 816 F.3d 666, 82 Env't Rep. Cas. (BNA) 1089 (10th Cir. 2016); United States v. Luminant Generation Co., 905 F.3d 874 (5th Cir. 2018), *reh'g en banc granted*, 929 F.3d 316 (5th Cir. 2019). *See also* IVAN LIEBEN, CATCH ME IF YOU CAN—THE MISAPPLICATION OF THE FEDERAL STATUTE OF LIMITATIONS TO CLEAN AIR ACT PSD PERMIT PROGRAM VIOLATIONS, 38 ENV'T L. 667 (2008), and HEATHER M. HILLAKER, THE DEATH OF THE CLEAN AIR ACT'S PSD PROVISION: THE PRACTICAL IMPLICATIONS OF CIRCUIT COURTS' FAILURE TO PROPERLY APPLY CHEVRON DEFERENCE, 93 N.C. L. REV. 821 (2015).

[6]*See, e.g.,* Nat'l Parks Conservation Ass'n v. Tenn. Valley Auth., 480 F.3d 410, 63 Env't Rep. Cas. (BNA) 2025, 2007 FED App. 0086P (6th Cir. 2007).

[7]*See, e.g.,* United States v. Am. Elec. Power Service Corp., 137 F. Supp. 2d 1060 (S.D. Ohio 2001); United States v. CEMEX Cal. Cement, LLC, No. EDCV07-223-GW(JCRx) (C.D. Cal. July 10, 2007); Sierra Club v. Dairyland Power Coop., No. 10-cv-303-bbc, 2010 U.S. Dist. LEXIS 112817 (W.D. Wis. Oct. 22, 2010).

[8]*See* United States v. Cinergy Corp., 623 F.3d 455 (7th Cir. 2010) (holding that the 1980 Indiana NNSR rule, adopting the emissions increase test in the federal regulation promulgated in 1979 and approved by EPA as part of the Indiana SIP in 1982, governs construction activities occurring in the period 1989 to 1992, even where the underlying Indiana rule was amended in 1981 to adopt the emissions increase test in the federal regulation promulgated in 1980, because the amended rule had not been incorporated in the approved SIP until 1994).

[9]*See, e.g.,* Consent Decree entered in United States v. Golden Valley Elec. Ass'n, Civ. No. 4:12-cv-00025-RRB (D. Alaska 2012).

[10]Clean Air Act § 505(b)(1) to (2), 42 U.S.C. § 7661d(b)(1) to (2).

state-administered NSR programs.[11]

During the administration of President Trump, EPA declined to exercise Title V objection authority for NSR issues.[12] The courts have split on whether this revised policy is lawful.[13]

§ 12:125 Conclusion

This section provides an overview of the NSR program as it applies to new and modified sources triggering the applicability of this program. From this discussion, it is apparent that NSR is complicated program that has elements applying to affected emission sources with regulated pollutants which are located in an area that attains the NAAQs, the PSD program, and to emission sources with affected pollutants located in an area that does not attain the NAAQs, the nonattainment program. Aspects of both the PSD and NNSR programs may apply within a single project. The NSR program is designed around demonstrating that covered new and/or modified emission units will not adversely impact the ability to ultimately attain or maintain compliance with the NAAQs. This involves such requirements as evaluating potential emissions, modeling, and controlling relevant emissions to a required level. Numerous concepts within this program have been and will continue to be hotly debated and contested within the administrative and judicial process. The NSR program can be implemented by EPA, states, tribal, or local authorities, or a combination of those agencies, depending upon how the program is established in a particular area. Navigating the NSR process requires careful interaction with the permitting authority. Detailed and deliberate planning is necessary to submit a complete permit application and obtain a defensible permit. Finding experienced practitioners and consultants in this area will be very helpful to achieving that outcome. Many of the important aspects of pursuing a PSD or nonattainment permit approval are governed by historical guidance documents, in addition to regulations and administrative and judicial decisions. This section has attempted to provide a starting point to outline of the types of items and issues that should be considered in pursuing NSR permits.

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[11] *See, e.g.,* In the Matter of Louisville Gas & Elec. Co., Trimble Cnty, Petition IV 2008-3 (Order Responding to Issues Raised in April 28, 2008 and March 2, 2006 Petitions, and Denying in Part and Granting in Part Requests for Objection to Permit) (Aug. 12, 2009), objecting to Kentucky's use of EPA's 2005 PM_{10} surrogate policy in a 2006 PSD permitting action; *compare*, In re: N. Mich. Univ. Ripley Heating Plant, 14 E.A.D. 283, 2009 WL 443976 (EPA 2009), upholding application of the same policy for a PSD permit issued by EPA in 2008; *See also* In the Matter of Am. Elec. Power Serv. Corp., Sw. Elec. Power Co., John W. Turk Plant, Petition Number VI-2008-01 (Order Denying in Part and Granting in Part Petition for Objection to Permit) (Dec. 15, 2009), objecting to Arkansas' rejection of integrated gasification combined cycle technology as an available control technology in the BACT analysis, in a 2008 PSD permitting action, based on a determination that this is not a technology that could be applied to the proposed project but rather would redefine the fundamental purpose and basic design of the project; *compare,* In the Matter of E. Ky. Power Coop., Hugh I Spurlock Generating Station, Maysville Station, Petition IV-2006-04 (Order Granting in Part and Denying in Part Petition for Objection to Permit) (Aug. 30, 2007), upholding application of the same policy for a PSD permit issued in 2006.

[12] *See, e.g.,* In the Matter of PacifiCorp Energy, Hunter Power Plant, Order on Petition No. VIII-2016-4, at 11 (Oct. 16, 2017); In the Matter of Big River Steel, LLC, Order on Petition No. VI-2013-10 (Oct. 31, 2017); In the Matter of ExxonMobil Corp., Baytown Olefins Plant, Order on Petition No. VI-2016-12 (Mar. 1, 2018).

[13] *See*, Sierra Club v. EPA, 964 F.3d 882 (10th Cir. 2020) (holding that this policy contradicts the definition of "applicable requirements" in the title V rules, which, according to the court, "unambiguously refers to all requirements in a [SIP], . . . including . . . requirements for major NSR."); *see also*, Env't Integrity Project v. EPA, 960 F.3d 236 (5th Cir. 2020), opinion withdrawn and superseded on denial of reh'g, 969 F.3d 529 (5th Cir. 2020) (upholding EPA's revised policy and finding persuasive "EPA's view that Title V permitting is not the appropriate vehicle for reexamining the substantive validity of underlying Title I preconstruction permits.").

XII. TITLE V OPERATING PERMITS*

XII(A) TITLE V OPERATING PERMITS—PROGRAM OVERVIEW

§ 12:126 Title V Program Overview

Prior to the enactment of the CAA Amendments of 1990, a number of emission limitations and other requirements applied to stationary sources under federal and state clean air act laws and regulations. It was often difficult to determine exactly what requirements were applicable to a specific source. The 1990 CAA Amendments addressed this issue by introducing a comprehensive operating permit scheme for stationary sources.

The new Title V operating permit program brought thousands of stationary sources under one permitting program covering all major sources and other sources subject to regulation under the CAA. This includes sources subject to a new source performance standard (NSPS), national emission standard for hazardous air pollutants (NESHAP), or state implementation plan (SIP) or tribal implementation plan (TIP) limits. Based on the Clean Water Act's national pollution discharge elimination system permitting scheme, CAA operating permits catalogue all applicable federally enforceable emission limitations and work practice standards as well as testing, inspection, monitoring, and recordkeeping provisions.[1]

The primary goal of the CAA Title V operating permit program is to incorporate all the requirements applicable to a covered facility into one document, the Title V permit. This approach serves several purposes. For example, the program provides a vehicle for easier enforcement due to better identification of the requirements applicable to a source, a single data set for all parties (government, the regulated entity, and the public) to reference, and a uniform national approach to permitting and the application of the various CAA programs. The program also promotes the objective of quantifying and accounting for baseline emissions data that can be used to improve the development of SIP and TIP rules and market-based emissions trading programs.[2]

The Title V program establishes the minimum requirements for an operating permit program. State, tribal, and local permitting agencies are allowed to include more stringent requirements if they desire.[3] The Title V permitting program is not intended to impose new substantive requirements,[4] but permitting agencies are authorized to ensure that the Title V permit includes sufficient monitoring requirements.[5]

The U.S. Environmental Protection Agency (EPA) issued its final regulations (codified at 40 C.F.R. part 70) for state and local air permitting agencies in July 1992.[6] The part 70 rules direct each state and local air permitting agency to adopt its own Title V program, which is then submitted to EPA for review and approval. Indian tribes are also encouraged—but not required—to develop their own Title V

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*By **Roy S. Belden** (Sections 12:127 – 12:157). Updates prior to Fall 2021 of these Sections were provided by **Peter H. Wycoff, Gregory Bradshaw Foote, Rolf R. von Oppenfeld, Eric L. Hiser, Mark E. Freeze, Phillip Reed, and Alan Gilbert.**

[Section 12:126]

[1]Operating Permit Program, 57 Fed. Reg. 32250 (July 21, 1992) (to be codified at 40 C.F.R. pt. 70).

[2]57 Fed. Reg. 32250, 32521 to 22.

[3]CAA §§ 116, 506(a); 42 U.S.C. §§ 7416, 7661e(a); 40 C.F.R. § 70.1(c).

[4]40 C.F.R. § 70.1(b).

[5]40 C.F.R. § 70.6(a)(3).

[6]Operating Permit Program, 57 Fed. Reg. 32250 (July 21, 1992) (to be codified at 40 C.F.R. pt. 70).

program.[7] CAA § 301(d)(1) authorizes EPA to treat Indian tribes as states.[8] In 1998, EPA promulgated a final rule setting forth the provisions of the CAA where the agency may treat Indian tribes as states,[9] and recognized that Indian tribes may seek approval of and implement Title V programs.

If a state does not have a fully approved operating permit program, then EPA is required to administer the operating permit program under the federal regulations found at 40 C.F.R. part 71. Regardless of whether an affected facility is subject to the federal, state, tribal, or local Title V operating permit program, all EPA issued or approved limits, standards, and provisions in Title V permits are federally enforceable.

Title V programs have been approved by EPA for all 50 states, and the agency has also approved several local and tribal Title V operating permit programs.[10] EPA has developed numerous guidance documents to help implement the Title V operating permit program, and EPA's Title V Operating Permit database includes over 230 Title V policy and guidance documents.[11]

The following sections summarize the key provisions of the Title V operating permit program, and the minimum requirements needed for EPA approval of a state, tribal, or local operating permit program. Each permitting authority's Title V program rules may have some unique features, and practitioners will need to be familiar with the specific provisions applicable to sources in that permitting authority's jurisdiction.

XII(B) TITLE V OPERATING PERMITS—APPLICABILITY AND SCOPE: AFFECTED SOURCES

§ 12:127 Affected Sources—Introduction

Prior to 1990, only new or modified major sources were required to obtain preconstruction permits under federal law, although many states required preconstruction permits and operating permits for existing emission sources. The Title V operating permit program extends to a wide range of sources.[1] CAA § 502(a) requires sources in the following categories to potentially obtain a Title V permit:[2]

- *Major Sources*. A major stationary source is defined as any source that emits

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[7]The definition of "state" in the Title V regulations means "any non-Federal permitting authority, including any local agency, interstate association or statewide program. . .[and] includes the District of Columbia, the Mariana Island." 40 C.F.R. § 70.2. There are three Indian tribes in the U.S. that currently have an EPA approved Title V operating permit program. In other jurisdictions within Indian Country, EPA directly implements the Title V program. For purposes of this section, the term "state" also generally encompasses local, territorial, and tribal air permitting authorities.

[8]CAA § 301(d)(1); 42 U.S.C. § 7601(d)(1).

[9]Indian Tribes: Air Quality Planning and Management, 63 Fed. Reg. 7254 (Feb. 12, 1998) (to be codified at 40 C.F.R. pts. 9, 35, 49, 50, 81).

[10]40 C.F.R. § 70, app. A lists the approval status of all state, tribal, local and territorial operating permit programs. EPA has links to each of the applicable Title V programs in each of the EPA regions. *See* EPA, OPERATING PERMITS ISSUED UNDER TITLE V OF THE CLEAN AIR ACT, https://www.epa.gov/title-v-operating-permits. There are three tribes that have fully approved Title V programs—the Gila river Indian Community of the Gila River Indian Reservation (Arizona), the Mashantucket Pequot Indian Tribe (Connecticut),and the Southern Ute Indian Tribe of the Southern Ute Reservation (Colorado). *See* EPA, TRIBES APPROVED FOR TREATMENT AS A STATE, https://www.epa.gov/tribal/tribes-approved-treatment-state-tas#regulatory-and-administrative-tas.

[11]U.S. EPA, Title V Operating Permit Policy and Guidance Document Index, https://www.epa.gov/title-v-operating-permits/title-v-operating-permit-policy-and-guidance-document-index.

[Section 12:127]

[1]CAA § 502(a); 42 U.S.C. § 7661a(a); 40 C.F.R. § 70.3(a).

[2]CAA § 502(a); 42 U.S.C. § 7661a(a); 40 C.F.R. § 70.3(a).

or has the potential to emit (PTE) 100 tons per year (tpy) of any air pollutant.[3] Exceptions to the 100 tpy threshold include lower thresholds for stationary sources in nonattainment areas and a major source threshold of 10 tons tpy of any one hazardous air pollutant (HAP) or 25 typ of any combination of HAPs. Major sources are discussed more fully in the next section.

- *Acid Rain Sources*. Sources subject to Title IV of the CAA pertaining to acid deposition control (acid rain) are also subject to Title V as affected sources.[4]
- *NSPS Sources*. Any source subject to new source performance standards (NSPS) promulgated pursuant to CAA § 111.
- *HAP Sources*. Any source subject to the hazardous air pollutant provisions in CAA § 112,[5] except sources subject solely to CAA § 112(r) (accidental release provision).
- *PSD/NNSR Sources*. Any source required to obtain a permit under the prevention of significant deterioration (PSD) and nonattainment area requirements found in Parts C and D of CAA subchapter I (i.e., those requiring a PSD or nonattainment new source review (NNSR) permit).[6]
- *Solid Waste Incineration Units.* This category includes units combusting municipal solid waste, hospital waste, medical waste, and infectious waste.[7]
- *Other Sources Designated by the Administrator*. For example, EPA designated nonmajor (area) decorative chromium electroplating sources under this provision in 1995 as requiring a Title V permit.[8] The agency then rescinded this category in 2005.[9]

Most permitting authorities have limited their Title V program to these categories of stationary sources.

EPA also has the ability to permanently exempt sources from the Title V program. In 2005, EPA permanently exempted five source categories of nonmajor (area) sources.[10] EPA has also exempted sources and source categories subject to the standards for residential wood heaters and asbestos demolition and renovation from Title V requirements, provided that their regulation under those standards would

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[3]CAA § 302(j) (definitions section).

[4]Acid rain units include any one of the listed units in table A of CAA § 404 or as provided in CAA § 405.

[5]Sources emitting 10 tons per year of a hazardous air pollutant (HAP) or 25 tons of any combination of HAPs are "major" sources under CAA § 112. Unlike the definition of major source under CAA § 302(j) and the PSD/NNSR preconstruction review program, fugitive emissions are considered in determining the source's potential to emit in the HAP program.

[6]For example, in ozone nonattainment areas, major source classification is based on the area classification and pollutant. In marginal or moderate ozone nonattainment areas, a PTE of 100 tons per year (tpy) of nitrogen oxides or volatile organic compounds is considered major, while in serious ozone nonattainment areas the threshold drops to a PTE of 50 tpy, to 25 tpy in severe ozone nonattainment areas, and 10 tpy in extreme areas. For PM_{10}, the major source threshold is 100 tpy for moderate PM_{10} nonattainment areas, and 70 tpy for serious areas. For CO, the major source threshold is 100 tpy for moderate CO nonattainment areas, and 50 tpy for serious areas.

[7]CAA § 129(e); 42 U.S.C. § 7429(e).

[8]National Emission Standards for Chromium Emissions From Hard and Decorative Chromium electroplating and Chromium Anodizing Tanks, 60 Fed. Reg. 4948 (January 25, 1995).

[9]Exemption of Certain Area Sources From Title V Operating Permit Programs, 70 Fed. Reg. 75320 (Dec. 19, 2005) (to be codified at 40 C.F.R. pts. 63, 70, and 71).

[10]Exemption of Certain Area Sources From Title V Operating Permit Programs, 70 Fed. Reg. 75320 (Dec. 19, 2005) (to be codified at 40 C.F.R. pts. 63, 70, and 71). The categories are perchloroethylene dry cleaning, chromium electroplating and anodizing, ethylene oxide sterilization, halogenated solvent cleaning, and secondary aluminum production.

be the sole reason for Title V applicability.[11] State, tribal, and local permitting authorities, however, may require these sources to obtain Title V permits if they so choose.

Sources subject to a one-time reporting requirement provision under the CAA may not be required to obtain a Title V operating permit. For example, an individual nonmajor source subject to 40 C.F.R. parts 60, 61, or 63 will not be subject to Title V requirements if both: the "source's only applicable requirement is a one-time or ongoing notification, reporting, or record keeping requirement," and this requirement "exists to show that the source's actual emissions are below a certain threshold established by the standard."[12] An example of such a one-time reporting condition is certain volatile organic liquid storage vessels subject solely to a dimensional recordkeeping requirement under an NSPS.[13]

§ 12:128 Affected Sources—Major Sources

The CAA defines a "major source" in several different ways, depending on the context. Section 302(j) generally defines a major source as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator)."[1] This definition introduces the fundamental concept that any "source" that has the potential to emit 100 tons or more of any regulated air pollutant, excluding fugitive emissions (except for sources in 27 listed categories under the PSD and NNSR programs) is subject to the Title V program requirements. The only exception is if such a source accepts enforceable limits on its operations that reduces its potential to emit below Title V major source thresholds. In this case, the source is typically referred to as a "synthetic minor." The use of conditions to create a synthetic minor source is discussed later in this chapter.

A "major source" as defined in 40 C.F.R. § 70.2 includes a group of stationary sources from the *same industrial group* that are located on contiguous or adjacent properties and are under common control.[2] In determining major source status under the CAA § 302(j) definition, fugitive emissions are included in the determination only if the facility falls within the 27 categories listed in the Title V definition of "major source."[3] The 27th category includes all *sources* regulated under the NSPS or national emission standards for hazardous air pollutants (NESHAPs) under CAA

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[11] 40 C.F.R. § 70.3(b)(4). *See also* 40 C.F.R. part 60, subpart AAA, and 40 C.F.R. part 61, subpart M (CAA standards for residential wood heaters and asbestos demolition and renovation).

[12] Memorandum from Steven J. Hitte, EPA Group Leader, Operating Permits Group to Gerald C. Potamis, P.E., Manager Air Permit Program Unit, EPA Region I, Title V Applicability of One-Time "Reporting" Provisions for Nonmajor Sources (Apr. 19, 1999). EPA summarizes this conclusion by stating that: "We interpret the Clean Air Act and the regulations at parts 70 and 71 to mean that [the one-time reporting requirement sources] are 'not subject to standards or regulations under § 111' for purposes of title V permitting . . . . Therefore, these sources are not required to apply for title V permits on the basis of their record keeping and reporting requirements as a matter of federal law."

[13] *See* 40 C.F.R. part 60, subpart Kb (dimensional recordkeeping requirement).

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[1] CAA § 302(j); 42 U.S.C. § 7602(j).

[2] 40 C.F.R. § 70.2. CAA § 302(z) defines "stationary source" generally as "any source of an air pollutant except those emissions resulting directly from an internal combustion engine . . . or nonroad vehicle." In 40 C.F.R. § 70.2, a stationary source "means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act." The same industrial group means the sources have the same two-digit Standard Industrial Classification (SIC) code.

[3] 40 C.F.R. § 70.2. In the definition of "major source," fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent

§§ 111 and 112, respectively, but the fugitive emissions are counted only for those *air pollutants* regulated by the category under CAA §§ 111 or 112. The source categories in the Title V definition of "major source" are the same as the source categories listed under the definition for a "major stationary source" for both the PSD and NNSR programs.[4] Therefore, the Title V permitting process requires identifying the particular source categorization in order to determine whether fugitive emissions should be counted toward the total emissions evaluated for purposes of meeting the major source emission thresholds.

There may be some uncertainty on the scope and extent of a stationary source if there are multiple emission units, particularly if they are not located on the same parcel of land but are located on a nearby property. EPA applies a three-factor test to determine whether two or more emission units or activities are part of the same stationary source. The units and activities:

- Must belong to the same industrial grouping (i.e., same two-digit Standardized Industrial Classification code);
- Are located on contiguous or adjacent properties;[5] and
- Are under the control of the same person (or company) or persons (or companies) under common control.

A source may be broken down into emission units or groups of emission units for purposes of structuring the Title V permit. However, every emission unit at a Title V source must be covered by the Title V permit. Sources that are temporary or operated by contractors also must be included in the emissions for major source determinations.[6]

The determination of whether the source is major or nonmajor is crucial. For major sources, *all* applicable requirements for *all* emissions units must be included in the Title V permit.[7] For example, if a source is considered a major source for a single criteria pollutant, then each regulated pollutant emitted from that source must be addressed in the permit, including NSPS, NESHAP standards under CAA § 112, and any SIP/TIP requirements. In contrast, nonmajor sources subject to the operating permitting provisions need only address those requirements for those units that triggered Title V coverage.[8]

White Paper Number 2, published by EPA on March 5, 1996, allows a source that is "familiar" to the permitting authority to stipulate that it is a major source or that

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opening." 40 C.F.R. § 70.2. This definition is identical to the fugitive emission definition found in the NSR program. Note that emissions that are "actually collected" are not fugitive. Memorandum from Thomas C. Curran, Dir. EPA Information Transfer and Program Integration Div. to Judith M. Katz, Dir. Air Protection Div., EPA Region III, Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71, 2 (Feb. 10, 1999).

[4]40 C.F.R. § 70.2; *see also* 40 C.F.R. §§ 51.165(a)(1)(iv)(C), 51.166(b)(1)(iii), 52.21(b)(1)(iii).

[5]Memorandum from Anne L. Idsal, EPA Acting Asst. Adm'r, to EPA Reg'l Adm'rs., Regions 1-10, Interpreting 'Adjacent' for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas, (Nov. 26, 2019); EPA has developed a separate rule to define "adjacent" for oil and gas sources. *See* Source Determination for Certain Emission Units in the Oil and Natural Gas Sector, 81 Fed. Reg. 35622 (June 3, 2016) (to be codified at 40 C.F.R. pts. 51, 52, 70, 71). EPA's Title V guidance documents may be obtained from the Title V Operating Permit Policy and Guidance Document Index at https://www.epa.gov/title-v-operating-permits/title-v-operating-permit-policy-and-guidance-document-index. EPA has issued guidance to clarify what constitutes being an "adjacent" property, and the analysis focuses on a case-by-case review of the physical proximity of the emission units or activities.

[6]Letter from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, to Lisa J. Thorvig, Div. Manager, Air Quality Div., Minnesota Pollution Control Agency (Nov. 16, 1994).

[7]40 C.F.R. § 70.3(c)(1).

[8]40 C.F.R. § 70.3(c)(2).

it is subject to federal requirements as specified.[9] This policy alleviates the need for the source to gather and provide information to determine the applicability of the Title V program. "Familiarity" means the permitting authority has had previous review experience or has an "otherwise adequate" familiarity level with the facility's operation. Examples include having previously issued a permit to the facility or having a current emissions inventory.[10] However, familiarity with the source does not alleviate the need to comply with monitoring and recordkeeping requirements or providing emission descriptions.[11]

§ 12:129 Affected Sources—Potential to emit

Title V applicability is not tied to a source's actual emissions, but rather to its *potential to emit* or PTE, considering controls. The same definition of potential to emit is used under the NSPS, NESHAP, and the PSD/NNSR programs. EPA calculates a source's potential to emit based on operation for every hour of a day multiplied by 365 days per year. In other words, PTE refers to a source's maximum capability to emit an air pollutant under its physical and operational design. If pollution controls are installed and operated, a source's potential to emit will take such controls into account. EPA regulations state that the Agency will treat physical and operational limitations on PTE as part of the source's design if the limitations are "enforceable by the Administrator," otherwise known as *federally enforceable* limits.[1]

In January 1995, EPA issued a guidance document to define what constitutes a federally enforceable limit. The guidelines also set forth what was originally termed a two-year transition policy that allowed state and local regulators the option of treating certain types of sources as nonmajor in their Title V programs and under CAA § 112.[2] State and local agencies had the discretion of recognizing the following two options to limit PTE:

- Sources that maintain adequate records to demonstrate that their actual emissions are less than 50% of the applicable major source threshold and have continued to operate at less than 50% of the threshold since January 1994
- Sources with actual emissions between 50-100% of the threshold, but which hold state-enforceable limits that are enforceable as a practical matter.[3]

The guidance also listed five ways in which to create a federally enforceable PTE

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[9]Memorandum from Lydia N. Wegman, Dep. Dir., EPA Off. of Air Quality Plan. & Standards to Dir. Off. of Ecosystem Protection, Region I et al., White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program, 34 (Mar. 5, 1996) [hereinafter White Paper Number 2].

[10]White Paper Number 2 at p. 32.

[11]White Paper Number 2 at p. 32.

[Section 12:129]

[1]40 C.F.R. § 70.2 (defining *potential to emit* as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator"). This definition mirrors the PTE definition for the PSD and NNSR programs and is also used for the CAA § 112 program. While the PSD and NNSR programs were implemented before 1990, the CAA § 112 and Title V programs were added in the 1990 CAA Amendments.

[2]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, & Robert I. Van Heuvelen, Dir. EPA Off. of Reg. Enf't to Dir. Air, Pesticides and Toxics Management Div, Regions I and IV, et al., Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act (Jan. 25, 1995).

[3]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, & Robert I. Van Heuvelen, Dir. EPA Off. of Reg. Enf't to Dir. Air, Pesticides and Toxics Management Div, Regions I and IV, et al., Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section

limit:[4]

1. Federally enforceable state operating permit programs (FESOPs) or non-Title V permitting programs implemented through a SIP or TIP rule
2. Limits imposed by a source category specific SIP or TIP rule and approved by EPA
3. General permits
4. Federally enforceable state construction permits (i.e., major source new source review (NSR) and minor source NSR)
5. Title V permits.

On July 21, 1995, the U.S. Court of Appeals for the D.C. Circuit remanded the PTE definition in 40 C.F.R. part 63, with regard to the CAA § 112 program and the "federally enforceable" requirement, back to EPA for an explanation as to "how its refusal to consider limitations other than those that are 'federally enforceable' serves the statute's directive to 'consider controls' when it results in a refusal to credit controls imposed by a state or locality even if they are unquestionably effective."[5] The D.C. Circuit then remanded and vacated the PTE rules for the PSD and NNSR programs.[6]

In light of these cases, EPA issued a memorandum in January 1996 on effective limits on PTE.[7] EPA stated that the three "overarching considerations" governing PTE limit effectiveness are: (1) enforceability as a practical matter; (2) compliance incentive effectiveness; and (3) state program effectiveness.[8] This memo discussed two options to ensure compliance effectiveness: (1) state or locally enforceable limits; or (2) streamlined federal enforceability. As EPA notes in the January 1996 memorandum, the "central question arising from the court decisions is whether sufficient compliance incentives exist if EPA and citizens cannot directly enforce PTE limits in federal court."[9]

Nonetheless, the D.C. Circuit struck down the last PTE definition later that year by vacating the PTE definition as applied to the Title V program in 40 C.F.R. part 70.[10] The January 1995 transition policy, originally to be in effect for only two years, was extended until a rule could be promulgated. The term "federally enforceable" in the PTE definition, for purposes of Title V operating permits, has been redefined to mean "federally enforceable or legally and practicably enforceable by a State or local

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112 and Title V of the Clean Air Act (Jan. 25, 1995) at 9–11.

[4]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, & Robert I. Van Heuvelen, Dir. EPA Off. of Reg. Enf't to Dir. Air, Pesticides and Toxics Management Div, Regions I and IV, et al., Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act (Jan. 25, 1995) at 3–5.

[5]National Min. Ass'n v. U.S. E.P.A., 59 F.3d 1351, 1364, 40 Env't. Rep. Cas. (BNA) 2089, 25 Envtl. L. Rep. 21390, 21397 (D.C. Cir. 1995).

[6]Chemical Mfrs. Ass'n v. E.P.A., 70 F.3d 637 (D.C. Cir. 1995).

[7]Memorandum from Steven A. Herman, EPA Ass't Adm'r for Enf't and Compliance Assurance & Mary D. Nichols, EPA Ass't Adm'r for Air and Radiation to Member of the Subcommittee on Permits, New Source Review and Toxics Integration, "Effective" Limits on Potential to Emit: Issues and Options (Jan. 31, 1996).

[8]Memorandum from Steven A. Herman, EPA Ass't Adm'r for Enf't and Compliance Assurance & Mary D. Nichols, EPA Ass't Adm'r for Air and Radiation to Member of the Subcommittee on Permits, New Source Review and Toxics Integration, "Effective" Limits on Potential to Emit: Issues and Options (Jan. 31, 1996) at 3-4.

[9]Memorandum from Steven A. Herman, EPA Ass't Adm'r for Enf't and Compliance Assurance & Mary D. Nichols, EPA Ass't Adm'r for Air and Radiation to Member of the Subcommittee on Permits, New Source Review and Toxics Integration, "Effective" Limits on Potential to Emit: Issues and Options (Jan. 31, 1996) at 5.

[10]Clean Air Implementation Project v. E.P.A., 1996 WL 393118 (D.C. Cir. 1996).

air pollution control agency."[11] A second extension of the transition period for the Title V and HAP programs ended on December 31, 1999, when EPA failed to promulgate a new rule defining potential to emit by that date.[12] As of mid-2021, EPA had not yet developed new rules to define PTE, and the EPA guidance memoranda outlining mechanisms to limit PTE for purposes of staying below major source thresholds under the PSD, NNSR, Title V, and HAP programs remains in effect.

§ 12:130 Affected Sources—Regulated Pollutants

All major sources of any regulated air pollutant are subject to the Title V permit requirements. Additionally, permit fees imposed on a source under the Title V permitting program are based on emissions of regulated pollutants. Therefore, it is important to determine what, precisely, constitutes a "regulated air pollutant" for major source classification under CAA § 302(j). The definition itself is written broadly,[1] but EPA has determined that a narrow interpretation is consistent with congressional intent and limits the definition to all pollutants *subject to regulation* (i.e., control of emissions) under the CAA.[2] This approach parallels the interpretation given under the PSD program.[3]

Regulated air pollutants are defined in the Title V regulations to include:[4]

- NO_x and VOCs
- Pollutants with promulgated NAAQS (PM_{10}, $PM_{2.5}$, sulfur dioxide, ozone, nitrogen dioxide, CO, and lead)
- Pollutants subject to NSPS under CAA § 111 (which would include greenhouse gas (GHGs) emissions)
- Air toxics subject to CAA § 112
- Class I and II substances under the stratospheric ozone program in CAA Title VI.

Note that "if a pollutant is regulated for one source category by a standard or other requirement, then the pollutant is considered a regulated air pollutants [sic] for *all* source categories."[5] The exception to this rule is when a pollutant is regulated under CAA § 112(g)(2) as a case-by-case maximum achievable control technology (MACT) determination under the toxics program. Additionally, states may add air

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[11]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards, & Robert I. Van Heuvelen, Dir. EPA Off. of Reg. Enf't to Dir. Off. of Ecosystem Protection, Region I, et al., Extension of January 25, 1995 Potential to Emit Transition Policy (Aug. 27, 1996).

[12]Memorandum from John S. Seitz, Dir., EPA Off. of Air Quality Plan. & Standards & Eric V. Schaeffer, Dir. EPA Off. of Reg. Enf't to Dir. Off. of Ecosystem Protection, Region I, et al., Second Extension of January 25, 1995 Potential to Emit Transition Policy and Clarification of Interim Policy (July 10, 1998).

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[1]Under CAA § 302(g), "the term 'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant." CAA § 302(g); 42 U.S.C. § 7602(g).

[2]Memorandum from Lydia N. Wegman, Deputy Dir., EPA Off. of Air Quality Plan. & Standards to Air Div. Dirs., EPA Regions I-X, Definition of Regulated Air Pollutant for Purposes of Title V, at 4 (Apr. 26, 1993) [hereinafter Wegman Memorandum].

[3]Wegman Memorandum at 5.

[4]40 C.F.R.§ 70.2. For the presumptive fee calculation, regulated pollutant means any regulated air pollutant, except for CO, GHGs, and any pollutant that is a regulated air pollutant solely because it is a Class I or II substance under CAA Title VI or is regulated under CAA § 112(r).

[5]Wegman Memorandum at 3.

pollutants for regulation.

There are several exclusions when applying this definition to *fee calculations only*. For purposes of determining the presumptive permit fee under the Title V regulations, the following pollutants are excluded from the fee determination: carbon monoxide, pollutants regulated solely by virtue of classification as a Class I or II substance under CAA Title VI, pollutants regulated solely because they are subject to CAA § 112(r) prevention of accidental release provisions, and GHGs.[6] Permitting agencies may include a GHG cost adjustment in the Title V fees based on the additional burden of the GHG evaluation in the Title V permitting process.[7]

XII(C) TITLE V OPERATING PERMITS—PERMIT APPLICATIONS

§ 12:131 Title V Permit Applications—Introduction

A Title V Operating Permit program becomes effective as a matter of law on the date of EPA approval or the EPA promulgation date.[1] After a program becomes effective, sources are given a certain amount of time to apply for a Title V permit. Generally, a Title V permit application must be submitted within 12 months after a source with actual or potential emissions above a major source threshold or that is otherwise subject to the 40 C.F.R. part 70 applicability criteria, becomes subject to the permit program.[2] A permitting authority may establish an earlier deadline for application submissions.[3] New major sources (e.g., new gas-fired power plant) must submit an application within 12 months of commencing operation or earlier if required.[4] A few states have combined their PSD/NNSR preconstruction permit programs with the Title V program and issue a combined preconstruction/operating permit. For example, the New York State Department of Environmental Conservation will issue a combined preconstruction and Title V permit for new major sources.[5] Sources seeking to revise a Title V permit for the installation of new equipment or a change in operations must typically file a permit revision request 12 months (or such time as prescribed by the permitting agency) prior to making the change, where the existing permit would prohibit the physical change or change in the method of operation.[6]

Title V permits are issued for a term of five years, although permits for municipal waste incineration units may be issued for up to 12 years with five year review periods.[7] When a permit expires, the source's right to operate is terminated unless a timely and complete renewal application has been submitted.[8] A source is required to submit its renewal application six months prior to the expiration date; a state can require an earlier submission but not earlier than 18 months before expiration.[9] Title V permit revision applications need contain only information relevant to the

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[6] 40 C.F.R. § 70.9(b)(2); 40 C.F.R. § 70.2.

[7] 40 C.F.R. § 70.9(b)(2)(v).

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[1] CAA § 502(h); 42 U.S.C. § 7661a(h).

[2] 40 C.F.R. § 70.3(a).

[3] 40 C.F.R. § 70.5(a)(1)(i).

[4] 40 C.F.R. § 70.5(a)(1)(ii).

[5] *See* https://www.dec.ny.gov/permits/6069.html.

[6] 40 C.F.R. § 70.5(a)(1)(ii).

[7] 40 C.F.R. § 70.6(a)(2).

[8] 40 C.F.R. § 70.7(c)(1)(ii).

[9] 40 C.F.R. § 70.5(a)(1)(iii).

change.[10]

The Title V permitting agency will start to process a permit application once the application is deemed complete. The permitting agency must request additional information or otherwise notify the applicant of incompleteness within 60 days of receipt of the application, or otherwise the application is deemed complete.[11] Title V permit applications should "contain information to the extent needed to determine major source status, to verify the applicability of part 70 or applicable requirements, . . . and to compute a permit fee (as necessary)."[12] The applicant has a duty to supplement and correct the application when the applicant becomes aware of incorrect information.

While the content of a Title V permit application may vary somewhat from one permitting agency to another, the basic requirements are summarized below. Sources should generally expect to be issued a final Title V permit that reflects the information provided in the completed application.

§ 12:132 Title V Permit Applications—Title V Permit Application Content

In general, a Title V permit application should clearly identify all of the applicable CAA requirements. This will include PSD/NNSR permit emission limits and conditions, NSPS limitations, and NESHAP requirements, as well as monitoring, reporting, and recordkeeping provisions. Items to be included in the permit application differ for major and nonmajor sources. Under the Title V program, an operating permit for a major source must include "all applicable requirements for all relevant emissions units in the major source."[1] In other words, all the source's requirements under the CAA must be included. In contrast, nonmajor source permits are only required to contain the applicable requirements that "cause the source to be subject to the part 70 program."[2] EPA's White Paper Number 1, released on July 10, 1995, offers guidance as to how each of these requirements can be satisfied.[3]

Standard application content for Part 70 sources[4]

Identifying information for the facility, such as name, address, telephone number, contact individual at site, and owner

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[10]40 C.F.R. § 70.5(a)(2).

[11]40 C.F.R. § 70.7(a)(4).

[12]Memorandum from Lydia N. Wegman, Dep. Dir., EPA Off. of Air Quality Plan. & Standards to Dir. Off. of Ecosystem Protection, Region I et al., White Paper for Streamlined Development of Part 70 Permit Applications, at 6 (July 10, 1995) [hereinafter White Paper Number 1]. *See also* 40 C.F.R. § 70.5(a)(2).

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[1]40 C.F.R. § 70.3(c)(1).

[2]40 C.F.R. § 70.3(c)(2).

[3]White Paper Number 1 at 6. For example, EPA's White Paper Number 1 guidance "enables and encourages" the use of: (1) tons per year (tpy) estimates for emissions units only where meaningful and these may be based on generally available information rather than new studies or testing; (2) emissions descriptions rather than estimates for emissions not regulated at the source (unless required for fee calculations, permit shield, major source determinations, or plantwide applicability determinations); (3) checklists for emissions from insignificant activities; (4) exclusions for trivial or insignificant activities; (5) group treatment for certain activities; (6) the operating permit process to reconcile existing NSR and federally enforceable terms with the Title V permit; (7) citations for applicable requirements with qualitative descriptions for emissions units; and (8) certifications of compliance status which do not require re-evaluation of previous applicability decisions. *See* White Paper Number 1 at 2–3.

[4]40 C.F.R. § 70.5(c).

Description of the source's products and processes by SIC code

All emissions related information for the source, including:

- All emissions of pollutants for which the source is major, and all emissions of regulated air pollutants
- Identification and description of all points of emissions in sufficient detail to establish the basis for fees and applicability of CAA requirements
- Emissions rate in tpy and in such terms as are necessary to establish compliance consistent with the applicable standard reference test method
- Fuels, fuel use, raw materials, production rates, and operating schedules to the extent it is needed to determine or regulate emissions
- Identification and description of air pollution control equipment and compliance monitoring devices or activities
- Limitations on source operation affecting emissions or any work practice standards, where applicable, for all regulated air pollutants
- Other information required by any applicable requirement (including information related to stack height limitations pursuant to CAA § 123)
- Any calculations on which the above information is based.

The citation and description of all applicable CAA requirements, e.g., acid rain program, NSPS, NESHAP, and description of or reference to any applicable test method for determining compliance with each applicable requirement.

Other specific information that may be necessary to implement and enforce other applicable requirements.

An explanation for any proposed exemptions from otherwise applicable requirements.

Any additional information determined necessary by the permitting authority to define proposed alternative operating scenarios identified by the source.

A compliance plan containing the following information:[5]

- Description of the compliance status of the source with respect to all applicable requirements
- For applicable requirements where the source is in compliance, a statement that the source will continue to comply with such applicable requirements
- For applicable requirements where the source is not in compliance, a narrative description on how the source will achieve compliance with such applicable requirements
- For applicable requirements associated with a proposed alternative operating scenario, a statement that the source will comply with such alternative operating scenarios
- A compliance schedule, including certification reports at least every six months
- An Acid Rain program compliance plan, if applicable.

Requirements for submitting a compliance certification.

Acid Rain program forms, if applicable.[6]

A certification by a responsible official that the application is true, accurate, and complete.[7]

EPA has taken the position that the national ambient air quality standards (NAAQS) for criteria pollutants implemented through a SIP or TIP is not an "applicable requirement" to be included in an operating permit. Compliance with the

[5]40 C.F.R. § 70.5(c)(8).

[6]40 C.F.R. § 70.5(c)(10).

[7]40 C.F.R. § 70.5(d).

NAAQS are implemented through various SIP and TIP rules that are applicable requirements with respect to certain sources, but the NAAQS themselves are not directly applicable to sources. When applying for a PSD permit, sources are required to demonstrate that air modeling does not indicate that the source's emissions will violate a NAAQS or PSD increment.

One of the most onerous tasks in preparing a Title V operating permit application is completing the emissions inventory. The EPA's AP-42 Manual provides emission factors that can be used in calculating PTE, but sources should understand that the AP-42 emission factors represent averages.[8] Quantifying emissions with averages requires balancing the risk of underestimating and possibly violating the Title V permit if there is a corresponding permit limit based on an underestimated emission projection. Overestimating emissions may also lead to the imposition of more stringent emission control requirements.

§ 12:133 Title V Permit Applications—Streamlining Permit Terms

A source may choose to streamline its Title V application and permit by grouping multiple requirements into a single set of terms.[1] The overall goal is to develop a set of permit terms and conditions for each emission point or group of emission points that is sufficient to determine compliance with all applicable requirements and eliminates redundant or conflicting requirements.[2] Streamlining a Title V permit application requires cooperation and mutual assent from both the applicant and the permitting authority. This cooperative approach may also be used in coordinating with the permitting agency on formulating the initial draft of the Title V permit.

Streamlining requires a demonstration of adequacy. This adequacy determination is discussed in detail in EPA's White Paper Number 2, but to summarize, the streamlined requirements must assure "compliance with all applicable requirements it subsumes."[3] According to White Paper Number 2, streamlining involves an eight-step process for the applicant and permitting authority:

1. Compare all applicable requirements to be streamlined and those that are currently applicable, distinguishing between compliance, monitoring, and work practice provisions
2. Determine the most stringent emissions standard for each emission unit pollutant combination
3. Propose a single set of permit terms to include the most stringent emissions limitation and applicable monitoring, reporting, and recordkeeping
4. Certify compliance
5. Develop a compliance schedule
6. Propose a permit shield for the streamlined requirements (as discussed in § 12:151)
7. The permitting authority determines the adequacy of the streamlining proposal
8. The permitting authority must notify EPA and the public of the use of Title V

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[8] *See* Clara G. Poffenberger, The Role of Emission Factors in Permitting and Enforcement, in The Emission Inventory: Key to Planning, Permits, Compliance, and Reporting. 7-9 (Air & Waste Mgmt., 1996).

[Section 12:133]

[1] White Paper Number 2, at 6; CAA § 504(a) and (f); 42 U.S.C. § 7661d(a), (f), provide the legal authority for streamlining Title V permits.

[2] White Paper Number 2 at 6.

[3] White Paper Number 2 at 8-11.

permit streamlining.[4]

§ 12:134 Title V Permit Applications—Compliance certifications

The Title V regulations also require that facilities submit a compliance certification with their permit applications.[1] Thus, for each applicable requirement, the applicant must certify, under penalty of law, whether or not the source is in compliance. The compliance certification must include: (1) a certification of compliance with all applicable requirements by a responsible corporate official; (2) a statement of the methods used for determining compliance; (3) a schedule for submitting compliance certifications during the permit term; and (4) a statement regarding the compliance status of the source with any enhanced monitoring and compliance certification requirements.[2]

A responsible corporate official is certifying in the compliance certification that, based on information and belief after reasonable inquiry, the statements and information in the document are true, accurate, and complete.[3] The requirement of certification of a Title V permit application by a responsible official is not a superficial one.[4] The responsible official is legally responsible in an enforcement action if the submittal is not truthful and accurate. Therefore, the responsible official should be someone who understands the Title V permitting process and the judgment calls that underlie the information in the permit application.[5]

In practice, preparing a compliance certification usually falls on the facility environmental manager or plant manager who must be familiar with all of the facility's Title V "applicable requirements" and whether or not the facility is in compliance with these applicable requirements. Title V compliance certifications will be based on emissions data, submitted with the application, that demonstrate compliance during a particular time period. If a facility is uncertain whether it will remain in compliance for the term covered by the permit, the facility may want to be proactive and submit a compliance plan to implement changes in the future to ensure ongoing compliance. The responsible official signing the Title V permit application will need to be fully briefed by the facility environmental manager or plant manager on the facility's compliance with all of its Title V applicable requirements. It is also a best management practice to develop a checklist of Title V applicable requirements and keep a record of pre-certification discussions with the responsible official.

§ 12:135 Title V Permit Applications—Title V Application Shield

After a source submits its completed permit application or renewal application, CAA § 503(d) provides an application shield that protects a source from violations for operating without a permit between the time a completed application is submit-

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[4]White Paper Number 2 at 14-16.

[Section 12:134]

[1]40 C.F.R. § 70.5(c)(9).

[2]40 C.F.R. § 70.5(c)(9)(i), (ii), (iii), and (iv).

[3]40 C.F.R. § 70.5(d).

[4]The definition of "responsible official" is found at 40 C.F.R. § 70.2.

[5]Under the definitions, a responsible corporate official means "a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either: (i) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or (ii) the delegation of authority to such representatives is approved in advance by the permitting authority." 40 C.F.R. § 70.2.

ted and the time a final decision is made by the permitting authority.[1] However, the application shield ceases to apply if the source fails to submit any additional information deemed to be needed to complete the application by the specified deadline.[2] The application shield does not, however, affect the requirement that any source have a preconstruction permit under Title I of the Act.[3] Thus, the application shield will not protect a source that is under construction if the construction requires a preconstruction review permit.

With respect to Title V permit renewals, if a timely renewal application is submitted, but final action has not been taken on the application, the source's failure to attain a reissued Title V permit will not be a violation of the Act.[4] As a practical matter, the existing Title V permit will remain in effect until the renewal permit is issued or denied.

§ 12:136 Title V Permit Applications—Synthetic Minors

A source that wishes to avoid Title V coverage altogether may opt to pursue state non-Title V permits or other EPA programs that limit the PTE and provide for federally enforceable limitations or standards that enable the source to avoid Title V applicability. For example, a new source may escape Title V coverage (as well as PSD BACT and NNSR LAER applicability) if it limits the source's emissions to below the major source threshold amounts. Sources that do so are referred to as *synthetic minor sources*. This approach often receives greater scrutiny by the permitting authorities than a Title V permit, and detailed monitoring, recordkeeping, and reporting requirements are typically imposed to ensure synthetic minor source status is maintained.

If the source fails to comply with those synthetic limitations or it is shown that the limitations were fraudulent, then EPA or the state may bring an enforcement action for operating without a Title V permit. Enforcement measures may be applied retroactively from the date when the source should have acquired the permit. Additionally, a source may choose to obtain a Title V permit and use the enforceable limitations in the operating permit to preclude coverage in other programs, such as PSD or NNSR.[1]

XII(D) TITLE V OPERATING PERMITS—PERMITTING PROCESS AND TIMING

§ 12:137 Title V Permitting Process and Timing—Introduction

Preparing and evaluating an operating permit is a time consuming and complicated job for both the applicant and the permitting authority. The source preparing a Title V permit application must assemble background information and emissions data, develop compliance and monitoring plans, assess past compliance, and anticipate future requirements. The source then should continue to work with the permitting authority during the review of the application and drafting of the Title V permit.

[Section 12:135]

[1]40 C.F.R. § 70.7(b).

[2]CAA § 503(d); 42 U.S.C. § 7661b(d); 40 C.F.R. § 70.7(b).

[3]40 C.F.R. § 70.5(a)(6).

[4]40 C.F.R. § 70.4(b)(10).

[Section 12:136]

[1]Sources that are not automatically included in the Title V program are not excluded from applying for a Title V operating permit if they desire, so long as they have the potential to become a major source.

The processing of any individual Title I permit will involve EPA, the state, other affected states, the permit applicant, and the interested public. The state, tribal, and local permitting authorities must receive and review the Title V permitting applications for completeness and accuracy. The permitting agency then submits the Title V permit application and the proposed permit to EPA for review and comment.[1] The permitting authority must also provide a copy of the Title V permit application and proposed permit to contiguous states whose air quality may be affected and to all states that are within 50 miles of the permitted source. Each of these jurisdictions then have an opportunity to submit recommendations regarding the issuance of the permit and its terms and conditions.[2] To the extent a neighboring or affected state make recommendations, and the permitting authority does not accept the recommendations, it must notify both the state and EPA, in writing, of the reasoning behind its decision.[3]

The state must provide "*adequate procedures* for public notice including an opportunity for public comment and a hearing on the draft permit."[4] "Adequate procedures" includes notice by publication in general circulation newspapers and via the permitting authority's mailing list. The notice must identify the source facility and include information regarding how to obtain the draft permit, application, and any other information relevant to the permit process. A hearing is not automatically mandated, but may be required under certain rules, such as when a specified number of interested parties requests a hearing. The permitting authority must provide at least 30 days for public comment on the draft permit and give at least 30 days' notice prior to any scheduled public hearing.

The permitting authority has 18 months to act on a completed permit application.[5] However, in practice, it may take state, tribal, and local permitting agencies much longer to process Title V permit applications, particularly if the major source has multiple emissions sources and a number of alternative operating scenarios to evaluate. The failure of the permitting authority to act within the specified time period is deemed a final action by the agency; in such a situation, an applicant has the option of filing a petition in state court to request that action be taken on the Title V application without additional delay.[6]

Under CAA § 505(a)(1), the state, tribal, or local permitting authority must transmit to EPA (usually the regional office) a copy of the permit application, draft permit, proposed permit, and final permit. Upon an agreement with EPA, a summary of the application and compliance plan may be provided rather than the full application.[7]

§ 12:138 Title V Permitting Process and Timing—Standard Application Content

CAA § 505(b) provides that EPA may object to the issuance of a Title V permit.[1] If EPA determines that the permit does not comply with the CAA or the SIP/TIP, then

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[Section 12:137]

[1]CAA § 505(a)(1); 42 U.S.C. § 7661d(a)(1).

[2]CAA § 505(a)(2); 42 U.S.C. § 7661d(a)(2).

[3]CAA § 505(a)(2); 42 U.S.C. § 7661d(a)(2).

[4]40 C.F.R. § 70.7(h); *see* CAA § 503(e); 42 U.S.C. § 7661b(e) (emphasis added).

[5]40 C.F.R. § 70.7(a)(2).

[6]CAA § 502(b)(7); 42 U.S.C. § 7661a(b)(7).

[7]40 C.F.R. § 70.8(a).

[Section 12:138]

[1]CAA § 505(b)(1); 42 U.S.C. § 7661d(b)(1).

EPA must notify both the permitting authority and the applicant in writing of its objections. These objections must be made within 45 days of receipt of the "proposed permit." EPA can also send comments (*i.e.*, suggestions rather than mandates) to the permitting authority, and the permitting authority's response is part of the permitting record. If there is no objection, then the permit may be issued by the permitting authority.

A permit may not be issued if EPA objects. The state, tribal, or local permitting authority may not issue a permit over EPA's objection and must either modify, terminate, or revoke the permit within 90 days;[2] otherwise, EPA will take over issuance of the permit.[3] If this time period passes without such action, EPA may issue or deny the permit. The initial 90-day period may be extended for another 90 days if EPA determines that further information is required.[4] Only the final action by a permitting authority or EPA to issue or deny a Title V permit is judicially reviewable. For nonmajor source categories, EPA may waive the CAA § 505 notification requirements.[5]

§ 12:139 Title V Permitting Process and Timing—Title V Petitions

The public may challenge a final Title V permit or petition EPA to veto the permit on the basis of issues raised during the public comment period.[1] Within 60 days after EPA's 45-day review period expires, any person may petition EPA to object to the permit. The petition must "be based only on objections . . . that were raised with reasonable specificity during the public comment period provided by the permitting agency."[2] EPA has 60 days to grant or deny the petition. Any denial is subject to judicial review. Notably, the filing of a petition itself does not stay the effectiveness of the permit if it has already been issued.

There is no precedent for this petition authority in the other federal environmental permit programs, and it effectively delays the date on which a Title V permit becomes definitely final until the deadline for filing citizen petitions or EPA's response has passed.[3] The requirements described above also apply to permit renewals and major modifications.[4] After a final decision is made on the petition by the EPA administrator, the decision may be appealed to the appropriate federal circuit court of appeals, pursuant to CAA § 307(b).[5]

There have been a multitude of petitions filed with EPA requesting that the agency object to the issuance of certain Title V permits. Under CAA § 505(b)(2), EPA "shall issue an objection . . . if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of" Title V.[6] EPA has compiled a database of Title V petitions and responses that have been filed since

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[2]CAA § 505(b)(3), (c); 42 U.S.C. § 7661d(b)(3), (c).

[3]CAA § 505(b)(3); 42 U.S.C. § 7661d(b)(3); CAA § 505(c); 42 U.S.C. § 7661d(c).

[4]CAA § 505(e); 42 U.S.C. § 7661d(e).

[5]40 C.F.R. § 70.8(a)(2).

[Section 12:139]

[1]CAA § 502(b)(6); 42 U.S.C. § 7661a(b)(6); CAA § 505(b)(2); 42 U.S.C. § 7661d(b)(2).

[2]CAA § 505(b)(2); 42 U.S.C. § 7661d(b)(2).

[3]The citizen petition must be filed within 60 days of the end of a 45-day period that begins when EPA receives a copy of the proposed Title V permit or notification from the permitting authority that it is rejecting recommendations from a neighboring state for changes in the permit. CAA § 505(b); 42 U.S.C. § 7661d(b).

[4]CAA § 505(a); 42 U.S.C. § 7661d(a).

[5]CAA § 307(b); 42 U.S.C. § 7607(b). Appeals shall be filed within 60 days of publication of EPA's final agency action on the petition in the Federal Register.

[6]CAA § 505(b)(2); 42 U.S.C. § 7661d(b)(2).

1996.[7]

Not surprisingly, the case law has focused on what constitutes a sufficient demonstration of noncompliance to require EPA to object to the issuance of a Title V permit. Decisions in the U.S. Courts of Appeals for the Sixth and Eleventh Circuits have concluded that the issuance of a notice of violation and civil complaints are insufficient to trigger the EPA administrator's duty to object.[8] The U.S. Court of Appeals for the Second Circuit reached the opposite conclusion and held that issuance of notices of violation and commencement of a civil suit was a sufficient demonstration of noncompliance to trigger an EPA objection.[9] The U.S. Courts of Appeals for the Eighth and Ninth Circuits have also determined that a failure to petition EPA for an objection bars any subsequent citizen suit action by a petitioner challenging permitting decisions that could have been raised during the Title V permitting process.[10]

Title V petitions to object have also been filed asserting that EPA should review underlying PSD/NNSR permitting issues, including whether certain equipment changes should have been processed through a major source modification. The U.S. Court of Appeals for the Fifth Circuit upheld EPA's determination that the Title V permitting process should not be used to re-examine the issuance of the underlying PSD/NNSR permit.[11] The U.S. Court of Appeals for the Tenth Circuit took a different approach, and concluded that EPA's interpretation of the regulatory definition of "applicable requirements" was too narrow and remanded the case back to EPA to evaluate whether changes to a power plant in the late 1990s should have been reviewed as a major modification rather than a minor modification under the state's SIP rules.[12]

In 2020, EPA revised the Title V petition process, seeking to streamline and clarify the submittal and review of Title V petitions.[13] The 2020 rule changes clarify that any proposed Title V permit sent to EPA for its 45-day review must include both the statement of basis and the written responses to comments document where applicable.[14] Submittal of these documents, in addition to the proposed permit, are necessary in order to start the 45-day review clock.

§ 12:140 Title V Permitting Process and Timing—Judicial Review

State, tribal, and local permitting authorities that receive approval to implement an operating permit program must provide for judicial review of Title V permit decisions. In these states, state court review is the sole means of review. Judicial review is available to the applicant, anyone who participated in the public participation process, and "any other person who could obtain judicial review of such actions

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[7]*See* U.S. EPA, TITLE V PETITION DATABASE, https://www.epa.gov/title-v-operating-permits/title-v-petition-database.

[8]Sierra Club v. Johnson, 541 F.3d 1257, 1259, 67 Env't. Rep. Cas. (BNA) 1609 (11th Cir. 2008); Sierra Club v. U.S. E.P.A., 557 F.3d 401, 411–412, 68 Env't. Rep. Cas. (BNA) 1393 (6th Cir. 2009).

[9]New York Public Interest Research Group, Inc. v. Johnson, 427 F.3d 172, 180, 61 Env't. Rep. Cas. (BNA) 1449, 35 Envtl. L. Rep. 20224 (2d Cir. 2005).

[10]Romoland School Dist. v. Inland Empire Energy Center, LLC, 548 F.3d 738, 755, 67 Env't. Rep. Cas. (BNA) 1928 (9th Cir. 2008); Sierra Club v. Otter Tail Power Co., 615 F.3d 1008, 1017–18, 71 Env't. Rep. Cas. (BNA) 1551 (8th Cir. 2010).

[11]Environmental Integrity Project v. United States Environmental Protection Agency, 969 F.3d 529 (5th Cir. 2020).

[12]Sierra Club v. United States Environmental Protection Agency, 964 F.3d 882 (10th Cir. 2020).

[13]Revisions to the Petition Provisions of the Title V Permitting Program, 85 Fed. Reg. 6431 (Feb. 5, 2020) (to be codified at 40 C.F.R. pt. 70).

[14]Revisions to the Petition Provisions of the Title V Permitting Program, 85 Fed. Reg. 6431 (Feb. 5, 2020) (to be codified at 40 C.F.R. pt. 70).

under State laws."[1] This list includes anyone who would have Article III standing under the U.S. Constitution.

The Title V regulations provide that petitions for judicial review much be filed within 90 days after a final permit action or such shorter period as prescribed by a state, tribal, or local permitting agency.[2] Most states have established a 30 day deadline to file an appeal. No challenges from a Title V permit issued by a state, tribal, or local permitting authority may be brought in federal court except for EPA's denial of a petition to veto issuance of a Title V permit.[3]

Title V permits issued by EPA pursuant to 40 C.F.R. part 71 or permits issued by state, tribal, or local agencies pursuant to a delegation of authority from EPA may be administratively appealed to the EPA Environmental Appeals Board (EAB). The appeal to the EAB may be filed by a third party or the permittee. The procedures for appealing a Title V permit issued by EPA or by a permitting authority with delegated authority to the EAB are governed by 40 C.F.R. part 124.19. The part 71 regulations state that an appeal to the EAB is a prerequisite to seeking judicial review of a final agency action under CAA § 307(b).[4] For purposes of judicial review, a final agency action on a Title V permit occurs after the EAB issues a notice that the petition for review has been denied or the EAB issues a decision on the merits of the appeal including any completion of remand proceedings.[5] EAB decisions may be appealed to a federal circuit court of appeals pursuant to CAA § 307(b).[6]

Challenges to a Title V permit issued by a state, tribal, or local permitting agency pursuant to a SIP or TIP approved program must be filed within 90 days of final permit action or within 90 days of when new grounds arise. This 90-day limit is typically shortened by the applicable permitting agency. Note that this deadline may arise before completion of a petition to the EPA Administrator for permit review and denial under CAA § 505(b)(2); as a result, a challenge in a state court may also need to be filed.

After the expiration of the applicable period to file a judicial review petition for Title V permits, the Title V permit terms and conditions may not be challenged in a subsequent enforcement action.[7]

In 1994, EPA disapproved Virginia's state permit program for failing to provide

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[Section 12:140]

[1]40 C.F.R. § 70.4(b)(3)(x). For tribes with approved Title V operating permitting programs, the tribal air regulations will specify the applicable administrative and judicial review procedures. For example, permit decisions by the Southern Ute Indian Tribe may be administratively appealed to the Southern Ute Indian Tribe/State of Colorado Environmental Commission, and any final order of the Commission may be appealed to the United States Court of Appeals for the Tenth Circuit. *See* the Procedural Rules of the Southern Ute Indian Tribe/State of Colorado Environmental Commission, https://www.southernute-nsn.gov/justice-and-regulatory/epd/air-quality/env-commission/.

[2]40 C.F.R. § 70.4(b)(3)(xii).

[3]*See* CAA § 502(b)(6); 42 U.S.C. § 7661a(b)(6). If, after the EPA review period for a Title V permit, any person petitions EPA for failure to object to the permit and EPA denies the petition, the denial may be reviewed in an U.S. Court of Appeals per CAA § 307. Note that the EPA denial will be from the EPA Environmental Appeals Board, to whom the Administrator has delegated Title V petition review authority.

[4]40 C.F.R. § 71.11(l)(2).

[5]40 C.F.R. § 124.19(m)(2).

[6]CAA § 307(b); 42 U.S.C. § 7607(b). Appeals shall be filed within 60 days of publication of EPA's final agency action in the Federal Register.

[7]Operating Permits Program, 57 Fed. Reg. 32250, 32265 (July 21, 1992) (to be codified at 40 C.F.R. pt. 70); Sierra Club v. Georgia Power Co., 443 F.3d 1346, 1356 n.15, 62 Env't. Rep. Cas. (BNA) 1166, 36 Envtl. L. Rep. 20065 (11th Cir. 2006).

for adequate judicial review.[8] Virginia had attempted to limit judicial review to those who had "pecuniary and substantial" interests. The U.S. Court of Appeals for the Fourth Circuit upheld EPA's disapproval and ruled that the Virginia proposal did not comply with the CAA.[9]

XII(E) TITLE V OPERATING PERMITS—PERMIT CONTENT

§ 12:141 Title V Permit Content—Introduction

Given the extensive list of requirements that Title V permits must address, it is not surprising that the permit contents are considerably more detailed and exacting, particularly on monitoring, recordkeeping, and reporting, than most other permits. Section 504 of the CAA Amendments of 1990 states that:

> [e]ach permit issued . . . shall include enforceable emission limitations and standards, a schedule of compliance, a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of any required monitoring, and such other conditions as are necessary to assure compliance with applicable requirements of this chapter, including the requirements of the applicable implementation plan.[1]

The final rule for the Title V operating permit program enumerates nine requirements for permit content:

1. a fixed term or duration;
2. limits and conditions to assure compliance with all applicable requirements;
3. a schedule of compliance;
4. inspection, monitoring, recordkeeping, reporting, and compliance certification requirements to ensure compliance with permit terms and conditions;
5. reopening conditions for major sources;
6. provisions for permit revision, termination, modification, or reissuance;
7. provisions ensuring operational flexibility allowing for minor changes without a "revision" under certain circumstances;
8. provision that nothing in the Title V permit affects allowances under the acid rain program; and
9. provision that all alternative operating scenarios be identified by the source and included in the permit.[2]

An operating permit under Title V may be issued for a term of up to five years.[3] For affected sources under the Title IV program, an acid rain permit is also issued for a five-year term.[4] Solid waste incinerators subject to regulation under CAA § 129(e) will be issued an operating permit for a period up to 12 years, with a review every five years.[5] Major sources with a Title V permit term exceeding three years must also include a "reopener" provision, requiring that the permit be modified if

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[8]Clean Air Act Disapproval of Operating Permits Program; Virginia, 59 Fed. Reg. 31183, 31184 (June 17, 1994).

[9]Com. of Va. v. Browner, 80 F.3d 869, 42 Env't. Rep. Cas. (BNA) 1353, 26 Envtl. L. Rep. 21245 (4th Cir. 1996), amended, (Apr. 17, 1996) and amended, (May 9, 1996). Virginia subsequently received interim approval in 1997.

[Section 12:141]

[1]CAA § 504(a); 42 U.S.C. § 7661c(a).

[2]57 Fed. Reg. at 32298; 40 C.F.R. § 70.6(a).

[3]CAA § 502(b)(5)(B); 42 U.S.C. § 7661a(b)(5)(B); 40 C.F.R. § 70.6(a)(2).

[4]CAA § 408(a); 42 U.S.C. § 7651g(a); 40 C.F.R. § 70.6(a)(2).

[5]40 C.F.R. § 70.6(a)(2).

more stringent new emission standards are promulgated.[6]

Each term or condition in the permit must reference the authority for that term.[7] Under 40 C.F.R. § 70.6(c), the permit must contain conditions that allow entry and inspection of the permitted source and the plant records. The Title V permit must also allow, at reasonable times, access and copying of records, sampling or monitoring, and inspection of "facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit."[8]

Title V permits require compliance certifications; all applications and reports must also be certified.[9] Compliance certifications are due at least annually. This certification identifies the specific terms or conditions, the testing methods used to determine compliance, and the status of compliance for that term or condition.[10] This certification should also identify any deviations, exceptions, or exceedances that occurred during the compliance period. Monitoring reports, compliance certifications, and other submittals required by a Title V permit shall contain a statement by a responsible official certifying that, based on information and belief formed after a reasonable inquiry, the submittal is true, accurate, and complete.[11] Some permitting agencies have developed specific forms for use in making these certifications.

§ 12:142 Title V Permit Content—Emission Limits

The Title V permit must include limitations on emissions as determined by the applicable standard. These standards may take the form of a numerical emission limitation or a work practice standard. Applicable standards include, at a minimum, limits imposed by NSPS issued for sources under CAA § 111, limits on sources subject to regulation under the HAP regime in CAA § 112, incineration standards under CAA § 129, limits under the acid rain program and stratospheric ozone section (Titles IV and VI, respectively), reviews of major sources and new sources for PSD under CAA § 165 and for NNSR under CAA § 173, and limits under the SIPs and TIPs. The actual numeric limitations are generally found scattered throughout the *Code of Federal Regulations*, and state, tribal, and local regulations codified into the SIP or TIP. The NAAQS generally are not "applicable requirements" for Title V operating permit purposes because these requirements are implemented through various SIP rules that constitute applicable requirements with respect to certain sources. The SIP/TIP rules are intended to implement emission standards that will maintain and enforce the NAAQS and, in the case of nonattainment areas, reduce emissions to bring the area back into attainment.

One issue that frequently arises is differences between currently applicable state law and regulations and those approved for inclusion in the SIP.[1] These differences arise because state and local air pollution control authorities are constantly in the process of revising their regulations and submitting some, but not all, of these revisions to EPA for review and approval for inclusion in the SIP. In many cases, there will be delays between when a SIP revision is submitted and when EPA approves

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[6]CAA § 502(b)(9); 42 U.S.C. § 7661a(b)(9); 57 Fed. Reg. at 32304.

[7]40 C.F.R. § 70.6(a)(1)(i).

[8]40 C.F.R. § 70.6(c)(2)(iii).

[9]CAA § 503(b)(2); 42 U.S.C. § 7661b(b)(2).

[10]40 C.F.R. § 70.6(c)(5).

[11]40 C.F.R. § 70.5(d); 40 C.F.R. § 70.6(c)(1).

[Section 12:142]

[1]White Paper Number 2 at 3.

it.[2] Whether a rule is SIP-approved is an important consideration because EPA can enforce only SIP-approved rules.[3]

If the permitting authority is including both state and federally applicable requirements in its Title V permit program, which is usually the case, the permitting authority may elect to take one of the following approaches. First, permitting authorities may include state emission control standards in the Title V permit if the underlying state rule has been submitted for SIP approval and is equivalent to or more stringent than the currently enforceable SIP requirement.[4] Second, if the state emission control rule is less stringent than the SIP or differs significantly, then the Title V permit must incorporate the SIP-approved rule *and* the state rule until the state rule is approved in the SIP.[5] Third, if the state emission control rule is not intended to be included in the SIP, or if the permitting authority does not wish to make the state rule federally enforceable, the state rule may be included in the Title V permit and designated a "state-only" condition. As a state-only condition, it would not be enforceable by EPA or citizens groups under the federal CAA. Moreover, these approaches are complicated by the fact that it can often be quite difficult to determine precisely which rules are approved for inclusion in a state's SIP.

If the permitting authority is including only federally applicable requirements in its Title V permit program—which is permissible, although not typical—only the approved SIP language would be included in the Title V permit. The reasons for this being that the revised state law or regulation is not part of the SIP and hence not a federally enforceable requirement that must be included in the permit. There is no question about state-only requirements, because they are not included in the Title V permit under such an approach.

Regardless of the approach taken, the permitting authority must identify the origin and authority for each term and condition included in the Title V permit and identify any differences in the emission limitation included in the Title V permit from that set forth in the underlying applicable requirement.[6] A state, tribal, or local permitting agency may adopt SIP or TIP provisions allowing sources, in their permit application. to request an equivalent emission limit to take the place of an applicable emission standard or limitation.[7] A permitting agency will make an "equivalency" determination through the Title V permitting process. Where the applicable SIP or TIP emission standard allows an "equivalency" determination, the Title V permit must contain provisions to ensure that any resulting emissions limit has been demonstrated to be quantifiable, accountable, enforceable and based on replicable procedures.[8] Finally, where other applicable requirements under the federal CAA are more stringent than acid rain provisions under Title IV, the permit must include both as federally enforceable conditions.[9]

In addition to specific limitations incorporated into a facility's Title V permit, permitting agencies also include generic applicable limitations that apply to all sources subject to Title V. One of the most widely used generic limitation is the opacity standard. An opacity standard generally prohibits the visible emission of smoke and other particulate matter. For example, under the New York air regula-

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[2]While delays are typically less than 18 months in most regions, it is not uncommon for a SIP rule revision to be pending for years.

[3]White Paper Number 2 at 2.

[4]White Paper Number 2 at 3.

[5]White Paper Number 2 at 3.

[6]40 C.F.R. § 70.6(a)(1)(i).

[7]40 C.F.R. § 70.6(a)(1)(i).

[8]40 C.F.R. § 70.6(a)(1)(iii).

[9]40 C.F.R. § 70.6(a)(1)(ii).

tions, visible emissions cannot exceed an opacity of 20%, except for one six-minute period per hour of not more that 27% opacity.[10] Other examples would include a prohibition on open burning and creating a nuisance, such as odors. These generic limitations might not be incorporated into the SIP; if not, then they should be designated in the Title V permit as state-only enforceable provisions.

One of the main conditions found in Title V permits is the prohibition against circumvention. Facilities are not allowed to use any plan, activity, or device to conceal or appear to minimize emissions in order to circumvent any federal or state regulations. Facilities are additionally not allowed to circumvent any emission control devices that are required under the Title V permit.

§ 12:143 Title V Permit Content—Insignificant and Trivial Activities

EPA may approve a list of "insignificant activities and emissions levels" that need not be included in a permit application as long as the omitted information is not required either for applicable requirement determinations or for fee calculations.[1] This policy is a significant exception for many businesses, given the expanded definition of "regulated air pollutant."[2] EPA realized that there are many situations where regulated pollutants are emitted in insignificant amounts, and it would be "unduly burdensome" to require applicants to quantify and account for all emissions.[3] The compilation of this list is solely the responsibility of the state, tribal, and local permitting agencies so that they can address their unique air quality management issues effectively.[4] The list must be approved by EPA as part of the Title V program submittal before a permitting agency can allow certain insignificant activities to be left out of Title V permit applications.[5]

EPA has published a list of examples of activities that it considers trivial and insignificant—meaning they are presumed to produce either no or negligible emissions—to serve as a starting point for states, tribal, and local permitting agencies.[6] Based on this list, many permitting agencies have adopted a list of trivial activities into their air permitting regulations. Permitting agencies can either use the list provided by EPA or modify the list as appropriate, since EPA's list is "intended to exclude many similar activities" from Title V permitting.[7] The facility does not have to count emissions from trivial activities, omitted from the Title V permit application and permit, in their emissions inventories.

Examples from EPA's list of trivial activities[8]

- Emissions from mobile sources and landscaping equipment
- Air-conditioning and ventilating units used for human comfort
- Non-commercial food preparation

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[10] 6 CCR-NY 227-1.3(a).

[Section 12:143]

[1] 40 C.F.R. § 70.5(c). This means the information must not be necessary to determine: (1) which requirements apply; (2) whether the source is in compliance with applicable requirements; or (3) whether the source is major. White Paper Number 1, at 8-9.

[2] 40 C.F.R. § 70.2.

[3] Wegman Memorandum at 5.

[4] Wegman Memorandum at 6.

[5] 40 C.F.R. § 70.5(c).

[6] White Paper Number 1 at 8–9, Attachment A.

[7] White Paper Number 1 at 8–9, Attachment A.

[8] White Paper Number 1, Attachment A.

- Consumer use of office equipment and product
- Janitorial services and laundry activities
- Bathroom vent emissions and tobacco smoking rooms and areas
- Plant maintenance and upkeep activities not associated with manufacturing
- Portable electrical generators
- Hand-held equipment for buffing, polishing, cutting, drilling, etc.
- Storage tanks that will not emit any VOC or HAP
- Vents from continuous emissions monitors and other analyzers
- Equipment used for surface coating, painting, spraying operations that do not emit any VOC or HAP
- Bench-scale laboratory equipment
- Process water filtration systems and demineralizers with water tanks and vents
- Boiler water treatment operations, not including cooling towers
- Fire suppression systems
- Steam vents and safety relief valves, steam leaks, cleaning operations, sterilizers.

§ 12:144 Title V Permit Content—Operational Flexibility

One of the greatest concerns of industry was the ability to respond to market dynamics under a structured permitting regime. CAA § 502(b)(10) directs EPA to develop provisions that allow a source to make certain physical and operational changes without requiring a permit revision, but only if the changes do not qualify as modifications under Title I (i.e., the NAAQS) and the changes do not exceed the emissions allowed under the Title V permit.[1] Provisions allowing for operational flexibility are codified at 40 C.F.R. § 70.4(b)(12). Other permit flexibility tools include anticipated alternative operating scenarios and off-permit changes.

The Title V regulations provide that "reasonably anticipated operating scenarios" be included in the permit.[2] Operating scenarios are descriptions of alternative ways in which a plant may produce a product or might otherwise operate. This allows facilities to identify optional scenarios and remain in compliance with the law. Terms and conditions required under the regulations relating to anticipated alternative operating scenarios include: (1) recording in the source's log the switch to an alternative operating scenario; (2) the possible extension of the permit shield to cover the alternative operating scenario; and (3) the alternative operating scenario must meet all applicable requirements in the permit.[3]

In 2009, EPA adopted rule changes to clarify how companies may include alternative operating scenarios into Title V permits.[4] In the final rule, EPA describes a "flexible air permit" (FAP) that contains one or more approaches allowing a source, under the protection of a permit shield, to make certain types or categories of physical and/or operational changes without further review or approval of individual changes by the permitting authority.[5] Flexible air permit approaches include alternative operating scenarios, advance approvals of minor NSR changes, and ap-

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[Section 12:144]

[1]CAA § 502(b)(10); 42 U.S.C. § 7661a(b)(10).

[2]40 C.F.R. § 70.6(a)(9).

[3]40 C.F.R. § 70.6(a)(9).

[4]Operating Permit Programs; Flexible Air Permitting Rule, 74 Fed. Reg. 51418 (Oct. 6, 2009) (to be codified at 40 C.F.R. pts. 70 and 71).

[5]74 Fed. Reg. 51418, 51419.

proved replicable methodology (ARM).[6]

In order to take advantage of alterative operating scenarios, each scenario will need to be included in the Title V permit; Title V operating permits generally prohibit operating scenarios that are not described in the permit. This involves the identification of the emissions profile of each scenario. An example of an alternative operating scenario would be a production line that is capable of producing two different products, and the different production modes involve the use of chemicals that have separate and distinct emission profiles. In the preceding example, if an alternative operating scenario is not in the Title V permit, the company would be limited to one production mode and must obtain a permit amendment before it can make the other product. If both scenarios are in the approved Title V permit, the company can generally make the change immediately after the change is logged and the permitting authority has been notified.

Advance minor NSR approvals may consist of several categories of potential changes with emission impacts below major modification triggers. The permitting agency can evaluate the advance minor NSR scenarios during the permitting process by conducting relevant ambient air impact and control technology reviews, assessing compliance with applicable requirements, and determining appropriate monitoring approaches.[7] An example of a minor NSR approval would be the identification of pre-approved physical changes to rollers, the drive mechanism, and other components of a coating line.[8] In order to confirm that advance minor NSR approvals may occur without further review and approval by the permitting authority, the Title V permit will include terms: (1) confirming that such changes do not trigger major source PSD or NNSR review; (2) identifying applicable control technology requirements; and (3) assuring that the pre-approved changes do not interfere with the attainment and maintenance of the NAAQS.[9]

Another important tool used in FAPs are plantwide applicability limits (PALs),[10] that are coupled with advance minor source approvals to apply a cap or subcap on total tons of emissions per year from certain emission units. The cap or subcap prevents the existing source from becoming a major source. PALs are typically used in PSD/NNSR permits to keep a plant's emissions below a pollutant-specific plantwide cap. This provides the source with the flexibility to make physical equipment modifications or operational changes affecting emissions without undergoing a major source PSO/NNSR permitting process.[11]

Approved replicable methodologies (ARM) are replicable protocols that are used to facilitate compliance with an applicable requirement in situations that would otherwise require a permit revision. For example, an ARM could specify a replicable testing procedure for updating an emissions factor based on actual test data approved by the permitting agency. An ARM must deliver replicable results (usually numerical) when using the same input data and be based on sound scientific/mathematical principles.[12]

§ 12:145 Title V Permit Content—Compliance Plan

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[6]74 Fed. Reg. 51418, 51419.

[7]74 Fed. Reg. 51418, 51424.

[8]74 Fed. Reg. 51418, 51424.

[9]74 Fed. Reg. 51418, 51424.

[10]PALs are further explained in this chapter's discussion of New Source Review.

[11]Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR); Final Rule and Proposed Rule, 67 Fed. Reg. 80186 (Dec. 31, 2002) (to be codified at 40 C.F.R. pts. 51 and 52); *See also* 40 C.F.R. §§ 51.165(f), 51.166(w), 52.21(aa).

[12]74 Fed. Reg. 51418, 51430 to 51431.

All sources subject to the Title V permitting requirements must submit a compliance plan with their application.[1] The compliance plan is required to be included in the permit application, but not in the permit itself.[2] The compliance plan must contain: (1) the compliance status of the source; (2) a statement that the source will continue to comply with requirements it is in compliance with; (3) a statement that the source will comply with new requirements in a timely manner; 4) a description of how the source will achieve compliance if there is current noncompliance; and (5) a compliance schedule.[3] For sources not in compliance with any requirements, the compliance schedule will consist of enforceable actions with milestones for remedial measures that will lead to compliance.[4] The schedule must include deadlines for the remedial actions and a date for full compliance. This schedule must be at least as strict as any schedule in an administrative order or judicial consent decree to which the source is subject.[5] Even with a compliance schedule in place, a source can still be subject to an enforcement action for violating the underlying requirement.

Facilities required to have a compliance schedule must submit certified progress reports to the agency at least every six months, according to the compliance schedule.[6] These progress reports should include dates, milestones, and achievements required under the compliance schedule and an explanation and corrective action measures if any compliance dates were missed.[7]

EPA expects that monitoring data, including compliance assurance monitoring (CAM) data, will provide owners or operators with reliable data to reach a conclusion about their compliance status. However, CAM data does not replace, but merely supplements the Title V compliance certification requirement. CAM data does not necessarily provide unequivocal proof of compliance or noncompliance. CAM excursions or exceedances may raise questions about a source's compliance status but may not conclusively confirm that a source is in noncompliance. Such information only indicates a need to review the compliance status of the emissions unit.

§ 12:146 Title V Permit Content—Emergency Provisions

The Title V regulations provide for the inclusion of an affirmative defense to avoid liability in an action brought for noncompliance with a technology-based standard when an "emergency" situation exists. "Emergency" is defined as situations arising from "sudden and reasonably unforeseeable events beyond the control of the source" requiring immediate corrective action that causes the facility to "exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency." This excludes noncompliance "caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error."[1]

Most technology-based standards included in SIP and TIP rules incorporate start-

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[Section 12:145]

[1]This section requires a plan "describing how the source will comply with all applicable requirements." CAA § 503(b)(1); 42 U.S.C. § 7661b(b)(1). *See also* 40 C.F.R. § 70.5(c)(8).

[2]Operating Permits Program, 57 Fed. Reg. 32250, 32254 to 55 (July 21, 1992) (to be codified at 40 C.F.R. pt. 70).

[3]40 C.F.R. § 70.5(c)(8)(i), (ii), and (iii).

[4]40 C.F.R. § 70.5(c)(8)(iii)(C).

[5]40 C.F.R. § 70.5(c)(8)(iii)(C).

[6]40 C.F.R. § 70.5(c)(8)(iv).

[7]40 C.F.R. § 70.6(c)(4).

[Section 12:146]

[1]40 C.F.R. § 70.6(g)(1).

up, shutdown, and malfunction (SSM) exceptions to the technology-based standards. EPA has taken the position that permitting agencies are not required to include the "emergency" affirmative defense provision in their part 70 operating permit programs and considers it to be a discretionary element that permitting agencies may include in their Title V program SIP and TIP submittals.

In fact, over the years, EPA has issued several guidance memoranda clarifying that EPA views all excess emissions as violations of the applicable emission limitations, but that there are certain situations where the state, tribal, and local permitting agencies should have the discretion to not impose penalties for sudden and unavoidable malfunctions.[2] EPA does view excess emissions during periods of startup and shutdowns to be reasonably foreseeable; consequently, these should be planned for in developing SIP and TIP rules and in issuing permits.

EPA's current guidance that SIP provisions should not include automatic or discretionary exemptions for SSM events, affirmative defense provisions, or overly broad enforcement discretion provisions is set forth in a June 12, 2015 *Federal Register* notice incorporating the agency's "SSM SIP 2015 Policy."[3] In restating and updating its national policy regarding SSM provisions in SIPs, EPA also issued SIP calls to 36 states (i.e., applicable in 45 statewide and local jurisdictions) finding that the state and local jurisdictions were required to submit corrective SIP revisions to address SSM provisions were identified as being substantially inadequate to meet CAA requirements.[4] As of late 2021, many of the SIP call revisions have been submitted to EPA, but most have not yet been acted on. In September 2021, EPA reaffirmed the agency's commitment to apply the SSM SIP 2015 Policy and continue its efforts to address the pending June 12, 2015 SIP calls.[5]

In 2016, EPA proposed a rule that would remove the "emergency" affirmative defense provisions in 40 C.F.R. §§ 70.6(g) and 71.6(g) based on the agency's interpretation that neither an exemption from enforcement nor affirmative defense provisions for SSM events was consistent with the CAA.[6] At the time, EPA also based its interpretation on the holding in the 2014 *Natural Resources Defense Council v. EPA* case, in which the U.S. Court of Appeals for the D.C. Circuit vacated an affirmative defense provision included in the NESHAP for Portland cement facilities.[7] The D.C. Circuit held that the affirmative defense provision exceeded EPA's statutory authority, and concluded that only the courts have the authority to decide

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[2] *See, e.g.*, Memorandum from Steven A. Herman, Asst. Admin. for Enforcement and Compliance Assurance and Robert Perciasepe, Asst. Admin, for Air and Radiation to EPA Reg'l Adm'rs. I-X, State Implementation Plans: Policy Regarding Emissions During Malfunctions, Startup, and Shutdown, (Sept. 20, 1999) (on file with EPA); Eric Schaeffer, Dir. EPA Off. of Reg. Enforcement, Office of Enforcement and Compliance Assurance and John S. Seitz, Dir, Off. of Air Quality Plan. & Standards, Office of Air and Radiation, to EPA Reg'l Adm'rs. I-X, Re-Issuance of Clarification—State Implementation Plans: Policy Regarding Emissions During Malfunctions, Startup, and Shutdown (Dec. 5, 2001) (on file with EPA).

[3] State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction, 80 Fed. Reg. 33,840, 33,976 (June 12, 2015) (to be codified at 40 C.F.R. pt. 52).

[4] 80 Fed. Reg. at 33,840.

[5] Memorandum from Janet McCabe, Deputy Admin. to EPA Reg'l Adm'rs., Withdrawal of the October 9, 2020, Memorandum Addressing Startup, Shutdown, and Malfunctions in State Implementation Plans and Implementation of the Prior Policy (Sept. 30, 2021) (on file with EPA).

[6] Removal of Title V Emergency Affirmative Defense Provisions From State Operating Permit Programs and Federal Operating Permit Programs, 81 Fed. Reg. 38645 (proposed June 14, 2016) (to be codified at 40 C.F.R. pts. 70 and 71).

[7] Natural Resources Defense Council v. E.P.A., 749 F.3d 1055, 78 Env't. Rep. Cas. (BNA) 1369 (D.C. Cir. 2014); see also Sierra Club v. Johnson, 551 F.3d 1019 (D.C. Cir. 2008).

whether to assess a penalty for violations in CAA civil suits.[8] EPA's 2016 proposed rule has not been finalized as of this edition.

While the status of "emergency" affirmative defense provisions remains somewhat in flux, certain SIP rules continue to contain exemptions and affirmative defenses for certain SSM events. Practitioners should be familiar with the emergency affirmative defense provisions that are allowed to be incorporated into Title V permits under the applicable SIP rules.

XII(F) TITLE V OPERATING PERMITS—MONITORING REQUIREMENTS

§ 12:147 Title V Monitoring Requirements—Introduction

Under the Title V operating permit rules, Title V sources must meet three basic reporting and recordkeeping requirements: (1) compliance monitoring; (2) reporting; and (3) the submittal of compliance certifications. The Title V permit content requirements for monitoring, recordkeeping, and reporting are found at 40 C.F.R. § 70.6(a)(3).[1] Emissions units at sources are often subject to different requirements under different emissions regulations, and the monitoring requirements of each standard applicable to the source must be included in the permit.[2]

These monitoring requirements break down into three major categories: (1) monitoring required by a specific applicable requirement, such as an NSPS, NESHAP, or SIP/TIP provision; (2) Compliance Assurance Monitoring (CAM) applicable to certain large emissions units using control devices; and (3) periodic monitoring or "gap-filling" requirements where there is either no monitoring or inadequate monitoring in the applicable requirement(s) and CAM does not apply.

All Title V sources must conduct *periodic monitoring* for every applicable requirement using the terms, test methods, units, averaging periods, and statistical methods consistent with the requirements in 40 C.F.R. § 70.6(a)(3). The permitting authority maintains broad discretion in establishing periodic monitoring requirements.[3] Continuous emissions monitoring is not required under Title V if "alternative methods are available that provide sufficiently reliable and timely information for determining compliance."[4] Monitoring and testing requirements in a Title V permit must be approved by EPA. For insignificant emissions units,[5] if a regular program of monitoring would not "significantly enhance" compliance assurance, then no monitoring is required.[6]

Certain emission units at Title V sources are subject to additional requirements under the *Compliance Assurance Monitoring or CAM* rule. Under the final CAM rule, sources must submit a CAM plan for monitoring the performance of pollutant-specific emissions units (PSEUs).[7]

§ 12:148 Title V Monitoring Requirements—Title V Monitoring Required by an Applicable Requirement

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[8]749 F.3d at 1062 to 1064.

[Section 12:147]

[1]*See* CAA § 504(b); 42 U.S.C. § 7661c(b).

[2]40 C.F.R. § 70.6(a)(3)(i)(A) and (B).

[3]White Paper Number 2 at 32.

[4]CAA § 504(b); 42 U.S.C. § 7661c(b).

[5]White Paper Number 2 at 29 n.21.

[6]White Paper Number 2 at 32.

[7]Compliance Assurance Monitoring, 62 Fed. Reg. 54900 (Oct. 22, 1997) (to be codified at 40 C.F.R. Part 64).

The Title V program is very clear that all monitoring and testing requirements set forth in an applicable requirement must be specified in the permit.[1] If more than one monitoring, testing, recordkeeping, or reporting requirement applies to a particular emissions unit or operation, sources and permitting authorities have the option of "streamlining" those requirements in a Title V permit as long as the monitoring or testing assures compliance. Streamlining is permissible if the new, single set of monitoring or testing requirements "is adequate to assure compliance at least to the same extent as the monitoring or testing applicable requirements that are not included in the permit as a result of such streamlining."[2] Streamlining is often used for opacity standards (where visible emissions observation for a lower opacity standard gives clear assurance that a higher opacity standard is also being met). Streamlining may also be used for other standards to minimize duplicative monitoring, recordkeeping, and reporting requirements.

§ 12:149 Title V Monitoring Requirements—Periodic Monitoring

A source's Title V operating permit must contain all emissions monitoring and analysis procedures or test methods based on any CAA applicable requirements. If an applicable requirement, such as NSPS, does not require periodic testing or monitoring, the permit must require monitoring sufficient to yield reliable results that are representative of compliance with permit terms and conditions.[1] The permit must also contain requirements covering use, maintenance, and installation of the monitoring equipment.[2] If monitoring shows a deviation from permit terms, the owner or operator must report the deviation promptly to the permitting agency.[3] In addition, facilities must keep all monitoring records for five years from the time of generation and also keep records of calibration and maintenance where required.[4] As noted below, if an emission unit is subject to the CAM rule, then the CAM requirements can also be used to satisfy the periodic monitoring requirements.

In September 1998, EPA issued periodic monitoring guidance for state, tribal, and local permitting agencies to ensure that any "gaps" in monitoring are identified. The "gap" that EPA intended to address in the guidance was the lack of adequate monitoring requirements in the underlying applicable regulations sufficient to yield reliable data to determine compliance. The guidance specified that permitting agencies should review all applicable standards on a pollutant-by-pollutant basis and upgrade monitoring requirements accordingly.[5] Several industry groups challenged the periodic monitoring guidance on the theory that EPA was imposing new requirements without going through formal notice and comment procedures. The U.S. Court of Appeals for the D.C. Circuit agreed and concluded that the periodic monitoring guidance was invalid.[6] The D.C. Circuit held that the part 70 regulations require that periodic monitoring may be used as a "gap filler" only where the

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[Section 12:148]

[1]40 C.F.R. § 70.6(a)(3)(i)(A).

[2]40 C.F.R. § 70.6(a)(3)(i)(A).

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[1]40 C.F.R. § 70.6(a)(3)(i)(B).

[2]40 C.F.R. § 70.6(a)(3)(i)(C).

[3]40 C.F.R. § 70.6(a)(3)(iii)(B).

[4]40 C.F.R. § 70.6(a)(3)(ii)(B).

[5]Memorandum from Eric v. Schaeffer, Dir. EPA Off. of Regul. Enf't, and John S. Seitz, Dir. Off. of Air Quality Plan. & Standards, to Dir. Off. of Env. Stewardship, Region I et al. Periodic Monitoring Guidance for Title V Operating Permit Programs (Sept. 15, 1998).

[6]*See* Appalachian Power Co. v. E.P.A., 208 F.3d 1015, 50 Env't. Rep. Cas. (BNA) 1449, 30 Envtl. L. Rep. 20560 (D.C. Cir. 2000).

underlying standard contains a one-time compliance test, does not specify a monitoring frequency, or does not provide for testing or monitoring at all.[7] The Court stated that nothing in EPA's existing Title V operating permit regulations gives permitting authorities a "roving commission to pore over existing [s]tate and federal standards, to decide which are deficient, and to use the permit system to amend, supplement, alter or expand the extent and frequency of testing already provided."[8] As of mid-2021, EPA had not yet issued any further guidance to clarify when "gap filler" periodic monitoring may be incorporated into a Title V permit.

§ 12:150 Title V Monitoring Requirements—Compliance Assurance Monitoring

Compliance assurance monitoring, or CAM, applies to emissions units that, before controls, have potential emissions in excess of the applicable "major source" threshold.[1]

Some emission standards require little or no testing, such as certain NSPS or SIP/TIP provisions, although they may have a testing reference method. In these cases, the Title V permit must require some form of periodic monitoring, even if non-instrumental testing or monitoring is involved, and recordkeeping itself may satisfy the monitoring requirement.[2]

CAM obligations are triggered if the major source satisfies all of the following criteria:

- Subject to part 70 or part 71 for any pollutant (i.e., major source);
- Subject to a federally enforceable emissions limitation or standard for a pollutant for which the source is major;
- Achieves compliance with such emissions limitation or standard by use of a control device;
- Has the potential to emit, before controls, an amount greater than or equal to the amount in tons per-year required for the site to be classified as a major source under Title V; and
- Is not otherwise exempt from CAM.[3]

The 1990 CAA amendments added two provisions—§§ 504(b) and 114(a)(3)—which are intended to assure compliance with CAA requirements by requiring that sufficient monitoring and reporting requirements are included in Title V permits. CAA § 504(b) authorizes the development of "procedures and methods for determining compliance and for monitoring and analysis of pollutants."[4] If an applicable requirement does not require monitoring to determine compliance, then the part 70 rules require that "periodic monitoring sufficient to yield reliable data" be incorporated in the Title V permit.[5] The CAM rule is designed to fulfill monitoring requirements contained in Title V and the enforcement provisions in Title VII of the CAA 1990 Amendments).[6] CAA § 114(a)(3) provides that that EPA may promulgate regulations to require the owner or operator of a major stationary source to imple-

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[7]208 F.3d at 1028; 30 ELR at 20565.

[8]208 F.3d at 1025; 30 ELR. at 20564.

[Section 12:150]

[1]CAM is authorized by CAA § 504(b); 42 U.S.C. § 7661c(b).

[2]40 C.F.R. § 70.6(a)(3)(i)(B).

[3]40 C.F.R. § 64.2(a), (b).

[4]CAA § 504(b); 42 U.S.C. § 7661c(b).

[5]40 C.F.R. § 70.6(a)(3).

[6]Compliance Assurance Monitoring, 62 Fed. Reg. 54900 (Oct. 22, 1997) (to be codified at 40 C.F.R.

ment "enhanced monitoring" and submit compliance certifications.[7]

Sources subject to the CAM rule must follow established criteria in monitoring the operation and maintenance of control equipment so as to provide reasonable assurance of compliance with applicable emission standards, and report to state, tribal, and local permitting agencies whether or not they are in compliance. The CAM requirements also satisfy the periodic monitoring requirements of 40 C.F.R. § 70.6(a)(3).

Determination of whether a facility is subject to the CAM rule is made on a pollutant-by-pollutant basis for each "emissions unit" (i.e., to each pollutant-specific emission unit). The CAM rule adopts by reference the part 70 definition of "emissions unit."[8] The CAM rule applies only to those pollutant-specific emission units that use a "control device" to achieve compliance with an "applicable emission limitation or standard."[9] The term "applicable emission limitation or standard" is broadly defined to mean "any applicable requirement that constitutes an emission limitation, emission standard, standard of performance, or means of emission limitation as defined under the Act."[10] The rule narrowly defines "control device" to mean "equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge in the atmosphere."[11]

The CAM requirements do not apply to "inherent process equipment" that is "necessary for the proper or safe functioning of the process, or material recovery equipment."[12] Equipment is inherent process equipment if it is: (1) not primarily for air pollution control; (2) cost effective; and (3) would be installed even without the regulations.

The CAM rule also provides exemptions for monitoring in certain CAA applicable requirements enacted or adopted after the 1990 CAA Amendments, including: (1) emissions limits promulgated after November 15, 1990, under the NSPS or NESHAP programs; (2) the Title VI stratospheric ozone program; (3) the federal acid rain program; (4) requirements that apply solely under an approved emissions trading program; (5) an emission cap requirement under Title V; and (6) emission limitations or standards for which a Title V permit specifies a continuous compliance determination method that does not use an assumed control emission reduction factor.[13] The CAM rule also exempts backup utility power emissions units that are municipally owned and are used only during peak electrical demand or emergency

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Part 64); *see* CAA §§ 114(a)(1), (a)(3), 503, 504; 42 U.S.C. §§ 7414(a)(1), (a)(3), 7661b, 7661c.

[7]CAA § 114(a)(3); 42 U.S.C. § 7414(a)(3).

[8]"Emission unit" means "any part or activity of a stationary source that emits or has the potential to emit any regulated pollutant or any pollutant listed under section 112(b) of the Act [Hazardous Air Pollutants]." *See* 40 C.F.R. §§ 64.1, 70.2.

[9]40 C.F.R. § 64.2(a).

[10]40 C.F.R. § 64.2(a).

[11]40 C.F.R. § 64.1. The types of equipment that may commonly be used as control devices include, but are not limited to fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices (such as carbon beds), condensers, scrubbers (such as wet collection and gas adsorption devices), selective catalytic or non-catalytic reduction systems, flue gas recirculation systems, stray dryers, spray towers, mist eliminators, acid plants, sulfur recovery plants, injection systems (such as water, steam, ammonia, sorbent or limestone injection), and combustion devices independent of the particular process being conducted at the emissions unit (e.g., the destruction of emissions achieved by venting process emission streams to flares, boilers, or process heaters). 40 C.F.R. § 64.1.

[12]40 C.F.R. § 64.1.

[13]40 C.F.R. § 64.2(b)(1).

situations.[14]

As noted previously, units using control devices must have "potential pre-control device emissions" equal to or greater than the applicable major source threshold. Notably, any emission reductions achieved by the control device are not taken into account, even if the owner or operator generally is allowed to do so under the regulatory definition of "potential-to-emit."[15] However, enforceable operating hour restrictions, throughput restrictions, control device efficiency factors, and similar enforceable restrictions are taken into account. These restrictions may help a unit escape the CAM applicability threshold.

The CAM rule requires owners and operators to develop and propose, through the Title V permit process, a CAM plan that satisfies specified criteria. CAM plans should be submitted with either the original Title V permit application or the application for the permit renewal. The CAM plan itself typically is not included in the Title V permit. In proposing a CAM plan, an owner or operator must submit two general categories of information with a Title V permit application: (i) general information necessary to justify the appropriateness of the proposed monitoring; and (ii) information to justify the appropriateness of the indicator ranges to be used for reporting exceedances or excursions.[16] The following are the required elements of a CAM plan submittal.

Required elements of a CAM plan[17]

- Monitoring designed to obtain data for one or more indicators of emission control performance for the control device, any associated capture system and, if necessary, processes at a pollutant-specific emission unit
- An appropriate range or designated condition for each selected indicator such that operation within the range provides a reasonable assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions (including the detection of any bypass of the control device to the atmosphere)
- Specifications for obtaining data that are representative of the monitored emissions or parameters
- Verification procedures to confirm the operational status of the monitoring prior to the required monitoring commencement date (for new or modified monitoring equipment)
- Quality assurance and control practices that are adequate to ensure the continuing validity of the data
- Specifications for the frequency of monitoring, data collection procedures, and, if applicable, the period over which discrete data points will be averaged for the purpose of determining whether an excursion or exceedance has occurred
- Justification for the proposed elements of the monitoring. Some monitoring systems are presumptively acceptable, such as continuous emission monitoring systems (CEMs), continuous opacity monitoring systems (coms), and predictive emission monitoring systems (PEMs)
- Control device (and process and capture system, if applicable) operating parameter data obtained during an applicable compliance or performance test (or its equivalent)
- Implementation plan for installing, testing, and operating the monitoring.

[14]40 C.F.R. § 64.2(b)(2).

[15]40 C.F.R. § 64.2(a)(3).

[16]40 C.F.R. § 64.4.

[17]40 C.F.R. §§ 64.3, 64.4.

The three basic elements of the CAM plan are: the background information, the monitoring approach, and the justification for the monitoring approach.

The background section provides information on the pollutant-specific emission units, including a brief description of the unit, applicable emission limit or standard, the applicable pollutant, and existing monitoring requirements under other CAA programs.[18]

The description of the monitoring approach in the CAM plan should include the general criteria, the performance criteria, and any special criteria. The general criteria include any performance indicators and/or indicator ranges along with the device for measuring the indicators.[19] Sources using a CEMS, COMS, or PEMS must include the applicable indicators, indicator ranges, performance criteria, and exceedance reporting procedures as special criteria.[20] Operation outside of the prescribed indicator ranges (i.e., an excursions) may not mean that the unit is in violation or has exceeded its permit limit.

The owner or operator has to justify the choice of monitoring approach in the CAM plan by including information to demonstrate that the selected monitoring plan meets the requirements of the CAM rule. The justification must demonstrate that the control devices and processes achieve compliance with applicable emission limits and are maintained to minimize emissions.[21] The justification step can be simplified by selecting a monitoring method based on EPA guidance, which is then considered as "presumptively acceptable monitoring."[22]

EPA has released technical guidance on compliance assurance monitoring. The guidance includes examples of the types of monitoring that can be used to satisfy CAM requirements for various control devices and emission units.[23] Potentially acceptable monitoring methodologies for complying with CAM requirements can include CEMS, COMS, and PEMS. EPA suggests a five-step approach for selecting a monitoring method: (1) summarize current monitoring procedures, (2) evaluate current monitoring procedures to determine if they meet CAM criteria, (3) determine if current monitoring procedures can be modified to meet CAM criteria, (4) identify potential monitoring approaches that meet CAM criteria; and (5) select the most reasonable approach that meets CAM criteria.[24]

If monitoring problems develop under the CAM plan, the owner or operator must take corrective action to restore proper operation. If there are too many corrective actions or if the source falls outside the monitoring range for extended periods (EPA has suggested 5% of measurements), then the source must develop a quality improvement plan (QIP) to improve the quality of the monitoring data or correct control equipment failure.[25] The Title V permit may include circumstances that will trigger a QIP requirement, or EPA or a permitting agency may require a QIP based on available documentation or other information regarding CAM operation and

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[18]40 C.F.R. § 64.4.

[19]40 C.F.R. § 64.3(b).

[20]40 C.F.R. § 64.3(b). Examples of indicator ranges include: (1) Maximum or minimum values that relate to various process conditions (e.g., a maximum condenser temperature); (2) ranges expressed as a minimum to maximum pressure drop for a baghouse relative to process throughput; and (3) designated operational conditions (e.g., set points for temperature gauges).

[21]40 C.F.R. § 64.4(b).

[22]40 C.F.R. § 64.4(b).

[23]U.S. EPA, Technical Guidance Document: Compliance Assurance Monitoring, at 2-21 to 2-23 (Aug. 1998).

[24]U.S. EPA, Technical Guidance Document: Compliance Assurance Monitoring, at 2-21 to 2-23 (Aug. 1998).

[25]40 C.F.R. § 64.8.

maintenance.

§ 12:151 Title V Monitoring Requirements—Recordkeeping and Reporting

The permit must include all recordkeeping requirements, including: (1) the date, place, and time of sampling or measurements; (2) the date analyses were performed; (3) who performed analyses; (4) analytical techniques or methods used; (5) results of analyses; and (6) operating conditions at the time of sampling or measurement.[1]

Monitoring reports must be submitted at least every six months, and records must be retained for five years. Any deviation from permit requirements must also be reported in these six-month reports, and all of these reports and records must be signed and certified by a responsible official. The applicable NSPS, NESHAP, and SIP/TIP rules require more frequent reporting of certain deviations. For example, for hazardous air pollutant deviations, the Connecticut Department of Energy and Environmental Protection (DEEP) requires notification no later than 24 hours after the deviation has commenced.[2] For any other regulated air pollutant, the Connecticut DEEP requires notification no later than 10 days from the start of the deviation.[3]

Title V reports that involve CAM must include summary data on the number, duration, and cause of: (1) excursions from indicator ranges, (2) emission limitation exceedances, (3) any corrective actions taken, and (4) monitor downtime incidents (other than those associated with zero and span or other daily calibration checks).[4] In addition, the report must document QIP implementation and completion activities, if applicable.[5]

In addition to the general recordkeeping required by Title V, the owner or operator must maintain records of monitoring data, and monitor performance data, corrective actions taken, any written QIP and related implementation activities, and other supporting information required to be maintained under CAM (e.g., data used to document the adequacy of monitoring, records of monitoring maintenance, or corrective actions).[6]

XII(G) TITLE V OPERATING PERMITS—ADDITIONAL CONSIDERATIONS UNDER TITLE V

§ 12:152 Permit shield

Compliance with a Title V permit is deemed compliance with all "applicable requirements" as of the date of permit issuance if: (1) the permit specifically includes and identifies the applicable requirements; or (2) the permitting authority makes an explicit determination that other provisions (referred to in the determination) are not applicable.[1] This protection from claims that the source is not in compliance with the identified applicable requirements in the permit, as of the date of issuance, is called a "permit shield." The Title V permit shall not shield or otherwise lessen (1) the Administrator's authority under CAA § 303 (emergency orders); (2) liability of the owner or operator for previous violations prior to or existing at the time of

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[1]40 C.F.R. § 70.6(a)(3)(ii)(A).

[2]Regs., Conn. State Agencies § 22a-174-33(p)(1)(A).

[3]Regs., Conn. State Agencies § 22a-174-33(p)(1)(B).

[4]40 C.F.R. § 64.9(a).

[5]40 C.F.R. § 64.9(a).

[6]40 C.F.R. § 64.9(b).

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[1]CAA § 504(f); 42 U.S.C. § 7661c(f); 40 C.F.R. § 70.6(f)(1).

permit issuance; (3) acid rain program requirement; (4) compliance with EPA information requests under CAA § 114; or (5) the authority of the permitting agency to require compliance with new applicable requirements adopted after the permit is issued.[2]

A permit shield is not automatically granted. A permit that does not expressly state that a permit shield exists is presumed not to provide a shield.[3] The existence of a permit shield must be explicitly stated in the permit itself,[4] and requirements and terms must be included in the permit to be protected. This includes negative declarations of requirements that do not apply.[5] If the permit is silent regarding a requirement and it is later determined that the source has not complied with that requirement, the source is in violation, i.e., there is no protection from a permit shield.[6] Requirements enacted after the permit was issued are not included in a permit shield. This also means that a provision specifically identified in the permit, but amended subsequent to permit issuance, is not covered by the permit shield. The rationale is that the amended regulation could not have been contemplated when the permit was issued.[7]

The permit shield is available at the discretion of the permitting authority. EPA generally has adopted a "narrow" interpretation of the permit shield coverage.[8] Sources cannot be shielded from enforcement actions alleging violations of any applicable requirements (including orders and consent decrees) that occurred before, or at the time of, permit issuance.[9]

§ 12:153 Title V permit fees

The Title V permitting program is designed to be financially self-sufficient by allowing permitting agencies to impose permit fees to cover the cost of developing and implementing the operating permit program. CAA § 502(b)(3)(A) provides that the source pay an "annual fee . . . sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements."[1] The costs should cover modeling, monitoring, analyses, preparing guidance, preparing emissions inventories and tracking, and review of permits. The collected fees may be used only for permit program costs.

The CAA provides that a state program providing for a $25 per ton fee multiplied by the number of tons of regulated pollutants emitted (up to 4,000 tons) per year (excluding greenhouse gases) is presumed acceptable, while a state program imposing a smaller fee must demonstrate its reasonableness.[2] The state, tribal, and local permitting authority "is not required to assess fees on any particular basis and can use application fees, service-based fees, emissions fees based on either actual or al-

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[2]CAA § 504(f); 42 U.S.C. § 7661c(f); 40 C.F.R. § 70.6(f)(3).

[3]40 C.F.R. § 70.6(f)(2).

[4]40 C.F.R. § 70.6(f)(2).

[5]40 C.F.R. § 70.6(f)(1)(ii).

[6]"[O]nly requirements that have been reviewed by the permitting authority and identified as such in the permit can be shielded against." Operating Permits Program, 57 Fed. Reg. 32250, 32277 (July 21, 1992) (to be codified at 40 C.F.R. pt 70).

[7]57 Fed. Reg. 32250, 32277.

[8]57 Fed. Reg. 32250, 32278.

[9]40 C.F.R. § 70.6(f)(3).

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[1]CAA § 502(b)(3)(A); 42 U.S.C. § 7661a(b)(3)(A).

[2]CAA § 502(b)(3)(B)(i); 42 U.S.C. § 7661a(b)(3)(B)(i); 40 C.F.R. § 70.9(b)(2)(I).

lowable emissions, other types of fees, or any combination thereof."[3]

Regulated pollutants for fee determinations include: (1) VOCs; (2) pollutants regulated under NSPS or the air toxics program (CAA sections 111 or 112); and (3) criteria pollutants (except carbon monoxide).[4] The definition of "regulated pollutant" for purposes of the presumptive fee calculation *excludes* (1) carbon monoxide; (2) any pollutant that is a regulated air pollutant solely because it is a Class I or II substance under Title VI; (3) any pollutant that is a regulated air pollutant solely because it is subject to regulation under CAA § 112(r); and (4) greenhouse gases.[5] Permitting agencies may exclude the following from fee calculations: (1) actual emissions exceeding 4000 tons per year; (2) actual emissions already included in minimum fee calculation; and (3) insignificant quantities of actual emissions not required to be listed in the permit.[6]

A state, tribal, or local program has a significant amount of discretion in establishing a fee schedule. For example, a permitting agency could charge fees in excess of the presumptive minimum or in excess of 4,000 tons per year. Whatever fee schedule is used, the permitting agency must ensure that the fee schedule will result in fees that are sufficient to cover the Title V permit program's costs; EPA provides oversight to ensure that the fees remain sufficient over time.[7]

EPA issues guidance each year on the presumptive minimum fee rate for both part 70 and part 71 operating permit programs. The fee schedule is adjusted annually to the consumer price index.[8] For September 1, 2020 through August 31, 2021, the presumptive minimum per-ton fee rate is $52.79 for part 70 sources.[9] For part 71 programs in 2021, the rate is $54.60 per ton.[10]

§ 12:154 Title V general permits and temporary source permits

CAA § 504(d) and the regulations allow permitting authorities to issue general permits covering numerous similar sources.[1] General permits may be used to cover source categories and small businesses as well as discrete emissions units at industrial complexes and major sources.[2]

EPA has listed three main considerations for sources that desire to be covered under a general permit: they should (1) be generally homogenous in terms of operations, processes, and emissions; (2) not be subject to case-by-case standards or requirements; and (3) should be subject to the same or substantially similar require-

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[3]57 Fed. Reg. 32250, 32292.

[4]CAA § 502(b)(3)(B)(ii); 42 U.S.C. § 7661a(b)(3)(B)(ii).

[5]40 C.F.R. § 70.2.

[6]40 C.F.R. § 70.9(b)(2)(ii).

[7]40 C.F.R. § 70.9(c).

[8]40 C.F.R. § 70.9(b)(2)(iv).

[9]*See* Memorandum from Dylan Mataway-Novak, EPA Operating Permits Grp., to EPA Reg'l Operating Permits Contacts, Calculation of the Part 70 Presumptive Minimum Fee Effective September 1, 2020 through August 31, 2021 (Sept. 11, 2020); https://www.epa.gov/title-v-operating-permits/permit-fees.

[10]*See* Memorandum from Dylan Mataway-Novak, EPA Operating Permits Grp., to EPA Reg'l Operating Permits Contacts, Calculation of the Annual Part 71 Fee for Calendar Year 2021 (Sept. 11, 2020), https://www.epa.gov/title-v-operating-permits/permit-fees.

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[1]CAA § 504(d), 42 U.S.C. § 7661c(d); 57 Fed. Reg. 32250, 32305 (codified at 40 C.F.R. § 70.5(d)). "The primary purpose . . . is to provide an alternative means for permitting sources for which the procedures of the normal permitting process would be overly burdensome, such as area sources under § 112." *See* 57 Fed. Reg. 32250, 32278.

[2]57 Fed. Reg. 32250, 32278 to 79.

ments governing operations, emissions, monitoring, reporting, or recordkeeping.[3]

A source covered under a general permit is still subject to the substantive requirements of 40 C.F.R. part 70 and must file an application with the permitting authority.[4] There must be public participation (i.e., notice and comment) in the formulation of the general permit, but not for a source application seeking coverage under the general permit. The general permit program must be submitted to EPA for approval in either a SIP or TIP rule or pursuant to CAA § 112 (i.e., HAPs) rule authority.[5] Additionally, the approval or denial of a source's request for authorization to operate under a general permit by the permitting authority is not a "final action" subject to judicial review.[6] Revisions to general permits follow the same revision procedures as other part 70 permits. A general permit may not be used for affected sources under the acid rain program.[7] Note that, regardless of any permit shield provisions, if a source is later determined to not qualify for the general permit (e.g., submission of false or misleading data), the source is subject to enforcement for operating without a Title V operating permit.[8]

General Permit Program requirements[9]

- General permits apply to a specific and narrow category of sources;
- Sources opting for general permit coverage provide notice and reporting requirements;
- General permits restrict PTE through specific and technically accurate limits;
- General permits contain specific compliance monitoring requirement;
- General permit limits are based on practically enforceable averaging times; and
- Violations of the general permit are violations of state and federal law and may result in major source coverage.

A source that changes location at least once during the term of a permit may be eligible for a temporary source permit. This is a "single permit authorizing emissions from similar operations by the same source owner or operator at multiple temporary locations."[10]

Temporary source permits must contain conditions that provide for: (1) compliance with 40 C.F.R. part 70 requirements; (2) compliance with all applicable requirements at each location; and (3) the owner or operator to notify the permitting authority at least 10 days in advance of a location change.[11]

§ 12:155 Title V permit modifications

The part 70 rules authorize three types of permit modifications: (1) administrative permit amendments; (2) minor permit revisions; and (3) significant permit revisions.

Administrative permit changes include changes of a ministerial nature such as

[3] 57 Fed. Reg. 32250, 32278.

[4] CAA § 504(d); 42 U.S.C. § 7661c(d); 40 C.F.R. § 70.6(d).

[5] Memorandum from Kathie A. Stein, Dir., EPA Air Enforcement Div. to Dir. Air, Pesticides, and Toxics Management Div., EPA Regions I and IV, et al., Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and § 112 Rules and General Permits (Jan. 25, 1995).

[6] 40 C.F.R. § 70.6(d)(2).

[7] 40 C.F.R. § 70.6(d)(1).

[8] 40 C.F.R. § 70.6(d)(1).

[9] 40 C.F.R. § 70.6(d)(1).

[10] 40 C.F.R. § 70.6(e).

[11] 40 C.F.R. § 70.6(e).

correction of typographical errors, changes in names, addresses, and other similar information; and incorporation of requirements from preconstruction review permits (i.e., PSD/NNSR or state preconstruction permits). No public notice or notice to affected states or EPA review is required for these changes and such revisions are typically authorized with a standard form or notice letter.[1]

Minor permit amendments require submittal of an application and are generally subject to limited review requirements and streamlined procedures involving only notice to EPA and affected states.[2] In general, minor permit amendments may address increases in permitted emissions that: (1) do not violate any applicable requirement; (2) do not involve significant changes to monitoring, reporting, or recordkeeping requirements; (3) do not require or change a case-by-case determination of an emission standard or limitation; and (4) do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement, if the source previously accepted such term or condition as an alternative to an applicable requirement (such as a federally enforceable emissions cap to avoid classification as a modification under Title I).[3] Minor permit amendments are not required by the state, tribal, or local SIP/TIP rules to be processed as a significant modification.[4]

Minor permit modifications require that a source provide advance notice of the change by filing an application, but allow the change to take effect prior to the conclusion of the revision procedures.[5] However, the source makes the change at its own risk before the final permit revision is issued.[6] Should the permitting authority or EPA ultimately reject the minor modification request, the source could be subject to enforcement proceedings for any violations of applicable requirements while the application is being processed.[7] The permit shield does not apply to minor permit amendments.[8]

No formal notification to the public is required for a minor permit amendment, but the permitting authority is required to notify EPA and affected states within five days of receiving the application.[9] EPA has 45 days to review the application, and the permitting agency may not issue the final approval of the minor modification until either the expiration of the 45 day period or if EPA notifies the permitting agency that it will not object to the minor modification.[10] In general, the permitting agency must make a decision on the minor permit amendment within 90 days of receiving the application.[11]

The Title V rules also permit authorities to develop procedures to process categories of small emission increases into one minor permit modification procedure.[12] These small increases are the lower of 10% of the emissions allowed for the particu-

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[1]40 C.F.R. § 70.7(d).

[2]40 C.F.R. § 70.7(e)(2)(ii).

[3]40 C.F.R. § 70.7(e)(2)(i)(A)(1) to (4).

[4]40 C.F.R. § 70.7(e)(2)(ii)(A)(6).

[5]40 C.F.R. § 70.7(e)(2)(v).

[6]Operating Permits Program, 57 Fed. Reg. 32250, 32257 (July 21, 1992).

[7]57 Fed. Reg. 32250, 32257.

[8]40 C.F.R. § 70.7(e)(2)(vi).

[9]40 C.F.R. § 70.7(e)(2)(iii).

[10]40 C.F.R. § 70.7(e)(2)(iv).

[11]40 C.F.R. § 70.7(e)(2)(iv).

[12]40 C.F.R. § 70.7(e)(3).

lar unit, 20% of the major source threshold, or five tons per year.[13]

Significant permit revisions are subject to the full agency review and public participation procedures necessary to process a new Title V permit application. They include essentially all permit revisions that do not qualify as either administrative or minor permit changes. EPA's Title V regulations require each state to develop criteria for determining whether a change is significant.[14] At a minimum, changes in monitoring terms or conditions and relaxation of reporting or recordkeeping terms or conditions are considered significant.[15] These revisions are subject to the standard procedural requirements applicable to issuance and renewal of a Title V permit, including a public comment period and notification to EPA and affected states. It may take the permitting agency several months to process a significant permit amendment.

CAA § 502(b)(10) authorized states, tribal, and local permitting agencies to include certain operational flexibility provisions in their Title V programs to make "off permit changes." An off-permit change is a potentially powerful tool for a source. State, tribal, and local permitting agencies may allow changes to sources that are "not addressed or prohibited" in the permit without a permit revision, provided the change is not a modification of any provision of Title I of the CAA, which includes PSD, major source NNSR, NSPS, and NESHAPs.[16] The changes also must not exceed the emissions allowable under the Title V permit.[17] Sources are required to provide at least seven days advance notice to the permitting authority and EPA of the off-permit change. The written notice includes a brief description of the change, the date the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.[18]

If an off-permit change is made, the source, the permitting authority, and EPA must attach notice of the change to the source's Title V permit.[19] Off-permit changes will typically be incorporated in the Title V permit at the next renewal. Off-permit changes are not covered under the permit shield.[20]

The option to include off-permit changes in a Title V program is up to the permitting authority. If a state chooses to prohibit off-permit changes as a matter of state law, then that prohibition is not federally enforceable.[21]

§ 12:156 Emissions trading and emissions caps

The Title V regulations require the permit to state that no permit revision is required for any "approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes" provided for in the Title V permit.[1] If the SIP or TIP authorizes internal emissions trading at a facility, this qualifies as an off-permit change, and the source may trade emissions within a

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[13]40 C.F.R. § 70.7(e)(3)(i)(B).

[14]40 C.F.R. § 70.7(e)(4).

[15]40 C.F.R. § 70.7(e)(4).

[16]40 C.F.R. § 70.4(b)(12)(i).

[17]40 C.F.R. § 70.4(b)(12)(i).

[18]40 C.F.R. § 70.4(b)(12)(i)(A).

[19]40 C.F.R. § 70.4(b)(12).

[20]40 C.F.R. § 70.4(b)(12)(i)(B).

[21]40 C.F.R. § 70.4(b)(14).

[Section 12:156]

[1]40 C.F.R. § 70.6(a)(8).

facility without a permit revision by submitting the seven-day notice.[2]

A permitting authority must allow emissions trading "in the permitted facility solely for the purpose of complying with a federally-enforceable emissions cap that is established in the permit independent of otherwise applicable requirements."[3] The applicant must request that the permit contain such terms conditions for "trading of emissions increases and decreases" within the permitted facility, and the permit application must propose "replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable."[4] While this provision applies to federally-enforceable emission limits, the permitting authority has the discretion to impose more stringent requirements. Emission limits with emissions trading authorized under 40 C.F.R. § 70.6(a)(10) are subject to coverage under the permit shield provision.[5]

§ 12:157 Title V reopener provisions

There are limited opportunities for a permitting authority to reopen a Title V permit for cause before the permit term expires, including: (1) additional applicable requirements under the CAA become applicable to the source and at least three years remain before the next permit renewal date; (2) the permit contains a mutual mistake or inaccurate statements made in establishing the emission standards or other terms or conditions of the permit (e.g., inaccurate statements made in the permit application); and (3) the permitting authority or EPA determines that a permit must be reopened to assure compliance with the applicable requirements.[1]

EPA also has the authority to raise an objection and seek a reopening of a Title V permit pursuant to the "for cause" provisions in 40 C.F.R. § 70.7(f). EPA is required to notify the applicable state, tribal, or local permitting agency of the reasons for the objection, and the permitting agency has 90 days to resolve the objection and forward a proposed determination to EPA.[2] If the permitting agency fails to submit a proposed determination to EPA or otherwise does not adequately resolve EPA's objection, EPA has the authority to terminate, modify, or revoke and reissue the Title V permit after providing the permittee at least 30 days' notice of the reasons for the objection and allowing the permittee an opportunity to comment on EPA's proposed action and/or request a hearing.[3]

§ 12:158 Title V conclusions

The CAA Amendments of 1990 brought thousands of facilities into the federal air permitting scheme. Prior to 1990, the CAA required sources to obtain preconstruction PSD/NNSR permits only when their potential emissions were high enough to trigger this requirement. Multiple other emission sources may have been subject to certain individual provisions of the Clean Air Act—e.g., NSPS or NESHAPs—or been located in a state with its own operating permit program that may have imposed requirements that were markedly different than standards applicable to a

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[2]40 C.F.R. § 70.4(b)(12)(ii).

[3]40 C.F.R. § 70.4(b)(12)(iii). The use of a federally-enforceable emissions cap in a Title V permit is typically used to avoid triggering applicability of a CAA program, e.g., stay below the major source threshold for a NESHAP standard.

[4]40 C.F.R. § 70.4(b)(12)(iii).

[5]40 C.F.R. § 70.(6)(a)(10)(ii).

[Section 12:157]

[1]40 C.F.R. § 70.7(f).

[2]40 C.F.R. § 70.7(g).

[3]40 C.F.R. § 70.7(g)(5).

similar source in other states.

The Title V operating permit program has implemented a uniform approach to permitting across the nation. The improved Title V monitoring requirements have also resulted in more streamlined enforcement. The success of the Title V operating permit program has helped achieve significant improvements in air quality since the enactment of the 1990 Amendments.

XIII. ACID RAIN PROGRAM*

§ 12:159 Introduction

The acid rain program, enacted as Title IV of the 1990 Clean Air Act (CAA) Amendments, created a mechanism to address the transport and dispersion of acid rain precursors (sulfur dioxide (SO_2) and nitrogen oxides (NO_x)) on a national scale. Over 30 years later, the acid rain program is recognized as one of the key successes of the 1990 CAA Amendments, having initiated the first market-based emissions trading program that far exceeded the initial goals of the program. Today, the Title IV acid rain program has largely become unneeded as a mechanism for driving further reductions in SO_2 and NO_x emissions from fossil-fuel-fired power plants, but it continues to be a source of important monitoring requirements. This section reviews some of the history of the development of the acid rain program and provide a summary of the program's ongoing requirements.

§ 12:160 Background

Heavy acid deposition in lakes, streams, marshes, and other water bodies caused severe impacts to fish and aquatic species as well as substantial damage to forests and soils in the northeastern United States in the 1960s and 1970s. This damage was traced to SO_2 and NO_x emissions from the burning of fossil fuels primarily from coal-fired power plants and other industrial sources in the Midwest. The major sources of SO_2 and NO_x include electric generating plants burning coal, oil, or gas; industrial sources, such as oil refineries and chemical plants; and motor vehicles and off-road equipment.[1] The SO_2 emissions from fossil-fuel fired combustion sources is directly tied to the sulfur content in the fuels being burned. SO_2 and NO_x react with water, oxygen, and oxidants to form sulfuric acid (H_2SO_4) and nitric acids (HNO_3) in the atmosphere. Wet deposition in the form of rain, snow, hail, and fog, and other precipitation containing sulfuric acid and nitric acid would fall to Earth and cause detrimental impacts to ecosystems. Acidic dust particles may be also deposited as dry deposition to water bodies, soil, or buildings, and cause harm when washed off during rain or snow events. Acid deposition may also accelerate the corrosion of buildings and other structures, and can cause human health impacts, including respiratory and cardiovascular damage. Acid deposition usually has a pH between 4.2 and 4.4, which is much more acidic than normal rainfall with a pH of approximately 5.6.[2] The lower the pH, the higher the acidity. Distilled water has a pH of 7.0. A pH of 4.0 has 10 times the acidity of a pH of 5.0 and 100 times the acidity of a pH of 6.[3]

The long-range transportation of SO_2 is fairly well understood, and studies have

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*By **Roy S. Belden** (Sections 12:159 – 12:169). Updates prior to Fall 2021 of these Sections were provided by **Phillip Reed and Alan Gilbert.**

[Section 12:160]

[1]U.S. EPA, *What is Acid Rain?,* https://www.epa.gov/acidrain/what-acid-rain.

[2]U.S. EPA, *What is Acid Rain?,* https://www.epa.gov/acidrain/what-acid-rain.

[3]U.S. Geological Survey, *pH and Water*, https://www.usgs.gov/special-topic/water-science-school/science/ph-and-water?qt-science_center_objects=0#qt-science_center_objects.

shown that SO_2 can be transported in excess of several hundred miles.[4] Fossil-fuel-fired power plants with tall smokestacks have contributed to the long-range transport of SO_2 from the Midwest to the northeastern United States. The scientific data on the long-range transport of NO_x in the 1970s and early 1980s was not as conclusive due to the complexities of the transformation of nitric acids, but there was some evidence demonstrating that NO_x could be transported significant distances.[5]

§ 12:161 The 1990 Clean Air Act amendments

By the mid-1980s, the science documenting the long-distance transport of sulfuric acid and nitric acids and the resulting acid deposition impacts on the ecosystem was well established. Congress, in turn, debated how best to control and reduce emissions of acid rain precursors—SO_2 and NO_x. While certain electric generating plants and other industrial sources burning fossil fuels may have been subject to new source performance standards (NSPS) and best available control technology (BACT) standards under the prevention of significant deterioration (PSD) program that imposed SO_2 and NO_x emission limits, there were numerous fossil-fuel fired power plants that commenced operation before the imposition of 40 C.F.R. § 60.40 (subpart D) or the Clean Air Act Amendments of 1977 and were grandfathered from certain NSPS and PSD program requirements. If existing fossil-fuel fired combustion sources prior to 1990 were subject to SO_2 and NO_x emission limits, the standards were typically not as stringent as those later imposed under the 1990 Clean Air Act Amendments.

The Senate Committee on Environment and Public Works reported out of committee acid rain legislation in 1982, 1984, and 1987, but none of the bills advanced any further in Congress. That situation changed in 1989 when legislation to revamp the Clean Air Act was advanced by the George H.W. Bush administration. The legislation introduced in the House of Representatives and the Senate included an acid rain title, which was based on a "cap and trade" marketable emissions trading program designed to lessen the costs of compliance and provide more flexibility in achieving significant SO_2 emission reductions. Emissions trading or "cap and trade" is a program that sets a "cap" or limit on allowable emissions of a pollutant and establishes a tradeable allowance that corresponds to a specific quantity of the pollutant, e.g., one ton.[1] The SO_2 allowance trading program was phased in with a final cap on SO_2 emissions of 8.95 million tons, a level that was approximately 50% lower than the emissions from fossil-fuel-fired power plants in 1980.[2] The structure of the Clean Air Act was traditionally based on a "command and control" approach whereby Congress directed sources of pollution to implement control measures to achieve specified emission reduction limitations or standards. The concept of an emissions trading program to achieve emission reduction targets was foreign to the structure

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[4]U.S. GEN. ACCT. OFF., Ga/Rced 85-13, AN ANALYSIS OF ISSUES CONCERNING "ACID RAIN" 64–65 (Dec. 11, 1984); U.S. OFF. OF TECH. ASSESSMENT, 5 Ota-O-204, ACID RAIN AND TRANSPORTED AIR POLLUTANTS: IMPLICATIONS FOR PUBLIC POLICY (June 1984).

[5]U.S. GEN. ACCT. OFF., Ga/Rced 85-13, AN ANALYSIS OF ISSUES CONCERNING "ACID RAIN" 64–65 (Dec. 11, 1984); EPA, OFF. OF AIR QUALITY PLANNING AND STANDARDS, EPA-456/F-99-006R, NITROGEN OXIDES (NO_x), WHY AND HOW THEY ARE CONTROLLED, 5-6 (Nov. 1999).

[Section 12:161]

[1]U.S. EPA, *What is Emissions trading?*, https://www.epa.gov/emissions-trading-resources/what-emissions-trading. EPA noted that SO_2 emissions from electric generating facilities in 1985 were about 16 million tons. Acid Rain Allowance Allocations and Reserves, 58 Fed. Reg. 15634, 15635 (Mar. 23, 1993) (to be codified at 40 C.F.R. pts. 72, 73, and 75).

[2]U.S. EPA, *Acid Rain Program*, https://www.epa.gov/acidrain/acid-rain-program; U.S. EPA, 2020 Power Sector-Progress Report, 6 (2021), https://www3.epa.gov/airmarkets/progress/reports/index.html.

of the CAA, but industry generally embraced the notion of using market incentives to reduce air pollution.

The acid rain program provisions in the proposed legislation introduced the concept of fossil-fuel-fired power plants subject to the program holding emission "allowances" on a one-to-one basis to account for SO_2 emissions emitted by the affected source. Under the SO_2 allowance trading program, some affected units could be overcontrolled by installing scrubbers and thereby generate revenue from selling allowances to other sources covered by the program that decided not to install add-on pollution controls and instead achieve compliance by purchasing allowances. The proposed acid rain title also included NO_x emission limits designed to achieve emission reductions from coal-fired utility boilers. There are no allowance trading provisions under the Title IV NO_x program, and affected units must meet applicable NO_x emission standards.

The acid rain title (Title IV) was enacted as part of the 1990 CAA Amendments, which were signed into law in November 1990. The new acid rain program mandated significant emission reductions from fossil-fuel-fired power plants throughout the 48 contiguous states and the District of Columbia. Title IV called for the elimination of 10 million tons of SO_2 emissions from 1980 levels (which were about 17.3 million tons at the time) and the reduction of 2 million tons of NO_X emissions (about 27%) from the projected emission levels for 2000 (i.e., approximately 8.0 million tons).[3] The most significant reductions were expected to come from the industrial heartland of the country where coal-fired power generation was predominant. The acid rain program provisions also sought to promote energy conservation, pollution prevention, and the use of renewable and clean alternative technologies.

At the time the Title IV requirements were adopted, the acid rain program was fairly controversial in that the fossil-fuel-fired power generation sector was the primary target.[4] In the 1980s, fossil-fuel-fired power plants were the largest source of SO_2 emissions from sources combusting coal, natural gas, and oil. Once the SO_2 emissions trading program was up and running, fossil-fuel-fired power plants were required to hold sufficient SO_2 allowances to match their SO_2 emissions. As explained below, most existing fossil-fuel-fired power plants subject to the program were initially allocated a certain amount of SO_2 allowances, but those allocations typically were not sufficient to cover all of a plant's SO_2 emissions. In order to comply with the acid rain program, the companies owning and operating power plants had to make a decision on whether to install expensive add-on controls—namely, a flue gas desulfurization system, or "scrubber," that typically removes more than 90% of the SO_2 from the flue gas stream before it exits the stack—or purchase sufficient SO_2 allowances on the open market to cover any shortfall in the allocated allowances.

Scrubbers are extremely large pieces of equipment installed after the combustion process in the boiler and before the emissions go up the stack. There are generally two types of scrubbers—wet scrubbers and spray dry scrubbers—and the equipment may cost over $300 per kW of electricity.[5] Installation of a wet scrubber on an 800

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[3]U.S. EPA, 2020 *Power Sector Programs—Progress Reports,* 20 and 26 (2020), https://www3.epa.gov/airmarkets/progress/reports/index.html. SO_2 emissions from coal-, gas-, and oil-fired power plants were approximately 778,000 tons in 2020. NO_x emissions from coal-fired power plants subject to the acid rain program were 721,000 tons in 2020.

[4]Other industries, such as chemical plants, oil refineries, and pulp and paper mills, with fossil-fuel-fired boilers and combined cycle combustion turbines generating electricity (e.g., certain non-exempt independent power producers) were potentially subject to Title IV. Fossil fuels include coal, oil, and natural gas.

[5]POWER, *Update: What is a Scrubber Going to Cost?*, (Mar. 1, 2009), https://www.powermag.com/u

MW coal-fired boiler may cost $240 million or more.[6] In addition, there are ongoing operation and maintenance expenses for scrubbers, including the use of limestone and other chemicals, which can be costly. The U.S. Energy Information Administration reported that 91 gigawatts of coal-fired power plants were retrofitted with flue-gas desulfurization units or scrubbers between 2005 and 2011, which represented approximately 60% of the then-existing coal-fired power fleet in 2011 having new scrubbers installed.[7] The remaining 40% of coal-fired power plants either purchased SO_2 allowances to achieve compliance or ended up retiring rather than installing costly SO_2 emission reduction technology.

In its "2020 Power Sector Programs—Progress Report," EPA reports that affected units under the acid rain program reduced SO_2 emissions by 15 million tons from 1990 levels, a 95% reduction, and by 16.5 million tons from 1980 levels, also a 95% reduction.[8] NO_x emissions from acid rain program affected units were reduced by 7.3 million tons from the projected 2000 emission levels without the acid rain program, resulting in over three times the targeted emission reductions of 2 million tons.[9] Power plants with affected units under the acid rain program emitted 778,000 tons of SO_2 emissions in 2020 and 721,000 tons of NO_x emissions in 2020.[10]

As of 2021, the Title IV acid rain program has continued to remain in effect. However, the acid rain program is no longer a driving force for SO_2 emission reductions in the 21 Northeast, Mid-Atlantic, and Midwestern states subject to the Cross-State Air Pollution Rule (CSAPR) SO_2 program. This is because the SO_2 emission reduction levels under CSAPR are much more stringent. CSAPR took effect on January 1, 2015, and under the program SO_2 allowances are allocated to fossil-fuel-fired power plants based on state emissions budgets. CSAPR-affected power plants are required to hold sufficient CSAPR SO_2 allowances to cover their SO_2 emissions.

The Mercury and Air Toxics Standards (MATS) rule, promulgated in February 2012, has further driven reductions in SO_2 emission levels nationwide.[11] The MATS rule applies to existing and new coal-fired and oil-fired power plants and targets reductions of emissions of mercury and other heavy metals, particulate matter, hydrochloric acid, and other acid gases. Under the rule, existing coal- and oil-fired power plants had a deadline of April 2016 to install or otherwise implement the necessary pollution controls to meet the MATS emissions limits.[12] In order to reduce hazardous air pollutants covered under the MATS rule, the primary pollution

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pdate-whats-that-scrubber-going-to-cost/. Wet scrubbers typically achieve SO_2 removal rates greater than 95% and spray dry scrubbers usually achieve SO_2 removal rates on the order of 90-92%. Most coal-fired power plants use a wet scrubber system. More recently, some fossil fuel plants have used dry sorbent injection (DSI) systems to remove SO_2 emissions. When paired with a fabric filter (also known as a baghouse), a DSI system can achieve greater than 80% removal of SO_2 at a capital cost much less than a wet or dry scrubber.

[6]George W. Sharp, *Update: What's That Scrubber Going to Cost?*, POWER MAG., Mar. 1, 2009. There are 1,000 kW in 1 MW.

[7]*See* U.S. Energy Info. Admin., *Power plant emissions of sulfur dioxide and nitrogen oxides continue to decline in 2012* (Feb. 27, 2013), https://www.eia.gov/todayinenergy/detail.php?id=10151.

[8]U.S. EPA, *2020 Power Sector Programs—Progress Report*, 20 (2021), https://www3.epa.gov/airmarkets/progress/reports/emissions_reductions.html.

[9]U.S. EPA, *2020 Power Sector Programs—Progress Report*, 26 (2021), https://www3.epa.gov/airmarkets/progress/reports/emissions_reductions.html.

[10]U.S. EPA, *2020 Power Sector Programs—Progress Report*, 20 and 26 (2021), https://www3.epa.gov/airmarkets/progress/reports/emissions_reductions.html.

[11]National Emissions Standards for Hazardous Air Pollutants From Coal- and Oil-fired electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9304 (Feb. 16, 2012) (to be codified at 40 C.F.R. pts. 60 and 63).

[12]Power plants subject to the MATS rule could apply for a one-year extension of the April 16, 2015

controls—wet and dry scrubbers and dry sorbent injection systems—are also effective in reducing SO_2 emissions.

§ 12:162 Acid rain program applicability

The acid rain provisions in Title IV are implemented through the Title V operating permit program.[1] For "affected units" under Title IV, the Title V permit must include prohibitions on emissions exceeding the allowances granted in accordance with Title IV, and the operating permit application must include the standardized acid rain forms if applicable.[2] Additionally, permits issued to implement Title IV are granted for a 5-year period.[3]

The Title IV acid rain program is applicable to "existing units" serving a generator with a nameplate capacity of greater than 25 megawatts (MWs) of electricity that commenced commercial operations before November 15, 1990.[4] Existing units do not include simple cycle combustion turbines.[5] The acid rain program also applies to "new units," which are units that commence construction on or after November 15, 1990, including units that serve a generator with a nameplate capacity of 25 MWs or less or consist of a simple cycle combustion turbine.[6] In general, a *utility unit* is a fossil-fueled-fired combustion device, such as a boiler or a combustion turbine. The acid rain program regulations provide that a utility unit may be an "affected unit" only if it meets the following conditions:

1. It is a combustion device;
2. It is fossil-fuel-fired; and
3. It serves a generator that produces electricity for sale.[7]

Title IV requires all "affected units" to obtain acid rain permits; to hold sufficient allowances to cover their SO_2 emissions (which started in 1995 for Phase I units and in 2000 for Phase II units); to install a continuous emissions monitoring system (CEMS) meeting the Title IV requirements; and to comply with other monitoring and recordkeeping provisions.

The 1990 CAA Amendments created a two-phase SO_2 program. Phase I covered 263 affected units at 110 mostly large coal-fired power plants (over 100 MWs) located in 21 Northeastern and Midwest states.[8] The 110 power plants were specifically listed in the 1990 CAA Amendments.[9] Another 182 units were added to Phase I as substitution or compensating units by the owners or operators of the Phase I af-

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compliance date to achieve compliance by April 16, 2016.

[Section 12:162]

[1]CAA §§ 408(a), 506(b), 42 U.S.C. §§ 7651g(a), 7661e(b).

[2]CAA § 402(2), 42 U.S.C. § 7651a(2). *See* U.S. EPA, *Acid Rain Permit Application Form*, https://www.epa.gov/airmarkets/acid-rain-permit-application-form. The term "affected unit" is defined only as a unit that is subject to emission reduction requirements or limitations under Title IV.

[3]CAA § 408(a); 42 U.S.C. § 7651g(a).

[4]CAA § 402(8); 42 U.S.C. § 7651a(8). Utility units subjected to the acid rain program are defined as "affected units" and an "affected source" may contain one or more affected units. *See* 40 C.F.R. § 72.2.

[5]40 C.F.R. § 72.2.

[6]40 C.F.R. § 72.2.

[7]40 C.F.R. § 72.2.

[8]CAA § 404(a), 42 U.S.C. § 7651c(a); *see also* U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.

[9]CAA § 404(e), Table A, 42 U.S.C. § 7651c(e), Table A.

fected sources.[10] The Phase I units were required to meet the acid rain requirements by January 1, 1995. Phase II began on January 1, 2000, and extended coverage to over 2,000 smaller fossil-fuel-fired units, including both existing units serving generators with an electricity output of more than 25 MWs and all new utility units.[11] An initial list of SO_2 allowance allocations for Phase I and Phase II affected units was provided in EPA's 1993 allowance allocation rules and in the 1998 allowance reallocation rule.[12]

§ 12:163 Acid rain program exempt and grandfathered units

The acid rain program provides exemptions for certain types of utility units, and also grandfathers certain units from meeting the acid rain requirements. There are two types of exempt utility units: (1) small new units burning clean fuels; and (2) retired units.[1] The "new unit exemption" applies if a unit (1) commenced commercial operation on or after November 15, 1990; (2) serves a generator(s) with a total nameplate capacity of 25 MW or less; and (3) combusts "clean" fossil fuels with a sulfur content of 0.05% or less.[2] A new unit could lose its exemption and then become subject to the program requirements.[3] For example, if a small new unit were to make a modification that increased its total nameplate capacity to more than 25 MWs, it would lose its new unit exemption. If a unit was permanently retired before it was required to obtain a Phase II acid rain permit, it qualified for the retired unit exemption.[4] In order to obtain an exemption, the owner or operator of the unit must submit a written application to EPA requesting an exemption.[5]

Six types of electric generating units are not affected by the regulations under certain conditions and qualify as grandfathered units. These include the following:

1. simple cycle combustion turbines that were in commercial operation prior to November 15, 1990;[6]
2. small units that commenced operations before November 15, 1990, and serve generators with a nameplate of 25 MWs or less;[7]
3. cogeneration facilities that cogenerate steam and electricity and sell equal to or less than one-third of their potential output of electricity and equal to or less than 25 megawatts of power to a utility distribution system for sale (on a gross basis);[8]
4. qualifying small power production or cogeneration facilities (QF) under the Federal Power Act that have one or more power purchase commitments to sell

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[10]CAA § 404(b), 42 U.S.C. § 7651c(b); *see also* U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.

[11]CAA § 405(a), 42 U.S.C. § 7651d(a); *see also* U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.

[12]Acid Rain Program: General Provisions and Permits, Allowance System, Continuous Emissions Monitoring, Excess Emissions and Administrative Appeals, 58 Fed. Reg. 3590 (Jan. 11, 1993) (to be codified at 40 C.F.R. pts. 72, 73, 75, 77, and 78); Acid Rain Allowance Allocations and Reserves, 58 Fed. Reg. 15634 (Mar. 23, 1993) (to be codified at 40 C.F.R. pts. 72, 73, and 75); Acid Rain Program: 1998 Reallocation of Allowances, 63 Fed. Reg. 51706 (Sept. 28, 1998) (to be codified at 40 C.F.R. pt. 73).

[Section 12:163]

[1]40 C.F.R. §§ 72.7–72.8.

[2]40 C.F.R. § 72.7(a).

[3]40 C.F.R. § 72.7(f)(4).

[4]40 C.F.R. § 72.8.

[5]40 C.F.R. §§ 72.7(b)(2), 72.8(b)(2).

[6]40 C.F.R. § 72.6(b)(1).

[7]40 C.F.R. § 72.6(b)(2).

[8]40 C.F.R. § 72.6(b)(4).

at least 15% of total planned net output capacity and consist of one or more units with total installed net output capacity not exceeding 130% of total planned net output capacity;[9]

5. independent power production (IPP) facilities that have one or more qualifying power purchase commitments to sell at least 15% of its total planned net output capacity and consist of one or more units with total installed net output capacity not exceeding 130% of total planned net output capacity;[10] and
6. solid waste incinerators combusting more than 80% (on a Btu basis) of non-fossil fuels.[11]

Grandfathered units must have met one or more of the above threshold requirements as of November 15, 1990. A unit grandfathered under more than one provision will remain grandfathered until it loses its grandfathered status for all qualifying categories (e.g., a unit grandfathered as both an IPP and a QF will remain grandfathered until it loses both its IPP and QF status).[12] While EPA does not routinely require a grandfathered unit to submit proof of its status, grandfathered units should retain documentation to support such status. EPA takes the position that grandfathered units must continue to meet the requirements to maintain grandfathered status and avoid regulation under the acid rain program.

EPA has interpreted Congress's intent in crafting the IPP and QF grandfathering provisions as providing relief from compliance costs because these entities had already entered fixed-price, long-term contracts. Once a power purchase agreement expires or is modified, EPA takes the position that the unit will lose its grandfathered status because it now has an opportunity to "pass through" the acid rain program compliance costs to the power purchaser. In other words, the power plant owner or operator can seek to modify the contract so that the power purchaser is responsible for reimbursing the power plant's costs to buy allowances to comply with the acid rain program. Once the exempt or grandfathered status is lost, it is incumbent upon the unit to comply with the acid rain program or risk penalties for failure to meet those requirements.

As of 2021, many grandfathered plants have either have been taken out of service or entered into the acid rain program as their power sales agreements expired. Many of the qualifying power purchase agreements or commitments in place as of November 15, 1990, had 20- to 30-year terms. In 2020, 3,287 fossil-fuel-fired units at 1,159 affected sources were subject to the acid rain program requirements.[13]

§ 12:164 SO_2 emissions trading

The acid rain program's cap-and-trade program was the first nationwide market-based trading program designed to cost-effectively reduce emissions of a harmful pollutant. The key component of the program was the creation of the first large-

[9]40 C.F.R. § 72.6(b)(5). The term "power purchase commitment" is defined to include (1) power sales agreements, (2) negotiating with a utility that was under order to enter such an agreement, (3) letters of intent or similar instruments to purchase power, or (4) was the winning bidder at a competitive solicitation.

[10]40 C.F.R. § 72.6(b)(6).

[11]40 C.F.R. § 72.6(b)(7).

[12]EPA received a number of requests for determinations on whether the acid rain program applied due to changes in power sale contracts or other changes that may have affected a plant's grandfathered status. From 1994 through 2011, EPA issued over 40 acid rain program applicability determinations. EPA maintains a listing of acid rain applicability determinations that can be accessed at U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.

[13]U.S. EPA 2020 POWER SECTOR PROGRAM—PROGRESS REPORT, 16 (2021), https://www3.epa.gov/airmarkets/progress/reports/index.html.

scale emissions trading system involving a fixed number of "allowances." CAA § 403(f) states that allowances are a "limited authorization to emit sulfur dioxide" and, while sources may freely buy, sell, and transfer these allowances, the Act makes it clear that they are not a property right and that EPA reserves the right to terminate or limit the use of allowances.[1] The use of SO_2 allowances to comply with the acid rain program does not entitle a source to release SO_2 emissions in quantities that cause a violation of the NAAQS.[2]

Acid rain program SO_2 allowances were initially allocated to Phase I and Phase II affected sources.[3] New units that become subject to the acid rain program are required to purchase their allowances on the open market or from EPA during an annual auction of SO_2 allowances. Each affected source will have an SO_2 allowance compliance account.

Each allowance authorizes one ton of SO_2 emissions during a particular year, and the allowances are then surrendered to EPA to offset the annual SO_2 emissions of each affected unit. EPA's annual allocations of SO_2 allowances to each Phase I and Phase II unit are credited to each unit's account, and companies must notify EPA in writing of any SO_2 allowance transfers so that their accounts can be formally credited or debited. At the end of each year, there is a 60-day grace period during which additional SO_2 allowances may be bought and sold to "true up" the account so that sufficient SO_2 allowances are in the affected source's compliance account by the annual allowance transfer deadline of March 1.[4] EPA then deducts the SO_2 allowances from the affected source's compliance account on or immediately after March 1. EPA tracks the SO_2 allowances of each affected unit via its Clean Air Markets Division (CAMD) Business System.[5]

SO_2 allowances do not expire and may be banked for use in future years to cover emissions for compliance purposes. Any person, company, or organization may also open a general account for the purpose of holding and transferring acid rain SO_2 allowances.[6] SO_2 allowances are publicly traded by emission brokers and are often privately sold and transferred in bilateral arrangements between companies owning affected sources.

As stated earlier, Title IV SO_2 requirements are divided into Phase I and Phase II. Phase I units are large fossil-fuel-fired units capable of generating 100 MWs or more of electricity or more with an SO_2 emission rate over 2.5 pounds per million Btu (lbs/MMBtu). As noted above, there were a total of 445 Phase I units located at the 110 power plants listed in CAA § 404(e), Table A.[7] Phase I allowance allocations were based on a formula equivalent to an SO_2 emissions rate of 2.5 lbs/MMBtu multiplied by the applicable unit's baseline fuel consumption, which is the average fuel used in the years 1985 to 1987.[8] By January 1, 1995, the 110 plants with Phase I units were required to either meet the emission reduction requirements of CAA § 404(a) or hold a sufficient number of allowances to cover the plant's SO_2 emissions.

[Section 12:164]

[1]CAA § 403(f), 42 U.S.C.A. § 7651b(f).

[2]CAA § 403(f), 42 U.S.C. § 7651b(f).

[3]CAA § 403(a)(1), 42 U.S.C.A. § 7651b(a)(1).

[4]40 C.F.R. §§ 72.2, 73.35.

[5]U.S. EPA, *CAMD Business System (CBS)*, https://www.epa.gov/airmarkets/camd-business-system-cbs.

[6]U.S. EPA, *Allowance FAQs: What is a General Account?*, EPA https://www.epa.gov/airmarkets/allowance-faqs.

[7]U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.

[8]CAA § 404(e)(2), 42 U.S.C. § 7651c(e)(2). The term "baseline" is defined in CAA § 402(4), 42 U.S.C. § 7651a(4).

The compliance deadline could be extended for two years if scrubbers were installed.[9]

Phase II of the acid rain SO_2 program began on January 1, 2000, and the Phase II allowance allocations are based on meeting a 1.2 lbs/MMBtu SO_2 emission rate multiplied by the plant's baseline fuel use.[10] The Phase II affected units are listed in 40 C.F.R. § 73.10. According to EPA, the Phase II SO_2 program covers more than 2,000 affected units.[11] The 1990 CAA Amendments set up EPA reserves of SO_2 allowances (approximately 2.8% of the total 8.95 million allowances) that are eligible for distribution, including an annual EPA auction reserve of 250,000 during Phase II.[12]

As the SO_2 allowances do not expire, allowances allocated to the Phase I and Phase II affected units were allocated in perpetuity. A retiring Phase I or Phase II source may transfer or sell their allocation of allowances for future years. In light of the significant reduction in SO_2 emissions under the acid rain program (as well as the CSAPR and MATS programs), there is an oversupply of available acid rain program SO_2 allowances, which has resulted in today's almost nonexistent allowance market.

Newer affected units that began commercial operation after December 31, 1995, must purchase SO_2 allowances either from EPA or other sources because they were not allocated any SO_2 allowances.[13] Starting in 2000, total SO_2 allowances were capped at 8.95 million tons per year with an additional 50,000 tons of SO_2 allowances (not subject to the cap) being allocated on a pro rata basis among certain Phase I units.[14]

The acid rain SO_2 allowance program has been highly successful such that SO_2 emissions from affected units under the acid rain program are now approximately 778,000 tons annually, which is about 95% below the statutory SO_2 allowance cap of 8.95 million tons.[15] As discussed above, the SO_2 allowance trading program is no longer a driving factor in reducing SO_2 emissions from fossil-fuel-fired power plants, and acid rain program SO_2 allowances have been trading at levels well under $1.00 per allowance since 2012.[16] Nevertheless, compliance with the requirement to annually surrender SO_2 allowances to offset an affected unit's SO_2 emissions is still necessary, and a failure to comply could have enforcement consequences.

§ 12:165 Opt-in program

Title IV also establishes a process allowing fossil-fuel-fired combustion sources that are *not* subject to the acid rain program to "opt in" to the program to become an

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[9]CAA § 404(d)(1), 42 U.S.C. § 7651c(d)(1).

[10]CAA §§ 402(4), 405, 42 U.S.C. §§ 7651a(4), 7651d.

[11]U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.

[12]40 C.F.R. §§ 73.25 to 73.27.

[13]CAA § 402(8) defined existing units as any "unit that commenced commercial operation before November 15, 1990. CAA § 402(8), 42 U.S.C. § 7651a(8). Existing units were allocated SO_2 allowances under Phase I and II of the trading program. CAA § 405(g)(3), (4) provided for an allocation of SO_2 allowances for any utility unit that commenced commercial operation on or before December 31, 1995. CAA §§ 405(g)(3), (4), 42 U.S.C. §§ 7651d(g)(3), (4).

[14]CAA §§ 403(a), 405(a), 42 U.S.C. §§ 7651b(a), 7651d(a).

[15]U.S. EPA, 2020 *Power Sector Programs—Progress Report*, 20 (2021) https://www3.epa.gov/airmarkets/progress/reports/index.html.

[16]U.S. EPA, *SO_2 Allowance Auctions*, https://www.epa.gov/airmarkets/so2-allowance-auctions. The 2020 EPA SO_2 allowance auction had a clearing price of $0.01 per allowance.

affected unit.[1] The opt-in regulations provide a financial incentive to combustion sources to join the program by providing an allocation of SO_2 allowances to opt-in sources.[2] All non-affected fossil-fuel-fired combustion sources located in the 48 contiguous states or the District of Columbia are eligible to opt in.[3]

Opt-in units are required to comply with all of the Title IV requirements, except the Title IV NO_x requirements in 40 C.F.R. pt. 76.[4] Opt-in units need to apply for an acid rain permit and must comply with monitoring provisions, the latter necessitating either the installation of a continuous emission monitoring system (CEMS) or another approved alternative monitoring system to measure and record SO_2, NO_x, and CO_2 emissions.[5] An opt-in source must submit a special opt-in permit application to EPA that meets the requirements of 40 C.F.R. § 74.16.[6] An opt-in source has the option of withdrawing from the acid rain program under certain conditions.[7] An opt-in source must surrender all current-year and subsequent-year SO_2 allowances if it withdraws from the acid rain program.[8]

§ 12:166 NO_x requirements

The 1990 Amendments set a goal of reducing NO_x emissions from coal-fired utility units by two million tons from 1980 levels. Unlike the SO_2 program, however, the NO_x program does not cap NO_x emissions nor utilize an allowance trading system. CAA § 407(b) directed EPA to promulgate new emission limits for such units at levels equivalent to those that can be achieved with low NO_x burner technology.[1]

The EPA regulations in 40 C.F.R. § 76.2 define a *coal-fired utility unit* as one in which coal combustion exceeds 50% of its annual heat input.[2] The NO_x emission limits for coal-fired utility units are divided into two phases. The Phase I rules took effect on January 1, 1996 and set specific annual emission limits for tangentially fired boilers and dry-bottom wall-fired boilers, which were referred to as *Group 1 boilers*.[3] There were approximately 170 Group 1 boilers. The Phase I standards ended in 1999 and were replaced with the Phase II rules for Group 1 boilers.

The NO_x standards for Phase II coal-fired utility units became applicable on January 1, 2000.[4] The Phase II standards set more stringent limits for Group 1 boilers (i.e., tangentially fired and dry-bottom wall-fired boilers) and also set new emission limits for *Group 2 boilers* (i.e., wet-bottom wall-fired boilers, cyclone boilers, boilers using cell-burner technology, vertically fired boilers, arch-fired boilers, and other non-Group 1 boilers).[5] The limits for the Group 2 boilers must be based on

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[Section 12:165]

[1]40 C.F.R. pt. 74.

[2]40 C.F.R. §§ 74.20 to 28.

[3]40 C.F.R. § 74.2.

[4]40 C.F.R.§ 74.3.

[5]40 C.F.R. § 75.2.

[6]40 C.F.R. §§ 74.12, 72.14, 72.16.

[7]40 C.F.R. § 74.18(c).

[8]40 C.F.R. § 74.18(d).

[Section 12:166]

[1]CAA § 407(b), 42 U.S.C. § 7651f(b).

[2]40 C.F.R. § 76.2.

[3]40 C.F.R. § 76.5.

[4]Acid Rain Program; Nitrogen Oxides Emission Reduction Program, 61 Fed. Reg. 67112 (Dec. 19, 1996) (to be codified at 40 C.F.R. pt. 76).

[5]40 C.F.R. §§ 76.6, 76.7.

"the best system of continuous emission reduction" that is comparable in cost to the controls required for Group 1 boilers.[6]

The CAA allows for the setting of a less-stringent emission limit for an individual coal-fired utility unit where there is a showing that the unit cannot meet the emission limits established by EPA.[7] For Phase II affected units, state, tribal, and local permitting authorities may grant the alternative emission limit. In order to qualify for an alternative emission limit, the appropriate control equipment must have been installed and operated for at least three months and the owner/operator must demonstrate that the unit could not have otherwise met the EPA limit.[8]

Title IV also allows an owner/operator of two or more units to petition for an alternative NO_x averaging plan.[9] An averaging plan provides flexibility to set up a "bubble" over two or more units. This allows a company to "over-control" certain units to compensate for under-controlled NO_x emissions from other units owned by the company. Under the averaging plan, the company must demonstrate that the Btu-weighted annual average NO_x emission rate for all the units within the bubble is less than or equal to the annual average rate that each individual unit would have emitted at its applicable rate.[10]

Although the Title IV NO_x requirements in the CAA establish different emission limits for different types of boilers, they generally restrict EPA to requiring technology no more stringent than "low NO_x burner" technology or other technology that is comparable in cost to low NO_x burner technology. While the acid rain program NO_x standards are still applicable to new coal-fired utility units, the standards have been eclipsed by more stringent NO_x emission limitations established through the PSD/Nonattainment New Source Review (NNSR) programs and NSPS emission limits. For example, the NO_x emission limits under the PSD program are typically based on the installation of selective catalytic reduction or SCR systems, which achieve significantly greater NO_x emission reductions than low NO_x burners.

§ 12:167 Acid rain permits

Affected sources under Title IV are required to submit acid rain permit applications and compliance plans to the applicable Title V permitting authority. The authority may be a state, tribal, or local permitting agency, or EPA if it is the Title V permitting agency under 40 C.F.R. part 71.[1] The acid rain permit application form consists of four pages; it identifies the affected units and requires the source to specify the compliance option or options that the affected source will use.[2] Acid rain permit applications are required to be submitted at least 24 months before the commencement of operations.[3]

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[6]CAA § 407(b)(2), 42 U.S.C. § 7651f(b)(2); *see also* 61 Fed. Reg. at 67137. Industry challenged the Group 2 boiler standards; however, the U.S. Court of Appeals for the D.C. Circuit upheld these standards in Appalachian Power Co. v. E.P.A., 135 F.3d 791, 46 Env't. Rep. Cas. (BNA) 1001, 28 Envtl. L. Rep. 20521 (D.C. Cir. 1998).

[7]CAA § 407(d), 42 U.S.C. § 7651f(d).

[8]40 C.F.R. § 76.10.

[9]CAA § 407(e), 42 U.S.C. § 7651f(e).

[10]40 C.F.R. § 76.11.

[Section 12:167]

[1]40 C.F.R. part 71 includes a number of U.S. territories and certain jurisdictions in Indian County.

[2]U.S. EPA, *Acid Rain Permit Application Form*, https://www.epa.gov/airmarkets/acid-rain-permit-application-form.

[3]40 C.F.R. § 72.30(b)(2). In contrast, Title V operating permit applications need to be submitted

The effective period of a Title IV acid rain permit is five years.[4] Each affected unit under the acid rain program has a unique unit identification number for purposes of EPA's CAMD Business System. Each affected unit must be separately listed, in the acid rain permit application, by its identification number.[5] In general, the permit application requires only a simple statement to the effect that the source will hold enough allowances to cover its SO_2 emissions and it will meet any applicable NO_x emission limit. For new units, applicants must also provide information on the date operations commenced and the monitor certification deadline.[6]

§ 12:168 Monitoring requirements

CAA § 412 generally requires affected sources under the acid rain program to install and operate a continuous emission monitoring system (CEMS) on each affected unit. The CEMS monitors SO_2, NO_x, CO_2, opacity, volumetric flow, and heat input.[1] In particular, CAA § 412 directed EPA to specify and develop requirements for the following:

(1) the installation of a CEMS;
(2) acceptable alternative monitoring systems;
(3) quality assurance measures; and
(4) recordkeeping and reporting.[2]

A CEMS monitors the concentration of certain pollutants (listed above) and the volume of exhaust gases emitted, by an affected unit, up a smokestack. A CEMS is typically composed of the sampling system, gas analyzers, and a data acquisition and handling system. The acid rain program CEMS rule generally imposes more stringent monitoring requirements than those imposed by the CEMS provisions for certain New Source Performance Standards applicable to fossil-fuel-fired power plants.

With a few exceptions, all acid rain program affected units are required to install a CEMS that meets the requirements of 40 C.F.R. part 75.[3] The part 75 regulations in 40 C.F.R. § 75.10 require a SO_2 CEMS with a stack gas volumetric flow monitoring system and a NO_x CEMS with an O_2 or CO_2 diluent gas monitor.[4] Part 75 also requires CO_2 emissions to be measured by a CEMS or by an alternative emission calculation involving the measurement of the carbon content of the fuels and the hourly heat input in mmBtu, and application of the emission calculations set forth in 40 C.F.R. part 75, appendix G.[5] Diluent gas concentrations and stack gas volumetric flow rates are used to calculate the heat input rate. An alternative emis-

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within 12 months after a source becomes subject to the permit program or at an earlier date established by the applicable state, tribal, or local permitting authority. *See* 40 C.F.R. § 70.5(a)(1).

[4]40 C.F.R. § 72.73(b)(2).

[5]Existing units will have an identification number provided by EPA, and new units will be assigned a number by EPA's Facility Registry Service. *See* U.S. EPA, Facility Registry Service, https://www.epa.gov/frs.

[6]40 C.F.R. § 72.31(e).

[Section 12:168]

[1]CAA § 412(a), 42 U.S.C. § 7651k(a).

[2]CAA § 412(a), 42 U.S.C. § 7651k(a).

[3]40 C.F.R. pt. 75; *see also* Acid Rain Program: General Provisions and Permits, Allowance System, Continuous Emissions Monitoring, Excess Emissions and Administrative Appeals, 58 Fed. Reg. 3590, 3766 (Jan. 11, 1993) (to be codified at 40 C.F.R. pts. 72, 73, 75, 77, and 78).

[4]40 C.F.R. § 75.10(a)(1), (2).

[5]40 C.F.R. §§ 75.10(a)(3), 75.13; 40 C.F.R. pt. 75, app. G. *See* 40 C.F.R. pt. 75, app. F(5) for procedures to calculate heat input rate.

sion monitoring system may be installed, but it generally must meet the same precision, reliability, and accessibility requirements as a CEMS.[6] An alternative method of determining SO_2 emissions may be used when natural gas is being burned by an affected unit. This alternative method consists of hourly measurements of heat input derived from O_2 or CO_2 monitors and flow rate CEMS data, together with a default SO_2 emission rate.[7] Installation of a continuous opacity monitor on an affected unit is also typically required, with a few exceptions outlined in the regulations.[8] To assist affected sources, EPA has developed a helpful guide to help navigate the complexities of the 40 C.F.R. part 75 monitoring rule.[9]

EPA has applied the acid rain program part 75 emissions monitoring requirements to other emission trading programs. In October 1998, EPA added Subpart H to the part 75 monitoring regulations to provide for the monitoring, recordkeeping, and reporting of NO_x mass emissions and heat input under the NO_x Budget Trading Program.[10] CSAPR also requires compliance with the part 75 monitoring, recordkeeping, and reporting requirements.[11]

The part 75 regulations set out specific quality assurance provisions requiring each CEMS monitor to be certified (or recertified) to ensure that the monitor is accurately measuring emissions.[12] The regulations also provide for data substitution if a CEMS is not available to record emissions. Therefore, during a missing data period, the CEMS unit is presumed to be uncontrolled, and the regulations include data substitution provisions for missing SO_2, NO_x, and CO_2 emissions.[13] During missing data periods, SO_2 and NO_x emissions may be inflated, which could result in an excess emission penalty or the need to purchase additional allowances.

§ 12:169 Enforcement

EPA primarily takes the lead in enforcing the acid rain program. EPA's enforcement authority, pursuant to CAA § 113, was substantially revised and expanded by the 1990 CAA Amendments. The 1990 amendments provide authority for the agency to assess civil and administrative penalties for both past and current violations of Title IV and other Clean Air Act provisions.[1] For example, a failure to submit an acid rain permit or compliance plan by the applicable deadline is a potential violation.[2] It is also unlawful to operate an affected source under the program without an approved permit or not in accordance with the permit application and compliance plan.[3] However, in order to ensure the reliability of the electrical grid, EPA is not authorized to seek a shutdown of an affected source for failing to comply

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[6]40 C.F.R. §§ 75.40–75.48.

[7]40 C.F.R. § 75.11(e); pt. 75, Appendix D. *See also* U.S. EPA, Clean Air Markets Division, Part 75 Emissions Monitoring Policy Manual, Question 2.1 (2013), https://www.epa.gov/airmarkets/part-75-emissions-monitoring-technical-qas.

[8]40 C.F.R. §§ 75.10(a)(4), 75.14.

[9]U.S. EPA, Plain English Guide to the Part 75 Rule, https://www.epa.gov/airmarkets/plain-english-guide-part-75-rule.

[10]40 C.F.R. § 75.70; *see* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57356 (Oct. 27, 1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, and 96).

[11]40 C.F.R. § 97.730.

[12]40 C.F.R. §§ 75.20–75.24.

[13]40 C.F.R. §§ 75.30–75.37.

[Section 12:169]

[1]CAA § 113(a)(3), (b), (d), 42 U.S.C. § 7413(a)(3), (b), (d).

[2]CAA § 408(h)(1), 42 U.S.C. § 7651g(h)(1).

[3]CAA § 408(h)(2), 42 U.S.C. § 7651g(h)(2).

with the acid rain program requirements—but any such source may be subject to a CAA § 113 enforcement action.[4]

Affected units that emit SO_2 in excess of the allowance held in their compliance account, or in excess of the applicable SO_2 and NO_x emission limits, will be fined an "excess emissions penalty" of $2,000 per ton, adjusted each year for inflation ($4,118 in 2020).[5] In addition, the excess SO_2 emissions must be offset by an equal tonnage reduction in the following calendar year.[6]

Each Title IV affected source must have a "Designated Representative" who is a responsible person or official legally authorized to represent the owner/operator in compliance matters pertaining to emission allowances, permits, permits applications, and compliance plans.[7] The Designated Representative is responsible for submitting annual compliance certifications and other compliance documentation to EPA and typically a copy is also provided to the state, tribal, or local permitting agency.[8] Similar to a "Responsible Official" under Title V, these individuals are typically officers of the company, partnership, or agency or a person with similar decision-making responsibility.[9]

The Designated Representative must certify under the penalty of law that they have personally examined the statements and information submitted and certify that the statements and information are to the best of their knowledge true, accurate, and complete.[10] An Alternate Designated Representative, who is authorized to act on behalf of the Designated Representative, may also be appointed.[11]

Title IV affected sources must submit annual "compliance certifications" to EPA and the applicable permitting agency, which require the Designated Representative to certify the compliance status of the affected units based on a reasonable inquiry of those persons with primary authority for operating the source and the affected units.[12] Submission of inaccurate data could subject the owners and operators of the affected source and the Designated Representative to civil and criminal penalties.

§ 12:170 Acid rain program—Conclusions

The results of the acid rain program are impressive. Indeed, EPA's long-term monitoring data for over 125 lakes and streams in the northeast and mid-Atlantic from the mid-1980s to 2016 showed an 81% improvement in decreasing acid deposition loading, which resulted in a significant reduction in the acidity of these monitored lakes and streams.[1]

The acid rain program is no longer a primary driver of SO_2 and NO_x emission

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[4]CAA § 408(h)(3), 42 U.S.C. § 7651g(h)(3).

[5]CAA § 411(a), 42 U.S.C. § 7651j(a); 40 C.F.R. § 77.6(b); Acid Rain Program: Excess Emissions Penalty Inflation Adjustments, 84 Fed. Reg. 55574 (Oct. 17, 2019).

[6]CAA § 411(b), 42 U.S.C. § 7651j(b).

[7]CAA § 402(26), 42 U.S.C. § 7651a(26); 40 C.F.R. § 72.20.

[8]40 C.F.R. § 72.90.

[9]CAA § 402(26), 42 U.S.C. § 7651a(26); 40 C.F.R. § 72.20. *See also* the definition of "responsible official" in 40 C.F.R. § 70.2.

[10]40 C.F.R. § 72.21.

[11]40 C.F.R. § 72.22.

[12]40 C.F.R. § 72.90.

[Section 12:170]

[1]U.S. EPA, *Acid Rain Program,* https://www.epa.gov/acidrain/acid-rain-program.; *see also* U.S. EPA, *Monitoring Surface Water Chemistry*, https://www.epa.gov/airmarkets/monitoring-surface-water-chemistry; U.S. EPA, *Long Term Monitoring/Temporally Integrated Monitoring of Ecosystems*, https://www.epa.gov/airmarkets/long-term-monitoring-temporally-integrated-monitoring-ecosystems.

reductions from power plants in the United States, but the program requirements remain in effect and continue to be implemented through a facility's Title V operating permit. Affected power plants subject to Title IV continue to be subject to the SO_2 allowance requirements and need to annually submit allowances for compliance obligations—even though the 2021 SO_2 allowance prices are trading for less than $0.10 per allowance. Such sources also are subject to the acid rain program NO_x emission limits, monitoring, and recordkeeping provisions. Moreover, there remains a risk of enforcement under the CAA for failing to comply with the acid rain program requirements.

XIV. GREENHOUSE GAS REPORTING*

§ 12:171 Greenhouse gas reporting

Shortly after the Supreme Court's landmark 2007 *Massachusetts v. EPA* opinion,[1] which held that EPA has the authority to regulate greenhouse gases (GHGs), Congress inserted a provision in the fiscal year 2007-2008 budget bill to require EPA to develop a GHG reporting system.[2] Congress gave EPA nine months to develop a proposed rule, and 18 months to finalize a rule "to require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the United States" economy.[3]

On April 10, 2009, EPA promulgated the mandatory GHG reporting rule, establishing Part 98 of Title 40 of the Code of Federal Regulations.[4] EPA proposed a general reporting threshold of 25,000 tons per year of CO_2 equivalent emissions as the minimum reporting threshold for many source categories.[5] The Agency selected this threshold mainly for three reasons: (1) to conform to existing state-level GHG reporting programs; (2) to balance the goal of reporting most GHG emissions while reducing the reporting burden on smaller facilities; and (3) to cover between 85 and 90% of national GHG emissions based on a 2006 baseline.[6]

EPA finalized the new GHG reporting obligations in a series of Federal Register notices from 2009 through 2014. EPA distinguished between two groups of source categories source category groups: "all in," and "threshold." *All* facilities within the "all in" source categories report their GHG emissions. EPA's proposal that all facilities in these "all in" source categories report was based on the Agency's determination that all, or substantially all, of the facilities in each "all in" source category

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*By **Rich Raiders.**

[Section 12:171]

[1]Massachusetts v. E.P.A., 549 U.S. 497, 127 S. Ct. 1438, 167 L. Ed. 2d 248, 63 Env't. Rep. Cas. (BNA) 2057 (2007).

[2]Pub. L. 110-161, 121 Stat. 1844, 2128 (2007).

[3]Pub. L. 110-161, 121 Stat. 1844, 2128 (2007).

[4]Mandatory Reporting of Greenhouse Gases, 74 Fed. Reg. 16448 (Apr. 10, 2009).

[5]74 Fed. Reg. 16448 (Apr. 10, 2009). EPA promulgated 100-year global warming potentials (GWP) at 40 C.F.R. § 98 Table A-1 (79 Fed. Reg. 73779, Dec. 11, 2014), effective Jan. 1, 2015. GHGs include carbon dioxide, methane, nitrogen oxide, and fluorinated GHGs, including hydrofluorocarbons (HFCs), perflourocarbons, sulfur hexafluoride, and other fluorinated gases with a significant vapor pressure (1 mm Hg at 25 C). Chloroflourocarbons and hydrochloroflourocarbons, such as refrigerants 11, 12, and 22, are not HFCs, do not exhibit significant GWP, and are not included in the reporting rule. GWPs are reported relative to CO_2. *Mandatory Reporting of Greenhouse Gases*, 74 Fed. Reg. 56260, 56348 (Oct. 30, 2009). Due to the variety of fluorocarbon GHGs, EPA also included default GWPs for less common fluorinated GHGs for which compound specific GWPs have not been developed. 74 Fed. Reg. 56260, 56348 (Oct. 30, 2009).

[6]74 Fed. Reg. 16448 at 16467 to 68.

would meet the 25,000 ton carbon dioxide equivalent (CO_2e)[7] threshold.[8] In October 2009,[9] EPA finalized 17 "all in" source categories,[10] seven source categories requiring reporting for large facilities,[11] certain large emitting combustion facilities, and suppliers and importers of five categories of GHG-related products.[12] Municipal solid waste landfills, however, are regulated on a GHG generation basis, as the fate of landfill gas varies widely among various operating and closed landfills.[13] EPA promulgated several "threshold" categories, where smaller sources of GHG emissions are not required to report unless the facility reaches the 25,000 ton threshold.[14]

Source Categories	
"All-in"	**"Threshold"**
• Adipic acid production	• Electronics manufacturing
• Aluminum production	• Ferroalloy production
• Ammonia manufacturing	• Fluorinated gas production
• Carbon dioxide injection	• Glass production
• Cement production	• Hydrogen production
• Electrical transmission and distribution equipment use and manufacturing	• Industrial waste landfills
• Fluorinate GHG production processes	• Industrial wastewater treatment
• Geologic sequestration	• Iron and steel production
• HCFC-22 production	• Lead production
• HFC-23 destruction	• Magnesium production
• Lime manufacturing	• Petroleum and natural gas systems
• Nitric acid production	• Pulp and paper manufacturing
• Petrochemical production	• Zinc production
• Petroleum refineries	
• Phosphoric acid production	
• Silicon carbide production	
• Soda ash production	
• Titanium dioxide production	
• Underground coal mines	

The Rule also requires those who supply fuels expected to be combusted or GHGs expected to be directly emitted through use or leaks from use in equipment to report under Part 98. Suppliers, importers, and exporters of GHGs are also included as threshold source categories.[15] Suppliers of petroleum products intended for combustion, coal-based liquids, industrial fluorinated GHGs, nitrogen oxide, and CO_2 also must report production shipped into or exported from the supply chain.[16] Producers of equipment—such as refrigerators or air conditioners—or materials—such as blown-foam insulation materials or boards—that contain GHGs and who market or import such materials in the United States above the 25,000 ton threshold must

[7]For Part 98, all reporting is in metric tons, where one metric ton is 2,200 pounds or 1.1 "short" tons. Short tons are the common U.S. unit of measure.

[8]74 Fed. Reg. 16448 at 16469. Larger municipal solid waste landfills were also included as "all-in," subject to a 25,000 metric ton CO_2e generation threshold. 40 C.F.R. § 98 Table A-3.

[9]74 Fed. Reg. 56260 (Oct. 30, 2009).

[10]Electricity generating facilities reporting emissions under 40 C.F.R. § 75; adipic acid production, aluminum production, ammonia manufacturing, cement production, HCFC-22 production, large standalone HFC-23 destruction facilities, lime manufacturing, nitric acid production, petrochemical production facilities, petroleum refineries, phosphoric acid production, silicon carbide production, soda ash production, titanium dioxide production, large municipal solid waste landfills, and large manure management systems. 74 Fed. Reg. 56266 to 67 (Oct. 30, 2009).

[11]Ferroalloy production, glass production, hydrogen production, iron and steel production, lead production, pulp and paper manufacturing, and zinc production. 74 Fed. Reg. 56267 (Oct. 30, 2009).

[12]Coal-base liquid fuel production, petroleum products, natural gas and natural gas liquids production, industrial GHG productions and CO_2 producers. 74 Fed. Reg. 56267 (Oct. 30, 2009).

[13]74 Fed. Reg. 56334 (Oct. 30, 2009).

[14]40 C.F.R. § 98 Table A-3.

[15]40 C.F.R. § 98 Table A-3.

[16]40 C.F.R. § 98 Table A-5.

also report.[17] Facilities that fractionate natural gas liquids and distribute natural gas to local customers must also report if distribution reaches the 25,000 ton threshold.[18]

EPA also requires reporting for large fuel combustion units, where the fuel combustion at the facility exceeds the 25,000 ton threshold, in two situations. First, any facility already belonging to either an "all in" or "threshold" category must account in their reporting for GHGs emitted by any fuel combustion units.[19] Facilities otherwise not belonging to *either* category, but that operate on-site one or more fuel combustion units producing at least 30 million British Thermal Unit (MMbtu) per hour in heat capacity and emitting the 25,000 ton threshold in combined emissions, must separately report under Subpart C of the Part 98 regulations.[20] Portable equipment, including combustion units, emergency generators, irrigation pumps, and flares, that are not already regulated under another Part 98 subpart, are not required to report under the combustion subpart.[21] Hazardous waste combustors report only when the combustion unit uses a continuous emission monitor or when the unit combusts threshold quantities of reportable fuels under Subpart C.[22] Suppliers who must report may report on a corporate basis; that is, supply, import, and export may be reported on a corporate location basis, and not necessarily where the supply activities happen.[23]

The reporting program defines "facility" based on which type of reporting scheme applies under the appropriate source category. Locations hosting an "all in" activity comprise a facility.[24] Any "threshold" location that emits 25,000 tons of GHGs from source category activities, fuel combustion, and miscellaneous sources of carbonate must report all emissions generated by all of these sources.[25] Research and development facilities are not included in the rule.[26]

EPA utilized its data collection authority under § 114(a)[27] of the Clean Air Act to require GHG reporting for stationary sources, and § 208 for mobile sources,[28] but expressly refused to cite the 2008 Appropriations Act for authority to require these sources to report their GHG emissions.[29]

At the time that Congress allocated funding in the budget bill, for EPA to provide a mandatory reporting system, several voluntary federal- and state-run systems were already operational. For example, the Department of Energy had developed a

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[17]40 C.F.R. § 98 Subparts LL (coal-based liquid fuels), MM (petroleum products), NN (natural gas and natural gas liquids), OO (industrial greenhouse gases), PP (carbon dioxide), QQ (pre-charged equipment and closed-cell foams), RR (carbon dioxide geological sequestration).

[18]40 C.F.R. § 98 Subpart NN.

[19]40 C.F.R. § 98.2(a)(2), (a)(3).

[20]40 C.F.R. § 98.2(a)(3).

[21]40 C.F.R. § 98.30(b).

[22]40 C.F.R. § 98.30(c).

[23]U.S. EPA, *2019 GHGRP Overview Report* 3 (2020), *available at* https://www.epa.gov/sites/production/files/2020-11/documents/2019_ghgrp_yearly_overview.pdf.

[24]40 C.F.R. § 98.2(a)(1).

[25]40 C.F.R. § 98.8(a)(2). "Miscellaneous uses of carbonate" under 40 C.F.R. § 98 Subpart U, include uses of limestone, dolomite, ankerite, magnesite, siderite, rhochrosilte or sodium carbonate where 2,000 tons per year of product are heated to calcination. 40 C.F.R. § 98.210(a).

[26]40 C.F.R. § 98.2(a)(5).

[27]Clean Air Act § 114(a), 42 U.S.C. § 7414(a).

[28]Clean Air Act § 208, 42 U.S.C. § 7542(a).

[29]The Agency stated: "[W]e are not citing the FY 2008 Consolidated Appropriations Act as the statutory basis for this action. Mandatory Reporting of Greenhouse Gases, 74 Fed. Reg. 56260, 56264 (Oct. 30, 2009).

voluntary GHG registry under § 1605(b) of the Energy Policy Act of 1992; this registry operated as a voluntary clearinghouse of GHG emissions data before Part 98 was fully implemented.[30] Several states had already initiated GHG reporting and trading systems. In addition, EPA had been publishing the "Inventory of U.S. Greenhouse Gas Emissions and Sinks" annually since 1990.[31] EPA attempted to model the system that would become 40 C.F.R. Part 98 on as much existing GHG reporting infrastructure as it could, nevertheless noting that the corporate-level reporting of the Department of Energy's § 1605(b) program would not fit facility-level source categories required to report under Part 98.[32] A few exceptions were made for corporate reporting for importers of fuels or industrial GHGs and engine or motor vehicle manufacturers.[33]

EPA promulgated monitoring methods for each source category based on the complexity of the source category. For example, simple fuel combustion sources must monitor fuel use and composition. One of the major challenges many facilities faced in complying with the reporting rule was the data collection process. Large electricity generating facilities had already been complying with 40 C.F.R. Part 75 reporting requirements for electricity generating units (EGU) when the reporting rule went into effect.[34] While EPA attempted to harmonize both sets of requirements, EGUs could not use the same reporting tools to comply with both.

Early on, EPA recognized the sensitivity of the trade secret data which it collected through the program. EPA faced the challenge of evaluating the definition of "emissions data" to guide its efforts to determine what information should be considered confidential business information (CBI).[35] The Act defines "emission data" as information "necessary to determine the identity, amount, frequency, or other characteristics" of emissions of regulated pollutants released into the atmosphere.[36] However, if data which may cause substantial harm to a business could be considered confidential information, it does *not* constitute "emissions data."[37] One example of information which industry may wish to protect as CBI is throughput in production processes where the emission rate is not directly a function of throughput.[38] Many operators wish to maintain production rates as confidential in order to protect their competitive position. Indeed, the majority of CO_2 supply reporters listed their throughputs as "confidential."[39] Additionally, while emission source identification information, emissions amounts, and calculation methodology

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[30]Pub. L. 102-486, 42 U.S.C. § 13385(b); *see also*, Energy Information Administration, MITIGATING GREENHOUSE GAS EMISSIONS: VOLUNTARY REPORTING (Oct. 1997).

[31]*See, e.g.*, 86 Fed. Reg. 9339 (Feb. 12, 2021); *see also*, U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2019* (Apr. 14, 2021) (EPA430-R-21-001), *available at* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.

[32]74 Fed. Reg. at 16470 (Apr. 10, 2009).

[33]74 Fed. Reg. at 16470 (Apr. 10, 2009).

[34]74 Fed. Reg. at 56292–93; *see also*, 40 C.F.R. § 75.2(a), requiring continuous emission monitoring systems for each electricity generating unit (EGU) affected sources under 40 C.F.R. § 72.6. Affected sources must continuously monitor opacity, sulfur dioxide, nitrogen oxide and CO_2 emissions per 40 C.F.R. § 75.10(a).

[35]74 Fed. Reg. at 56289.

[36]*See* 40 C.F.R. § 2.301(a)(2)(i).

[37]40 C.F.R. § 2.208.

[38]"Throughput" is defined as "a measurable factor or parameter that relates directly or indirectly to the emissions of an air pollutant source during the period for which emissions are reported. Depending on the type of source category, activity information may refer to the amount of fuel combusted, raw material processed, product manufactured, or material handled or processed. It may also refer to population, employment, or number of units. Activity throughput is typically the value that is multiplied against an emission factor to generate an emissions estimate." 40 C.F.R. § 51.50.

[39]*See* U.S. EPA, *2019 Data Summary Spreadsheets,* https://www.epa.gov/ghgreporting/ghg-reportin

identification are considered "emissions data," throughput (as mentioned), and raw material data that do not enter into the direct calculation of emissions, as well as vendor information, do not constitute "emissions data" and therefore may not be available to the public.[40] To address confidential business information (CBI) provisions, EPA relied upon §§ 114,[41] 301,[42] and 307.[43]

EPA allowed for certain monitoring system flexibility by allowing, on a temporary basis, "best available monitoring methods" (BAMM), during rule implementation.[44] Generally EPA allowed BAMM for the first three to six months of reporting to allow reporting facilities time to install monitoring equipment. If a facility wishes to continue any use of BAMM, rather than the specified Part 98 monitoring rules, it must petition the EPA using the electronic reporting system.[45]

EPA developed the electronic Green House Gas Reporting Tool (e-GGRT) as the exclusive annual reporting method as of its launch in 2010.[46] Facilities use the e-GGRT to identify and register their "designated representative"—or an "alternate designated representative"—for reporting and verification purposes, and to identify reporting agents who may file reports for electronic verification by the designated representative.[47] Users reporting for at least three facilities may use a batch interface to streamline their submission of large amounts of reporting data.[48] Later, EPA instituted an Input Verification Tool (IVT) into the electronic input system to be used when the EPA verification program depends on information not developed from simple emission factors or continuous emission monitors.[49] IVT was required for reporting years 2014 and beyond.[50] The IVT allows companies to input confidential data that e-GGRT converts to reporting data while maintaining confidentiality for certain process-related inputs.[51] The reporting tool has CBI flagging tools to allow companies to shield it from public view.[52]

EPA currently publishes the complied data in the Flight Level Information on

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g-program-data-sets.

[40]76 Fed. Reg. 30782, 30786 (May 26, 2011).

[41]Clean Air Act § 114(a), 42 U.S.C. § 7414(a) (relating to recordkeeping provisions).

[42]Clean Air Act § 301(a), 42 U.S.C. § 7601(a) (relating to delegated authority while standardizing procedures).

[43]Clean Air Act § 307(a), 42 U.S.C. § 7607(a) (relating to maintaining confidentiality in administrative proceedings).

[44]40 C.F.R. § 98.3(l).

[45]78 Fed. Reg. 71904, 71936 (Nov. 29, 2013).

[46]U.S. EPA, *Electronic Greenhouse Gas Reporting Tool (e-GGRT),* https://ghgreporting.epa.gov/ghg/login.do.

[47]U.S. EPA, *Training Webinar: Introduction to e-GRRT System Overview* (Feb. 2020), https://www.epa.gov/sites/production/files/2020-02/documents/webinar_intro_e-ggrt_feb2020.pdf.

[48]U.S. EPA, *Training Webinar: Introduction to e-GRRT System Overview* (Feb. 2020), https://www.epa.gov/sites/production/files/2020-02/documents/webinar_intro_e-ggrt_feb2020.pdf.

[49]79 Fed. Reg. 63750, 63754 to 55 (Oct. 24, 2014). IVT applies to the following subparts: C (General Stationary Fuel Combustion), E (Adipic Acid Production), F (Aluminum Production), G (Ammonia Manufacturing), H (Cement Production), K (Ferroalloy Production), N (Glass Production), O (HCFC-22 Production and HFC-23 Destruction), P (Hydrogen Production), Q (Iron and Steel Production), R (Lead Production), S (Lime Manufacturing), U (Miscellaneous Uses of Carbonate), V (Nitric Acid Production), X (Petrochemical Production), Y (Petroleum Refineries), Z (Phosphoric Acid Production), AA (Pulp and Paper Manufacturing), BB (Silicon Carbide Production, CC (Soda Ash Manufacturing), EE (Titanium Dioxide Production), GG (Zinc Production), TT (Industrial Waste Landfills).

[50]40 C.F.R. § 98.5(b).

[51]79 Fed. Reg. at 63752.

[52]79 Fed. Reg. at 63761.

Greenhouse Gas Tool ("FLIGHT system").[53] From 2011 to 2019, over 8,300 direct emitting facilities reported GHG emissions. The largest direct emitter categories included 689 municipal waste landfills (Subpart HH), 120 underground coal mines (Subpart FF), 857 electricity generating units, 2,741 fuel combustion facilities, and over 1,000 facilities reporting under both combustion Subpart C and another subpart. In addition, over 820 oil and gas producers reported in at least one year, and over 380 gas gathering and boosting entities, 200 transmission pipelines, 200 electricity distribution entities, 150 electricity transmission facilities, 1,100 suppliers of GHGs, and 100 CO_2 injectors reported GHG emissions, supply, or destruction. EPA believes that the Part 98 reporting program continues to capture at least 80% of national GHG emissions.[54]

Permittees are required to identify all "applicable requirements" in their Title V permits.[55] However, EPA currently does not consider Part 98 obligations as applicable requirements that must be identified in Title V permits.[56] Therefore, GHG reporting requirements may not appear in a facility's Title permit, though "[i]t is the responsibility of each source to determine the applicability of the GHG reporting rule and to comply with it, as necessary."[57] A facility that shuts down all reporting units or activities within a subpart may notify EPA of the shutdown and cease reporting after the March 31 reporting deadline the year following the activity shutdown.[58] The shutdown report deadline coincides with the reporting deadline for prior year emissions.

Large GHG emitting facilities must report annual GHG emissions to EPA; between 2011 and 2019, the program has reported between 85 and 90% of GHG emissions.[59] Notably, when Congress directed EPA to collect GHG emissions data, it did not mandate any new emissions limitations as a result of this reporting. However, over time, this data set could be used to identify new opportunities to regulate GHG emitting facilities and sources of GHG emissions.

XV. REGULATION OF ON-ROAD AND NON-ROAD VEHICLES, ENGINES & AIRCRAFT*

§ 12:172 Introduction

In the Clean Air Act, Congress tried to force industries to use new and different

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[53]U.S. EPA, *Facility Level Information on Greenhouse gases Tool (FLIGHT)*, https://ghgdata.epa.gov/ghgp/main.do#.

[54]U.S. EPA, *Facility Level Information on Greenhouse gases Tool (FLIGHT)*, https://ghgdata.epa.gov/ghgp/main.do#.

[55]40 C.F.R. § 70.6(a).

[56]U.S. EPA, PSD AND TITLE V PERMITTING GUIDANCE FOR GREENHOUSE GASES, 52-53 (Mar. 2011) (EPA-457/B-11-001), *available at* https://www.epa.gov/sites/production/files/2015-08/documents/ghgguid.pdf.

[57]U.S. EPA, PSD AND TITLE V PERMITTING GUIDANCE FOR GREENHOUSE GASES, 52-53 (Mar. 2011) (EPA-457/B-11-001), *available at* https://www.epa.gov/sites/production/files/2015-08/documents/ghgguid.pdf.

[58]40 C.F.R. § 98.2(i)(3).

[59]Angela C. Jones, CONG. RESEARCH SERV., IF11754, *EPA's Greenhouse Gas Reporting Program* 1 (Feb. 4, 2021).

*Sections 12:172 – 12:174: By **Robert A. Weissman, Matthew A. Low,** and **Norman D. Shutler; Roger Fairchild** (the latter on Section 12:173 on evaluation of technology forcing, only); updated by **Julie R. Domike.**

Sections 12:176–12:179: By **John P. C. Fogarty; Joshua B. Epel, Alan M. Lijewski, Donn L. Calkins, John Stafford, Matt Dillman, and Laura Davis; updated by Julie R. Domike.**

Section 12:180 by **Phillip R. Bower.**

technologies in an effort to reduce air pollution.[1] The most visible example of this effort was the requirement for automobile manufacturers to drastically reduce tailpipe and evaporative emissions from previous levels, commonly known as "technology forcing." This dose of "drastic medicine"[2] clearly affected the most prized possession of many Americans—their automobile.

§ 12:173 History of technology-forcing to reduce air pollution emitted by motor vehicles and engines

A. Technology forcing under title II of the 1970 and 1977 Clean Air Act

This section summarizes the history of the mobile source program under the 1970 Act and 1977 Amendments. Section 202 of the 1970 CAA amendments mandated 90% reductions in emissions of hydrocarbon (HC) and carbon monoxide (CO) by model year 1975.[1] In addition, a 90% reduction in the emissions of oxides of nitrogen (NO_X) was required by model year 1976.[2] These were the technology forcing requirements: The controls or design changes needed to meet these standards were not then in use anywhere in the industry, and there was testimony that they might not be achievable at all.[3] An important factor in how technologies were developed by the individual automobile manufacturers was an antitrust consent decree entered into by the major domestic automobile companies in 1974.[4] Under this decree, automobile companies were required to pursue their technology development independently.

Section 202 authorized EPA to set interim standards for each model year between the date of enactment and model years 1975 and 1976.[5] In the event that the statutory standards could not be achieved, however, a one-year delay was also provided by § 202 of the Act.[6]

During the initial stages of implementing Title II, vehicle manufacturers made modifications to the basic operating parameters of their engines. For example, in model years 1972 and 1973, most manufacturers met EPA's emission standards by altering the ignition timing, improving carburation, and restricting the air-fuel ratio

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[Section 12:172]

[1]*See* J. Bonine, "The Evolution of Technology Forcing in the Clean Air Act" (BNA Envtl. Rep. Monograph No. 21, 1975).

[2]116 Cong. Rec. 32904 (1970) (remarks of Sen. Muskie). *See* Union Elec. Co. v. E.P.A., 427 U.S. 246, 96 S. Ct. 2518, 49 L. Ed. 2d 474, 8 Env't. Rep. Cas. (BNA) 2143, 6 Envtl. L. Rep. 20570 (1976); Sierra Club v. Costle, 657 F.2d 298, 15 Env't. Rep. Cas. (BNA) 2137, 11 Envtl. L. Rep. 20455 (D.C. Cir. 1981).

[Section 12:173]

[1]Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 6(a), 84 Stat. 1676, 1690 (amending Clean Air Act § 202(b)(1)(A), 42 U.S.C.A. § 1857f-1(b)(1)(A)) (recodified at 42 U.S.C.A. § 7521(b)(1)(A)).

[2]Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 6(a), 84 Stat. 1690 (amending Clean Air Act § 202(b)(1)(B), 42 U.S.C.A. § 1857f-1(b)(1)(B)) (recodified at 42 U.S.C.A. § 7521(b)(1)(B)).

[3]*See, e.g.*, H.R. Rep. No. 1146, 91st Cong., 2d Sess. 19 to 20 (1970) (additional views of Rep. van Deerlin, Rep. Ottinger, and Rep. Tiernan), *reprinted in* United States Code Congressional and Administrative News pp 5356, 5370-71.

[4]United States v. AMA, Civ. Action No. 69-75-JWC (C.D. Cal. 1969) (consent decree) (as modified Aug. 1982).

[5]Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 6(a), 84 Stat. 1676, 1690 (amending Clean Air Act § 202(b)(5), 42 U.S.C.A. § 1857f-1(b)(5)(A)).

[6]Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 6(a), 84 Stat. 1690 (amending Clean Air Act § 202(b)(5)(D), 42 U.S.C.A. § 1857f-1(b)(5)(D)) (recodified at 42 U.S.C.A. § 7521(b)(5)(D)).

during cold starts (limiting the allowable choke after the engine had been started).[7] While these changes had a slightly adverse effect on drivability and fuel economy, the most significant change in vehicle performance came as a result of the use of devices that recirculated a portion of the vehicle's exhaust gas back into the combustion chamber of the engine, commonly known as exhaust gas recirculation valves (EGRs). Most automobile manufacturers were forced to use EGRs to meet EPA's interim standards for the 1973 and 1974 model years; these standards required control of NO_X emissions for the first time. EGRs, however, were rushed into use with much less testing than is typical for the automobile industry.

Prior to 1975, all but one automobile manufacturer concluded that achieving a 90% reduction in HC and CO by model year 1975 was not possible. Using the suspension provision in § 202, both the domestic and import manufacturers formally applied to EPA for a waiver of the 1975 emission standards. EPA's denial of the petitions in May 1972[8] was challenged in court by the automobile industry, and on February 10, 1973, the U.S. Court of Appeals for the D.C. Circuit remanded the Administrator's decision in International Harvester v. Ruckelshaus.[9] First, the court pointed out that the auto manufacturers had not produced a single vehicle that had actually been driven 50,000 miles and achieved conformity with the 1975 emission standards.[10] The court emphasized that with an issue as significant as the possible shutdown of the automobile industry, "[o]ne must distinguish between prediction and prophecy."[11] Second, the court examined a series of technical issues and "unexplained assumptions" used by the Administrator in reaching his decision.[12] Third, the court was concerned that basic market demand would not be met if the waiver application were denied.[13] Finally, the court concluded that "the risk of an 'erroneous' denial of suspension outweighed the risk of an 'erroneous' grant of suspension."[14] After the D.C. Circuit's remand, EPA held hearings on the question of suspension of the automobile standards for 1975. EPA Administrator Russell Train granted the manufacturers' waiver request but imposed interim standards that in many cases required the use of the catalytic converter.[15]

In late 1973, when the 1974 models were being introduced, the nation was facing the first Arab oil embargo. Long lines at gasoline stations and increases in the price of gasoline had a significant impact on the vehicle emission program under Title II

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[7]Other engine modifications included heating the fuel during cold operating conditions to assure better vaporization and the addition of air pumps to create better oxidation in exhaust systems.

[8]In re Applications for Suspension of 1975 Motor Vehicle Exhaust Emission Standards, Decision of the Administrator, May 12, 1972.

[9]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[10]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 625, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[11]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 642, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[12]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 647, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[13]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 639, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[14]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 648, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[15]The waiver decision, issued on April 11, 1973, also established emission standards for California vehicles; these standards were intended to require the use of catalysts in vehicles sold in that state. A catalytic converter is an emission control device intended to reduce toxic gases and other pollutants present in the motor vehicle engine exhaust gas produced by an internal combustion engine. It accomplishes this by catalyzing a redox reaction—an oxidation and reduction reaction—converting these toxic gases and pollutants into less-toxic pollutants.

of the CAA: The debate within the Administration over the issue of appropriate automobile emission standards was intense. The Federal Energy Administration (FEA)[16] argued that EPA's interim standards for model year 1975, which it believed would require a large number of vehicles to use catalytic converters, would be harmful to the nation's energy position because catalyst-equipped vehicles could operate properly only on unleaded gasoline. Accordingly, FEA argued that the loss in production of gasoline per barrel associated with refining crude oil into unleaded gasoline more than made up for any increase in vehicle mileage that was associated with the use of a catalytic converter. In the end, EPA Administrator Russell Train exercised his political ability, particularly with members of Congress, and prevailed over FEA. The debate, however, provided the House and Senate the opportunity to fashion the compromise with respect to auto emissions that would be incorporated into the first major piece of energy legislation of the 1970s. This compromise, that relaxed auto emission standards and which was eventually incorporated into the Energy Supply and Environmental Coordination Act of 1974,[17] consisted of an extension of the 1975 interim HC and CO standards for model year 1976; 1974 interim NO_X standards were to be applied to 1975 and 1976 vehicles; and model year 1977 vehicles were required to meet a NO_X standard of 2.0 grams per mile. This last represented a reduction from the 3.1 grams per mile 1975-1976 standard, but was well above the 0.4 grams per mile level specified in the 1970 Act. A one-year suspension of the HC and CO standards for these vehicles was also included in this legislation.[18]

Model year 1975 brought the first application of the catalytic converter control technology. Prior to the introduction of its 1975 model year vehicles, General Motors (GM) advocated for catalytic converter technology and employed the devices on a high percentage of its 1975 model production.[19] Ford also used the technology in a number of its vehicle lines, while Chrysler used the catalytic converter only on the largest displacement engines in its model year 1975 vehicles.[20] Import manufacturers were somewhat slower to employ catalyst technology.[21] In part, this was because the smaller engines of most imports could be controlled by engine modifications, air pumps, and other devices. Honda, for example, introduced the CVCC (a form of a stratified charge engine) in 1975 to meet the statutory standard.[22] The catalytic converter, however, allowed GM to recalibrate its engines to improve fuel economy, drivability, and overall performance. Thus, GM saw catalyst technology as the answer to the performance problems the auto industry faced.

Throughout 1975 and into 1976, auto manufacturers warned Congress that even if EPA were to grant a waiver for the HC and CO standards for model year 1977, compliance with the HC, CO, and NO_X standards for model year 1978 was highly

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[16]The FEA was the successor to the Federal Energy Office, established by President Nixon, and the predecessor to the Department of Energy.

[17]Pub. L. No. 93-319, 88 Stat. 245 (codified as amended at 15 U.S.C.A. §§ 791 to 798 and in scattered sections of 42 U.S.C.A.).

[18]Pub. L. No. 93-319, § 5, 88 Stat. 246, 258 (amending CAA § 202(b), 42 U.S.C.A. § 7521(b)).

[19]GM announced its decision to use catalytic converters by placing advertisements in publications, such as *Newsweek*, which showed a catalytic converter with flowers coming out one end. *See, e.g.*, Newsweek, Oct. 14, 1974, at 70-71.

[20]*See generally* EPA Certification Test Results for Model Year 1975 Vehicles (the certification test results are issued maker-by-maker, and not as a single, comprehensive document covering all vehicles; *see, e.g.*, Application for Certification 1985 Model Year Light-Duty Vehicles—Ford Motor Company (PB85-185294/REB) (1985)). This report contains not only the result of EPA's certification tests but also a brief description of the vehicle's major emission control components.

[21]EPA Certification Test.

[22]The CVCC also had the economic advantage of running on leaded fuel.

unlikely, if not impossible.[23] This argument framed the debate that led to the CAA Amendments of 1977. Both House and Senate committees held extensive hearings on the ability of auto manufacturers to meet the statutorily-prescribed standards for model year 1978.[24] At a Senate hearing in early 1976, a witness from the California Air Resources Board (CARB) testified that Volvo was in the process of testing a vehicle equipped with an oxidation/reduction catalytic converter.[25] Volvo developed and utilized an onboard computer that precisely measured the air-fuel ratio under all driving conditions. This system, known as the "Closed Loop/Three-Way-Catalyst system,"[26] could be used to meet current emission standards. Domestic manufacturers argued that one test of one vehicle did not demonstrate the ability of the entire industry to utilize this technology within one to two model years, that the cost of such a system was significant, and that it could not be utilized on lower cost vehicles.[27] After a bitter debate in both the House and Senate, a compromise on auto emission standards was reached—only to evaporate at the last minute in the face of a filibuster of the legislation during the closing days of the 94th Congress.[28]

The failure of Congress to act in 1976 caused the auto industry to face a critical problem: Production of 1978 model year vehicles was to begin during the summer of 1977, but virtually none of the manufacturers were in a position to certify vehicles that could meet the statutory emission standards. The inability of auto manufacturers to meet the statutory deadlines, combined with renewed concerns over the nation's energy dependence in early 1977, led to the compromise embodied in § 202 of the 1977 Clean Air Act.[29]

The 1977 compromise continued the 1975 interim HC and CO standards through model year 1979. The 1980 CO standards were reduced from 15.0 grams per mile to 7.0 grams per mile, and the 1981 CO standard was reduced to the 90% reduction level originally required for model year 1975 vehicles—3.4 grams per mile.[30] Hydrocarbon emissions for model years 1980 and 1981 were set at 0.41 grams per mile.[31] Congress continued the NO_X emission standard of 2.0 gram per mile through model year 1980; and reduced the standard to 1.0 gram per mile for model year 1981 and thereafter.[32] This level was well above the 0.4 gram per mile standard required by the 1970 amendments; the 1977 amendments made the 0.4 NO_X stan-

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[23]These views were expressed publicly during hearings before the relevant House and Senate committees during 1975 and early 1976. In essence, the manufacturers argued that while the statutory HC and CO levels possibly could be met, they could not be met together with the requirement to meet the 0.4 gram per mile NO_X standard.

[24]*See, e.g.*, "Clean Air Act Amendments of 1977: Hearings Before the Subcommittee on Envtl. Pollution, Senate Env't and Pub. Works Comm.," 94th Cong., 2d Sess. (1976) [hereinafter cited as *Hearings*].

[25]*See* "Clean Air Act Amendments of 1977: Hearings Before the Subcommittee on Health and the Env't, House Comm. on Interstate and Foreign Commerce," 95th Cong., 1st Sess. 839 (1977) (testimony of Thomas Austin, Deputy Executive Officer, California Air Resources Board).

[26]This system was jointly developed by Volvo and Bosch.

[27]*See* "Clean Air Act Amendments of 1977: Hearings Before the Subcommittee on Envtl. Pollution, Senate Env't and Pub. Works Comm.," 94th Cong., 2d Sess. 55–62, 79–98 (1976) (testimony of David Potter of GM, Herbert Misch of Ford, and Sidney Terry of Chrysler).

[28]Senator Jake Garn led a filibuster on the Conference Report of the 1976 amendments based on his concerns over the implications of the "Prevention of Significant Deterioration" provisions on energy development. *See* 122 Cong. Rec. 34389 to 98 (1976).

[29]CAA § 202, 42 U.S.C.A. § 7521.

[30]*See* CAA § 202(b)(1)(A), 42 U.S.C.A. § 7521(b)(1)(A).

[31]*See* CAA § 202(b)(1)(A), 42 U.S.C.A. § 7521(b)(1)(A).

[32]CAA § 202(b)(1)(B), 42 U.S.C.A. § 7521(b)(1)(A).

dard merely a research goal.[33] Congress also enacted a provision that would allow manufacturers to obtain waivers of the CO and NO_X standards for model years 1981 and 1982. Waivers could allow CO emissions of no greater than 7.0 grams per mile, and NO_X emissions could not exceed 1.5 grams per mile.[34]

During the late 1970s, the nation's energy problems grew more severe. On President Carter's initiative in 1977, Congress adopted energy legislation that directly affected the auto industry. One piece of energy legislation amended the Corporate Average Fuel Economy (CAFE) program,[35] which set fleet-wide fuel economy averages for manufacturers. Pursuant to CAFE, Congress authorized the National Highway Transportation Safety Administration (NHTSA) to set increasingly stringent fuel economy standards for model years 1981 through 1984, while Congress itself set the standards for 1978 to 1980, and 1985 and later model years. Congress also established a tax on so-called "gas guzzler" models in 1978.[36] In response to this and to the energy problems of the early 1970s, many domestic manufacturers began to "downsize" the weight and overall size of their vehicles.[37] This shift also limited the types of engines that were available in a number of product lines.[38]

The combination of energy-related legislation and the CAA standards for model years 1981, 1982, and 1983 played a major role in the decision of automobile manufacturers to utilize the Closed Loop/Three-Way Catalyst system. Beginning with the 1980 model year, some domestic and import manufacturers began to install this system on all but the lowest cost vehicles.[39]

As was the case with the oxidation catalyst system, GM made the earliest and most definitive commitment to the Closed Loop/Three-Way Catalyst technology and to onboard computers to adjust the air-fuel ratio. Ford and Chrysler used this technology only on some of their higher priced vehicles.[40] Many European manufacturers utilized the Closed Loop/Three-Way Catalyst system; unsurprisingly, since it was originally developed in Europe by Bosch. Japanese manufacturers by and large utilized the Three-Way catalyst system without any electronic control of the air-fuel mixture, relying instead on improvements in the fuel metering in carburetors to ensure reduced emissions.[41] By 1983, however, virtually all manufacturers had installed electronic fuel metering systems and some form of fuel injection in a large number of their vehicle lines.[42]

The use of this technology enabled manufacturers to meet stringent standards more easily. When the high altitude emission standards took effect in 1984, for example, manufacturers were able to meet them by adding a relatively simple altitude compensation device to the electronic fuel metering system.

Given stability of the standards and technological advances in electronics,

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[33]CAA § 202(b)(7), 42 U.S.C.A. § 7521(b)(7).

[34]CAA § 202(b)(1)(A), 42 U.S.C.A. § 7521(b)(1)(A).

[35]Department of Energy Organization Act, Pub. L. No. 95-91, § 305, 91 Stat. 565, 580 to 81 (1977); *see* S. Rep. No. 164, 95th Cong., 1st Sess. 34 to 35 (1977), *reprinted in* United States Code Congressional and Administrative News pp 854, 888-89.

[36]Energy Tax Act of 1978, Pub. L. No. 95-618, § 201, 92 Stat. 3174, 3180 to 84 (amending Internal Revenue Code § 4064, 25 U.S.C.A. § 4064).

[37]*See* National Highway Traffic Safety Administration, First Annual Report to Congress Concerning the Implementation of the Corporate Fuel Economy Program (1976).

[38]*See* EPA Certification Test Results for 1976, 1977, and 1978 Model years.

[39]*See* EPA Certification Test Results for Model Year 1981.

[40]*See* EPA Certification Test Results for Model Year 1981.

[41]*See* EPA Certification Test Results for Model Year 1981.

[42]*See* EPA Certification Test Results for Model Year 1983.

automobile manufacturers subsequently achieved tailpipe standards without significant technical problems. By contrast, achieving corporate fuel economy standards was complicated by consumer demand for large and high-performance vehicles, demand that did not respond to fuel consumption. In testimony before NHTSA and House and Senate committees during 1985,[43] GM and Ford stated that while they had the technology and production capacity to meet the 27.5 miles per gallon fleetwide standard prescribed by CAFE, consumer demand made the standard impossible to satisfy. GM and Ford applied to have the corporate average fuel economy standard relaxed to 26.0 miles per gallon.[44] In Fall of 1985, NHTSA issued a notice of proposed rulemaking that would consider a range of alternative standards between 26.0 and 27.5 miles per gallon for model years 1987 and 1988.[45] In the preamble to the proposed rulemaking, NHTSA pointed out that Ford stated it would able to meet the statutory standard of 27.0 miles per gallon by 1990,[46] and that GM would also meet the standard by that time.[47] Chrysler, however, projected fleet averages well above the minimum standard.[48] NHTSA adopted a final standard of 27.0 miles per gallon for these model years,[49] increasing the standard for model year 1990 back to the 27.5 miles per gallon level.[50]

B. Congressional action leading to the 1990 Clean Air Act Amendments

In 1989, President Bush attempted to break the legislative impasse that had been created by the introduction of a comprehensive set of amendments to the Clean Air Act.[51] The Bush Administration's proposal for mobile sources prompted debate over further tightening tailpipe standards for both passenger cars and light-duty trucks versus a mandate to produce and sell alternatively-fueled vehicles.

The Bush Administration proposal called for tailpipe emission standards for vehicles to be reduced from the existing levels to 0.25 grams per mile HC and 0.4 grams per mile NO_X beginning in the mid-1990s. These followed the California tailpipe exhaust standards, but on a different schedule.[52] In addition, the Administration proposal included new controls on evaporative emissions, lowered gasoline volatility, and a new program to control CO emissions in cold weather conditions.

The Administration and environmental organizations maintained that stricter standards for mobile sources into the 21 century would be necessary to offset increasing vehicle use and numbers of vehicles. The Administration sought to achieve the necessary balance by requiring one million alternative-fuel vehicles to be produced and sold beginning in 1995,[53] arguing that the use of alternative fuels would be

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[43] *See* testimony of Maria Whitman (GM) and Helen Petrauskas (Ford) before Senate Commerce, Transportation and Tourism Committee, May, 1985.

[44] The relaxation of the CAFE standard is authorized by the Cost Savings and Vehicle Information Act § 502(a)(4), 15 U.S.C.A. § 2002(a)(4).

[45] 51 Fed. Reg. 2912 (1986).

[46] 51 Fed. Reg. 2916 n.4 (1986).

[47] 51 Fed. Reg. 2915 (1986).

[48] 51 Fed. Reg. 2916 (1986).

[49] *See* 51 Fed. Reg. 35594 (1986).

[50] *See* 54 Fed. Reg. 42303 (1989).

[51] The bills were introduced in the House and Senate as H.R. 3030 and S.1490, respectively.

[52] Similar standards would be imposed on light-duty trucks.

[53] *See* § 212(d)(1) of H.R. 3030, as introduced. While the Administration professed that this requirement would not favor any fuel or power source, many observers of this issue felt the Administration favored the use of methanol. Questions asked by both popular and vehicle industry trade press at the June 12, 1989 announcement of the Administration were based on acknowledged support for methanol

more cost-effective than a second round of required reduction in tailpipe emissions.[54] The industry generally supported the concept in the Administration proposal, but objected to the "sales mandate" in that proposal.

As the legislative process progressed through 1989 and 1990, the issues of the second round emission standards and alternative fuels dominated the debate on changes to Title II of the statute in the House and Senate bills.

In the House, a historic agreement on tailpipe standards was reached in October 1989 between long-time opponents, Representatives Dingell and Waxman. This agreement would require EPA to conduct a comprehensive study of the technological feasibility and air quality necessity of the second-round tailpipe standards before they would be imposed.[55] An interim agreement on alternative fuel vehicles was also reached that year. This agreement required the annual sale of 150,000 of alternative fuel vehicles in California, beginning in model year 1994, increasing to 300,000 per year in 1997.[56] In urban areas that failed to meet the NAAQS for ozone and CO, fleet vehicles would be required to meet such low emission levels that the fleets would have been forced to use alternative fuels.[57] In addition, for the first time the gasoline sold in certain nonattainment areas would be required to achieve reductions in ozone-producing substances and air toxics.[58]

In the Senate, weeks-long negotiations resulted in agreement on a proposal to impose the second-round tailpipe standards beginning in 2004, if air quality levels in the late 1990s in more than 11 of the nation's most heavily polluted areas still exceeded the NAAQS for ozone.[59] The alternative fuel program agreed to by these negotiators would apply to fleets in the most serious ozone non-attainment areas and would have virtually mandated the use of alternative fuels in these vehicles.

The final bill incorporated most of the House provisions regarding the first phase and second phase of tailpipe emission standards, including a study prior to the imposition of the second phase standards.[60] Additional controls were required to reduce evaporative and running losses from the fuel tanks and engines and to control CO emissions under cold temperature conditions.[61] The alternative fuel provisions in the final bill relied heavily on CARB's Low Emission Vehicle program adopted on September 28, 1990. Fleet vehicles in 20 to 25 of the most heavily polluted areas of the country were required to meet tailpipe emission standards nearly 75% more stringent than the 1994 tailpipe standards for HC and 50% more stringent

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by EPA's Assistant Administrator for Air and Radiation at his Confirmation hearings and subsequent public statements.

[54]Rep. Waxman and Sen. Baucus proposed this latter approach in H.R. 2323 and S.1630, respectively. These standards would reduce the first round standards by an additional 50% for each pollutant. Environmental organizations supported the second-round of tailpipe standards, not trusting unproven alternative fuels technologies. The motor vehicle industry opposed the second-round of emission controls as technically infeasible and cost prohibitive. This position was shared by all domestic and import manufacturers. *See, e.g.*, Testimony of GM, Chrysler, Nissan, Honda, and Toyota to the September 28, 1989 Senate Environment and Public Works Committee hearing.

[55]*See* § 202(A) of H.R. 3030, which adds several new subsections to § 202.

[56]*See* § 212(d)(3)(A), H.R. 3030; *see also* 136 Cong. Rec. 2842 to 2843, May 23, 1990.

[57]Section 212(d)(3)(A), H.R. 3030.

[58]*See* § 205(k), H.R. 3030.

[59]*See* §§ 201(A), tables 1-C through 1-F, S.1630.

[60]*See* Section 203 of S.1630, as enacted, which adds new subsections (g) to (1) to the existing § 202 of the Act.

[61]*See* §§ 202 and 205 of S.1630, as enacted, which add new or revised §§ 202(a)(6) and 202(j) to the existing bill.

for CO and NO_X.[62]

In addition to these provisions, the new amendments retained the existing authority, under § 177, for states with non-attainment areas to adopt California's vehicle emission standards. For those states that adopt the California Low Emission Vehicle program, the use of hybrid electric or fully electric vehicles is likely to be required.[63]

Several northeastern states soon adopted the California emission standards pursuant to their § 177 authority. New York and Massachusetts adopted regulations imposing these standards beginning in Model Years 1994 and 1995, respectively. Judicial challenges to these states' adoption of California standards were brought by the trade associations for the vehicle manufacturers.[64] These suits claimed, among other things, that the adoption of California standards in these states without the requirement for California fuels violates the "no third-car" provisions of § 177.[65] With regard to zero emission vehicles, the suits claimed that the states' sales requirements violated the § 177 prohibition on indirect sales limitation of other vehicles certified by California.

The only rulings in these early challenges under § 177 occurred in the New York litigation. Arguments in that litigation included a claim that New York's adoption of California standards was not identical because New York had not also adopted California's clean fuels requirements; the zero emission vehicle sales quota adopted by New York would impermissibly limit the sale of all other new motor vehicles in New York, or require manufacture of a third vehicle; and, the failure to adopt the clean fuels requirements would force manufacturers to redesign the vehicles (creating a third vehicle) to adjust to higher sulfur fuels.[66] The U.S. Court of Appeals for the Second Circuit ultimately agreed with New York and upheld the state's adoption of CARB's program under § 177, remanding the matter to the lower court to determine whether the changes required to vehicles would actually force manufacturers to make a third vehicle. Following a highly technical analysis of the arguments, the lower court determined that the supposed required modifications were design options available to the manufacturers, which New York did not actually require. Referring to the identical nature of the New York and California requirements, the Court found that the New York adoption was fully consistent with § 177.

Under the 1990 amendments, fuels play a significant role in helping to reduce total vehicle emissions, particularly in certain non-attainment areas. The legislation limits the concentration of benzene, aromatics, and metals in motor fuels. In the alternative, fuel suppliers were required to achieve a 15% reduction in total emissions from 1990 vehicles using 1990 baseline fuels by 1995, and a 25% reduction

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[62]*See* § 229 of S.1630, as enacted, which adds new §§ 241 to 250 to the existing bill.

[63]The California Low Emission Vehicle program established standards for "Ultra Low Emission Vehicles" (0.04 gpm non-methane organic gases), and Zero Emission Vehicles.

[64]*See* Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. New York State Dept. of Environmental Conservation, 810 F. Supp. 1331, 23 Envtl. L. Rep. 20879 (N.D. N.Y. 1993), decision modified on reconsideration, 831 F. Supp. 57, 37 Env't. Rep. Cas. (BNA) 1358, 24 Envtl. L. Rep. 20311 (N.D. N.Y. 1993), judgment aff'd in part, rev'd in part, 17 F.3d 521, 38 Env't. Rep. Cas. (BNA) 1113, 24 Envtl. L. Rep. 20552 (2d Cir. 1994); American Auto. Mfrs. Ass'n v. Greenbaum, 1993 WL 443946 (D. Mass. 1993), decision aff'd, 31 F.3d 18, 39 Env't. Rep. Cas. (BNA) 1037, 29 Fed. R. Serv. 3d 1186, 25 Envtl. L. Rep. 20080 (1st Cir. 1994).

[65]Meaning that a state may not, through its implementation of § 177, require manufacturers to produce a "third vehicle," with federal and California vehicles being the first and second.

[66]Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. New York State Dept. of Environmental Conservation, 810 F. Supp. 1331, 23 Envtl. L. Rep. 20879 (N.D. N.Y. 1993), decision modified on reconsideration, 831 F. Supp. 57, 37 Env't. Rep. Cas. (BNA) 1358, 24 Envtl. L. Rep. 20311 (N.D. N.Y. 1993), judgment aff'd in part, rev'd in part, 17 F.3d 521, 38 Env't. Rep. Cas. (BNA) 1113, 24 Envtl. L. Rep. 20552 (2d Cir. 1994).

(with a possible relaxation to 20%) by 2000.[67]

These new requirements posed significant engineering hurdles for the vehicle industry and the motoring public, since the technology to comply with many of these requirements had to be developed in some cases, and perfected for widespread use in other cases.

C. Evaluation of technology forcing as an agent of change

Measuring the success of technology forcing on other than a political level involves the examination of three factors. The first factor is the performance of vehicles in EPA's certification testing program,[68] the second is the actual in-use performance of vehicles in the hands of consumers; and the third is whether overall ambient air quality levels from mobile sources have improved since the enactment of Title II.

Undeniably, vehicle manufacturers have significantly reduced emissions from the vehicles since the introduction of Title II requirements. EPA certification data demonstrate vehicles spew far less carbon monoxide, hydrocarbons, and NOx per mile than earlier vehicles. Data submitted to EPA to obtain certificates differ, however, from actual emissions once the vehicles are in use. To account for this, as well as for the variability inherent in the actual production process, manufacturers build in a margin of safety. Actual emissions depend on several variables that may cause emissions to increase above certification levels, including poor maintenance practices on the part of vehicle owners; tampering with or removal of emission control systems; the use of leaded fuel in catalyst-equipped vehicles; emission control system deterioration as the vehicle ages; and component failures. EPA implements a program to inspect and test in-use vehicles,[69] generating data to create emission factors used by the states to estimate the total emissions from different classes of mobile sources. These estimates are then important factors in states' decisions on how to address overall pollution within their borders, and to revise State Implementation Plans accordingly.

The implementation of Title II of the Clean Air Act continues to generate controversy with manufacturers and with Congress. Over time, manufacturers adjust to the increasingly stringent emission control program, adapting to the technology-forcing effort. Vehicles now emit significantly less pollution than previously, owing to the application of new technology.

§ 12:174 Overview of clean air regulation of motor vehicles and fuels

Title II of the CAA establishes a comprehensive structure for regulating emissions from automobiles, motorcycles, trucks, buses, and construction and farming equipment. In addition, the regulation of fuels and fuel additives are part of the statutory scheme. EPA is empowered to promulgate emission standards under § 202. Statutory standards and deadlines are specified for emissions of hydrocarbons, carbon monoxide, and nitrogen oxides emitted by light-duty vehicles, which include automobiles, SUVs and pick-up trucks weighing up to 6,000 lbs. gross vehicle weight

[67] *See* § 219 of S.1630, as enacted, which added new § 211(k) to the existing bill.

[68] The EPA certification procedure relies on emissions testing of a relatively small number of manufacturer's prototype vehicles. Some vehicles are tested over 50,000 miles, others are tested for 4,000 miles and have emission deterioration derived from the 50,000 mile testing applied to determine compliance with the applicable standard. *See, e.g.*, International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 642-47, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133, 20145-47 (D.C. Cir. 1973) (description of both kinds of EPA procedures for certification).

[69] *See* 40 C.F.R. §§ 85.2201 to 85.2218 (EPA's In-Use Compliance Testing Program) (short test).

rating (GVWR).[1] EPA is also given broad discretion to establish standards for other pollutants covering light-duty vehicles and all pollutants for all other mobile source categories. The essential criterion is technological feasibility and, through both the statutory and discretionary standard-setting process, EPA has pressed the automobile industry to develop and apply both new and available technology.

Title II establishes enforcement mechanisms by which EPA can assure compliance with emission standards established under § 202. The Administrator may review the emissions performance of vehicles at various stages: prototype, assembly line, and in-use. The major enforcement mechanisms are prototype certification,[2] assembly line testing,[3] and recall[4] Other mechanisms are warranty enforcement,[5] and enforcement of the prohibited acts provision of § 203.[6] Under the prohibited acts provision, a manufacturer may not sell an engine or vehicle unless the engine or vehicle is covered by a certificate of conformity,[7] refuse to provide information to EPA that is required,[8] remove or render inoperative ("tamper" with) any device or element installed for compliance with emission standards,[9] or refuse or fail to comply with labeling requirements, warranties, or recall orders.[10] Section 203(a)(3)[11] prohibits auto mechanics and fleet owners also from tampering with emission controls. The statute provides EPA authority to seek to enjoin violations of the prohibited acts provisions,[12] and to recover civil penalties of up to $25,000 per vehicle for manufacturers and $2,500 for auto mechanics and fleet owners.[13]

Using these enforcement mechanisms, EPA has extended the push for development of technology beyond new car performance to include technologies necessary to prevent or mitigate deterioration of the emissions performance of vehicles in actual use. As the focus of EPA's attention more recently shifted to in-use emissions performance, auto manufacturers have increasingly applied sophisticated software and hardware to prevent in-use deterioration, misadjustment, and tampering, and to dedicate more resources to assembly line quality control programs. In addition, because of the interrelationship between fuels and fuel additives and performance of emission control systems, regulation under the EPA and CARB fuels and fuel additives programs has resulted in further technological innovations.[14]

§ 12:175 Standard setting

A. Motor vehicles regulated under § 202 standards

[Section 12:174]

[1]42 U.S.C.A. § 7521. Limited waivers from these standards and deadlines are available and have been granted in the past. *See, e.g.*, § 12:172.

[2]CAA § 206(a); 42 U.S.C.A. § 7525(a).

[3]CAA § 206(b); 42 U.S.C.A. § 7525(b).

[4]CAA § 207(c); 42 U.S.C.A. § 7541(c).

[5]CAA §§ 207(a) and (b); 42 U.S.C.A. §§ 7541(a) and (b).

[6]CAA § 203, 42 U.S.C.A. § 7522.

[7]CAA § 203(a)(1), 42 U.S.C.A. § 7522(a)(1).

[8]CAA § 203(a)(2), 42 U.S.C.A. § 7522(a)(2), and CAA § 208, 42 U.S.C.A. § 7542.

[9]CAA § 203(a)(3), 42 U.S.C.A. § 7522(a)(3).

[10]CAA § 203(a)(4), 42 U.S.C.A. § 7522(a)(4).

[11]CAA § 203(a)(3), 42 U.S.C.A. § 7522(a)(3).

[12]CAA § 204, 42 U.S.C.A. § 7523.

[13]CAA § 205, 42 U.S.C.A. § 7524. These penalty maximums are adjusted annually by EPA for inflation pursuant to the Federal Civil Penalties Inflation Adjustment Act of 2015. The 2021 inflation-adjusted civil judicial and administrative penalties range between approximately $50,000 and $100,000 for Clean Air Act violations occurring after January 15, 2021. 85 Fed. Reg. 83818 (Dec. 23, 2020).

[14]*See* § 12:178.

EPA's § 202 standard-setting authority applies to *motor vehicles*, defined as self-propelled vehicles designed for transporting persons or property on a street or highway.[1] EPA has established regulations enumerating criteria by which to determine whether a vehicle is intended for street or highway use, such as the ability to exceed 25 miles per hour on paved roads.[2] Congress broadened EPA's standard-setting authority in the 1990 CAA Amendments, to include "non-road" vehicles and engines, extending to various classes of agricultural and construction equipment.[3] The regulations of non-road vehicles and engines are discussed in § 12:180.

The statute defines two classes of motor vehicles: *light-duty* vehicles, and *heavy-duty* vehicles (exceeding 6,000 lbs. GVWR).[4] EPA included within its definition of light-duty vehicles any vehicle designed for transportation of persons or property and rated at 6,000 lbs. GVWR or less. Upon petition for review to the U.S. Court of Appeals for the D.C. Circuit, that definition was struck down on the basis that legislative history showed that the term light-duty vehicle was intended to denote passenger cars.[5] The result was the formation of four classes of vehicles: light-duty vehicles; light-duty trucks under 6,000 lbs. GVWR; light-duty trucks between 6,000 lbs. and 8,500 lbs. GVWR (light-duty trucks meeting the statutory definition of heavy-duty vehicles); and heavy-duty vehicles (over 8,500 lbs. GVWR).[6]

It has generally been presumed that emissions standards, regardless of their origin in § 202, apply to each vehicle individually.[7] However, EPA has promulgated provisions allowing compliance with certain standards on the basis of averaging families of vehicles. In these cases, a manufacturer may show compliance with the standard by demonstrating that the production-weighted average of families within a class of vehicles meet the applicable standard, with the specific families certified to "standards" above and below the applicable standard.[8] This approach has been adopted for light-duty diesel particulates,[9] and for heavy-duty NO_X and particulates, where averaging withstood legal challenge.[10]

This approach to regulation presents the related questions of whether averaging to meet standards is sanctioned at all by the Act, and the extent to which the issue is dependent upon the nature of the standard setting authority (*i.e.*, statutory standards versus discretionary standards, light-duty versus heavy-duty). While the court in NRDC v. Thomas upheld averaging in the absence of a clear congressional prohibition, the court did leave open the argument that the testing and certification provisions of the Act might preclude averaging. Since that argument was not raised,

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[Section 12:175]

[1]CAA § 216(2), 42 U.S.C.A. § 7550(2).

[2]40 C.F.R. § 85.1703(a)(1). The provision is unique in that it defines a vehicle by what it is not: A vehicle which cannot exceed 25 miles per hour is not considered to be a motor vehicle for purposes of regulation.

[3]*See* CAA § 213(a), 42 U.S.C.A. § 7547(a); *see also* Engine Mfrs. Ass'n v. U.S. E.P.A., 88 F.3d 1075, 42 Env't. Rep. Cas. (BNA) 1993, 26 Envtl. L. Rep. 21477 (D.C. Cir. 1996).

[4]CAA § 202(b)(3), 42 U.S.C.A. § 7521(b)(3).

[5]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 640, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133, 20143 (D.C. Cir. 1973).

[6]*See* Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322 n.3, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 n.3 (D.C. Cir. 1981).

[7]*See, e.g.*, International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 628, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133, 20135 (D.C. Cir. 1973).

[8]48 Fed. Reg. 33456 (1983).

[9]48 Fed. Reg. 33456 (1983).

[10]50 Fed. Reg. 10606 (1985). Natural Resources Defense Council v. Thomas, 805 F.2d 410, 25 Env't. Rep. Cas. (BNA) 1129, 17 Envtl. L. Rep. 20269 (D.C. Cir. 1986).

the court found it could not be dispositive of the issue and set it out only for consideration in some other proceeding.

B. Air pollutants regulated under § 202 standards

The general authority for standard-setting in § 202(a)(1)[11] allows EPA to set standards applicable to the emission of any air pollutants "which in [the Administrator's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." These standards are "technology based" in that § 202(a)(2) requires that standards set under § 202(a)(1) shall not take effect until "after such period as the Administrator finds necessary to permit the development and application of the requisite technology."

In the case of Natural Resources Defense Council, Inc. (NRDC) v. EPA,[12] the U.S. Court of Appeals for the D.C. Circuit set out the conditions the court will look to in assessing whether EPA has reasonably projected that technology will be available. The court drew from its earlier decision in International Harvester v. Ruckelshaus,[13] in which it established that technological availability did not mean that all development had to be completed before the tooling up period.[14] The court indicated, however, that EPA was required to have a reasoned basis for its projection of availability and could not just base a decision on a "crystal ball inquiry."[15] Applying these general criteria in NRDC v. EPA, the court established three principles for evaluating the reasonableness of EPA's technological prediction under section 202(a): (1) the Agency must identify projected technology and answer any theoretical objections to the projected technology to be used in meeting the standard; (2) the Agency must identify the major steps necessary for refinement of the device; and (3) the Agency must offer plausible reasons to believe the necessary steps will be completed within the available leadtime.[16]

Although EPA has the *authority* to set emission standards for any pollutant, from a motor vehicle, that contributes to health-endangering air pollution,[17] the Agency is *required* to establish standards for four pollutants for all classes of motor vehicles. These pollutants are: carbon monoxide, hydrocarbons, oxides of nitrogen, and particulate matter.[18] While the nature of these pollutants has not generally been an issue, in *Ford Motor Company v. EPA*, the issue arose as to whether EPA could control emissions of methane hydrocarbons as well as non-methane hydrocarbons, since methane hydrocarbons are generally agreed to be photochemically unreactive and do not contribute to smog formation.[19] EPA argued that, in implementing

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[11]42 U.S.C.A. § 7521(a)(1).

[12]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361 (D.C. Cir. 1981).

[13]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[14]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 629, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[15]International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 4 Env't. Rep. Cas. (BNA) 2041, 3 Envtl. L. Rep. 20133 (D.C. Cir. 1973).

[16]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 331-32, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20367-68 (D.C. Cir. 1981).

[17]CAA § 202(a), 42 U.S.C.A. § 7521(a).

[18]CAA § 202(a) to (b), (g), 42 U.S.C.A. § 7521(a) to (b), (g).

[19]Ford Motor Co. v. Environmental Protection Agency, 604 F.2d 685, 13 Env't. Rep. Cas. (BNA) 1409 (D.C. Cir. 1979), p. 686. *See* 44 Fed. Reg. 20086 (1979) ("EPA scientists believe methane is photochemically unreactive and does not contribute to the formation of photochemical smog.").

§ 202(b),[20] which initially required a 90% reduction in light-duty vehicle hydrocarbon emissions from the 1970 base year, Congress intended the Agency to regulate emissions on the basis of total hydrocarbon exhaust.[21] The U.S. Court of Appeals for the D.C. Circuit agreed, and upheld EPA's action.[22] As discussed in § 12:13, nearly three decades would pass before the Supreme Court would rule that the statute was intended to regulate all greenhouse gas (GHG) emissions as air pollutants.[23]

C. Specific standards under § 202

Beyond the general standard-setting section, the Act provides for "various specific provisions related to particular classes of vehicles or pollutants."[24] For light-duty vehicles, § 202(g) establishes standards for hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter.

The statute sets specific limits for light-duty vehicle carbon monoxide, hydrocarbon and NOx emissions, dictating the precise standards that will apply for each year. The statute allowed the Agency to waive some of the standards for brief periods, enabling manufacturers that present a case for additional time to EPA to gain time to adopt new technology. EPA granted a number of waivers, with the basic rationale that "looser NO_X standards were necessary to permit compliance with the new particulate standard" the Agency had promulgated for light-duty diesel vehicles.[25]

The grant of waivers to permit diesel technology was challenged in NRDC v. EPA on the basis that: (1) the waivers would endanger public health due to increased NO_X emissions and due to increased particulates caused by greater sales of diesel vehicles;[26] and (2) the technology was not shown to have a potential air quality benefit because the waiver resulted in "standards so lacking in content."[27] The waivers were upheld as a short term measure, that did not "decide the ultimate fate of diesel technology."[28] The court agreed with EPA that the net effect of some increased NO_X levels was *de minimis,*[29] EPA could take into account the trade-off between NO_X and particulate levels in evaluating the public health impact; relaxed NO_X standards would tend to reduce the particulate levels of diesel vehicles.[30]

The court also accepted as reasonable EPA's position that the air quality criteria were met so long as diesel vehicles have the likelihood of complying with statutory

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[20]42 U.S.C.A. § 7521(b).

[21]Ford Motor Co. v. Environmental Protection Agency, 604 F.2d 685, 688, 13 Env't. Rep. Cas. (BNA) 1409 (D.C. Cir. 1979).

[22]Ford Motor Co. v. Environmental Protection Agency, 604 F.2d 685, 688, 13 Env't. Rep. Cas. (BNA) 1409 (D.C. Cir. 1979).

[23]Massachusetts v. E.P.A., 549 U.S. 497, 127 S. Ct. 1438, 167 L. Ed. 2d 248, 63 Env't. Rep. Cas. (BNA) 2057 (2007).

[24]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[25]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 340, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[26]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 342, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[27]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 343, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[28]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 341, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[29]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 342, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[30]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 342, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

standards upon the expiration of the waiver period.[31]

EPA delayed implementation of strict diesel particulate standards for light-duty vehicles and light-duty trucks from 1985 until 1987 to allow additional time for development of "trap-oxidizer" technology.[32] The provisions related to heavy-duty engines provided even greater flexibility.

The starting point for heavy-duty engine emission standards took effect in 1983, slashing HC and CO at least 90% from the baseline model year levels,[33] and in 1985 with 75% reduction in NO_X standards. However, under the statute, if the Administrator found that the standard was not technologically feasible "without increasing cost or decreasing fuel economy to an excessive and unreasonable degree," and that the National Academy of Sciences had not issued a report contradicting such a finding, EPA could temporarily revise these standards.[34] The general standard-setting criteria of § 202(a)(2), allowing cost considerations to be taken into account, has been used liberally by EPA in setting heavy-duty engine standards.[35]

EPA was required to conduct a "pollutant specific" study of hydrocarbons, carbon monoxide, and NOx every three years.[36] Based on this study and on other information, the Administrator could change the standard prescribed under § 202(a)(3)(A)(ii).[37] This provision has never been invoked to change a standard.

One interesting inquiry is whether, and to what extent, the technology forcing aspect of § 202(a), relative to light-duty vehicles, is commensurate with the standard setting requirements applicable to heavy-duty engines. In *NRDC v. EPA*[38] the plaintiff-environmentalists claimed that EPA erred in not setting light-duty diesel particulate standards since those vehicles are capable of meeting the most stringent standards. The court upheld the standards set by EPA, however, and found it reasonable to "impose standards which provide significant particulate reductions, but which do not force any diesel models out of production."[39]

In a later case brought in the U.S. Circuit Court of Appeals for the D.C. Circuit, petitioners challenged EPA-promulgated NO_X and particulate standards for heavy-duty engines as not strict enough. In *NRDC v. Thomas*,[40] the petitioners argued that EPA erred in not setting standards based on the technological leader, even if most engines could not meet standards the first year in which they apply.[41] The petitioners distinguished NRDC v. EPA[42] in two ways: First, that Congress required stan-

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[31]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 322, 343, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20362 (D.C. Cir. 1981).

[32]49 Fed. Reg. 3010 (1984).

[33]Baseline model year is defined at Clean Air Act § 202(a)(3)(A)(1), 42 U.S.C.A. § 7521(a)(3)(A)(1), as the year before federal standards applied.

[34]CAA § 202(a)(3)(C), 42 U.S.C.A. § 7521(a)(3)(C).

[35]*See, e.g.*, 48 Fed. Reg. 1413 (1983); *see also* 50 Fed. Reg. 10606 (1985).

[36]CAA § 202(a)(3)(E)(ii), 42 U.S.C.A. § 7521(a)(E)(ii).

[37]CAA § 202(a)(3)(E)(ii), 42 U.S.C.A. § 7521(a)(E)(ii).

[38]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 11, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361 (D.C. Cir. 1981).

[39]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 338, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361, 20372 (D.C. Cir. 1981).

[40]Natural Resources Defense Council v. Thomas, 805 F.2d 410, 17, 25 Env't. Rep. Cas. (BNA) 1129, 17 Envtl. L. Rep. 20269 (D.C. Cir. 1986).

[41]Natural Resources Defense Council v. Thomas, 805 F.2d 410, 17, 25 Env't. Rep. Cas. (BNA) 1129, 17 Envtl. L. Rep. 20269 (D.C. Cir. 1986).

[42]Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 655 F.2d 318, 11, 15 Env't. Rep. Cas. (BNA) 2057, 11 Envtl. L. Rep. 20361 (D.C. Cir. 1981); *see* this section notes 2–7, 23–30 and accompanying text.

dards reflecting the maximum degree of reduction feasible for heavy-duty engines only, establishing a "technological leader mandate"; and second, that the language of § 202 and the statutory provision for nonconformance penalties (NCP) bolstered Congress' intent to set leader-based standards. NCPs are intended to safeguard the position of technologically lagging engines.[43] The court rejected these arguments, finding that Congress did not intend to require leader-based standards, but rather that EPA reasonably considered industry-wide considerations in setting standards.[44]

In 2001, EPA established stricter exhaust emission standards for heavy-duty engines and vehicles and sulfur control requirements for highway diesel.[45] The new standards are a component of a national control program to regulate heavy-duty vehicles and fuel within a single system and were phased in from 2007 through 2010. The objective was to reduce emissions of particulate matter by 90% and NO_X by 95% below previous standards. To meet these stringent tailpipe requirements, the regulations required a 97% reduction of sulfur levels in highway diesel fuel by 2006. The motor vehicle industry, along with refiners, sought judicial review of the new rule, but the U.S. Court of Appeals for the D.C. Circuit held that the EPA's actions were not arbitrary and capricious.[46] In reaching this decision, the court found that it sufficed that EPA properly showed that the technology to achieve the emission levels would be available by the time compliance was required; EPA needn't show that it was currently available.

Following the 1990 Amendments, EPA established increasingly stringent emission standards for heavy-duty engines and vehicles, including buses and trucks. In 1990, Congress required EPA to establish new emission limits from this vehicle category by the 1998 model year.[47] The new standards limiting emissions to 4.0 grams NO_X per brake horsepower hour (g/bhp-hr) were published in 1993.[48] The Agency subsequently issued regulations in 1997 requiring further NO_X reductions for heavy-duty diesel engines, to take effect with model year 2004.[49] Even lower NO_X levels could only be achieved, according to EPA, once diesel sulfur levels were reduced, as noted above. Then, in 2001 and anticipating widespread future availability of lower sulfur diesel fuel in time for the more stringent standards, EPA promulgated the current low NO_X limits for diesel engines, set at 0.20 NO_X per g/bhp-hr,[50] to be phased in over the 2007–2010 model years.

Engineers created or adapted advanced emission controls for these vehicles using heavy-duty diesel engines as a result of the more stringent standards for NO_X emissions. One such emissions reduction technique was exhaust gas recirculation, which involves recirculating a portion of an engine's exhaust gas back to the engine for further combustion, reducing NO_X emissions.[51] Another technology that was adapted for use on heavy-duty diesel engines came from stationary source industrial

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[43]Natural Resources Defense Council v. Thomas, 805 F.2d 410, 422, 25 Env't. Rep. Cas. (BNA) 1129, 17 Envtl. L. Rep. 20269 (D.C. Cir. 1986). EPA is required, under § 206(g), to set monetary nonconformance penalties for heavy-duty vehicles and engines. Payment of such a penalty allows a manufacturer to market a vehicle or engine notwithstanding failure to meet applicable standards. *See* NRDC v. Ruckelshaus, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20817 (D.D.C. 1984).

[44]Natural Resources Defense Council v. Thomas, 805 F.2d 410, 422, 424, 25 Env't. Rep. Cas. (BNA) 1129, 17 Envtl. L. Rep. 20269 (D.C. Cir. 1986).

[45]66 Fed. Reg. 5002 (Jan. 18, 2001).

[46]National Petrochemical & Refiners Ass'n v. E.P.A., 287 F.3d 1130, 54 Env't. Rep. Cas. (BNA) 1257, 32 Envtl. L. Rep. 20644 (D.C. Cir. 2002).

[47]CAA § 202(a)(3)(B), 42 U.S.C.A. § 7521(a)(3)(B).

[48]58 Fed. Reg. 15781 (1993).

[49]62 Fed. Reg. 54694 (1997).

[50]40 C.F.R. §§ 86.007-11, 86.008-10.

[51]EGR had been in use to control NO_X emissions from automobiles and light-duty trucks for sev-

operations: selective catalytic reduction (SCR). The use of SCR to control NO_X emissions from truck tailpipes required significant changes to the engine compartments, as the new technology relies on a specially designed catalyst through which urea or diesel exhaust fluid (DEF) is injected, acting as a reducing agent to effectively reduce NO_X emissions. For the first time, operating diesel-fueled vehicles required the use not only of adequate amounts of diesel fuel but also adequate amounts of DEF. The dilution or absence of DEF in a vehicle could lead to inadequate NO_X emission control. As a result, EPA requires engines with SCR to include inducements in the design, so that if DEF levels are low or dilution is detected, the vehicle operates at lower power, forcing the vehicle into a 'limp home' mode until DEF is replenished.

D. Federal preemption of state standards and the California waiver

In general, states are preempted from attempting to set or enforce their own standards for emissions from new motor vehicles or engines under § 209.[52] The one exception to that preemption is contained in § 209(b)(1),[53] which allows the Administrator of EPA to waive preemption for any state which adopted new vehicle standards prior to 1966. California is the only state eligible for this waiver.[54] The statute requires the Administrator to waive preemption if the state standards will be, in the aggregate, at least as protective of public health and welfare as the CAA, unless the Administrator finds that the states' determination of protectiveness was arbitrary and capricious, that it does not need the standards to meet compelling and extraordinary circumstances, or that the standards and accompanying enforcement procedures are inconsistent with § 202.[55] "Standard" is limited to regulations setting quantitative emission levels,[56] whereas enforcement procedures are criteria designed to determine compliance with applicable standards.[57] If a waiver has already been granted for the underlying standards, only the consistency determination needs to be considered by EPA in deciding on a waiver for enforcement procedures alone.[58]

The requirement of consistency with § 202 draws from the requirement that standards must be technologically feasible.[59] On its face, § 209(b)(1)(C) refers only to consistency with § 202(a)'s general standard-setting authority. However, in American Motors Corporation v. Blum,[60] the D.C. Circuit Court held that in making the consistency determination, one must read § 202(a) to incorporate the lead time determinations in § 202(b). In that case, the court considered that the small volume

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eral years by the time it was adapted for heavy-duty engines and vehicles.

[52]42 U.S.C.A. § 7543.

[53]42 U.S.C.A. § 7543(b)(1).

[54]Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A., 627 F.2d 1095, 1100 n.1, 13 Env't. Rep. Cas. (BNA) 1737, 9 Envtl. L. Rep. 20581 (D.C. Cir. 1979); Ford Motor Co. v. Environmental Protection Agency, 606 F.2d 1293, 1296, 13 Env't. Rep. Cas. (BNA) 1529 (D.C. Cir. 1979).

[55]Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A., 627 F.2d 1095, 1111, 13 Env't. Rep. Cas. (BNA) 1737, 9 Envtl. L. Rep. 20581 (D.C. Cir. 1979).

[56]Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A., 627 F.2d 1095, 1112-14, 13 Env't. Rep. Cas. (BNA) 1737, 9 Envtl. L. Rep. 20581 (D.C. Cir. 1979).

[57]Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A., 627 F.2d 1095, 1111-13, 13 Env't. Rep. Cas. (BNA) 1737, 9 Envtl. L. Rep. 20581 (D.C. Cir. 1979).

[58]Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A., 627 F.2d 1095, 1111-13, 13 Env't. Rep. Cas. (BNA) 1737, 9 Envtl. L. Rep. 20581 (D.C. Cir. 1979). For a discussion of preemption issues relating to non-road vehicles and engine standards, *see* Engine Mfrs. Ass'n v. U.S. E.P.A., 88 F.3d 1075, 1082, 42 Env't. Rep. Cas. (BNA) 1993, 26 Envtl. L. Rep. 21477 (D.C. Cir. 1996).

[59]Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A., 627 F.2d 1095, 1125, 13 Env't. Rep. Cas. (BNA) 1737, 9 Envtl. L. Rep. 20581 (D.C. Cir. 1979).

[60]American Motors Corp. v. Blum, 603 F.2d 978, 13 Env't. Rep. Cas. (BNA) 1412, 9 Envtl. L. Rep. 20549 (D.C. Cir. 1979).

manufacturer NO_X waiver was subject to § 202(b)(1)(B), which required the Administrator to grant a waiver of the 1981 and 1982 1.0 gram per mile NO_X standard for small volume, vendor-dependent manufacturers. The court held that the congressional mandate of two years additional leadtime had the effect of assimilating § 202(b)(1)(B) into § 202(a)(2), thereby only permitting a waiver of California standards consistent with that two-year lead time mandate.[61]

Prior to the 1977 Amendments, § 209(b) permitted a waiver only if California standards were more stringent than federal standards.[62] The 1977 Amendments revised that section to require only that California standards would be "in the aggregate" at least as protective of health and welfare, recognizing California's interest in trading off NO_X control against CO control, since California's severe ozone nonattainment problems dictated the need for more stringent NO_X control. However, it is technologically difficult to mesh a more stringent NO_X standard with the federal CO standard: California passenger car standards for 1984 and later model years, for example, set limits of 7.0 grams per mile CO, but 0.4 gram per mile NO_X.[63] That presented the question of the meaning of § 209(b)(3),[64] providing that, for a motor vehicle or engine to which California standards apply under a waiver, compliance with California standards "shall be treated as compliance with applicable federal standards." Ford argued that this meant that vehicles meeting California standards, but not necessarily federal standards, could be lawfully sold nationwide.[65] The D.C. Circuit disagreed, finding that as a result of the change in the waiver provision—allowing a waiver merely upon an "in the aggregate" determination rather than requiring every standard be more stringent—"the once unexceptional practice of distributing California cars nationwide was rendered unlawful for the simple reason that such cars will no longer comply with federal standards."[66]

Section 177 permits other states with approved state implementation plans to adopt standards identical to those for which California has been granted a waiver under § 209. The 1990 amendments further modified this provision to provide that state action was prohibited if it had the effect of creating a motor vehicle different from that certified in California. As noted in § 12:172, a state may not, through its implementation of § 177, require manufacturers to produce a "third vehicle," with federal and California vehicles being the first and second.

The precise limits on the states' adoption of California requirements is an issue that has been litigated between the vehicle manufacturers and northeastern states, particularly regarding efforts of the states to adopt electric vehicle sales mandates similar to those adopted by California. A district court struct down efforts by Massachusetts to adopt a sales mandate based on a memorandum of agreement between the manufacturers and California in American Automobile Manufacturers Association v. Commissioner.[67] The Second Circuit Court of Appeals later struck down efforts by New York to retain the 1998 model year effective date of its electric vehicle

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[61]American Motors Corp. v. Blum, 603 F.2d 978, 981, 13 Env't. Rep. Cas. (BNA) 1412, 9 Envtl. L. Rep. 20549 (D.C. Cir. 1979).

[62]American Motors Corp. v. Blum, 603 F.2d 978, 13 Env't. Rep. Cas. (BNA) 1412, 9 Envtl. L. Rep. 20549 (D.C. Cir. 1979).

[63]Ford Motor Co. v. Environmental Protection Agency, 606 F.2d 1293, 1296, 13 Env't. Rep. Cas. (BNA) 1529 (D.C. Cir. 1979).

[64]42 U.S.C.A. § 7543(b)(3).

[65]Ford Motor Co. v. Environmental Protection Agency, 606 F.2d 1293, 1297, 13 Env't. Rep. Cas. (BNA) 1529 (D.C. Cir. 1979).

[66]Ford Motor Co. v. Environmental Protection Agency, 606 F.2d 1293, 1300, 1297, 13 Env't. Rep. Cas. (BNA) 1529 (D.C. Cir. 1979).

[67]American Auto. Mfrs. Ass'n v. Commissioner, Massachusetts Dept. of Environmental Protection,

mandate, when California officials had previously deferred the effective date of their program until 2003, in American Automobile Manufacturers Association v. Cahill.[68] Subsequently, an association of northeastern states attempted to use EPA's Title I authority to require the adoption of California standards on a regional basis over 12 states and the District of Columbia. The Commonwealth of Virginia and vehicle manufacturers successfully opposed the plan, arguing that EPA lacks the authority to compel states to adopt California standards.[69]

Over the years, California requested and obtained waivers under § 209 for emission standards for light-duty vehicles and trucks as well as for heavy-duty engines and vehicles, and non-road equipment. Due to the demonstrated compelling need to address California's smog problems, and finding the state's emission standards have been at least as protective as EPA standards, EPA's waiver of federal preemption has generally been a noncontroversial step. These waivers have permitted California to establish and enforce more stringent standards for all classes of on-road vehicles. The State sees itself as a laboratory of innovation, allowing the other 49 states, the District of Columbia, and territories to benefit from advanced technologies developed to comply with California standards. California remains committed to increasing stringency of emissions of all tailpipe pollutants, including GHG. In 2019, EPA revoked the long-standing waiver for California's clean vehicles standards, including the waiver granted California in July 2009 for its GHG emission standards. This was the first revocation of a waiver that had been granted under § 209, despite the absence of any language in the statute addressing waiver revocation, indicating Congress did not consider this possible step. The 2019 revocation cited NHTSA's interpretation of the Energy Policy and Conservation Act (EPCA) as giving the Department of Transportation the right to set national fuel economy standards, preempting state GHG standards programs and zero emissions vehicle mandates.[70] Under President Biden, EPA is poised to reinstate the waiver in 2021.[71]

E. Regulation of Greenhouse Gases under § 202

Regulating GHG from mobile sources is a developing issue. As noted, the Supreme Court decided in 2007 that the CAA authorizes EPA to regulate GHG from mobile sources. Subsequently, EPA determined that GHGs "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[72] Having survived challenges to this endangerment finding, EPA published its first GHG emission standards for automobiles and light-duty trucks in May 2010.[73] These standards were published in coordination with fuel economy standards issued by the NHTSA, and set standards to be applied from model year 2012 through model year 2016. In October 2012, EPA published GHG standards for model years 2017 through 2025, applicable to cars, light-duty trucks, and medium-duty pas-

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998 F. Supp. 10, 28, 45 Env't. Rep. Cas. (BNA) 2054, 28 Envtl. L. Rep. 20210 (D. Mass. 1997), decision aff'd, 208 F.3d 1, 50 Env't. Rep. Cas. (BNA) 1257, 30 Envtl. L. Rep. 20469 (1st Cir. 2000).

[68]American Auto. Mfrs. Ass'n v. Cahill, 973 F. Supp. 288, 45 Env't. Rep. Cas. (BNA) 1646, 28 Envtl. L. Rep. 20092 (N.D. N.Y. 1997), rev'd, 152 F.3d 196, 46 Env't. Rep. Cas. (BNA) 2096, 28 Envtl. L. Rep. 21491 (2d Cir. 1998).

[69]Com. of Va. v. E.P.A., 108 F.3d 1397, 44 Env't. Rep. Cas. (BNA) 1129, 27 Envtl. L. Rep. 20718, 151 A.L.R. Fed. 741 (D.C. Cir. 1997), decision modified on reh'g, 116 F.3d 499, 44 Env't. Rep. Cas. (BNA) 2087, 27 Envtl. L. Rep. 21380 (D.C. Cir. 1997).

[70]84 Fed. Reg. 51310 (2019).

[71]Corporate Average Fuel Economy (CAFÉ) Preemptions, Docket No. NHTSA-2021-0030, Prepublication Notice of Proposed Rulemaking (April 22, 2021).

[72]74 Fed. Reg. 66496 (2009).

[73]75 Fed. Reg. 25324 (2010).

senger vehicles.[74]

In a victory for the automobile industry, the 2012 federal standards were coordinated with applicable California GHG requirements, permitting the industry to foresee a day when a single vehicle standard might apply nationwide. In the 2017 rulemaking, EPA made a commitment to conduct a Midterm Evaluation of the standards that were to apply in model years 2022-2025, to be conducted in coordination with California and NHTSA. Following the Midterm Evaluation, in 2020, NHTSA and EPA amended the GHG standards and fuel economy standards, establishing less stringent standards for model years 2021 through 2026.[75] Multiple parties filed challenges to the 2020 rule rollback; these lawsuits remain pending as of this writing, as President Biden's EPA has begun to take action to again tighten vehicle GHG regulations.[76]

EPA also began regulating GHG from heavy-duty vehicles and engines in 2011, following regulations for GHG limits from automobiles and light duty trucks. In conjunction with NHTSA, EPA set CAFE and GHG emissions standards for heavy-duty engines, as well as standards for heavy-duty vehicles to address fuel efficiency.[77] These regulations address emissions of carbon dioxide, nitrous oxide and methane from diesel engines (effective in 2014) and from gasoline engines (effective in 2016).[78] EPA and NHTSA instituted vehicle standards to encourage development of aerodynamic designs and advanced technologies to address fuel economy. EPA and NHTSA undertook additional regulation of GHG from medium- and heavy-duty trucks in 2016, to be effective for model years 2018 through 2027, depending on types and sizes of trucks, trailers and buses.[79] These rules, phased in over this period, are similarly designed to reduce GHG emissions and fuel consumption.

§ 12:176 Compliance enforcement—Certification of prototypes

Section 206(a) directs EPA to require manufacturers to certify their vehicles so the Agency can determine whether a manufacturer's prototype design is capable of conforming with emission standards.[1] Pursuant to § 206(a), EPA created an extensive program through promulgation of regulations and issuance of manufacturer's advisory circulars. These regulations and advisory circulars set out procedures for applying for a certificate of conformity and vehicle test procedures.[2] A manufacturer may not introduce vehicles into commerce or offer to sell them, prior

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[74]77 Fed. Reg. 62624 (2012).

[75]85 Fed. Reg. 24174 (2020).

[76]On August 10, 2021, EPA published a Notice of Proposed Rulemaking, proposing to revise light-duty GHG standards to be more stringent for 2023-2026 model years. 86 Fed. Reg. 43,726 (Aug. 10, 2021). EPA also announced plans on August 5, 2021, to issue rules to reduce emissions, including GHG, from heavy-duty vehicles, to be finalized in 2022.

[77]76 Fed. Reg. 51106 (2011).

[78]40 C.F.R. pt. 1036.

[79]81 Fed. Reg. 73478 (2016).

[Section 12:176]

[1]CAA § 206(a)(1), 42 U.S.C.A. § 7525(a)(1), states, in pertinent part, that EPA "shall test, or require to be tested, in such manner as [the Administrator] deems appropriate, any new motor vehicle or new motor vehicle engine submitted by a manufacturer to determine whether such vehicle or engine conforms with the regulations . . . ."

[2]The practice of issuing "advisory circulars," setting forth procedures and requirements without formal notice and opportunity for comment, has never been challenged by the industry, although it can be argued that the practice is not consistent with rulemaking requirements. That manufacturers cannot introduce their new model lines until they have been certified often forces manufacturers to accept EPA's requirements with minimal challenge.

to receiving the certificate.[3] After the certificate is issued, it is unlawful for manufacturers to sell, offer for sale, or introduce into commerce any vehicles which are not, in all material respects, identical to the prototype design described in the manufacturer's application for a certificate of conformity. For parts which reasonably could be expected to affect emission controls, the use of parts different from those specified in the application (a "misbuild") is sufficient to support a finding that a vehicle is not covered by the certificate. This is true regardless of whether the emission performance of the vehicle *actually* is affected.[4] The penalty for the sale of a vehicle which is not covered by a certificate of conformity is a maximum of $25,000 per vehicle.[5]

For light-duty vehicles, for example, a manufacturer is required to subject a prototype representing an "engine family" to a mileage accumulation of 50,000 or more miles in accordance with an approved mileage accumulation procedure.[6] At each 5,000 mile interval, the vehicle is tested in accordance with the Federal Test Procedure (FTP). These tests are relied upon to establish an emissions deterioration factor for the engine family. Production prototypes of differing configurations, but within the same family, are then tested at 4,000 miles and emission deterioration factors are applied to these results. If the production prototype emissions, with the deterioration factor applied, are under the standards at 50,000 miles, the Agency issues a certificate of conformity.[7]

With respect to heavy-duty trucks, § 206(g), as amended in 1977, permits manufacturers to pay a nonconformance penalty in lieu of certifying a class to the emission standards established by the Agency.[8] Regulations establish the formula for computing nonconformance penalties (NCP) for any manufacturer that is a technological laggard. This formula is designed to eliminate any economic benefit which a manufacturer might derive by virtue of the savings on research, engineering, and hardware as a result of not having to conform with the standards.[9]

Manufacturers have instituted quality control procedures to avoid misbuilds. EPA also established a program of inspections to assure that data and information submitted by manufacturers during the certification process are accurate and valid.[10] In 2015, Volkswagen paid a hefty penalty of $13 billion after EPA and California

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[3]42 U.S.C.A. § 7522(a)(1). There is a limited exception for importation by individuals of nonconforming vehicles under joint EPA and Treasury Department regulations ensuring that the vehicles are brought into compliance. 42 U.S.C.A. § 7522(b)(2). However, this exception has been made extremely narrow through regulations permitting importation of a nonconforming vehicle only by an independent commercial importer, who must have the vehicle modified and tested to show compliance with emission standards for five years or 50,000 miles (whichever comes first) after sale of the vehicle to the ultimate purchaser or after release to the owner following the modification and testing. 52 Fed. Reg. 36136 (1987). The D.C. Circuit has upheld these regulations. Anderson Shipping Co. v. EPA, No. 87-1705 (D.C. Cir. 1988).

[4]U.S. v. Chrysler Corp., 591 F.2d 958, 12 Env't. Rep. Cas. (BNA) 1734, 9 Envtl. L. Rep. 20091 (D.C. Cir. 1979).

[5]CAA §§ 203(a)(1), 205, 42 U.S.C.A. §§ 7522(a)(1), 7524.

[6]There are other certification procedures for determining durability, such as the alternative durability program for light-duty vehicles and light-duty trucks using production vehicles, *see, e.g.*, 40 C.F.R. § 86.085-13, and the more flexible procedures for generating light-duty truck and heavy-duty engine deterioration factors. *See, e.g.,* 40 C.F.R. § 86.085-22(d)(2).

[7]The Clean Air Act and EPA's implementing regulations require that vehicles intended to be sold at high altitudes be specially certified to meet the standards at the high altitude. 40 C.F.R. § 86.087-30. Vehicles certified at sea level typically will have higher emissions at higher altitudes because the reduced amount of oxygen at higher altitudes causes a higher air-fuel ratio. EPA defines any altitude above 4,000 feet above sea level to be a high altitude. 40 C.F.R. § 86.087-30(a)(5)(iii).

[8]42 U.S.C.A. § 7525(g).

[9]50 Fed. Reg. 53454–68 (1985) (40 C.F.R. §§ 86.1105-87, 86.1113-87, 86.1115-87).

[10]Pursuant to broad authority under section 208, 42 U.S.C.A. § 7542, EPA may require

discovered that the certification data submitted to the agencies to obtain certificates of conformity did not accurately or fully reflect the emissions from the vehicles when driven in normal conditions.

While certification was the predominant enforcement mechanism relied upon in the early 1970s, it became evident that certification of prototype designs was not necessarily a good indicator of the emissions performance of in-use production vehicles. The conditions of certification mileage accumulation involve use of standard fuels, trained drivers, and expert maintenance, and fail to reflect the effects of time, weather, and in-use road conditions. Thus, while the certification program has adopted requirements designed to reduce in-use emissions (most notably, the parameter adjustment regulations),[11] the Agency shifted emphasis to assembly line and in-use enforcement programs in the late 1970s.[12]

§ 12:177 Compliance enforcement—Production line testing

Section 206(b) expressly authorizes EPA to test actual production vehicles on the assembly line to determine whether they are conforming to standards.[1] If a prescribed percentage of vehicles do not conform to standards, EPA may revoke or suspend the certificate, thereby prohibiting the manufacturer from introducing the line of vehicles into commerce.[2] This was one of the provisions inserted in the 1970 CAA Amendments due to Congress' realization that production vehicles were exceeding standards, even though the prototype vehicles had met standards.[3] This provision, constituting an explicit Congressional recognition that EPA is not bound by its certification of a prototype, countered arguments that manufacturers should not be held responsible for the failure of certified designs to comply with standards in actual use.

Under the resulting Selective Enforcement Auditing (SEA) program, EPA typically issues a manufacturer a test order. EPA inspectors then visit the manufacturer's assembly line and test facility to observe the selection of vehicles and the conduct of the tests. Vehicles are selected and tested according to a statistical scheme to determine, with a prescribed degree of confidence, whether EPA's assembly line criteria are met.

Section 206(b) does not specify the percentage of vehicles exceeding emissions or the average emissions level which will give rise to a suspension or revocation order.

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manufacturers to make records available for EPA inspection.

[11]The parameter adjustment regulations require that certain easily accessible engine adjustments, any one of which can have a significant effect on emissions, either be sealed or set so that adjustment in any direction will not cause emissions to exceed standards. 40 C.F.R. § 86.085-22(3).

[12]EPA proposed regulations that would revise the certification program to reduce costs, and place significantly greater emphasis on in-use performance. *See* 63 Fed. Reg. 39654 (1998).

[Section 12:177]

[1]Section 206(b)(1), 42 U.S.C.A. § 7525(b)(1), provides in part: "In order to determine whether new motor vehicles or new motor vehicle engines being manufactured by a manufacturer do in fact conform with the regulations with respect to which the certificate of conformity was issued, the Administrator is authorized to test such vehicles or engines." Section 206(b)(2)(A)(i), 42 U.S.C.A. § 7525(b)(2)(A)(i), further provides that "[i]f, based on tests conducted under paragraph (1) on a sample of new vehicles or engines, . . . the Administrator determines that [such] vehicles or engines . . . do not conform with the regulations . . . and requirements of section 7521 (a)(4), he may suspend or revoke such certificate . . . and shall so notify the manufacturer."

[2]*See* 40 C.F.R. §§ 86.601 to 86.614 (SEA regulations for light-duty vehicles); 40 C.F.R. §§ 86. 1001-84 to 86.1014-84 (SEA regulations for heavy-duty vehicles).

[3]*See* 1 Senate Comm. on Pub. Works, 93d Cong., 2d Sess., A Legislative History of the Clean Air Act Amendments of 1970 134 (Comm. Print 1974) (Exhibit 1 to remarks of Sen. Muskie); 1 Senate Comm. on Pub. Works, 93d Cong., 2d Sess., A Legislative History of the Clean Air Act Amendments of 1970 at 200 (Comm. Print 1974) (Conference Report, discussion of sections 206, 207).

After significant debate, EPA adopted a 40% Acceptable Quality Level (AQL); unless the Agency has a high degree of confidence that the failure rate of any class is greater than 40%, the class "passes" the assembly line test. Given statistical variability, a 40% AQL approximates a requirement that the average vehicle meets standards. In adopting this requirement, however, the Agency expressly stated that it was not adopting "averaging" for purposes of assessing in-use compliance.[4]

§ 12:178 Compliance enforcement—In-use vehicle compliance—Warranty

The Act also establishes mechanisms by which compliance of vehicles actually in use can be enforced. Under § 207(a),[1] the manufacturer must warrant to owners that each new car: (1) is designed, built, and equipped to conform with emission requirements at the time of sale; and (2) is free from defect in materials or workmanship which would cause the car to exceed emissions standards over its "useful life" period.

Section 207(b), in turn, requires the manufacturer to warrant that if a vehicle fails an emission test in a state inspection and maintenance (I/M) program which imposes a sanction for such failure, and the vehicle has been maintained and used in accordance with the manufacturer's recommended instructions, then the manufacturer will repair the vehicle at no cost to the owner. The warranty provisions create a relationship between the manufacturer and vehicle owner, although pursuant to section 203,[2] EPA has the power to require manufacturers to honor warranty claims and to prosecute manufacturers for failure to honor valid claims. EPA has promulgated regulations to implement § 207(b).[3] These regulations, *inter alia*, create conditions under which owners are assumed to have valid warranty claims and place upon the manufacturers the burden of showing why a claim is not valid.

A key issue in implementing the warranty provisions concerns their potential anticompetitive impacts on aftermarket parts manufacturers. Congress specifically directed the Agency to establish an aftermarket parts certification program in the 1977 CAA Amendments.[4]

EPA's implementation of the warranty and parts certification program has been a difficult process. The development of an appropriate short test for use in state I&M programs (to trigger the § 207(b) warranty) was an analytically difficult and time-consuming task. In 1980, EPA issued regulations specifying the short test and a parts certification program. Along with the § 207(b) warranty procedures, all three sets of regulations were challenged by automobile and parts manufacturers in separate actions. In 1983, the Court of Appeals for the D.C. Circuit upheld the regulations, although it struck down certain aspects of the parts certification regulations. EPA had included a requirement that auto manufacturers honor claims where certified parts were found to be the cause of a short test failure, and then seek reimbursement from the part manufacturer. The court held that this was an unworkable scheme in light of the absence of any dispute resolution mechanisms. The court also remanded the rules to the Agency for its arbitrary and capricious failure to include

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[4] *See* 41 Fed. Reg. 31475 (1977).

[Section 12:178]

[1] 42 U.S.C.A. § 7541(a).

[2] 42 U.S.C.A. § 7522.

[3] *See* 40 C.F.R. §§ 85.2101 to 85.2122, App.

[4] CAA § 207(a)(2), 42 U.S.C.A. § 7541(a)(2).

add-on and modified parts in the parts certification program.[5]

The explosion of availability of aftermarket parts has led to a robust enforcement program by EPA to identify and take action against manufacturers of uncertified parts that increase vehicle emissions, in violation of § 203(a). The enforcement effort encompasses not only administrative penalty-only cases or civil judicial lawsuits, but also criminal actions, and has resulted in extensive penalties and in some cases, prison time. Additional discussion of these efforts may be found in § 12:178.

§ 12:179 Compliance enforcement—In-use vehicle compliance—Recall

One important EPA Title II enforcement program is the recall program. Section 207(c)[1] empowers the Administrator to order recall of any class of vehicles if a determination is made that a substantial number, although properly maintained and used, do not conform with standards when in use throughout their useful life.[2] Thus, despite receiving certification and despite demonstrating compliance during production line tests, manufacturers are still liable for recall if their vehicles are determined not to conform throughout their useful life.

The Agency has put in place comprehensive surveillance and confirmatory testing programs designed to detect emission problems under § 207(c). Typically, EPA will target a class of vehicles for surveillance testing. The Agency will procure a sample of five or 10 vehicles, adjust the vehicles to the manufacturer's recommended specifications, and conduct FTP tests. If the surveillance testing reveals a high noncompliance rate for any of the standards, EPA will notify the manufacturer of the results and schedule the class for confirmatory testing. In the confirmatory testing program, the Agency implements a rigorous vehicle selection process designed to produce a random, unbiased sample of properly maintained vehicles which will support statistical inferences regarding emission levels.[3] This testing then becomes the basis for an Agency determination that the class is in nonconformity and that an order will be issued to the manufacturer to submit a plan to remedy the nonconformity.

One issue that has not been resolved concerns the meaning of the term "substantial number," as used in § 207(c). In the one recall for which the finding of nonconformity was contested, the term "substantial number" was not an issue because of the extremely high failure rate of the vehicles involved.[4] The Agency has not expressed a formal view on this issue, although most ordered recalls have been

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[5]Specialty Equipment Market Ass'n v. Ruckelshaus, 720 F.2d 124, 13, 19 Env't. Rep. Cas. (BNA) 2027, 13 Envtl. L. Rep. 21080 (D.C. Cir. 1983).

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[1]42 U.S.C.A. § 7541(c).

[2]The statute does not use the term "recall"; it discusses submission to EPA a plan to remedy nonconformities in a class of cars, at the manufacturer's expense, and of notification of the nonconformities to car owners. These statutory duties, when taken together, describe what is commonly known as a recall. EPA has issued regulations which are specifically labeled "Recall Regulations." 40 C.F.R. §§ 85. 1801 to 85.1807; 40 C.F.R. §§ 1068.501 to 1068.505.

[3]The rigor of vehicle sampling maintenance and testing has grown more sophisticated over time. Attempts by EPA in the early 1970s to produce test data that could support recall orders were unsuccessful, owing to the Agency's failure to implement sufficient quality control procedures. By the Agency's own analysis, their early data could not withstand a legal challenge. Learning from that early failure, EPA has improved its vehicle selection and testing methods: The use of fewer vehicle samples to statistically project that a substantial number of vehicles is in nonconformity has been upheld. Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 891-92, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595, 20609-10 (D.C. Cir. 1980). In that case, however, the number of vehicles exceeding the standard was extremely high (85% and 90% in two testing programs, respectively) and the average emissions level was two to four times the standard.

[4]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 892, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595, 20609 (D.C. Cir. 1980).

based either on the Agency's ability to project, with substantial confidence, that the average emissions level of the class is well over the standard, or the finding of a defective component causing emissions failures in a large number of vehicles. For classes of vehicles whose average emission levels are close to, although above the standards, and which have no apparent defective component, the adequacy of the test sample, the validity of each test, the meaning of substantial number, and the confidence criteria for supporting statistical inferences all become more important.

The recall provision is an incentive to the manufacturer to plan and to produce emission control systems that will be both durable and effective in actual use; the recall provision also is a remedy for the public if the manufacturer fails in this task. The Agency has used this provision to increase the accountability of vehicle manufacturers. In 1978, for example, EPA ordered Chrysler to recall approximately 208,000 1975 model year vehicles. The Agency alleged that the vehicles exceeded the CO standard, primarily owing to misadjustment of the idle mixture screws.[5] Chrysler argued that under the "proper maintenance and use" language of § 207(c), it could not be held responsible for recall if its vehicles were not set to recommended specifications when tested. The Agency argued that the design of the carburetor made misadjustment very easy, that the poor drivability of the cars provided an incentive to readjust the carburetors,[6] and that Chrysler's specified maintenance procedures were difficult; all these factors combined to foster the likelihood of misadjustments. Despite owners' attempts to secure proper maintenance, the incidence of misadjustment was high and Chrysler, the Agency argued, should bear liability for the resulting nonconformities.

The recall order was the subject of a two-year formal adjudicatory hearing. After the order was sustained by the Administrative Law Judge and the EPA Administrator, Chrysler challenged it in the U.S. Court of Appeals for the D.C. Circuit. Judge J. Skelly Wright, writing for a unanimous panel, upheld the order.[7] The court held in Chrysler Corp. v. EPA that the Agency could impose recall liability on a manufacturer if the Agency could establish that the manufacturer's design caused the nonconformity. Thus, the criterion in § 207(c), that the vehicles be properly maintained, could not act as a bar to a recall if the manufacturer's actions caused the vehicles to be misadjusted and, therefore, not in a properly maintained condition.[8]

The court interpreted the recall provision as placing "the burden on the auto manufacturers to design an emission control system that would effectively reduce auto emissions despite the poor performance of the maintenance industry."[9] In reviewing the facts of the case before it, the court agreed with EPA's finding that "misadjustments were encouraged or fostered by the design of Chrysler's emission control system and its carburetor adjustment procedures . . . and that the service industry's contribution is the inevitable by-product of Chrysler's emission system

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[5]Because of the relationship of the catalyst and the idle mixture, slight adjustments to the idle mixture, which affect the air-fuel ratio to make it more "rich," will cause significant increases in CO emissions.

[6]In these vehicles, enriching the idle mixture was one way to improve drivability. Traditionally, this was a short cut used by mechanics to address drivability complaints.

[7]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

[8]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 888–89, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

[9]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 887, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

design and service procedures."[10] Furthermore, the court agreed that the record showed that Chrysler foresaw or should have foreseen the misadjustment problems.[11] Finally, the decision also discounted the argument that the cited design defects and maintenance procedure problems were not uncovered by EPA during the certification process; the Agency's failure to do so did not relieve Chrysler of its responsibilities under § 207(c).[12]

In summary, liability was premised on: (1) the actions of Chrysler as the principal cause of the nonconformity; (2) that Chrysler foresaw or should have foreseen the problem; and (3) that Chrysler failed to take available steps to obviate the nonconformity.[13]

In the years since Chrysler Corp. was decided, there have been multiple instances of the manufacturer disclosing and correcting defects. There have also been controversies involving disagreements between EPA and a manufacturer over whether an issue is an actual defect requiring recall, or whether the manufacturer acted swiftly to address a defect. A 2021 settlement between Toyota Motor Corporation and EPA stemmed from allegations that Toyota failed to timely file required defect reports for a period of 10 years. Apparently, Toyota did not agree that the issues merited a finding of defect during that period; EPA disagreed. The settlement, if approved by the U.S. District Court for the Southern District of New York, will require Toyota to pay a civil penalty of $180,000,000 and comply with the emissions defect reporting and voluntary emissions recall reporting requirements of the regulations.[14]

Chrysler Corp. heightens the dilemma created for the auto industry by the Agency's historical approach to standard setting, certification, and in-use compliance. In the early 1970s EPA placed nearly all of its emphasis on certification. In particular, decisions by EPA and Congress regarding the emission standards to be met by the industry were based on determinations of whether the vehicles could be certified to meet those standards. The ability of a vehicle to meet the standards in actual use for its useful life was not effectively evaluated during the standard setting deliberations in Congress or at EPA. The manufacturers, reacting to the emphasis of the Agency, placed their own priority on certification. As EPA came to recognize that certification was not necessarily a good indicator of in-use performance, it focused more closely on implementing the in-use enforcement provisions of the Act.

The consequence of Chrysler Corp. ostensibly is to place the burden on the manufacturer to, where possible, design its vehicles to withstand the effects of foreseeable in-use conditions. Since the 1980s, emission control systems have become increasingly sophisticated as emission standards became more stringent. Yet in-use driving conditions still may have dramatic effects on emissions performance. The Agency encountered a number of situations where the generally available unleaded gasoline in use had higher concentrations (although, within legal limits) of lead than the fuel used during certification. The higher lead concentrations cause just enough catalyst degradation to result in emission nonconformities. Nevertheless, the Agency's argument is that, regardless of the fuel used in certification, a

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[10]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 893, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

[11]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 894–95, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

[12]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 895, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

[13]Chrysler Corp. v. U.S. Environmental Protection Agency, 631 F.2d 865, 896, 10, 14 Env't. Rep. Cas. (BNA) 1647, 10 Envtl. L. Rep. 20595 (D.C. Cir. 1980).

[14]United States v. Toyota Motor Corporation et al, 1:21-cv-00323, (S.D.N.Y. Jan. 14, 2021).

manufacturer should foresee that lead concentrations in fuel may at least be at the legal limit, and design its emission controls to withstand those concentrations. The key to this rationale is that the manufacturer can control its design, even if it cannot control the amount of lead in unleaded gasoline.

Other issues have been raised, regarding the implementation of the recall program, which touch upon broad policy considerations. In one such issue, the Court of Appeals for the D.C. Circuit upheld the Agency's authority to require that vehicles subject to a recall order be repaired, even if the cars have exceeded their useful life,[15] so long as the recall determination was based on vehicles still within their useful life.[16] This reduces the incentive on the part of manufacturers to delay recall proceedings in the hope that more vehicles will fall out of the recall class.

In a related issue, in 1982 EPA approved a remedial repair plan submitted by General Motors that did not involve repair of 1979 Pontiacs subject to a recall order. Instead, General Motors agreed to be bound by a more stringent standard, both for certification *and* in-use, for a certain number of 1981 and future model year Pontiac vehicles. This plan would effectively "offset" the excess emissions of the 1979 vehicles. Public interest groups contested the approval of the offset plan, contending that the statute authorizes the Administrator to approve a plan only if it remedies or actually *repairs* the nonconformity in the class subject to the order. The U.S. Court of Appeals for the D.C. Circuit agreed, and rejected EPA's approval of the plan on those grounds in Center for Auto Safety v. Ruckelshaus.[17] In curiously ambiguous language, however, the Court stated that it was not considering the Agency's use of enforcement discretion in taking into account an offset commitment.[18] This language may suggest that the Agency could allow a manufacturer to implement an offset plan prior to issuing a formal recall order. It also can be argued, however, that once sufficient facts are available to warrant a recall determination, the statute places on the Agency a mandatory duty to issue a formal recall order. Under this reasoning, the Agency could not withhold such an order merely to avoid the statutory requirement of the submission of a remedial plan.

If the manufacturer does not recall its vehicle in response to a formal recall order, the Agency's recourse is to file a complaint in district court to enjoin the manufacturer's refusal to comply or to seek civil penalties. One way of permitting an offset plan would be to file such a complaint and then file a consent decree which settles the case through implementation of an offset plan. Such a decree would, of course, be subject to court review and comment by interested intervenors and court supervision.

The offset plan decision raises numerous public policy questions. On the one hand, it makes it more likely that a manufacturer will be forced to correct failures in its emission control systems and therefore take greater precautions to avoid such failures. On the other hand, it reduces the flexibility of EPA and the manufacturers to respond to situations where repair of the nonconforming class is not feasible or is so costly as to be infeasible, or is not likely to be effective for other reasons, such as where the vehicles are too old or the repair adversely affects fuel economy or drivability. These factors would tend to reduce the number of owners who might return their vehicles for repair, which would frustrate the purpose of the recall

[15]The useful life for vehicles is specified in Clean Air Act § 202(d), 42 U.S.C.A. § 7521(d).

[16]General Motors Corp. v. Ruckelshaus, 742 F.2d 1561, 21 Env't. Rep. Cas. (BNA) 1529, 14 Envtl. L. Rep. 20704 (D.C. Cir. 1984) (en banc).

[17]Center for Auto Safety v. Ruckelshaus, 747 F.2d 1, 21 Env't. Rep. Cas. (BNA) 1865, 14 Envtl. L. Rep. 20863 (D.C. Cir. 1984).

[18]Center for Auto Safety v. Ruckelshaus, 747 F.2d 1, 6, 21 Env't. Rep. Cas. (BNA) 1865, 14 Envtl. L. Rep. 20863 (D.C. Cir. 1984).

order.

§ 12:180 Compliance enforcement—Tampering

Section 203(a)(3) makes it unlawful for any person to knowingly render inoperative or remove any emission control device or to cause such acts.[1] Formerly, this provision applied only to manufacturers, but the 1977 amendments extended this proscription to auto mechanics and fleet owners.[2] Individual vehicle owners may also be held liable for tampering, regardless of whether the owner was aware of these efforts.

EPA has brought numerous cases against mechanics and fleet owners under this section. The Agency is not required to prove that the person engaged in the "tampering" knew that he or she was removing or rendering inoperative an emission control device, but only to show that the activity was a knowing activity; that is, that the person knew that the equipment in question was being removed or rendered inoperative.[3] Although § 203(a)(3) does not apply specifically to parts manufacturers, any "person" "causing" tampering is liable, and EPA has attempted to hold liable manufacturers of parts used to defeat emission controls, such as straight pipes used to replace catalytic converters. At least one appeals court has upheld the Agency's authority to proceed under an administrative search warrant to obtain a parts manufacturer's records.[4]

In late 2020, EPA issued two documents significant to these enforcement efforts. First, EPA's Office of Civil Enforcement issued a report detailing the large increase in NOx emissions from trucks that had been tampered with to remove or disable control equipment. The report, "Tampered Diesel Pickup Trucks: A Review of Aggregated Evidence from EPA Civil Enforcement Investigations,"[5] spells out the increasing number of vehicles that fall into this category and enumerates the many reasons why a truck owner might take such steps. In it, the Agency estimated more than 500,000 pickup trucks altered nationwide; this rendered useless the emission controls installed on these trucks by the original manufacturer, allowing more than 570,000 tons of excess NO_X emissions to be emitted over the lifetime of the tampered vehicles. The report was prepared to alert states to the increase in emissions from tampered vehicles that are likely hampering or even reversing states' efforts to attain NAAQs for ozone and particulates.

EPA that year also issued, for the first time, a guidance document explaining its view of the tampering prohibitions, titled "EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices under the Clean Air Act."[6] The 2020 policy, published in the Federal Register, constitutes what EPA deems a restatement of the enforcement discretion policies applicable to tampering.[7]

EPA is also ramping up enforcement of the tampering prohibitions by filing crim-

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[1]42 U.S.C.A. § 7522(a)(3).

[2]CAA §§ 203(a)(3)(B), 203(a)(4), 42 U.S.C.A. §§ 7522(a)(3)(B), 203(a)(4).

[3]U.S. v. Haney Chevrolet, Inc., 371 F. Supp. 381, 6 Env't. Rep. Cas. (BNA) 1442, 4 Envtl. L. Rep. 20474 (M.D. Fla. 1974).

[4]Ced's Inc. v. U.S. E.P.A., 745 F.2d 1092, 21 Env't. Rep. Cas. (BNA) 1843, 40 Fed. R. Serv. 2d 26, 14 Envtl. L. Rep. 20869 (7th Cir. 1984).

[5]EPA's report is available at https://www.epa.gov/sites/production/files/2021-01/documents/epaaedletterreportontampereddieselpickups.pdf.

[6]Prior to 2020, the only EPA guidance on the topic was released as an "Interim Tampering Enforcement Policy" on June 24, 1974, and had long since become outdated.

[7]85 Fed. Reg. 80782 (Dec. 14, 2020).

inal actions, in conjunction with DOJ, where evidence points to alleged criminal conspiracy to hide defeat devices from the regulators, or submitting false statements in violation of the statute.[8] EPA's theory of criminal liability in these cases is based on § 113(c), which prohibits tampering with or rendering inaccurate any monitoring device required under the statute.[9] Congress provided EPA explicit authority to take action for mobile source violations and recover civil penalties and administrative penalties; provisions for criminal penalties, however, are absent in Title II of the statute,[10] in contrast to the explicit authorization in § 113 (Title I) that allows EPA to assess a fine under Title 18 or seek imprisonment for up to five years, or both, for knowing violations.[11] Federal criminal actions for CAA violations also have included allegations of conspiracy to defraud and making false statements in order to obtain certificates of conformity.[12]

EPA has taken several dozen enforcement cases against manufacturers and sellers of these 'defeat devices,'[13] with all indications it plans to continue these efforts. Citizens groups are also acting to enforce federal and state tampering prohibitions. One such case was filed in 2017, when Utah Physicians for a Healthy Environment brought an action against Discovery Channel's Diesel Brothers for building and selling trucks without required emissions equipment.[14] The evidence presented in that case was amply and readily available on the Diesel Brothers' television show, which featured black smoke-spewing trucks. The federal judge not only found that UPHE had standing to sue, but that Diesel Brothers had violated the anti-tampering prohibitions of the statute. The judge imposed a penalty as a result.

§ 12:181 Nonroad vehicles and engines*

The terms "nonroad engine" and "nonroad vehicles" cover a diverse collection of equipment ranging from large farm and construction machinery to recreational vehicles to boats to small equipment like chainsaws and lawn mowers. Prior to the CAA 1990 amendments, EPA lacked explicit authority to regulate emissions from nonroad engines under Title II of the CAA, and, as a group, nonroad engines were the last uncontrolled mobile source.[1] Congress granted EPA authority to study and regulate nonroad emissions in the 1990 amendments, and the Agency adopted emission standards for all types of nonroad engines, equipment, and vehicles, including diesel and spark-ignition engines.[2]

The CAA defines "nonroad engine" to mean "an internal combustion engine

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[8]Examples include United States v. OE Construction (2018, D.Colo.); United States v. Rexer (4:18-cr-00174) (M.D.Pa. 2018).

[9]42 U.S.C.A. § 7413(c)(2)(C).

[10]CAA § 205, 42 U.S.C.A. § 7524.

[11]*See* Section 113(c), 42 U.S.C. § 7413(c).

[12]A recent example of these allegations may be found in the indictment of three employees of Fiat Chrysler in U.S. v. Emanuele Palma, Sergio Pacini, and Gianluca Sabbioni, Crim. No. 19-cr-20626 (E.D. Mich.)(filed Mar. 3, 2021).

[13]EPA's enforcement database can be found at https://www.epa.gov/enforcement/clean-air-act-vehicle-and-engine-enforcement-case-resolutions.

[14]Utah Physicians for a Healthy Environment v. Diesel Power Gear LLC, 374 F. Supp. 3d 1124 9D. Utah 2019).

[Section 12:181]

*By **Phillip R. Bower.**

[1]EPA, Office of Air & Radiation, EPA 460/3-91-02, Nonroad Engine and Vehicle Emission Study–Report (Nov. 1991) at vi.

[2]*See* https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-nonroad-vehicles-and-engines for links to applicable standards and guidance documents.

(including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under [42 U.S.C. § 7411 (Standards of performance for new stationary sources) or § 7521 (Emission standards for new motor vehicles or new motor vehicle engines)]."[3] The CAA defines "nonroad vehicle" to mean "a vehicle that is powered by a nonroad engine and that is not a motor vehicle or a vehicle used solely for competition."[4]

A. Statutory Authority

The 1990 amendments added § 213, which required EPA to study emissions from nonroad engines and nonroad vehicles (other than locomotives or engines used in locomotives) to determine if such emissions cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.[5] Based on the results of the study, EPA was required to determine whether emissions of CO, NOx, and VOCs from new and existing nonroad engines or nonroad vehicles are significant contributors to ozone or CO concentrations in nonattainment areas for ozone and CO.[6]

Upon making an affirmative determination, EPA was required to promulgate regulations containing standards applicable to emissions from those categories of new nonroad engines and new nonroad vehicles which cause, or contribute to, such air pollution.[7] The standards must achieve the greatest degree of emission reduction achievable through the application of technology which EPA determines will be available. EPA must give appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology.[8] Section 213 carved out locomotives and new engines used in locomotives from the study and associated determination, instead requiring EPA to promulgate regulations, within five years after November 15, 1990, containing standards applicable to emissions from new locomotives and new engines used in locomotives.[9]

B. Emission Standards

EPA completed the required study in 1991.[10] In a 1994 rulemaking, EPA concluded—based on the study results—that emissions from nonroad sources do contribute to ozone or CO concentrations in more than one ozone or CO nonattainment area. The Agency then adopted CO, HC, PM, NO_x, and smoke standards for new nonroad diesel engines greater than 50 horsepower, phasing the standards in from 1996 to 2000.[11] Throughout the 1990s and early 2000s, EPA continued to adopt more stringent Tier 2 and Tier 3 standards for new nonroad diesels and to expand the categories of engines covered.[12] In 2004, EPA adopted its Tier 4 standards for nonroad diesel engines, which covered engine categories from less than 25 horse-

[3] 42 U.S.C.A. § 7550(10).

[4] 42 U.S.C.A. § 7550(11).

[5] 42 U.S.C.A. § 7547(a)(1).

[6] 42 U.S.C.A. § 7547(a)(2).

[7] 42 U.S.C.A. § 7547(a)(3).

[8] 42 U.S.C.A. § 7547(a)(3).

[9] 42 U.S.C.A. § 7547(a)(5).

[10] EPA, Office of Air & Radiation, EPA 460/3-91-02, Nonroad Engine and Vehicle Emission Study–Report (Nov. 1991).

[11] 59 Fed. Reg. 31306 (June 17, 1994).

[12] *See, e.g.,* 63 Fed. Reg. 56968 (Oct. 23, 1998); 67 Fed. Reg. 68242 (Nov. 8, 2002).

power to greater than 750 horsepower.[13] As a result, EPA has now adopted emission standards for all types of nonroad engines, equipment, and vehicles: nonroad diesel,[14] nonroad spark,[15] land recreational,[16] marine,[17] MARPOL Protocol,[18] locomotive,[19] and aircraft.[20] Generally, courts upheld EPA's emission standards for nonroad sources.[21]

C. Greenhouse Gas Emission Standards for Aircraft

In 2015, under § 231(a), EPA proposed findings that GHG emissions from certain classes of engines used in aircraft contribute to the air pollution that causes climate change, endangering public health and welfare.[22] EPA finalized these findings in 2016, and noted that, as of 2014, aircraft remained the single largest GHG-emitting transportation source not yet subject to any GHG standards.[23] This triggered a requirement for EPA to promulgate standards addressing GHG emissions from engines on covered aircraft.[24]

In December 2020, EPA finalized its first greenhouse gas emissions regulations for airplanes.[25] The final rule aligns the United States with emissions standards set by the United Nations International Civil Aviation Organization (ICAO), which take effect in 2028. The rule also affects companies that manufacture civil subsonic jet airplanes that have a maximum takeoff mass (MTOM) of greater than 5,700 kilograms and civil subsonic propeller driven airplanes (e.g., turboprops) that have a MTOM greater than 8,618 kilograms, including the manufacturers of the engines used on these airplanes.[26]

EPA noted in the preamble to the final rule that the Agency was not projecting emission reductions associated with the regulations, because it expected that existing in-production airplanes that are non-compliant will either be modified and re-

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[13]69 Fed. Reg. 38958 (June 29, 2004).

[14]40 C.F.R. Parts 89 and 1039.

[15]40 C.F.R. Parts 90, 1048, and 1054.

[16]40 C.F.R. Part 1051.

[17]40 C.F.R. Parts 91, 94, 1042, and 1045.

[18]40 C.F.R. Part 1043.

[19]40 C.F.R. Parts 92 and 1033.

[20]40 C.F.R. Part 87.

[21]*See, e.g.,* Engine Mfrs. Ass'n v. U.S. E.P.A., 88 F.3d 1075, 42 Env't. Rep. Cas. (BNA) 1993, 26 Envtl. L. Rep. 21477 (D.C. Cir. 1996) (upholding Tier 1 standards for new nonroad diesel engines and decision to regulate engines in large mining equipment); Husqvarna AB v. E.P.A., 254 F.3d 195, 52 Env't. Rep. Cas. (BNA) 1673, 31 Envtl. L. Rep. 20867 (D.C. Cir. 2001) (upholding emission standards for handheld small SI engines); Bluewater Network v. E.P.A., 370 F.3d 1, 58 Env't. Rep. Cas. (BNA) 1715 (D.C. Cir. 2004) (upholding CO and HC emission standards for snowmobiles but not for NO_x emissions because EPA found snowmobiles did not contribute to ozone concentrations in nonattainment areas); Bluewater Network v. E.P.A., 372 F.3d 404, 58 Env't. Rep. Cas. (BNA) 1737 (D.C. Cir. 2004) (upholding emission standards for oceangoing vessels as reasonable despite challenges that more stringent standards could have been implemented); National Ass'n of Clean Air Agencies v. E.P.A., 489 F.3d 1221, 64 Env't. Rep. Cas. (BNA) 1609 (D.C. Cir. 2007) (denying petition for review of NOx emission standards for aircraft engines).

[22]80 Fed. Reg. 37758 (July 1, 2015).

[23]81 Fed. Reg. 54422, 54424 (Aug. 15, 2016).

[24]42 U.S.C.A. § 7571(a)(2)(A) and (3).

[25]*See* Prepublication version of final rule available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/control-air-pollution-airplanes-and-airplane-engines-ghg (last visited January 9, 2021).

[26]*See* Prepublication version of final rule available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/control-air-pollution-airplanes-and-airplane-engines-ghg (last visited January 9, 2021).

certificated as compliant, will likely go out of production before the production compliance date of January 1, 2028, or will seek exemptions from the GHG standard.[27] However, EPA felt that the regulations would prevent backsliding by ensuring that all new type design and in-production airplanes were at least as efficient as current airplanes.[28]

D. Preemption

Section 209(e) prohibits all states from adopting or enforcing standards or other requirements relating to the control of emissions from new nonroad engines used in construction equipment, vehicles or farm equipment or vehicles which are smaller than 175 horsepower, or new locomotives or new engines used in locomotives.[29] For other new or used nonroad engines or vehicles,[30] EPA may authorize California to adopt and enforce standards and other requirements relating to the control of emissions from such vehicles or engines if those standards will be, in the aggregate, at least as protective of public health and welfare as applicable federal standards.[31] EPA must grant the waiver unless it finds that the California determination was arbitrary and capricious, or that California does not need such standards to meet compelling and extraordinary conditions.[32] Other states may adopt and enforce the California standards after notice to EPA.[33] EPA promulgated nonroad preemption rules which outline the procedures for waiver of federal preemption.[34]

The CAA also states standards for aircraft engines are preempted.[35] CAA § 233 states that no state may adopt or attempt to enforce any standard respecting emissions of any air pollutant from any aircraft or engine unless the standard is identical to federal standards.[36] The CAA does not authorize a waiver of preemption for aircraft engines for California or other states.

E. Enforcement

Congress also added § 213(d) in 1990. This section provided that nonroad engine standards and their implementing regulations be enforced in the same manner as motor vehicles.[37] EPA subsequently promulgated regulations addressing enforcement for nonroad engines.[38]

Generally, the enforcement process begins with the testing of engines by manufacturers and the issuance of a certificate of conformity by EPA once testing is

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[27]*See* Prepublication version of final rule available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/control-air-pollution-airplanes-and-airplane-engines-ghg (last visited January 9, 2021).

[28]*See* Prepublication version of final rule available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/control-air-pollution-airplanes-and-airplane-engines-ghg (last visited January 9, 2021).

[29]42 U.S.C.A. § 7543(e).

[30]Engine Mfrs. Ass'n v. U.S. E.P.A., 88 F.3d 1075, 42 Env't. Rep. Cas. (BNA) 1993, 26 Envtl. L. Rep. 21477 (D.C. Cir. 1996) (holding that CAA § 209(e)(2) authorizes California to adopt standards for nonroad engines that are not expressly preempted applies to new and used nonroad engines).

[31]42 U.S.C.A. § 7543(e)(2)(A).

[32]42 U.S.C.A. § 7543(e)(2)(A).

[33]42 U.S.C.A. § 7543(e)(2)(B).

[34]40 C.F.R. Part 1074 and Part 89, Subpart A, Appendix A.

[35]42 U.S.C.A. § 7573.

[36]42 U.S.C.A. § 7573.

[37]42 U.S.C.A. § 7547(d).

[38]*See* 40 C.F.R. Part 89 and Part 1068.

successfully completed and EPA approves the results.[39] New nonroad engines, vehicles, and equipment must contain an engine covered by a certificate of conformity before the engine, vehicle, or equipment is introduced into commerce or imported into the United States.[40] EPA may also conduct selective auditing of a sample of new engines or vehicles coming off an assembly line.[41] EPA may order a manufacturer to recall engines or vehicles if EPA determines a substantial number do not comply with the standards when in actual use throughout their actual life when properly maintained and used.[42] The manufacturer of a nonroad engine must warrant to the ultimate and subsequent purchasers that the engine is designed, built, and equipped so as to conform at the time of sale with applicable regulations under § 213, and that it is free from defects in materials and workmanship which cause such engine to fail to conform with applicable regulations for its warranty period.[43]

Common enforcement issues relating to nonroad engines include:[44] illegal importation of engines which do not have a certificate of conformity or violate emission standards,[45] prohibited tampering with devices installed on the engine to meet emission standards,[46] and the prohibited installation of defeat devices which bypass, defeat, or render inoperative a device or element of the engine installed to meet emission standards.[47]

Categories of Nonroad Equipment

Regulated nonroad equipment includes many types of self-propelled and portable equipment with internal combustion engines that are not typically used on the highway. Examples of nonroad equipment can include:

- **Heavy Equipment**—cranes, bulldozers, excavators, other construction equipment, mining equipment, forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors
- **Agricultural Equipment**—tractors, combines, sprayers, and other agricultural equipment
- **Recreational vehicles**—snowmobiles, off-highway motorcycles (dirt bikes), all-terrain vehicles (ATVs), utility task vehicles (UTVs)
- **Small Equipment and Tools**—lawnmowers, chainsaws, snow blowers, trimmers, portable generators
- **Marine Equipment**—motorboats, personal watercraft, ships
- **Locomotives**
- **Aircraft**

XVI. REGULATION OF FUELS AND FUEL ADDITIVES*

§ 12:182 Fuels and fuel additives—Introduction

The Clean Air Act's (CAA's) regulation of fuels and fuel additives complements its

[39]40 C.F.R. Part 89, subparts B, D, and E.

[40]40 C.F.R. § 89.1003(a).

[41]40 C.F.R. Part 89, subpart F.

[42]40 C.F.R. Part 89, subpart H.

[43]40 C.F.R. § 89.1007.

[44]Some examples of EPA enforcement actions may be found at https://www.epa.gov/enforcement/air-enforcement#engines and https://www.epa.gov/enforcement/clean-air-act-vehicle-and-engine-enforcement-case-resolutions.

[45]42 U.S.C. § 7522(a)(1).

[46]42 U.S.C. § 7522(a)(3)(A).

[47]42 U.S.C. § 7522(a)(3)(B).

*By **Robert A. Weissman, Matthew A. Low,** and **Norman D. Shutler;** updates prior to Fall 2021 by **Robert A. Weissman** and **Roger Fairchild;** subsequent revisions by **Jonathan Martel, Sarah Grey,** and **Margaret Barry.**

regulation of vehicles and engines. Fuels are materials "capable of releasing energy or power by combustion or other chemical or physical reaction";[1] an additive is a substance not composed solely of carbon and/or hydrogen that is added to a fuel or to a motor vehicle fuel system and that is not intentionally removed prior to sale or use.[2] The organic chemical compounds in conventional fuels combust in the engine and result in tailpipe emissions, or they evaporate into the air before combustion. Both tailpipe and evaporative emissions may react in the atmosphere to create other pollutants such as ozone and secondary particulate matter. Additives can introduce additional chemical compounds that also affect combustion and emissions.

Congress has, through amendments to the CAA, periodically mandated new regulation of fuels and fuel additives to address specific air quality issues. For example, EPA first focused on the gradual phasedown of lead-based gasoline on the understanding that lead would interfere with the effectiveness of catalytic converter technology and adversely impact emissions from vehicles.[3] In the 1990 CAA Amendments, Congress required EPA to promulgate regulations further controlling fuel quality, including more stringent restrictions on the sulfur content of diesel and reductions in gasoline volatility, as well as the establishment of a regulatory program for reformulated gasoline.[4] The driving force behind this significant expansion in fuels regulation was an increased focus on achieving the National Ambient Air Quality Standards (NAAQS) for ozone and carbon monoxide (CO) and establishing a framework for controlling toxic air pollutants such as benzene and 1,3-butadiene.[5]

Two key developments have occurred since enactment of the 1990 CAA Amendments. First, EPA has focused more heavily on a systems-based approach to regulation of both fuels and vehicles in order to achieve emissions and air quality goals. Second, with the Energy Policy Act of 2005, and expanded with the Energy Independence and Security Act of 2007, Congress required blending of renewable fuel into transportation fuel.[6] This Renewable Fuel Standard (RFS) has since become one of the most heavily litigated aspects of fuels regulation.[7]

Overview of Clean Air Act Fuels Provisions (Section 211, 42 U.S.C. § 7545)

Subsection	Topic
211(a)	EPA authority to require fuel and fuel additive registration
211(b)	Substantive requirements of registration
211(c)	EPA authority to control or prohibit fuels or fuel additives
211(d)	Enforcement authorities
211(e)	Requirement for EPA to promulgate regulations to implement § 211(b)(2)(A) and (B)
211(f)	Requirements for new fuels and fuel additives
211(g)	Misfueling prohibitions (lead and sulfur)

[Section 12:182]

[1]40 C.F.R. § 79.2(c).

[2]40 C.F.R. § 79.2(e).

[3]*See* 38 Fed. Reg. 33734 (Dec. 6, 1973).

[4]*See* Pub. L. No. 101-549, §§ 216, 217, 219, 104 Stat. 2399, 2489 to 500 (codified at 42 U.S.C. § 7545(h), (i), (k)).

[5]*See* Waxman et al., *Cars, Fuels, and Clean Air: A Review of Title II of the Clean Air Act Amendments of 1990*, 21 ENVTL. L. 1947, 1972–90 (1991) (discussing how lead phase-down had led to increase in ozone-forming and toxic constituents in gasoline and addressing how 1990 CAA Amendments' fuel provisions would reduce emissions of ozone-forming volatile organic compounds, toxic air pollutants, and carbon monoxide).

[6]Pub. L. No. 110-140, 121 Stat. 1492; Pub. L. No. 109-58, 119 Stat. 594.

[7]See discussion of litigation in § 12:189, Renewable Fuel Standard.

Subsection	Topic
211(h)	Volatility/Reid Vapor Pressure requirements
211(i)	Sulfur content requirements for diesel fuel
211(j)	Program for evaluating lead substitute gasoline additives
211(k)	Reformulated gasoline program
211(l)	Detergent additives requirement
211(m)	Oxygenated fuel requirements
211(n)	Prohibition on sale of leaded gasoline for highway vehicles
211(o)	Renewable fuel program
211(q) and (v)	Requirements for studies of renewable fuel program's impacts on air quality

§ 12:183 Fuels and fuel additives—Statutory framework

The regulation of fuels and fuel additives for use in motor vehicles is governed by § 211 of the CAA.[1] These provisions establish a broad statutory framework for regulating the direct and indirect contributions of fuels and fuel additives to the air quality problems the CAA is designed to address. Before turning in more depth to EPA's regulatory programs, a brief overview of the statutory framework is helpful.

First, § 211(a), first enacted in 1967,[2] establishes a registration requirement as a prerequisite to manufacturing fuels or fuel additives and introducing them into commerce. The substantive requirements of registration are established in § 211(b); namely, that the manufacturer must provide the commercial name and composition of the fuel or fuel additive.[3] EPA must also require health effects testing,[4] as well as additional information relevant to determining emissions that result from use of a fuel or fuel additive.[5] The failure of EPA to implement § 211(b)(2)(A) and (B) strictures concerning health effects testing protocols and analytical emissions determinations led Congress, in the 1977 CAA Amendments, to add § 211(e).[6] Section 211(e) required the Administrator to promulgate regulations under the authority of § 211(b)(2)(A) and (B) for fuels and fuel additives already registered, as well as for any new fuel or additive prior to registration.

Section 211(c) provides EPA with general authority to control or prohibit a fuel or

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[Section 12:183]

[1]42 U.S.C. § 7545.

[2]Air Quality Act of 1967, Pub. L. No. 90-148, § 2, 81 Stat. 485, 502 (authorizing Secretary of Health, Education, and Welfare to require registration of fuels as a condition to their introduction into commerce (originally codified in § 210)).

[3]42 U.S.C. § 7545(b)(1)(A) to (B).

[4]*See* 42 U.S.C. § 7545(b)(2)(A). The statute requires that health effects testing include carcinogenic, teratogenic, and mutagenic effects, but detailed testing requirements for registration were not adopted until 1994. *See* 59 Fed. Reg. 33042 (June 27, 1994). They are found in 40 C.F.R. §§ 79.50 to 79.68. EPA uses a three-tiered system for testing, with the first tier involving existing data from available scientific literature, a second tier that includes basic biological testing, and potentially a third tier of additional testing depending on the results of the first two tiers. The testing rule also allows "grouping" so that manufacturers of similar fuels and additives can share costs by using testing for one product for similar products. *See* Martel, *The Explosion of Clean Air Act Regulation of Fuels*, 25 ENVTL. L. REP. 10538, 10539 (1995).

[5]*See* 42 U.S.C. § 7545(b)(2)(B) (providing that EPA shall require manufacturers of fuel and fuel additives "to furnish the description of any analytical technique that can be used to detect and measure any additive in such fuel, the recommended range of concentration of such additive, and the recommended purpose-in-use of such additive, and such other information as is reasonable and necessary to determine the emissions resulting from the use of the fuel or additive contained in such fuel, the effect of such fuel or additive on the emission control performance of any vehicle, vehicle engine, nonroad engine or nonroad vehicle, or the extent to which such emissions affect the public health or welfare").

[6]42 U.S.C. § 7545(e).

fuel additive on one of two bases. First, EPA may regulate on the basis that the emission products of a fuel or fuel additive cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare—that is, the existence of a direct effect on health or welfare.[7] Second, EPA may promulgate regulations on the basis that the emission products of a fuel or additive will impair emission controls already in use, or that would be in use in a reasonable period of time were such regulations promulgated.[8] Congress preempted state regulation of characteristics or components of a fuel or fuel additive in a motor vehicle or engine where EPA has regulated a particular characteristic or component, or has determined that no such action is necessary.[9]

Section 211(f), as contrasted with § 211(c), shifts the burden to a fuel manufacturer to establish, prior to introducing a new fuel or fuel additive into commerce, that it does not have adverse impacts on air pollution. Manufacturers may not introduce new fuels or additives into commerce or increase an additive's concentration in a fuel unless the fuel or additive is "substantially similar" to any fuel or additive used in the certification testing of vehicles and engines—referring to the certification testing that is required to demonstrate that a vehicle or engine will comply with applicable emission standards.[10] EPA has issued a series of interpretive rules specific to gasoline, establishing what constitutes substantial similarity for purposes of § 211(f).[11] A waiver provision allows a manufacturer to introduce a new fuel or fuel additive. Under this provision, the manufacturer must first establish, to EPA's satisfaction, that the new fuel or additive—or an increased concentration of an additive, as well as the emission products of the fuel or additive—will *not* cause or contribute to a vehicle's failure to comply, over its useful life, with the emissions standards to which the vehicle is certified.

As noted above, the 1990 CAA Amendments broadly expanded the fuels program. Section 211(h) codified and increased the stringency of EPA's regulation of gasoline volatility, while § 211(i) codified EPA's regulation of the sulfur content of diesel fuel. Other 1990 provisions mandated entirely new regulatory programs. The expansive § 211(k) required EPA to establish a new reformulated gasoline program to reduce emissions of volatile organic compounds (VOCs) and toxic air pollutants. The less-detailed § 211(l) mandates that gasoline contain detergent additives. Section 211(m)—another highly specific provision—imposes requirements for use of oxygenated gasoline in carbon monoxide nonattainment areas during winter months. The 1990 amendments also continued the phase-out of lead in fuels; this included a prohibition on the sale of leaded gasoline for use in highway vehicles, codification of the regulatory prohibition on using leaded gasoline to fuel vehicles designed for the use of unleaded gasoline, and a program for evaluating lead substitute gasoline additives.[12]

The Energy Policy Act of 2005 added the RFS program in § 211(o), mandating that gasoline contain a certain volume of renewable fuel. The Energy Independence and Security Act amended the RFS program in 2007, expanding it to cover additional transportation fuels. Other subsections require EPA to evaluate the RFS program's impacts on air quality.[13]

The following sections examine EPA's key fuels regulatory programs in more

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[7] 42 U.S.C. § 7545(c)(1).

[8] 42 U.S.C. § 7545(c)(1)(B).

[9] 42 U.S.C. § 7545(c)(4)(A).

[10] 42 U.S.C. § 7545(f)(1).

[11] These interpretive rules are cited in § 12:186.

[12] 42 U.S.C. § 7545(g), (j), (n).

[13] 42 U.S.C. § 7545(q), (v).

detail.

§ 12:184 Fuels and fuel additives—Registration

The registration program for fuels (motor vehicle gasoline and diesel fuel) and fuel additives is set forth in 40 C.F.R. part 79.[1] Portions of the part 79 regulations essentially mirror the requirements of § 211(b).[2] For example, the manufacturer of a fuel must provide the commercial name of the fuel, the name of any additive manufacturer for additives in the fuel, and the concentration and purpose of any additive. Additionally, an additive manufacturer must supply the chemical composition of the additive.[3] Manufacturers must also provide information on analytical techniques to detect and measure the concentration of additives,[4] as well as information on emissions and on toxicity and other public health or welfare effects "to the extent such information is known."[5]

The regulations include extensive testing requirements of fuels and fuel additives. These are intended to provide EPA sufficient information for the Agency to determine whether it should regulate characteristics of fuels and additives under § 211(c).[6] Notably, in 1997, EPA excluded oxygenate blenders and other downstream parties from the definition of fuel manufacturers. This was due to the Agency finding that, since the oxygenate manufacturers themselves already met the testing requirements, imposing testing requirements on the many entities who merely added the same oxygenate to fuel yielded little incremental information.[7]

§ 12:185 Fuels and fuel additives—Health-based standards and standards based on effect on emission controls under Section 211(c)

The Administrator is authorized to regulate fuels or fuel additives that may reasonably be anticipated to endanger public health or welfare based on their causing or contributing to air or water pollution. In exercising its authority under this provision, EPA must consider all relevant medical and scientific evidence, including consideration of other technologically and economically feasible means of achieving motor vehicle emissions standards under § 202.[1]

EPA may also promulgate regulations if emission products of the fuel or additive will significantly impair the performance of motor vehicle emissions control equipment that is in general use, or that has been developed and would be in general use

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[Section 12:184]

[1]40 C.F.R. §§ 79.1 to 79.68. Manufacturers of fuels and some fuel additives are also subject to registration requirements in part 1090. *See* 40 C.F.R. §§ 1090.1(c) (cross-referencing part 79's requirements for registration of fuel and fuel additives), 1090.105 (fuel quality requirements for fuel manufacturers), 1090.155 (fuel quality requirements for fuel additive manufacturers), 1090.800 to 1090.820 (registration requirements for fuel quality program).

[2]42 U.S.C. § 7545(b).

[3]40 C.F.R. §§ 79.1 to 79.68, 1090.800 to 1090.820.

[4]40 C.F.R. § 79.11(e).

[5]40 C.F.R. §§ 79.31(d), 79.32(d), 79.33(d).

[6]40 C.F.R. §§ 79.11(j), 79.21(i), 79.50 to 79.68.

[7]62 Fed. Reg. 12564, 12566 (1997).

[Section 12:185]

[1]42 U.S.C. § 7545(c)(2)(A). Section 202, 42 U.S.C. § 7521, is discussed in Sections 12:172 and 12:174 of this chapter. Section 202 provides EPA with its authority to set emission standards for new motor vehicles and new motor vehicle engines.

if the fuel or additive were regulated.[2] However, EPA must first publish certain findings, demonstrating consideration of available scientific and economic data. The data considered must include a cost benefit analysis comparing emission control devices or systems that would be used with the proposed regulation in place with emission control devices or systems without the proposed controls.[3]

EPA must also find that any proposed prohibition on the marketing of a fuel or additive will not result in the use of another fuel or fuel additive "which will endanger the public health or welfare to the same or greater degree than the use of the fuel or fuel additive proposed to be prohibited."[4] These findings, however, do not need to be " 'specific' in the sense of being detailed or voluminous."[5]

EPA has used § 211(c)'s general authority to regulate fuels and fuel additives to phase down the use of leaded gasoline. Indeed, substantial concerns over leaded gasoline motivated enactment of the provision. EPA first adopted regulations that banned leaded gasoline to avoid harm to vehicles with catalytic converters, and required gasoline retailers to sell unleaded gasoline.[6] EPA subsequently adopted, over a number of years, regulations that required reductions in the lead content of gasoline in order to address the health effects of lead emissions.[7] This phasedown was completed after Congress enacted § 211(n), banning the sale of leaded gasoline after December 31, 1995, followed by EPA promulgating a rule prohibiting such gasoline for use in motor vehicles.[8]

EPA's next major rule under § 211(c) limited volatility of gasoline to reduce emissions of hydrocarbons, which contribute to ozone formation. EPA established a two-phase program to reduce gasoline volatility, as measured in pounds per square inch (psi) of Reid vapor pressure (RVP), nationwide.[9] EPA established the basic framework for its volatility program in the first phase in 1989; this framework took a state-by-state approach.[10] EPA next promulgated a second phase of volatility standards in 1990.[11] In Phase II, EPA set gasoline RVP standards at 7.8 psi or 9.0 psi (depending on the state and month), with most states having a standard set at 9.0. The standard set for southern and certain other states was 7.8 psi. Shortly thereafter, the 1990 CAA Amendments codified this approach in a new § 211(h), mandating that EPA regulations prohibit the sale of gasoline with an RVP above 9.0 psi during the high-ozone season (as defined by the EPA administrator) but for only the 48 contiguous states and the District of Columbia. The statutory provision included a 1 psi allowance for gasoline-ethanol blends, included in EPA's regulations, to account

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[2]42 U.S.C. § 7545(c)(1)(B).

[3]*See* 42 U.S.C. § 7545(c)(2)(B); Amoco Oil Co. v. Environmental Protection Agency, 501 F.2d 722, 728, 732, 6 Env't. Rep. Cas. (BNA) 1481, 4 Envtl. L. Rep. 20397 (D.C. Cir. 1974).

[4]42 U.S.C. § 7545(c)(2)(C).

[5]According to the D.C. Circuit, the Agency need not publish distinct findings with respect to every judgment made in the course of the regulations: "By showing that the fuel regulation is necessary to meet the Section 202 schedule for reduced emissions, and that the proposed regulation will not cause use of an equally harmful fuel or additive, the Administrator's statement has, in our judgment, met the 'findings' requirements in Section 211(c)(2)(B) and (C)." *Amoco Oil Co.*, 501 F.2d at 734, 4 ELR at 20405.

[6]38 Fed. Reg. 1254 (Jan. 10, 1973). EPA adopted these regulations under § 211(c)(1)(B).

[7]50 Fed. Reg. 9386 (Mar. 7, 1985); 47 Fed. Reg. 49322 (Oct. 29, 1982); 38 Fed. Reg. 33734 (Dec. 6, 1973). EPA adopted these regulations under § 211(c)(1)(A).

[8]61 Fed. Reg. 3832 (Feb. 2, 1996).

[9]Alaska and Hawaii were not included, on the basis that ozone pollution does not present a problem in these states, and they have independent gasoline supply networks. *See* 52 Fed. Reg. 31274, 31305 n.20 (Aug. 19, 1987).

[10]54 Fed. Reg. 11868 (Mar. 22, 1989).

[11]55 Fed. Reg. 23658 (June 11, 1990).

for the greater volatility of gasoline-ethanol blends containing 10% ethanol. In 2019, EPA interpreted this provision to apply the 1 psi allowance to ethanol blends containing up to 15% ethanol (E15).[12] In 2021, the D.C. Circuit held that this interpretation was at odds with the statute and vacated the application of the 1 psi allowance to E15.[13]

EPA additionally used its § 211(c) authority to reduce the sulfur content of diesel fuel, just two months before the 1990 amendments codified the requirements in § 211(i).[14] EPA also has regulated the sulfur content of gasoline under § 211(c), first in conjunction with Tier 2 standards promulgated in 2000 for passenger vehicles,[15] and then with Tier 3 standards promulgated in 2014 for passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles.[16] Both the Tier 2 and Tier 3 rules employed a "systems approach" with requirements for both emissions control technology and gasoline sulfur content. The Tier 3 standards phased in a reduction in the sulfur content of gasoline from an annual average of 30 ppm to an annual average of 10 ppm. The 10 ppm requirement went into effect on January 1, 2017, but EPA granted small refiners and small volume refineries three additional years to comply. The Tier 3 rule also included an "averaging, banking, and trading" program that allowed refiners and importers to bank credits for early compliance and then rely on nationwide averaging to meet the 10 ppm standard.[17]

In addition to EPA's regulation of the sulfur content of gasoline under its Tier 3 motor vehicle rule, EPA has also adopted regulations limiting diesel sulfur content for Category 3 large marine engines. In 2010, EPA promulgated this rule to address the largest marine diesel engines that are primarily used in oceangoing vessels. Like the Tier 2 and Tier 3 approach, this rule also combined technological engine requirements with new fuel standards.[18] The rule generally prohibits production and sale of marine fuel oil above 1,000 ppm sulfur unless alternative methods are used to achieve equivalent emissions, such as scrubbers used in on-ship emissions control equipment and systems.

In 2007, EPA relied on § 211(c) in conjunction with § 202(l)(2) to issue a benzene standard for gasoline. This constituted part of the Agency's final rule regulating mobile source air toxics (MSATs).[19] EPA limited the benzene content of gasoline to an annual refinery average of 0.62% by volume, beginning in 2011. EPA also established a maximum annual average benzene standard for refineries of 1.3% by volume beginning on July 1, 2012. This maximum average limit applies when refiners use credits to meet the 0.62% standard.[20]

§ 12:186 Fuels and fuel additives—Preemption

Section 211(c)(4) generally preempts a state from prescribing or enforcing its own regulation of a fuel or fuel additive if EPA has promulgated a control or prohibition, or has published a finding that no control is necessary. The statute sets out three exceptions:

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[12]84 Fed. Reg. 26980 (June 10, 2019).

[13]American Fuel & Petrochemical Manufacturers v. Environmental Protection Agency, 3 F.4th 373 (D.C. Cir. 2021).

[14]55 Fed. Reg. 34120 (Aug. 21, 1990).

[15]65 Fed. Reg. 6698 (Feb. 10, 2000).

[16]79 Fed. Reg. 23414 (Apr. 28, 2014).

[17]*See* 79 Fed. Reg. at 23480 to 81.

[18]75 Fed. Reg. 22896 (Apr. 30, 2010).

[19]72 Fed. Reg. 8428 (Feb. 26, 2007).

[20]40 C.F.R. § 80.1230(b)(1).

1) The state control is identical to the federal control;[1]
2) The state has received a waiver of preemption under § 209 for motor vehicle standards;[2] or
3) The state control is part of a state implementation plan under § 110,[3] and EPA finds that the control is necessary to achieve the relevant ambient air quality standard.[4]

In *Exxon Corporation v. City of New York*,[5] the Second Circuit addressed the applicability of these exceptions to New York City regulations controlling lead content of gasoline and gasoline volatility. With respect to lead content, the federal controls, promulgated in 1976, were not applicable until 1978. The court held that where the federal *regulation* imposing the controls became effective in 1976 (and thus created substantive obligations), preemption was already in effect.[6] The court noted that the City's regulations were not identical to the federal regulations since they were "more demanding as to both lead content and the time limitations" and similarly pointed out that New York had not received a waiver of preemption and that the local regulation had not been made part of a state implementation plan. The court also found that New York's volatility regulation was preempted, notwithstanding the absence of a federal volatility control.[7] The court appeared to rely on EPA's labeling of the regulation, which read "this part prescribes regulations for the control and/or prohibition of fuels and additives for use in motor vehicle and motor vehicle engines," apparently inferring an Agency intent to preempt all state regulation of any aspects of fuel and fuel additives.[8] In the 1990 CAA Amendments, Congress modified § 211(c)(4)—presumably, to reverse this decision.[9] As amended, this section limits preemption to the control or prohibition of "any characteristic or component of a fuel" if EPA has found that no control or prohibition "of the characteristic or component" is necessary, or if EPA has prescribed a control or prohibition applicable to "such characteristic or component of a fuel or fuel additive."

§ 12:187 Fuels and fuel additives—Fuel waivers

Congress added § 211(f) to the CAA in 1977 due to its concern that § 211(c) "could not adequately protect emission systems currently in use from the possible deterioration caused by MMT [a manganese compound used as an octane enhancer], or other new fuels or additives, due to the delay associated with procedural safeguards

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[Section 12:186]

[1]CAA § 211(c)(4)(A)(ii), 42 U.S.C. § 7545(c)(4)(A)(ii).

[2]CAA § 211(c)(4)(B), 42 U.S.C. § 7545(c)(4)(B) (only California qualifies). *See* Union Oil Co. of California v. U.S. E.P.A., 821 F.2d 678, 26 Env't. Rep. Cas. (BNA) 1215, 17 Envtl. L. Rep. 21020 (D.C. Cir. 1987).

[3]CAA § 110, 42 U.S.C. § 7410.

[4]CAA § 211(c)(4)(C), 42 U.S.C. § 7545(c)(4)(C).

[5]Exxon Corp. v. City of New York, 548 F.2d 1088, 9 Env't. Rep. Cas. (BNA) 1670, 7 Envtl. L. Rep. 20130 (2d Cir. 1977).

[6]Exxon Corp. v. City of New York, 548 F.2d 1088, 1092, 9 Env't. Rep. Cas. (BNA) 1670, 7 Envtl. L. Rep. 20130 (2d Cir. 1977).

[7]Exxon Corp. v. City of New York, 548 F.2d 1088, 1095, 9 Env't. Rep. Cas. (BNA) 1670, 7 Envtl. L. Rep. 20130 (2d Cir. 1977) ("The City has added a control or prohibition . . . more onerous than that provided by the Administrator."). In addition, the court noted that the volatility requirements had not been incorporated in a state implementation plan.

[8]Exxon Corp. v. City of New York, 548 F.2d 1088, 9 Env't. Rep. Cas. (BNA) 1670, 7 Envtl. L. Rep. 20130 (2d Cir. 1977).

[9]Pub. L. No. 101-549, § 213, 104 Stat. 2399, 2488.

required in section 211(c) proceedings."[1] Section 211(f) shifts the burden to the manufacturer of a new fuel or additive to show that the fuel or additive is compatible with applicable emission standards.

Section 211(f)(1) prohibits the first introduction into commerce, or increase in concentration, of a fuel or additive—for use in 1975 or later model light-duty vehicles—that is not substantially similar to a fuel or additive used in certifying a 1975 or later model year vehicle.[2] EPA has promulgated a series of interpretive rules defining what is "substantially similar" for gasoline, including most recently in 2019 for the allowable RVP of gasoline containing 15% ethanol (E15). However, EPA has not promulgated interpretive rules defining "substantially similar" as applied to other fuels.[3]

Section 211(f)(4) allows EPA to waive the prohibition contained in § 211(f)(1), but only if it determines that the applicant has established that the fuel or additive does not cause or contribute to a failure to achieve compliance with emission standards during its regulatory useful life period (even if emissions rise slightly).[4] In making such a determination, the Administrator may, on the basis of evidence allowing it to rule out long-term deteriorative effects, grant the waiver without requiring durability tests.[5] However, once EPA establishes specific statistical criteria for determining whether a fuel or fuel additive will cause a vehicle to exceed the standards to which it was certified, the Agency cannot deviate from those criteria, absent the articulation of an adequate rationale.[6] Moreover, the Administrator may not deny a waiver on the basis of adverse health effects, if the waiver applicant has demonstrated that the fuel or fuel additive will not cause a vehicle to exceed its standards.[7] In 2010, after an initial focus on waivers for other additives, EPA partially granted a waiver allowing for E15 for use in newer vehicles. This "E15 waiver"[8] survived judicial scrutiny on standing grounds.[9]

EPA lacks authority to revoke the waiver, once granted. The Agency is limited to

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[Section 12:187]

[1]Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. E.P.A., 768 F.2d 385, 390 n.7, 22 Env't. Rep. Cas. (BNA) 2209, 15 Envtl. L. Rep. 20762 (D.C. Cir. 1985).

[2]CAA § 211(f)(1), 42 U.S.C. § 7545(f)(1) (prohibition took effect March 31, 1977; the certification is under section 206 of the Act).

[3]*See* 45 Fed. Reg. 67443 (Oct. 10, 1980); 46 Fed. Reg. 38582 (Jul. 28, 1981); 56 Fed. Reg. 5352 (Feb. 11, 1991); 73 Fed. Reg. 22277 (Apr. 25, 2008); 84 Fed. Reg. 26980 (Jun. 10, 2019).

[4]Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. E.P.A., 768 F.2d 385, 390, 22 Env't. Rep. Cas. (BNA) 2209, 15 Envtl. L. Rep. 20762, 20764 (D.C. Cir. 1985).

[5]Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. E.P.A., 768 F.2d 385, 390, 392, 22 Env't. Rep. Cas. (BNA) 2209, 15 Envtl. L. Rep. 20762, 20764 (D.C. Cir. 1985). The court declined to speculate as to the precise circumstances that might permit EPA to grant a waiver in the absence of durability data. Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. E.P.A., 768 F.2d 385, 390, 393 n.13, 22 Env't. Rep. Cas. (BNA) 2209, 15 Envtl. L. Rep. 20762, 20764 (D.C. Cir. 1985).

[6]Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. E.P.A., 768 F.2d 385, 390, 400, 22 Env't. Rep. Cas. (BNA) 2209, 15 Envtl. L. Rep. 20762, 20764 (D.C. Cir. 1985). The court thus appeared to endorse the use of a statistical test that requires less than a showing of every vehicle continuing to meet standards when operated on the fuel or fuel additive. Under EPA's program, the test is designed to provide a 90% probability of failure of the test if 25% or more of the vehicle fleet tested would fail to meet emission standards using the waiver fuel or additive. Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. E.P.A., 768 F.2d 385, 390, 399, 22 Env't. Rep. Cas. (BNA) 2209, 15 Envtl. L. Rep. 20762, 20764 (D.C. Cir. 1985). If the test uses a 16-car test fleet, one vehicle could fail to meet the standards and the test would still be passed.

[7]Ethyl Corp. v. E.P.A., 51 F.3d 1053, 40 Env't. Rep. Cas. (BNA) 1641, 25 Envtl. L. Rep. 20817 (D.C. Cir. 1995).

[8]77 Fed. Reg. 68094 (Nov. 4, 2010).

[9]*See* Grocery Mfrs. Ass'n v. E.P.A., 693 F.3d 169 (D.C. Cir. 2012).

acting only to control or prohibit the fuel or additive under § 211(c), if warranted under that section.[10]

§ 12:188 Fuels and fuel additives—Reformulated gasoline: From the CAA Amendments of 1990 to 2020 Regulatory Streamlining

Section 12:182 noted the 1990 CAA Amendments added § 211(k), which required EPA to set standards for "reformulated gasoline." Reformulated gasoline (RFG) is the popular name given to gasoline that has been blended so as to reduce emissions; RFG can be used by standard motor vehicle gasoline engines. Congress required the sale of reformulated gasoline as a replacement for conventional gasoline in the most serious ozone nonattainment areas. These amendments also set standards for reformulated gasoline based on oxygen content, benzene content, resulting oxides of nitrogen emissions, and either the capability to reduce emissions of volatile organic compounds and toxics or of aromatic content. The amendments further imposed "antidumping" requirements to bar refiners from redirecting "dirtier" gasoline components to non-covered areas.

There currently are three statutory requirements for reformulated gasoline: (1) it may not cause an increase in NO_x emissions; (2) benzene is limited to 1.0 volume percent; and (3) it may not contain heavy metals.[1]

Section 211(k) further mandated a 25% reduction in VOC emissions from vehicles using RFG beginning in 2000.[2] This provision requires that performance of reformulated gasoline be measured with 1990 vehicle technology, for the entire vehicle, against the performance of a "statutory" baseline gasoline. This baseline is based on the composition of gasoline in 1990.

In 1994, EPA promulgated regulations for the reformulated gasoline program, largely incorporating elements developed in a regulatory negotiation.[3] The regulations were structured as a two-step approach. First, EPA applied a "simple model" to determine that the fuel achieved sufficient reductions in VOCs and toxic emissions, based on the fuel's oxygen, benzene, heavy metal, and aromatics content, as well as Reid vapor pressure (RVP). Second, EPA developed a "complex model" that took into account additional fuel properties; use of the complex model became mandatory on January 1, 1998. Phase II standards were subject to compliance through the complex model only, but EPA rendered this model obsolete when it promulgated its Fuels Regulatory Streamlining rule in December 2020. This rule is discussed further below, but for the purposes of this discussion, EPA substantially simplified the reformulated gasoline regulatory regime, changing the reformulated gasoline volatility standard to solely a vapor pressure per-gallon cap of 7.4 psi RVP. EPA also allowed refiners to demonstrate compliance by testing the RVP, along with benzene and sulfur.[4] The adoption of the 7.4 psi RVP standard translated the VOC reduction requirement under the prior Part 80 RFG rules into a single RVP standard based on information EPA collected regarding the volatility of RFG in the

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[10]American Methyl Corp. v. E.P.A., 749 F.2d 826, 21 Env't. Rep. Cas. (BNA) 2057, 15 Envtl. L. Rep. 20005 (D.C. Cir. 1984). However, where EPA mistakenly denies a waiver, the Agency may reinstitute another 180-day period in which to reconsider whether to grant or deny a waiver application; i.e., a mistaken denial does not result in an automatic grant, even after the expiration of the initial 180 days. Ethyl Corp. v. Browner, 989 F.2d 522, 36 Env't. Rep. Cas. (BNA) 1574, 23 Envtl. L. Rep. 20689 (D.C. Cir. 1993).

[Section 12:188]

[1]CAA § 211(k)(2).

[2]CAA § 211(k)(3).

[3]59 Fed. Reg. 7716 (Feb. 16, 1994).

[4]*See* 85 Fed. Reg. 78412 (Dec. 4, 2020).

fuel distribution system.[5] As a result of this change, all gasoline sold in the United States is now regulated based on RVP (more stringent for RFG; less stringent for conventional gasoline (CG)) and on sulfur and benzene (consistent whether RFG or CG).

§ 12:189 Fuels and fuel additives—Detergent additives and oxygenated gasoline

Section 211(l), enacted as part of the 1990 CAA Amendments, requires that all gasoline contain detergent additives that prevent deposits and buildups that impact emissions and fuel efficiency. EPA promulgated regulations under this provision in 1996, establishing a detergent certification program, but the Agency did not require specific detergents be used in gasoline.[1] Rather, EPA enforces the use of detergent additives by vehicle testing, although it has not yet established a national standard given a dearth of research.[2]

Oxygenates in gasoline reduce carbon monoxide emissions in cold conditions. Section 211(m), which applies to states with CO nonattainment areas having a CO design value of 9.5 parts per million or above, requires those states to adopt, in their SIPs, regulations mandating sale of oxygenated gasoline in carbon monoxide nonattainment areas. This provision has not been operative in recent years, because all carbon monoxide areas in the United States have been redesignated to maintenance. This is due to both advances in vehicle technology that reduce carbon monoxide emissions and the widespread use of blends of 10% ethanol in gasoline.

§ 12:190 Fuels and fuel additives—Renewable Fuel Standard

The most litigated provision of the CAA's fuels program is § 211(o), known as the Renewable Fuel Standard (RFS). This provision mandates that EPA promulgate regulations requiring transportation fuels to contain a minimum volume of biofuel.[1] The RFS, as initially enacted as part of the Energy Policy Act of 2005, required that renewable fuel comprise 2.78% of the gasoline sold in calendar year 2006.

The Energy Independence and Security Act of 2007 (EISA) revised § 211(o) to mandate that transportation fuel in the United States—not just gasoline, but including diesel fuel for motor vehicles and nonroad, locomotive, and marine diesel—contain minimum volumes of cellulosic ethanol and other advanced biofuels (such as renewable diesel).

EISA mandated various percentage reductions in lifecycle greenhouse gas (GHG) emissions for renewable fuels based on the type of renewable fuel.[2] In implementing this statutory requirement, EPA modeled lifecycle emissions for ethanol from cornstarch and sugarcane, biobutanol, various biodiesels, and cellulosic ethanol and cellulosic diesel among others, and determined if the required lifecycle GHG emissions reductions were met.[3] The statutory provisions require the use of 36 billion gallons of renewable fuel annually by 2022, with an annual cap of 15 billion gallons

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[5]85 Fed. Reg. 78414 (Dec. 4, 2020).

[Section 12:189]

[1]*See* 58 Fed. Reg. at 64217 (1996).

[2]*See* 58 Fed. Reg. at 64221 (1993).

[Section 12:190]

[1]The RFS is one of the few fuels regulatory programs untouched by the 2020 streamlining rule.

[2]EPA, Office of Transp. & Air Quality, Report No. EPA-420-F-10-006, EPA Lifecycle Analysis of Greenhouse Gas Emissions from Renewable Fuels (Feb. 2010).

[3]EPA, Office of Transp. & Air Quality, Report No. EPA-420-F-10-006, EPA Lifecycle Analysis of Greenhouse Gas Emissions from Renewable Fuels (Feb. 2010).

of corn ethanol starting in 2015. The volume requirements apply within a nested structure that allows uses of fuels with higher GHG emission reductions (e.g., cellulosic biofuel and biodiesel) to meet the larger total renewable volume requirement. That includes conventional biofuels, such as corn ethanol.[4]

Every year, EPA promulgates the annual volume requirements and associated percentage standards that apply for the following year. EPA regulates compliance among obligated parties (e.g., refiners and importers) using a tradeable credit system of renewable identification numbers (RINs). Each obligated party has a renewable volume obligation (RVO) represented by the party's total gasoline and diesel sales, multiplied by the annual renewable fuel percentage standards. Each RIN represents one gallon of renewable fuel in each obligated party's annual RVO. A RIN is created and attached to a gallon of qualifying renewable fuel when produced, and that RIN may be retired (sold to a consumer and submitted to EPA for compliance), traded among other obligated parties, or banked for future use. Fraudulent production and transfer of RINs has produced substantial civil and criminal litigation.[5]

Litigation over the RFS has focused on a number of different issues, including EPA's promulgation of annual volume requirements after the statutory deadline or of volume requirements that depart from the statutory minimum. In *National Petrochemical & Refiners Association v. EPA*, for example, industry groups successfully challenged volume requirements promulgated some 15 months after the statutory deadline.[6]

Another example pertains to the 2016 RVO. Due to purported constraints on vehicles' use of renewable fuels in the United States, EPA relied on its waiver authorities under § 211(o)(7)(A) to waive volume requirements. The Agency cited limits on production and importation of renewable fuels, as well as factors that restricted supplying the fuels to vehicles that could consume them. In *Americans for Clean Energy v. EPA*, biofuels petitioners sued the Agency. The D.C. Circuit rejected EPA's position, holding that EPA had exceeded its statutory authority in interpreting the term "supply" in the waiver provision to include demand-side considerations.[7]

Refiners have also recently litigated EPA's "point of obligation" rule.[8] Section 211(o)(3)(B)(ii)(l) imposes RVOs upon "refineries, blenders, and importers, as appropriate." In the RFS regulations in 2010, EPA concluded that refiners and importers, but not blenders, were the "appropriate" parties for RVO compliance.[9] Although this rule was met by some refiner opposition, refiners did not pursue a challenge until 2016.[10] The D.C. Circuit has since rejected the challenge and left the point of obligation rule intact.[11]

Another topic of litigation has been waivers for small refiners. Section 211(o)(9)(A)

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[4]*See* 42 U.S.C. § 7545(o)(2)(B).

[5]EPA, Civil Enforcement of the Renewable Fuel Standard Program, http://www.epa.gov/enforcement/civil-enforcement-renewable-fuel-standard-program; *see also* BRENT YACOBUCCI, CONG. RES. SERV., ANALYSIS OF RENEWABLE IDENTIFICATION NUMBERS (RINS) IN THE RENEWABLE FUEL STANDARD (RFS) 11 (July 22, 2013), http://fas.org/sgp/crs/misc/R42824.pdf.

[6]National Petrochemical & Refiners Ass'n v. E.P.A., 630 F.3d 145, 72 Env't. Rep. Cas. (BNA) 1276 (D.C. Cir. 2010).

[7]Americans for Clean Energy v. Environmental Protection Agency, 864 F.3d 691, 707–10, 84 Env't. Rep. Cas. (BNA) 2142 (D.C. Cir. 2017).

[8]*E.g.*, Alon Refining Krotz Springs, Inc. v. Environmental Protection Agency, 936 F.3d 628 (D.C. Cir. 2019), cert. denied, 140 S. Ct. 2792, 206 L. Ed. 2d 955 (2020).

[9]75 Fed. Reg. 14721 (codified at 40 C.F.R. § 80.1406(a)(1)).

[10]*Alon Refining*, 936 F.3d at 639.

[11]*Alon Refining*, 936 F.3d at 668.

permits EPA to exempt small refiners from compliance with the RFS upon a small refiner's showing that compliance "would impose a disproportionate economic hardship on small refineries." In 2017, EPA granted a much higher number of waivers than in prior years, contributing to a sharp drop in RIN values and a decreased demand for biofuels.[12] In 2021, the Supreme Court held that a small refinery need not receive uninterrupted, continuous hardship exemptions for each year since 2011 to qualify for future exemptions.[13]

Although EPA has since reduced the number of annual waivers it grants, the Agency in 2019 made a notable shift in how it incorporates small-refinery waivers into an obligated party's RVO. Previously, EPA incorporated only the same number of small-refinery waivers it had granted in the prior year. For 2020, EPA incorporated the number of waivers it anticipated to grant over the coming year. In 2021, refiners filed a challenge to that shift in what promises to be another major point of contention over small-refinery waivers.[14]

A current regulatory focus is on setting new volumes standards for total, advanced, and cellulosic biofuels to apply after 2022, when the statutory tables establishing renewable fuel volumes end. In addition, as of 2019, EPA's past waivers of volume requirements for total, advanced, and cellulosic biofuels had triggered an obligation under § 211(o)(7)(F) to "reset" the statutory volumes in place through 2022.[15] However, as of this publication, EPA has not completed a "reset" rulemaking.[16] The degree to which EPA may modify biofuel obligations as part of the "set" or "reset" process will have a substantial impact on RIN and biofuel markets moving forward.

§ 12:191 Fuels and fuel additives—Fuels regulatory streamlining

In addition to the updates to the RFG regulatory program summarized above,[1] EPA's 2020 fuels streamlining rule updates most aspects of the fuels regulatory program. This includes revised regulations to remove duplication of definitions, consolidated registration and reporting requirements, broadened language regarding prohibited acts that raise enforcement questions; new, more robust sampling and homogeneity procedures; and new attest engagement requirements to verify compliance.[2] The rule also combined the prior regime of four regional gasoline surveys into a single, national in-use fuel quality survey to ensure fuels meet EPA's quality standards at retail stations. In addition, EPA replaced an independent lab testing requirement with a voluntary national sampling and testing oversight

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[12]*See* Mario Parker and Jennifer A. Dlouhy, "EPA Is Said to Propose Redistributing Waived Biofuel Quotes," Daily Environmental Report (June 21, 2018) at 1.

[13]HollyFrontier Cheyenne Refining, LLC v. Renewable Fuels Association, 141 S. Ct. 2172, 210 L. Ed. 2d 547 (2021).

[14]*See* Keith Goldberg, "EPA Flubbed 2020 Biofuel Requirements, D.C. Cir. Told," Law360 (Feb. 1, 2021) at 1.

[15]42 U.S.C. § 7545(o)(7)(F). The "reset" obligation is triggered when EPA waives at least 20% of an applicable volume requirement for two consecutive years or at least 50% of a volume requirement for a single year. EPA triggered the "reset" obligation in 2019 for total renewable fuel, and had previously triggered the obligation for cellulosic and advanced biofuels. *See* Congressional Research Serv., The Renewable Fuel Standard (RFS): Waiver Authority and Modification of Volumes 7 (Aug. 3, 2020), https://fas.org/sgp/crs/misc/R44045.pdf.

[16]42 U.S.C. § 7545(o)(7)(F). EPA may reset the applicable volumes if EPA waives each biofuel mandate by at least 20% for two consecutive years or by at least 50% for a single year.

[Section 12:191]

[1]*See* § 12:187.

[2]*See* 85 Fed. Reg. 78412 (Dec. 4, 2020).

program.[3] With some exceptions for regulatory items requiring greater lead time, the new streamlining regulations took effect January 1, 2021.

These updates, now codified in 40 C.F.R. part 1090, also comprise the previously codified substantive fuel quality standards. These include the benzene, sulfur, and RVP standards for gasoline and diesel and ECA marine standards, in addition to requirements related to product transfer documents, averaging, banking, trading provisions, and recordkeeping requirements.

§ 12:192 Fuels and fuel additives—Conclusion

Over the past five decades, the Clean Air Act's regulation of fuels and fuel additives under § 211 has expanded and evolved to address multiple public health and environmental concerns—from the phase-down of lead; to regulations aimed at reducing the contribution of fuel characteristics to criteria pollutants such as sulfur dioxide, carbon monoxide, and ozone, as well as toxic air pollutants; and more recently to requirements for renewable fuels with lower lifecycle GHG emissions. Regulation of fuels and additives will continue to play an important role in reducing air pollution for decades to come.

XVII. STRATOSPHERIC OZONE PROTECTION*

§ 12:193 Stratospheric ozone protection

In the 1980s, scientists discovered a significant loss of stratospheric ozone over the southern hemisphere. Scientists linked that loss to the impact of the anthropogenic release of certain ozone-depleting chemicals, including chlorofluorocarbons (CFCs).[1] One federal judge described the process this way:

> [E]ach CFC, converted to chlorine monoxide (ClO) after reactions with sunlight, can destroy hundreds of molecules of stratospheric ozone because the ClO is a catalyst. ClO first reacts with an oxygen atom (O) to form a chlorine atom (Cl) and an oxygen molecule (O_2). The chlorine atom (Cl) reacts with an ozone molecule (O_3) to re-form ClO along with an oxygen molecule (O_2). The ClO, then, is ready to begin the ozone-depletion cycle once more. Once released, CFCs by natural processes create ClO, which is an unrelenting destroyer of ozone. Because this process occurs at the molecular level, it is difficult for us to fathom the cumulative impact of repetitive small destructions of ozone, but science knows that the impact of this process, if unrestrained, will be devastating to all life on earth.[2]

The loss of stratospheric ozone is extremely problematic because the stratospheric ozone layer shields the Earth's surface from ultraviolet radiation. Ozone layer depletion can increase the risk that exposed individuals will contract skin cancer, develop cataracts, or suffer from immune system impairments.[3] Increases in ultraviolet radiation also have the potential to reduce agricultural yields and

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[3]85 Fed. Reg. 78414 (Dec. 4, 2020).

*By **Robert L. Glicksman.**

[Section 12:193]

[1]"CFC's aid aerosol manufacturing and are also found in coolants, electronic solvents, synthetic foams, industrial cleaning agents, and insulating material. Users of CFC's include hairdressing salons and perfume makers, as well as manufacturers of car seat cushions, refrigerators, air conditioners, microchips, and hospital equipment." Renzulli, *The Regulation of Ozone-Depleting Chemicals in the European Community*, 14 B.C. INT'L & COMP. L. Rev. 345, 346 (1991).

[2]Covington v. Jefferson County, 358 F.3d 626, 649, 57 Env't. Rep. Cas. (BNA) 2066, 34 Envtl. L. Rep. 20015 (9th Cir. 2004) (Gould, J. concurring).

[3]*See* Covington v. Jefferson Cty., 358 F.3d at 650 (Gould, J., concurring) (noting that "unless stratospheric ozone blocks harmful UV–B radiation, the UV–B radiation would reach the earth and increase the incidence of skin cancer, cataracts, and suppressed immune systems").

adversely affect aquatic ecosystems.[4]

The international community responded by enacting the Montreal Protocol on Substances that Deplete the Ozone Layer,[5] which was ratified by all 197 United Nations Member States, including the United States.[6] The United States implemented its responsibilities under the Protocol by adopting Title VI of the Clean Air Act (CAA) in the 1990 amendments to the Act.[7] The following sections discuss the background and purposes of the Montreal Protocol, the CAA provisions that implement the treaty, the relationship between efforts to address stratospheric ozone depletion and climate change, and how adoption of Title VI of the CAA impacts other laws.

§ 12:194 The Montreal Protocol

The Montreal Protocol was spurred by recognition "that world-wide emissions of certain substances can significantly deplete and otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment."[1] The Protocol declares the determination of its signatories "to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations."[2]

The treaty commits each party to phasing out and eventually prohibiting the production and consumption of specified ozone-depleting chemicals, including CFCs and hydrochlorofluorcarbons (HCFCs) and encouraging the use of safer alternative chemicals.[3] Notably, while the treaty sought to protect the Earth's atmosphere—specifically, the ozone layer—by spurring innovation, the development of substitute chemicals unintentionally contributed to another threat to the atmosphere in the form of greenhouse gas emissions. As discussed in § 12:209 below, when scientists determined that one set of substances that were introduced as non-ozone depleting

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[4]*See* Leich, *Environmental Affairs (U.S. Digest, Ch. 11, S1) Protection of the Ozone Layer*, 80 AM. J. INT'L L. 157, 158 (1986); Ramlogan, *Creating International Crimes to Ensure Effective Protection of the Environment*, 22 TEMP. INT'L & COMP. L.J. 345, 383 (2008); Scott et al., *Success and Failure Components of Global Environmental Cooperation: The Making of International Environmental Law*, 2 ILSA J. INT'L & COMP. L. 23, 51 (1995); Häder et al, *Effects of UV Radiation on Aquatic Ecosystems and Interactions with Climate Change*, 10 PHOTOCHEMICAL & PHOTOBIOLOGICAL SCIENCES 242 (2011).

[5]Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 1989). For discussion of the Montreal Protocol, see Jestin, *International Efforts to Abate the Depletion of the Ozone Layer*, 7 GEO. INT'L ENVTL. L. REV. 829 (1995); Raiczyk, *Montreal Protocol on Substances That Deplete the Ozone Layer: Conference Calling for Accelerated Phase-Out of Ozone-Depleting Chemicals Is Planned for 1992*, 5 TEMP. INT'L & COMP. L.J. 363 (1992); Eghbal, *Depletion of the World Ozone Protection True Progress: Looking for A Place Where We Can Stop*, 1 DICK. J. ENVTL. L. & POL'Y 66 (1992); Shimberg, *Stratospheric Ozone and Climate Protection: Domestic Legislation and the International Process*, 21 ENVTL. L. 2175 (1991); Nangle, *Stratospheric Ozone: United States Regulation of Chlorofluorocarbons*, 16 B.C. ENVTL. AFF. L. REV. 531, 531 (1989).

[6]UN Environment Programme, About Montreal Protocol, https://www.unenvironment.org/ozonaction/who-we-are/about-montreal-protocol.

[7]Pub. L. No. 101-549, § 602(a); 104 Stat. 2399, 2648 to 72 (1990) (codified at 42 U.S.C. §§ 7671 to 7671q).

[Section 12:194]

[1]Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 1989).

[2]Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 1989).

[3]Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 1989).

alternatives to CFCs and HCFCs—hydrofluorocarbons (HFCs)—were potent greenhouse gases that contributed to climate change, the Parties to the Montreal Protocol, including the United States, adopted the Kigali Amendment.[4] The Amendment adds HFCs to the Protocol's list of controlled substances and stipulates the phase-down of HFC production and use in a similar manner to what was accomplished with CFCs. The United States had not ratified the Kigali Amendment as of the end of 2020.

§ 12:195 Title VI of the 1990 Clean Air Act Amendments

Congress adopted Title VI of the 1990 CAA amendments in order to fulfill the nation's responsibilities under the Montreal Protocol. Its key provisions include the following:

(1) Phase-out schedules for the production and use of two classes of ozone-depleting chemicals
(2) Prohibition on venting of such chemicals during appliance service, repair, and disposal; labeling requirement
(3) Policy to promote the transition to safer alternative chemicals
(4) Prohibition on exporting of technologies to produce class I or class II substances to nations that are not parties to the Montreal Protocol
(5) Prohibition on domestic and international trading of production allowances
(6) Authorization for the United States to contribute to an international fund to assist developing countries in meeting their obligations under the Kyoto Protocol.[1]

The CAA additionally provides that if, in the judgment of EPA's Administrator, "any substance, practice, process, or activity may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, and such effect may reasonably be anticipated to endanger public health or welfare," EPA shall promulgate regulations and submit notice to Congress.[2] EPA's regulations implementing Title VI are found at Part 82 of Title 40 of the *Code of Federal Regulations.*

§ 12:196 Listing of Class I and Class II substances

The CAA, as amended in 1990, required EPA to publish an initial list of class I substances. These include CFCs, halons, carbon tetrachloride, and methyl chloroform, in addition to isomers of those substances.[1] The Act also required EPA to simultaneously publish an initial list of class II substances, which included various forms of HCFCs and their isomers.[2]

Title VI of the CAA requires EPA to add any other substance that "causes or contributes significantly to harmful effects on the stratospheric ozone layer" to the

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[4]Kigali Amendment to the Montreal Protocol, Oct. 15, 2016, United Nations Treaty Collection, Ref. C.N.827. 2016. Treaties. XXVII.2.f.

[Section 12:195]

[1]H.R. Rep. No. 101-952 at 35332 to 35366 (1971), *reprinted in* 1990 U.S.C.C.A.N. 3867, 3878.

[2]42 U.S.C. § 7671n.

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[1]42 U.S.C. § 7671a(a). EPA lists Class I substances at 40 C.F.R. Pt. 82, Subpt. A, App. A. *See also* Ozone-Depleting Substances, Class I ODS, https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances.

[2]42 U.S.C. § 7671a(b). EPA lists Class II substances at 40 C.F.R. Pt. 82, Subpt. A, App. B. *See also* Ozone-Depleting Substances, Class II ODS, https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances.

initial list of class I substances.[3] The CAA also requires EPA—concurrent with the publication of the lists of class I and class II substances or the addition of a substance to either list—to assign a numerical value representing the substance's ozone-depletion potential.[4] EPA must add to the list of class I substances all substances that EPA determines have an ozone depletion potential of 0.2 or greater.[5] EPA also must add to the initial list of class II substances any other substance that EPA finds is known or reasonably anticipated to cause or contribute to harmful effects on the stratospheric ozone layer.[6] EPA may not remove from the list any substance on the list of mandatory class I substances. It may remove from the list of class II substances a class II substance that is added to the list of class I substances.[7]

Any person may petition EPA to add a substance to the lists of class I or class II substances, based on the criteria for EPA to add substances to the lists.[8] If EPA determines that information on a substance that is the subject of a petition is not sufficient to make a determination as to its effects on stratospheric ozone, the statute directs EPA to use any authority available to it under any law to acquire that information.[9]

If EPA adds a substance to the list of class I or class II substances after initial publication, it may extend any schedule or compliance deadline for phasing out the production or consumption of that substance if the current schedule is unattainable, while taking into consideration when that substance was added to the list.[10] However, EPA may not extend the deadline for termination of production of a class I substance to a date more than seven years after January 1 of the year after the year in which EPA listed the substance under class I. The maximum extension of a deadline for termination of production of a class II substance is 10 years.[11]

§ 12:197 Monitoring and reporting requirements

Title VI places a mandate on EPA to adopt regulations containing monitoring and reporting requirements for class I and class II substances.[1]

Each person who produced, imported, or exported a class I or class II substance during the preceding reporting period must file a report with EPA setting forth the amount of the substance that it produced, imported, and exported.[2] Reporting periods occur on a quarterly basis, or on whatever other basis (not less than annually) EPA determines. Reporting obligations end after April 1 of the calendar year

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[3] 42 U.S.C. § 7671a(a).

[4] 42 U.S.C. § 7671(a). The CAA defines ozone-depletion potential to mean: "a factor established by the Administrator to reflect the ozone-depletion potential of a substance, on a mass per kilogram basis, as compared to chlorofluorocarbon-11 (CFC—11). Such factor shall be based upon the substance's atmospheric lifetime, the molecular weight of bromine and chlorine, and the substance's ability to be photolytically disassociated, and upon other factors determined to be an accurate measure of relative ozone-depletion potential." 42 U.S.C. § 7671(10). Table 1 of § 7671a includes the ozone depletion potential numbers for various class I and class II substances.

[5] 42 U.S.C. § 7671a(a).

[6] 42 U.S.C. § 7671a(b).

[7] 42 U.S.C. § 7671a(c)(4).

[8] 42 U.S.C. § 7671(a)(c)(3). The petition process would be conducted under the CAA's hybrid rulemaking procedures, set forth in 42 U.S.C. § 7607(d)(1).

[9] 42 U.S.C. § 7671a(c)(3).

[10] 42 U.S.C. § 7671a(d).

[11] 42 U.S.C. § 7671a(d).

[Section 12:197]

[1] 42 U.S.C. § 7671b(a).

[2] 42 U.S.C. § 7671b(b).

after a person previously subject to reporting obligations permanently ceases production, importation, and exportation of the substance and so notifies EPA in writing.[3]

Unless the information has previously been reported to EPA, on the date on which the first report on production, import, or export of a class I substance is due, each person who produced, imported, or exported such a substance (other than a substance added to the list of initial class I substances by EPA) must report to EPA on the amount of the substance that it produced, imported, and exported during the baseline year. In the case of a substance that EPA added to the initial list of class I substances, EPA's regulations must require each person who produced, imported, or exported such a substance to report to EPA on the amount in the baseline year within 180 days after the date on which the substance is added to the list.[4]

For any class I substance listed in Group I or Group II under § 7671a of the Act, the baseline year is calendar year 1986.[5] For any class I substance listed in Groups III, IV, or V, the baseline year is calendar year 1989.[6] For any substance that EPA adds to the statutory list of class I substances or for any class II substances, the baseline year is a representative calendar year selected by EPA.[7]

The CAA requires EPA itself to monitor and periodically report to Congress on the production, use, and consumption of class I and class II substances. Those reports must include information on domestic production, use and consumption, and an estimate of worldwide production, use, and consumption of those substances.[8]

The CAA directs EPA to review, on a periodic basis, the progress being made in the development of alternative systems or products necessary to manufacture and operate appliances without class II substances. If EPA found that, as a result of technological development problems, the development of those alternative systems or products would not occur within the time necessary to provide for the manufacture of such equipment without those substances before phase-out deadlines for class II substances, EPA was required to inform Congress not later than January 1, 2015.[9]

Title VI also imposes monitoring and reporting obligations on two other agencies: The Administrators of the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). NASA and NOAA must monitor and, at least every three years, submit to Congress a report on the current average tropospheric concentration of chlorine and bromine and on the level of stratospheric ozone depletion.[10] Those reports must include updated projections of peak chlorine loading; the rate at which the atmospheric abundance of

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[3]42 U.S.C. § 7671b(b).

[4]42 U.S.C. § 7671b(c).

[5]42 U.S.C. § 7671(2)(A). Group I Class A substances include CFC-11, CFC-12, CFC-113, CFC-114, and CFC-115. Group II includes halon-1211, halon-1301, and halon-2402.

[6]42 U.S.C. § 7671(2)(B). Group III substances include CFC-13, CFC-111, CFC-112, and CFC-211 to 217. Group IV includes carbon tetrachloride. Group V includes methyl chloroform.

[7]42 U.S.C. § 7671(2)(C).

[8]42 U.S.C. § 7671b(d)(1). Although these reports are apparently not listed on EPA's website, the agency has issued progress reports on the phaseout of ozone-depleting substances; *see, e.g.*, EPA, Achievements in Stratospheric Ozone Protection: Progress Report (2007), https://www.epa.gov/sites/production/files/2015-07/documents/achievements_in_stratospheric_ozone_protection.pdf.

[9]42 U.S.C. § 7671b(e).

[10]"The troposphere is the lowest layer of our atmosphere. Starting at ground level, it extends upward to about 10 km (6.2 miles or about 33,000 feet) above sea level. We humans live in the troposphere, and nearly all weather occurs in this lowest layer." Univ. Ctr. for Atmospheric Rsch., Ctr. for Educ., *Layers of Earth's Atmosphere*, https://scied.ucar.edu/atmosphere-layers. Tropospheric ozone helps prevent ultraviolet radiation from reaching the Earth's surface.

chlorine is projected to decrease after the year 2000; and the date by which the atmospheric abundance of chlorine is projected to return to a level of two parts per billion.[11] The purpose of these requirements is to monitor the production and consumption of class II substances in order to assure that those activities will not (1) increase significantly the projected peak chlorine loading; (2) reduce significantly the rate at which the atmospheric abundance of chlorine is projected to decrease; or (3) delay the date by which the average atmospheric concentration of chlorine is projected to return to a level of two parts per billion.[12]

§ 12:198 Phase-out of production and consumption—Class I substances

The CAA phased out the production and consumption of class I substances over a ten-year period, with complete phase-out scheduled for 2001. Beginning on January 1 of each year starting in 1991 through the full phase-out deadline of 2001, it became unlawful for any person to produce any class I substance in an annual quantity greater than a specified, declining percentage of the quantity of the substance produced by that person in the baseline year.[1]

This "maximum allowable production" was reduced incrementally for carbon tetrachloride from 100% in 1991 to 0% in 2000; for methyl chloroform from 100% in 1991 to 20% in 2001; and for other class I substances from 85% in 1991 to 0% in 2000.[2] The CAA defines *production* to mean "the manufacture of a substance from any raw material or feedstock chemical," excluding both "the manufacture of a substance that is used and entirely consumed (except for trace quantities) in the manufacture of other chemicals" and "the reuse or recycling of a substance."[3]

Therefore, effective January 1, 2000, it became unlawful to produce any amount of any class I substance (except for methyl chloroform, whose production was banned effective January 2, 2002).[4] The CAA required EPA to adopt regulations phasing out the production of class I substances in accordance with this schedule.[5] The Act also required EPA to phase out and terminate the *consumption* of class I substances in accordance with the same schedule that applies to the phase-out and termination of production.[6]

Methyl bromide is one exception to this timetable. The CAA prohibits EPA from terminating production of methyl bromide before January 1, 2005. The agency must adopt "rules for reductions in, and terminate the production, importation, and consumption of, methyl bromide under a schedule that is in accordance with, but not more stringent than, the phase-out schedule of the Montreal Protocol as in effect on October 21, 1998."[7]

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[11] *See, e.g.*, NOAA, Glob. Monitoring Lab'y, *The NOAA Ozone Depleting Gas Index: Guiding Recovery of the Ozone Layer*, https://www.esrl.noaa.gov/gmd/hats/odgi.html. NOAA's Chemical Sciences Laboratory collaborates every four years with the World Meteorological Society, and the United Nations Environment Programme on an assessment of the state of ozone depletion. *See* Chem. Sci. Lab'y., *WMO/UNEP Scientific Assessments of Ozone Depletion*, https://csl.noaa.gov/assessments/ozone/.

[12] 42 U.S.C. § 7671b(d)(2).

[Section 12:198]

[1] The term "baseline year" is defined in 42 U.S.C. § 7671(2). *See supra* § 12:84. Monitoring and reporting requirements.

[2] 42 U.S.C. § 7671c(a).

[3] 42 U.S.C. § 7671(11).

[4] 42 U.S.C. § 7671c(b).

[5] EPA's regulations are at 40 C.F.R. § 82.4.

[6] 42 U.S.C. § 7671c(c).

[7] 42 U.S.C. § 7671c(h). *See generally* Goldschein, *Methyl Bromide: The Disparity Between the*

§ 12:199 Phase-out of production and consumption—Class I substances; exemptions

The statute exempts some uses from the prohibitions on production and use of class I substances.

For example, EPA possessed temporary authority to authorize the production of methyl chloroform in limited quantities for essential applications where no safe and effective substitute is available.[1] Such essential applications included nondestructive testing for metal fatigue and corrosion of existing airplane engines and airplane parts susceptible to metal fatigue.

To the extent consistent with the Montreal Protocol, EPA also has the discretion to authorize the production of limited quantities of class I substances solely for use in medical devices.[2] Exercise of this discretion is contingent on a determination by the Commissioner of the federal Food and Drug Administration (FDA), in consultation with EPA, that such authorization is necessary for use in medical devices.[3] FDA established standards for determining which FDA-regulated products that use an ozone-depleting substance are essential for these purposes.[4]

Unless prohibited by the Montreal Protocol, EPA may authorize the production of limited quantities of halon-1211, halon-1301, and halon-2402 solely for purposes of aviation safety. This authorization is contingent on the Administrator of the Federal Aviation Administration (FAA), in consultation with EPA, determining that no safe and effective substitute has been developed and that such authorization is necessary for aviation safety purposes.[5]

The CAA provides other exemptions, provided they do not conflict with the Montreal Protocol. The Act directs EPA "to exempt the production, importation, and consumption of methyl bromide to fumigate commodities entering or leaving the United States or any state (or political subdivision thereof) for purposes of compliance with Animal and Plant Health Inspection Service [APHIS] requirements or with any international, federal, state, or local sanitation or food protection standard."[6] The CAA also authorizes EPA, after consulting with other federal agencies delegated authority related to methyl bromide,[7] to exempt the production, importation, and consumption of methyl bromide for "critical uses."[8] A use of methyl bromide is deemed "critical" only if lack of methyl bromide availability would result

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Pesticide's Phase-Out Dates Under the Clean Air Act and the Montreal Protocol on Substances That Deplete the Ozone Layer, 4 ENVTL. LAW. 577 (1998).

[Section 12:199]

[1]42 U.S.C. § 7671c(d)(1). This temporary authority existed between January 1, 2002 and January 1, 2005, and was only valid to the extent consistent with the Montreal Protocol.

[2]42 U.S.C. § 7671c(d)(2).

[3]42 U.S.C. § 7671c(d)(2).

[4]*See* Use of Ozone-Depleting Substances; Essential-Use Determinations, 67 Fed. Reg. 48370-01 (July 24, 2002) (codified at 21 C.F.R. § 2.125). FDA determined, for example, that the following uses were essential: metered-dose corticosteroid human drugs for oral inhalation; metered-dose short-acting adrenergic bronchodilator human drugs for oral inhalation; and anesthetic drugs for topical use on accessible mucous membranes of humans where a cannula is used for application.

[5]42 U.S.C. § 7671c(d)(3)(B).

[6]42 U.S.C. § 7671c(d)(5).

[7]These include the Secretary of Agriculture. The Secretary, for example, has the authority to determine whether methyl bromide treatments or applications required by state, local, or tribal authorities to prevent the introduction, establishment, or spread of plant pests (including diseases) or noxious weeds should be authorized as an official control or official requirement. 7 U.S.C. § 7719(a).

[8]*See* Natural Resources Defense Council v. EPA, 464 F.3d 1, 63 Env't. Rep. Cas. (BNA) 1203, 36 Envtl. L. Rep. 20181 (D.C. Cir. 2006) (upholding EPA regulation providing a critical use exemption for the production and consumption of methyl bromide). *See also* Natural Resources Defense Council v.

in a significant market disruption, and no technically and economically feasible alternatives or substitutes are available.[9]

Despite these exemptions, no person may be authorized to produce a class I substance in annual quantities greater than 10% of the amount that person produced during the baseline year.[10]

Furthermore, and to the extent consistent with the Montreal Protocol, EPA may authorize the production of limited quantities of a class I substance in excess of the amounts otherwise allowable under the CAA's production phase-outs for those substances solely for export to, and use in, developing countries that are Parties to the Montreal Protocol and are operating under Article 5 of the Protocol (Special Situation of Developing Countries).[11] Any such production may be authorized only for purposes of satisfying the basic domestic needs of those developing countries.[12] Nevertheless, no person may be authorized to produce a class I substance for which a production percentage is specified in Table 2 of § 7671c(a) in an annual quantity greater than the specified percentage, plus an amount equal to 10% of the amount produced by that person in the baseline year.[13] Moreover, under no circumstances may this production exemption authorize any person to produce a class I substance in the applicable termination year for production of the substance, or in any year thereafter, in an annual quantity greater than 15% of the baseline quantity applicable to the substance for that person.[14] Additionally, any production exemption for developing countries must have terminated no later than January 1, 2010 (January 1, 2012 for methyl chloroform).[15] However, consistent with the Montreal Protocol, EPA may authorize the production of limited quantities of methyl bromide, solely for use in developing countries that are Parties to the Copenhagen Amendments to the Montreal Protocol.[16]

The CAA also authorizes the President of the United States to issue orders regarding production and use of CFC–114, halon-1211, halon-1301, and halon-2402, at any specified site or facility or on any vessel as may be necessary to protect the national security interests of the United States. The President most also find that adequate substitutes are not available and that the production and use of the substance are necessary to protect national security.[17] The President must notify Congress within 30 days of the issuance of an order providing for a national security exemption, including a statement of the reasons for the granting of the exemption. An exemption may not exceed one year, but additional exemptions may be granted if the President issues a new order.[18]

EPA also had the authority, which ended on December 31, 1999, to authorize the production of limited quantities of halon-1211, halon-1301, and halon-2402 in excess of the amount otherwise permitted. Any production had to be solely for purposes of fire suppression or explosion prevention while remaining consistent with the

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E.P.A., 513 F.3d 257, 65 Env't. Rep. Cas. (BNA) 1929 (D.C. Cir. 2008).

[9] *See* U.S. EPA, *Methyl Bromide*, https://www.epa.gov/ods-phaseout/methyl-bromide.

[10] 42 U.S.C. § 7671c(d)(4).

[11] 42 U.S.C. § 7671c(e)(1).

[12] 42 U.S.C. § 7671c(e)(1).

[13] 42 U.S.C. § 7671c(e)(2)(A).

[14] 42 U.S.C. § 7671c(e)(2)(B).

[15] 42 U.S.C. § 7671c(e)(2)(C).

[16] 42 U.S.C. § 7671c(e)(3). For the text of those amendments, *see* UN Env't Programme, *The Montreal Protocol on Substances that Deplete the Ozone Layer*, https://ozone.unep.org/treaties/montreal-protocol/amendments/copenhagen-amendment-1992-amendment-montreal-protocol-agreed.

[17] 42 U.S.C. § 7671c(f).

[18] 42 U.S.C. § 7671c(f).

Montreal Protocol. To do so, EPA, in consultation with the Administrator of the United States Fire Administration, must have determined that no safe and effective substitute has been developed and that the authorization is necessary for fire suppression or explosion prevention purposes. However, EPA could not authorize production for purposes of fire safety or explosion prevention training or testing of fire suppression or explosion prevention equipment.

§ 12:200 Phase-out of production and consumption—Class II substances

The CAA also phased out the production and consumption of class II ozone-depleting substances.[1] Effective January 1, 2015, it is:

> Unlawful for any person to introduce into interstate commerce any class II substance unless it: (1) has been used, reused, and recycled; (2) is used and entirely consumed (except for trace quantities) in the production of other chemicals; (3) is used as a refrigerant in appliances manufactured before January 1, 2020; or (4) is listed as acceptable for use as a fire suppression agent for nonresidential applications in accordance with the CAA provisions governing the use of safe alternatives.[2]

Effective January 1, 2015, it is unlawful for any person to produce any class II substance in an annual quantity greater than the quantity produced by that person during the baseline year.[3] Further, effective January 1, 2030, it will become unlawful for any person to produce any class II substances at all.[4]

The CAA required EPA to adopt "regulations phasing out the production, and restricting the use, of class II substances in accordance with the statutory timetables, subject to any acceleration of the phase-out of production authorized under the Act."[5] The Act also directed EPA to adopt regulations to ensure that the *consumption* of class II substances in the United States is phased out and terminated in accordance with the same statutory schedule (subject to the same exceptions and other provisions) that applies to the phase-out and termination of *production* of class II substances.[6]

§ 12:201 Phase-out of production and consumption—Class II substances; exemptions

The CAA carves out exemptions from the production and use phase-outs for class II substances, although the exemptions are more limited in scope than the exemptions for class I substances.[1]

The statute directs EPA, to the extent such action is consistent with the Montreal Protocol, to authorize the production and use of limited quantities of class II substances solely for purposes of use in medical devices if the FDA Commissioner, in consultation with EPA, determines that doing so is necessary for use in medical

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[Section 12:200]

[1]42 U.S.C. § 7671d.

[2]42 U.S.C. § 7671d(a) (citing 42 U.S.C. § 7671k(c)).

[3]42 U.S.C. § 7671d(b)(1).

[4]42 U.S.C. § 7671d(b)(2).

[5]42 U.S.C. § 7671d(c). EPA's regulations phasing out the production and consumption of class II substances are at 40 C.F.R. §§ 82.15 to 82.16.

[6]42 U.S.C. § 7671d(c).

[Section 12:201]

[1]42 U.S.C. § 7671d(d).

devices.[2] At the time this section was written, EPA regulations specified no such exemptions.[3] EPA still may not authorize any person to produce a class II substance in annual quantities greater than 10% of the amount that person produced during the baseline year.[4]

EPA also may authorize the production of limited quantities of a class II substance in excess of the quantities otherwise permitted by the CAA solely for export to and use in developing countries that are parties to the Montreal Protocol. Like the similar exemption vis-á-vis class I substances, EPA may grant such authorization only for purposes of satisfying the basic domestic needs of those developing countries.[5] However, EPA may not exempt production of class II substances from the statutory prohibition—in any year following the effective date of the statutory production phase-out and before the year 2030—in annual quantities greater than 110% of the quantity of the substance produced by a person during the baseline year.[6] EPA may not authorize any person to produce a class II substance for developing countries in any year beginning in 2030 in an annual quantity greater than 15% of the quantity of the class II substance produced by that person during the baseline year.[7] All developing country production exemptions must terminate no later than January 1, 2040.[8]

Exemptions to production and consumption phaseouts			
Substance	***Agency***	***Conditions***	***Time period***
Class I *No more than 10% baseline year production*			
Class I (generally)	FDA w/EPA	Medical devices	N/A
Class I in excess of production phase-out amount	EPA	Export and use in Montreal Protocol art. 5 developing countries for basic domestic needs No more than production percentage + 10% baseline year production amount; no more than 15% baseline quantity after phaseout year	N/A Ended 2010 (methyl chloroform in 2012)
Halon-1211, -1301, -2402 (CFC-114 for national security interest)	FAA w/EPA EPA w/USFA President	Aviation safety w/o safe, effective substitute Fire suppression, explosion prevention w/o safe, effective substitute Any specified site, facility, or vessel for national security interests w/o adequate substitutes	N/A Ended 1999 One year; new order may be granted
Methyl chloroform	EPA	Essential applications w/o safe, effective substitute	2002–2005
Methyl bromide	EPA w/other relevant agencies	Fumigating commodities in compliance with APHIS or other applicable sanitation or food protection standards "Critical uses" Export and use in developing countries Parties to Copenhagen Amendments	N/A
Class II			
Class II (generally)	FDA w/EPA	Medical devices; no greater than 10% baseline year production amount Export and use in Montreal Protocol art. 5 developing countries for basic domestic needs	N/A Pre-2030: *no more than 110% baseline year production amount* Post-2030: *no more than 15% baseline year production quantity* Terminates 2040

§ 12:202 Accelerated phase-outs of production and consumption

The 1990 CAA amendments directed EPA to adopt regulations that establish a

[2] 42 U.S.C. § 7671d(d)(1)(A).

[3] 40 C.F.R. § 82.15(f).

[4] 42 U.S.C. § 7671d(d)(1)(B).

[5] 42 U.S.C. § 7671d(d)(2)(A).

[6] 42 U.S.C. § 7671d(d)(2)(B)(i).

[7] 42 U.S.C. § 7671d(d)(2)(B)(ii).

[8] 42 U.S.C. § 7671d(d)(2)(B)(ii).

schedule for phasing out the production and consumption of class I and class II substances (or the use of class II substances) that is more stringent than what the statute requires in one of three situations:

(1) EPA may accelerate a statutory phase-out if, based on an assessment of credible current scientific information (including any assessment under the Montreal Protocol) regarding harmful effects on the stratospheric ozone layer associated with a class I or class II substance, EPA determines that a more stringent phase-out schedule may be necessary to protect human health and the environment against those effects;[1]

(2) EPA may adopt accelerated phase-out requirements if, based on the availability of substitutes for listed substances, EPA determines that a more stringent schedule is practicable, taking into account technological achievability, safety, and other relevant factors, based on the availability of substitutes for listed substances;[2] or

(3) The Montreal Protocol is modified to include a schedule to control or reduce production, consumption, or use of any substance more rapidly than the applicable schedule under the CAA.[3]

The CAA authorizes any person to petition EPA to adopt regulations to accelerate one or more of the statutory phase-outs. EPA must grant or deny such a petition within 180 days of its receipt and promulgate regulations within one year of granting a petition.[4] EPA has exercised its authority to adopt accelerated phase-outs of production and consumption of ozone-depleting chemicals, in response to such petitions or to amendments to the Montreal Protocol, such as for HCFC-22, HCFC-141b, and HCFC-142b. EPA also took that action in response to amendments to the Montreal Protocol adopted in 1992 at the Fourth Meeting of the Montreal Protocol in Copenhagen, which accelerated the phase-out of certain CFCs, carbon tetrachloride, methyl chloroform, and halons.[5]

§ 12:203 Allowance trading

Emissions trading is a regulatory mechanism that has the potential to achieve environmental regulatory goals more efficiently than is possible under a conventional regulatory program without trading opportunities.[1] The CAA required EPA to adopt regulations that provide for the issuance of allowances for the production of class I and II substances. The rules must ensure that allowance-trading transactions "will result in greater total reductions in the production in each year of class I and class II substances than would occur in that year in the absence of such transactions."[2]

EPA's allowance trading regulations must permit a production allowance for a substance for any year to be transferred for a production allowance for another

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[Section 12:202]

[1]42 U.S.C. § 7671e(a)(1).

[2]42 U.S.C. § 7671e(a)(2).

[3]42 U.S.C. § 7671e(a)(3).

[4]42 U.S.C. § 7671e(b).

[5]Protection of Stratospheric Ozone, 58 Fed. Reg. 65018 (Dec. 10, 1993). *See also* U.S. EPA The Accelerated Phaseout of Class I Ozone-Depleting Substances, https://www.epa.gov/ods-phaseout/accelerated-phaseout-class-i-ozone-depleting-substances.

[Section 12:203]

[1]Emissions trading is treated in greater depth in Chapter 24, Climate Change, and the sulfur dioxide allowance-trading program, discussed in Part XIII was an integral part of implementation of the Acid Rain Program established by Title IV of the Clean Air Act Amendments of 1990.

[2]42 U.S.C. § 7671f(a).

substance for the same year on an ozone depletion weighted basis.[3] Allowances for substances in each group of class I substances may only be transferred for allowances for other substances in the same group.[4] The statute requires that EPA establish groups of class II substances for trading purposes and assign class II substances to those groups. Class II substances may only be transferred for allowances for other class II substances in the same group.[5]

EPA describes the system as it applies to HCFCs as follows:

> Allowances can be traded between producers and importers. A company expends one allowance for each kilogram of HCFC it produces or imports. If a producer or importer expends its allowances to make HCFCs and then exports those HCFCs, the producer or importer may request additional allowances equal to the amount exported. The system aims to balance the global output of HCFCs.[6]

In 2020, EPA issued regulations allocating production and consumption allowances for specific HCFCs for the years 2020 through 2029.[7] EPA's regulations must permit two or more persons to transfer production allowances (including appropriate interpollutant transfers) if the transferor will be subject to an enforceable and quantifiable reduction in annual production which meets three requirements: (1) the reduction must exceed the reduction otherwise applicable to the transferor under the CAA and EPA's regulations; (2) it must exceed the production allowances transferred to the transferee; and (3) the reduction must not have occurred in the absence of the transaction.[8]

EPA's regulations must provide for the issuance and trading of consumption allowances in the same manner as applies under the statute to the trading of production allowances.[9]

The CAA provides that the United States may engage in allowance transfers with other parties to the Montreal Protocol. The United States may transfer production allowances to another party if, according to the statute:

> at the time of the transfer, the Administrator establishes revised production limits for the United States such that the aggregate national United States production permitted under the revised production limits equals the lesser of (A) the maximum production level permitted for the substance or substances concerned in the transfer year under the Protocol minus the production allowances transferred, (B) the maximum production level permitted for the substance or substances concerned in the transfer year under applicable domestic law minus the production allowances transferred, or (C) the average of

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[3]42 U.S.C. § 7671f(b)(1).

[4]42 U.S.C. § 7671f(b)(2). EPA regulations governing transfers of allowances for class I substances are at 40 C.F.R. § 82.12.

[5]42 U.S.C. § 7671f(b)(3). EPA regulations governing transfers of allowances for class II substances are at 40 C.F.R. § 82.23.

[6]U.S. EPA, *HCFC Allowance System*, https://www.epa.gov/ods-phaseout/hcfc-allowance-system.

[7]Protection of Stratospheric Ozone: Adjustments to the Allowance System for Controlling HCFC Production and Import, 2020–2029; and Other Updates, 85 Fed. Reg. 15258 (Mar. 17, 2020).

[8]42 U.S.C. § 7671f(c).

[9]42 U.S.C. § 7671f(d). EPA's regulations apportioning baseline allowances for class II controlled substances are at 40 C.F.R. § 82.17. Section 82.18 addresses the availability of production in addition to baseline production allowances for class II substances. The regulations apportioning baseline consumption allowances for class II substances are at 40 C.F.R. § 82.20.

In Arkema Inc. v. E.P.A., 618 F.3d 1 (D.C. Cir. 2010), the court invalidated an EPA rule that limited inter-pollutant trades to a single year and refused to recognize inter-pollutant transfers in baseline allowances on the ground that it amounted to impermissible retroactive rulemaking. *See also* Honeywell Intern., Inc. v. E.P.A., 705 F.3d 470, 76 Env't. Rep. Cas. (BNA) 1125 (D.C. Cir. 2013) (construing *Arkema* as establishing that 42 U.S.C. § 7671f(b) authorizes permanent interpollutant transfers).

the actual national production level of the substance or substances concerned for the 3 years prior to the transfer minus the production allowances transferred.[10]

The United States may acquire production allowances from another party to the Protocol if, at the time of such transfer, EPA finds that the other party has revised its domestic production limits in the same manner as provided by the CAA with respect to transfers by the United States.[11]

EPA has the authority to reduce the production limits established under the CAA as required as a prerequisite to transfers with other parties to the Protocol or to increase production limits established under the CAA to reflect production allowances acquired under a CAA-authorized transfer.[12]

§ 12:204 Nonessential products containing CFCs

The 1990 CAA amendments directed EPA to issue regulations that identify nonessential products that release class I substances into the environment (including any release occurring during manufacture, use, storage, or disposal) and that prohibit any person from selling or distributing any such product, or offering any such product for sale or distribution, in interstate commerce.[1] These nonessential products include chlorofluorocarbon-propelled plastic party streamers and noise horns, chlorofluorocarbon-containing cleaning fluids for noncommercial electronic and photographic equipment, and any other consumer products which EPA determines release class I substances into the environment and which are nonessential.[2]

In determining whether a product is nonessential, EPA must consider the purpose or intended use of the product, the technological availability of substitutes for the product and for any class I substance, safety, health, and other relevant factors.[3] Beginning November 1992, it is unlawful for any person to sell or distribute—or offer to do so—in interstate commerce any nonessential product to which EPA regulations apply.[4]

The statute also prohibits the sale, distribution, or offer for sale or distribution in interstate commerce of any aerosol product or other pressurized dispenser which contains a class II substance or any plastic foam product (other than a foam insulation product or certain integral skin, rigid, or semi-rigid foams used to provide for motor vehicle safety) which contains, or is manufactured with, a class II substance.[5] EPA may grant exceptions from that prohibition where EPA determines that the use of the aerosol product or pressurized dispenser is essential as a result of flammability or worker safety concerns, and the only available alternative to use of a class II substance is use of a class I substance which legally could be substituted for the affected class II substance.[6]

§ 12:205 Recycling and servicing

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[10]42 U.S.C. § 7671o(a)(1).

[11]42 U.S.C. § 7671o(a)(2).

[12]42 U.S.C. § 7671o(b).

[Section 12:204]

[1]42 U.S.C. § 7671i(a) to (b). Those regulations are at 40 C.F.R. §§ 82.60 to 82.70. None of the prohibitions in § 7671i applies to medical devices. 42 U.S.C. § 7671i(e). The CAA defines a medical device at 42 U.S.C. § 7671(8).

[2]42 U.S.C. § 7671i(b).

[3]42 U.S.C. § 7671i(b).

[4]42 U.S.C. § 7671i(c).

[5]42 U.S.C. § 7671i(d)(1), (3).

[6]42 U.S.C. § 7671i((d)(2).

The CAA directed EPA to adopt regulations establishing standards and requirements concerning the use and disposal of class I and class II substances during the service, repair, or disposal of appliances and industrial process refrigeration.[1] These regulations must require reduction in the use and emission of class I and class II substances to the lowest achievable level and maximize the recapture and recycling of those substances.[2]

The regulations must also establish standards and requirements for the safe disposal of class I and class II substances. These regulations must incorporate three categories of requirements. The first are requirements that class I or class II substances contained in bulk in appliances, machines, or other goods be removed from each appliance, machine, or other good before disposal or delivery for recycling. The second set are requirements that any appliance, machine, or other good containing a class I or class II substance in bulk not be manufactured, sold, or distributed in interstate commerce or offered for sale or distribution in interstate commerce unless it is equipped with a servicing aperture or an equally effective design feature to facilitate the recapture of the substance during service and repair or disposal of the item. The third category requires that any product in which a class I or class II substance is incorporated, so as to constitute an inherent element of that product, be disposed of in a manner that reduces, to the maximum extent practicable, the release of that substance into the environment. The exception to this is when EPA determines that the application of this third prohibition to any product would only produce insignificant environmental benefits.[3]

Effective July 1, 1992, it became "unlawful for any person, in the course of maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration, to knowingly vent or otherwise knowingly release or dispose of any class I or class II substance used as a refrigerant in that appliance (or industrial process refrigeration) in a manner which permits the substance to enter the environment."[4] Effective November 15, 1995, that prohibition became applicable to the "venting, release, or disposal of any substitute substance for a class I or class II substance by any person maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration which contains and uses as a refrigerant any such substance, unless the Administrator determines that venting, releasing, or disposing of the substance does not pose a threat to the environment."[5]

The CAA also directed EPA to adopt regulations establishing standards and requirements concerning the servicing of motor vehicle air conditioners.[6] Effective January 1, 1992, the CAA prohibited any person repairing or servicing motor vehicles for consideration from performing any service on a motor vehicle air conditioner involving the refrigerant for such air conditioner without properly using approved refrigerant recycling equipment.[7] In addition, no such person may perform

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[Section 12:205]

[1]42 U.S.C. § 7671g(a)(1) to (2). *See* 40 C.F.R. §§ 82.150 to 82.169.

[2]42 U.S.C. § 7671g(a)(3).

[3]42 U.S.C. § 7671g(b)(3).

[4]42 U.S.C. § 7671g(c)(1). De minimis releases associated with good faith attempts to recapture and recycle or safely dispose of any such substance are not subject to this prohibition. 42 U.S.C. § 7671g(c)(1).

[5]42 U.S.C. § 7671g(c)(2). An "appliance" for this purpose includes any device which contains and uses as a refrigerant a substitute substance and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer. 42 U.S.C. § 7671g(c)(2).

[6]Those regulations are at 40 C.F.R. §§ 82.30 to 82.42.

[7]42 U.S.C. § 7671h(c). "Approved refrigerant recycling equipment" is equipment certified by EPA

such service without proper training and certification.[8] The statute requires those performing service on motor vehicle air conditioners for consideration to certify that they are using approved refrigerant recycling equipment and have been properly trained.[9]

As of November 15, 1992, it is unlawful for any person to sell or distribute, or offer for sale or distribution, in interstate commerce to any person (other than a person performing service for consideration on motor vehicle air-conditioning systems in compliance with the CAA) "any class I or class II substance that is suitable for use as a refrigerant in a motor vehicle air-conditioning system and that is in a container which contains less than 20 pounds of such refrigerant."[10]

§ 12:206 Labeling

The CAA prohibits any container in which a class I or class II substance is stored or transported, and any product containing a class I substance, from being introduced into interstate commerce unless it bears a clearly legible and conspicuous label warning about the harm to the stratospheric ozone layer the substance can cause.[1] That last prohibition also applies to products containing a class II substance as of January 1, 2015.[2]

Any person may petition EPA to apply the requirements described above to a product containing a class II substance or a product manufactured with a class I or II substance which is not otherwise subject to those requirements.[3] As of January 1, 2015, the labeling requirements described above apply to all products manufactured with a process that uses a class I or class II substance.[4]

The CAA specifies that its labeling requirements for ozone-depleting chemicals will not constitute a defense to liability or a cause for reduction in damages in any civil or criminal suit under federal or state law, other than a suit for failure to comply with the CAA's labeling requirements.[5]

§ 12:207 Safe alternatives policy

(or an EPA-approved independent standards testing organization) to meet the standards established by EPA that apply to equipment for the extraction and reclamation of refrigerant from motor vehicle air conditioners. Those standards must be at least as stringent as the standards of the Society of Automotive Engineers in effect as of November 15, 1990 (SAE standard J—1990). 42 U.S.C. § 7671h(b)(2)(A). The statute defines "refrigerant" as "any class I or class II substance used in a motor vehicle air conditioner. Effective 5 years after November 15, 1990, the term 'refrigerant' shall also include any substitute substance." 42 U.S.C. § 7671h(b)(1).

[8]42 U.S.C. § 7671h(c). The effective date of the prohibition described in the text was delayed until January 1, 1993 for any person repairing or servicing motor vehicles for consideration at an entity which performed service on fewer than 100 motor vehicle air conditioners during calendar year 1990. 42 U.S.C. § 7671h(c). "Proper training and certification" refers to training and certification "in the proper use of approved refrigerant recycling equipment for motor vehicle air conditioners in conformity with standards" established by EPA for the performance of service on motor vehicle air conditioners that are at least as stringent as specified, as of November 15, 1990, in SAE standard J—1989 under the certification program of the National Institute for Automotive Service Excellence (ASE) or under a similar program such as the training and certification program of the Mobile Air Conditioning Society (MACS). 42 U.S.C. § 7671h(b)(4).

[9]42 U.S.C. § 7671h(d).

[10]42 U.S.C. § 7671h(e).

[Section 12:206]

[1]42 U.S.C. § 7671j(b).

[2]42 U.S.C. § 7671j(c)(2).

[3]42 U.S.C. § 7671j(e)(1).

[4]42 U.S.C. § 7671j(e)(5).

[5]42 U.S.C. § 7671j(f)(1).

The CAA enunciates a policy that, "[t]o the maximum extent practicable, class I and class II substances shall be replaced by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to human health and the environment."[1] The statute directs EPA to recommend federal research programs and other activities

> to assist in identifying alternatives to the use of class I and class II substances as refrigerants, solvents, fire retardants, foam blowing agents, and other commercial applications and in achieving a transition to such alternatives, and, where appropriate, seek to maximize the use of Federal research facilities and resources to assist users of class I and class II substances in identifying and developing alternatives to the use of such substances as refrigerants, solvents, fire retardants, foam blowing agents, and other commercial applications.[2]

EPA must also examine federal procurement practices and recommend measures to promote the transition by the federal government to the use of safe substitutes.[3] The statute further requires EPA to "maintain a public clearinghouse of alternative chemicals, product substitutes, and alternative manufacturing processes that are available for products and manufacturing processes which use class I and class II substances."[4]

The 1990 amendments directed EPA to adopt regulations making it unlawful to replace any class I or class II substance with any substitute substance which EPA determines may present adverse effects to human health or the environment, where EPA has identified an alternative to such replacement that: (1) reduces the overall risk to human health and the environment; and (2) is currently or potentially available.[5]

EPA also must publish a list of the substitutes prohibited under the CAA for specific uses and the safe alternatives identified under the Act for those uses.[6] In determining whether a substitute chemical is acceptable or not, EPA may not consider economic costs.[7] Any person may petition EPA to add a substance to the lists compiled under the CAA's safe alternative provisions or to remove a substance from those lists. If EPA grants such a petition, it must publish a revised list within six months of doing so.[8]

The D.C. Circuit has addressed EPA's implementation of the statutory safe alternatives policy. In *Mexichem Fluor, Inc. v. EPA*,[9] the court held that the CAA does not authorize EPA to prohibit manufacturers from making products that

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[Section 12:207]

[1]42 U.S.C. § 7671k(a). EPA regulations implementing the safe alternatives policy are at 40 C.F.R. §§ 82.170 to 82.184 (Significant New Alternatives Policy Program). *See also* EPA, *Significant New Alternatives Policy (SNAP)*, https://www.epa.gov/snap. EPA has identified SNAP substitutes by industrial sector. *See* EPA, SNAP Substitutes by Sector, https://www.epa.gov/snap/snap-substitutes-sector.

[2]42 U.S.C. § 7671k(b)(1).

[3]42 U.S.C. § 7671k(b)(2).

[4]42 U.S.C. § 7671k(b)(4).

[5]42 U.S.C. § 7671k(c).

[6]42 U.S.C. § 7671k(c). *See* OZ Technology Inc. v. E.P.A., 129 F.3d 631, 45 Env't. Rep. Cas. (BNA) 1705, 28 Envtl. L. Rep. 20224 (D.C. Cir. 1997) (upholding EPA's decision to designate HC-12a as an unacceptable substitute for CFC-12).

[7]Honeywell Intern. Inc. v. E.P.A., 374 F.3d 1363, 1372-73, 58 Env't. Rep. Cas. (BNA) 2057, 34 Envtl. L. Rep. 20065 (D.C. Cir. 2004), as amended, (Jan. 7, 2005) and opinion withdrawn in part on other grounds on reconsideration, 393 F.3d 1315 (D.C. Cir. 2005).

[8]42 U.S.C. § 7671k(d).

[9]Mexichem Fluor, Inc. v. EPA, 866 F.3d 451, 84 Env't. Rep. Cas. (BNA) 2193 (D.C. Cir. 2017). *See*

contain HFCs if they already replaced ozone-depleting substances with HFCs at a time when HFCs were listed as safe substitutes. It reasoned that such a requirement does not amount to "replacement" of an ozone-depleting substance with a safe substitute because the replacement of ozone-depleting substances with HFCs, which are not ozone-depleting substances, is a one-time event that had already occurred at the time of the initial substitution. The court recognized, however, that EPA has the authority to prohibit any manufacturers that still use ozone-depleting substances from deciding in the future to replace those substances with HFCs.[10] It also sustained as well-reasoned EPA's decision to ban further substitution of ozone-depleting substances with certain HFCs.[11]

On remand from *Mexichem Fluor*, EPA suspended the listing of HFCs in its entirety, allowing even current users of ozone-depleting substances to shift to HFCs. In *NRDC v. Wheeler*,[12] the D.C. Circuit held that EPA violated statutory notice and comment rulemaking procedures in doing so.

§ 12:208 Relationship to other laws

The CAA generally preserves state authority to adopt emission standards that are more stringent than those adopted by EPA under the CAA.[1] However, during a two-year period beginning on November 15, 1990—the effective date of the 1990 amendments—the Act prohibited any state or local government from enforcing any requirement concerning the design of any new or recalled appliance for the purpose of protecting the stratospheric ozone layer.[2] With that exception, requirements derived from Title VI are treated as "requirements for the control and abatement of air pollution" for purposes of § 116 of the statute, which preserves state authority to adopt requirements that are more stringent than federal requirements under the CAA.[3]

The statute provides that Title VI shall be construed, interpreted, and applied as a supplement to the terms and conditions of the Montreal Protocol, and not as abrogating the responsibilities or obligations of the United States to implement fully the provisions of the Protocol. Conforming to the Montreal Protocol requirements is mentioned repeatedly throughout the statute, and if there is a conflict between any provision of Title VI and any provision of the Protocol, the more stringent provision governs.[4]

The CAA required the President, commencing on the effective date of the 1990 amendments, to:

(1) prohibit the export of technologies used to produce a class I substance;
(2) prohibit direct or indirect investments by any person in facilities designed to produce a class I or class II substance in nations that are not parties to the

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also Mexichem Fluor, Inc. v. EPA, 760 Fed. Appx. 6 (D.C. Cir. 2019) (vacating EPA's 2016 rule rendering certain HCFCs unacceptable for various uses to the extent it required manufacturers to replace HFCs that were previously and lawfully installed as substitutes for ozone-depleting substances).

[10]Mexichem Fluor, Inc. v. EPA, 866 F.3d 451, 460, 84 Env't. Rep. Cas. (BNA) 2193 (D.C. Cir. 2017).

[11]Mexichem Fluor, Inc. v. EPA, 866 F.3d 451, 460 n.5, 462-64, 84 Env't. Rep. Cas. (BNA) 2193 (D.C. Cir. 2017).

[12]Natural Resources Defense Council v. Wheeler, 955 F.3d 68 (D.C. Cir. 2020).

[Section 12:208]

[1]42 U.S.C. § 7416. State authority to adopt emission standards for newly manufactured motor vehicles is more limited. *See* 42 U.S.C. §§ 7507, 7543.

[2]42 U.S.C. § 7671m(a). *See generally* Adams, *Title VI of the 1990 Clean Air Act Amendments and State and Local Initiatives to Reverse the Stratospheric Ozone Crisis: An Analysis of Preemption*, 19 B.C. ENVTL. AFF. L. REV. 173 (1991).

[3]42 U.S.C. § 7671q.

[4]42 U.S.C. § 7671m(b).

Montreal Protocol; and

(3) direct that no federal agency provide bilateral or multilateral subsidies, aids, credits, guarantees, or insurance programs, for the purpose of producing any class I substance.[5]

§ 12:209 Enforcement

The CAA provides several mechanisms for enforcing its various provisions.[1] Many of these are specifically available to enforce the provisions of Title VI and its implementing regulations. If EPA finds that any person has violated or is in violation of any requirement or prohibition of Title VI, it may issue an administrative penalty order, issue an order requiring compliance with the requirement or prohibition, bring a civil action against the alleged violator, or request the Attorney General to commence a criminal action.[2]

The CAA's citizen suit provision does not specifically authorize suits to enforce Title VI.[3] It does, however, authorize suits to enforce "an emission standard or limitation under [the CAA],"[4] and, most significantly, defines that term to include "a schedule or timetable of compliance, emission limitation, standard of performance, or emission standard."[5] The Act defines a "schedule and timetable of compliance" to mean "a schedule of required measures including an enforceable sequence of actions or operations leading to compliance with an emission limitation, other limitation, *prohibition*, or standard."[6] That definition would appear to encompass the schedules prohibiting production or consumption of class I or II substances under Title VI.

§ 12:210 Relationship of stratospheric ozone protection to climate change

A pollutant that contributes to stratospheric ozone depletion can also constitute a greenhouse gas that contributes to climate change.[1] Indeed, the statute required EPA to publish the global warming potential of each listed substance within one year of the adoption of the 1990 amendments (or one year after the addition of a substance to the lists of either class I or class II substances), after notice and opportunity for public comment. However, the statute specifies that this directive "shall not be construed to be the basis of any additional regulation under" the CAA.[2]

Industry in the United States and elsewhere introduced hydrofluorocarbons (HFCs) as non-ozone depleting alternatives to support the timely phase-out of CFCs and HCFCs. This led to widespread use of HFCs in air conditioners, refrigerators, aerosols, foams and other products.[3] Scientists subsequently discovered that, while

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[5]42 U.S.C. § 7671m(c).

[Section 12:209]

[1]*See* § 7413(a)3; § 7602(p); §§ 7604(a)-(f).

[2]42 U.S.C. § 7413(a)(3).

[3]42 U.S.C. § 7604.

[4]42 U.S.C. § 7604(a)(1).

[5]42 U.S.C. § 7604(f)(1).

[6]42 U.S.C. § 7602(p) (emphasis added).

[Section 12:210]

[1]US EPA, *Ozone-Depleting Substances,* OZONE LAYER PROTECTION, https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances (last visited Feb. 10, 2021).

[2]42 U.S.C. § 7671a(e).

[3]Godwin et al., *An analysis of reduction opportunities for consumption of hydrofluorocarbons and comparisons to US Climate Policy Proposals*, 7 JOURNAL OF INTEGRATIVE ENVIRONMENTAL SCIENCES 187, 188 (Aug. 18, 2010) https://doi.org/10.1080/19438151003767491.

HFCs may not be substantial contributors to stratospheric ozone depletion,[4] some of them are very potent greenhouse gases.

The parties to the Montreal Protocol responded by adopting the Kigali Amendment in 2016.[5] The Amendment added to the Protocol Annex F, that lists various HFCs as group 1 or group II controlled substances, as well as identifying each one's 100-year global warming potential. The Amendment requires each party to the Protocol to phase out the production and consumption of HFCs.[6] The phase-out, which began in 2019, ultimately requires 85% reductions in HFCs by 2036, relative to 2011-2013 levels.[7] Developing countries with low per capita consumption of ozone-depleting substances generally have an additional 10 years in which to comply. The Kigali Amendment also requires the parties to implement a system for licensing the import and export of new, used, recycled, and reclaimed HFCs.[8]

More than 100 parties to the Protocol had ratified the Kigali Amendment, which went into force on January 1, 2019, by the end of 2020. The United States, however, had not done so. Bipartisan legislation has since been introduced in the U.S. Congress to phase out the production and use of HFCs.[9]

In 2016, EPA extended its refrigerant management requirements to HFCs.[10] Based on "changes to the legal interpretation that supported the 2016 rule," however, EPA in 2020 revised its regulations to make the appliance maintenance and leak repair provisions applicable only to ozone-depleting chemicals, and not to HFCs.[11]

§ 12:211 The 2020 Statutory Phasedown of Hydrofluorocarbons

In 2020, Congress adopted the American Innovation and Manufacturing Act of 2020,[1] [JB27]part of the Consolidated Appropriations Act, 2021,[2] to phase out the production and use of HFCs. The Act lists various ozone-depleting HFCs as "regulated substances," each of which has been assigned an "exchange value."[3] EPA may designate additional substances if they are saturated HFCs with an exchange

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[4]*But cf.* Press Release, NASA Study Shows That Common Coolants Contribute to Ozone Depletion (Oct. 22, 2015) (reporting that "[a] class of widely used chemical coolants known as hydrofluorocarbons (HFC) contributes to ozone depletion by a small but measurable amount, countering a decades-old assumption, according to a new NASA study.").

[5]Montreal Protocol on Substances that Deplete the Ozone Layer art. 2J, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 2019).

[6]Montreal Protocol on Substances that Deplete the Ozone Layer art. 2J, Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 2019).

[7]ROBERT L. GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 1163 (8th ed. 2019).

[8]Montreal Protocol on Substances that Deplete the Ozone Layer art. 4B(1), Sept. 16, 1987, 26 I.L.M. 1541, 1522 U.N.T.S. 29 (entered into force, Jan. 1, 2019).

[9]*See, e.g.,* Press Release, Barrasso, Kennedy, and Carper Announce Agreement on HFCs Amendment to Energy Bill (Sept. 10, 2020) (discussing amendments to S. 2657, American Energy Innovation Act).

[10]Protection of Stratospheric Ozone: Update to the Refrigerant Management Requirements Under the Clean Air Act, 81 Fed. Reg. 82272, 82280 (Nov. 18, 2016).

[11]Protection of Stratospheric Ozone: Revisions to the Refrigerant Management Program's Extension to Substitutes, 85 Fed. Reg. 14150, 14150 (Mar. 11, 2020). At the time this update was written, the 2020 rule was being challenged in the D.C. Circuit. *See* New York v. Wheeler, No. 20-1151 (D.C. Cir. May 11, 2020); Natural Res. Def. Council, Inc. v. Wheeler, No. 20-1150 (D.C. Cir. May 11, 2020).

[Section 12:211]

[1]Pub. L. No. 116-260, § 103, 134 Stat. 1182 (2020) (codified at 42 U.S.C. § 7675).

[2]Pub. L. No. 116-260, 134 Stat. 1182 (2020).

[3]§ 103(c)(1). EPA has the authority not to review the exchange values listed in the statute on a periodic basis and, through notice and comment rulemaking, to adjust those values solely on the basis

value that is greater than 53, and if the designation is consistent with the purposes of the legislation.[4]

At least annually, each person who produces,[5] imports, exports, destroys, transforms, uses as a process agent, or reclaims a regulated substance must report to EPA the quantities involved.[6] Reports must include information about activities occurring during a baseline period of calendar years 2011 through 2013.[7]

Production and Consumption Baselines

The 2020 Act requires EPA to establish both a production and consumption baseline for purposes of phasing out those activities concerning regulated substances that occur in the United States.[8] The production baseline is the quantity equal to the sum of (1) the average annual quantity of all regulated substances produced in the United States between January 1, 2011 and December 31, 2013 and (2) the quantity equal to the sum of 15% of the production level of HFCs in calendar year 1989 and 0.42% of the production level of CFCs in calendar year 1989.[9] The consumption baseline is the quantity equal to the sum of (1) the average quantity of all regulated substances consumed in the United States during calendar years 2011 through 2013 (2) and the quantity equal to the sum of 15% of the consumption level of HFCs in calendar year 1989 and .042% of the consumption of CFCs in that year.[10] For purposes of establishing the production and consumption baselines, EPA must use the exchange values listed in a statutory table for regulated substances and in another statutory table for HFCs and CFCs.[11] EPA may adjust the exchange values based on the best available science and other information consistent with widely used or commonly accepted existing exchange values.[12]

HFC Production and Consumption Restrictions

With certain exceptions, during the period beginning on January 1 of each year between 2020 and 2033 and ending before the next year listed in a statutory table,[13] no person may produce a quantity of a regulated substance without a corresponding

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of the best available science and other information consistent with widely used or commonly accepted existing exchange values. § 103(c)(2).

[4]§ 103(c)(3)(A). EPA may not designate as a regulated substance a blend of substances that includes a saturated hydrofluorocarbon for purposes of phasing down production or consumption of regulated substances even if the saturated HFCs is or may be designated as a regulated substance. § 103(c)(3)(B)(i). EPA may, however, regulate a regulated substance within a blend of substances. § 103(c)(3)(B)(ii).

[5]Production means "the manufacture of a regulated substance from a raw material or feedstock chemical (but not including the destruction of a regulated substance by a technology approved by [EPA]." § 103(b)(7)(A). It does not include the manufacture of a regulated substance that is used and entirely consumed (except for trace quantities) in the manufacture of another chemical; or the reclamation, reuse, or recycling of a regulated substance. § 103(b)(7)(B).

[6]§ 103(d)(1)(A). Reclamation is "(A) the reprocessing of a recovered regulated substance to at least the purity described in standard 700–2016 of the Air-Conditioning, Heating, and Refrigeration Institute (or an appropriate successor standard adopted by the Administrator); and (B) the verification of the purity of that regulated substance using, at a minimum, the analytical methodology described in the standard referred to in subparagraph (A)." § 103(b)(9).

[7]§ 103(d)(1)(B)(iii).

[8]§ 103(e)(1)(A).

[9]§ 103(e)(1)(B).

[10]§ 103(e)(1)(C).

[11]§ 103(e)(1)(D)(i). The two tables are found in § 103(c)(1) and (e)(1)(D)(i).

[12]§ 103(e)(1)(D)(ii)(II).

[13]The table is found in § 103(e)(2)(C).

quantity of production allowances.[14] Similarly, no person may consume a quantity without a corresponding quantity of consumption allowances.[15] Further, no person may hold, use, or transfer any production or consumption allowance except in compliance with EPA regulations adopted under the 2020 Act.[16] For each year listed in the statutory table, EPA must ensure that the annual quantity of all regulated substances produced or consumed in the United States does not exceed the product obtained by multiplying the production or consumption baseline and the applicable percentages described in the statute (90% for 2020-2023, 60% for 2024-2028, and 30% from 2029-2033 for both production and consumption baselines).[17]

By October of each year, EPA must use the quantity whose calculation is described in the preceding paragraph to determine the quantity for the production and consumption of regulated substances that may be used for the following calendar year.[18] The statute provides that allowances do not constitute property rights, but rather are limited authorizations for the production or consumption of a regulated substance.[19] It also provides that nothing in the 2020 Act limits the authority of the United States to terminate or limit such an authorization.[20]

The 2020 Act requires EPA to issue a final rule phasing down the production of regulated substances through an allowance allocation and trading program.[21] The rule must also phase down the consumption of regulated substances through an allowance allocation and trading program that conforms to the statutory schedule.[22]

Exceptions to the HFC Production and Consumption Phasedowns

The statutory phasedown does not apply to a regulated substance that is used and entirely consumed in the manufacture of another chemical or to a regulated substance that is used and not entirely consumed in the manufacture of another chemical if the remaining amounts of the regulated substance are subsequently destroyed.[23] EPA also may authorize a person (by rule) to produce a regulated substance in excess of the number of production allowances held by that person if the authorization is for a renewable period of not more than five years, and the production is at a facility located in the United States, is solely for export to and use in a foreign country that is not subject to statutory restrictions on transfers of allowances between the United States and foreign countries,[24] and the authorization would not violate the provisions concerning the maximum annual quantity of regulated substances produced or consumed in the United States.[25]

In addition, EPA may allocate a quantity of allowances for a period of not more than five years for the production and consumption of a regulated substance exclusively for use in an application if (1) no safe or technologically achievable substitute will be available during the applicable period for that application; and (2) the supply of the regulated substance that manufacturers or users of the regulated

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[14] § 103(e)(2)(A)(i).

[15] § 103(e)(2)(A)(ii).

[16] § 103(e)(2)(A)(iii).

[17] § 103(e)(2)(B), (C).

[18] § 103(e)(2)(D)(i).

[19] § 103(e)(2)(D)(ii)(I).

[20] § 103(e)(2)(D)(ii)(II).

[21] § 103(e)(3)(A)

[22] § 103(e)(3)(B).

[23] § 103(e)(4)(A).

[24] Those restrictions are found at § 103(j).

[25] § 103(e)(5). The provisions referred to at the end of the sentence in text are in § 103(e)(2)(B), which are described above.

substance for that application are capable of securing from chemical manufacturers, including quantities available from production or import, is insufficient to accommodate the application.[26] Persons may file petitions with EPA requesting the designation of an application as such an essential use.[27] For the five-year period beginning on the date of enactment of the 2020 Act, EPA must allocate the full quantity of allowances necessary (based on projected, current, and historical trends) for the production or consumption of a regulated substance for the exclusive use of that substance in an application solely for various specified medical, military and defense-related, semi-conductor, and aerospace fire suppression uses.[28] For each essential use receiving an allocation of allowances under these provisions, EPA must review the availability of substitutes, including any quantities available from reclaiming or prior production, at least once every five years.[29] Based on such reviews, EPA may renew essential use exceptions for periods of not more than five years.[30]

Accelerated Phasedowns

In response to a petition submitted to EPA,[31] EPA may adopt regulations that establish a schedule for phasing down the production or consumption of regulated substances that is more stringent that the statutory phaseouts.[32] Among other things, any such regulations must ensure that there will be sufficient quantities of regulated substances (including substances available from reclaiming, prior production, or prior import) to meet the needs for applications that receive an essential use allocation and to foster continued reclamation of and transition from regulated substances.[33] EPA may not set the level of production allowances or consumption allowances below the percentage of the consumption baseline that is actually consumed during the calendar year prior to the year during which the agency decides to accelerate a phaseout.[34] EPA may not adopt a production or consumption phaseout regulation that is more stringent than the production or consumption levels set forth in the statutory phaseout schedule that takes effect before January 1, 2025.[35] On the other hand, the 2020 Act does not authorize EPA to adopt regulations that establish a schedule for phasing down the production or consumption of regulated substances that is *less* stringent than the production and consumption levels of regulated substances required under that same statutory phaseout schedule.[36]

Allowance Trading and Transfers

The 2020 Act requires EPA to issue regulations governing the transfer of allowances for the production of regulated substances.[37] The regulations must ensure that

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[26] § 103(e)(4)(B). In specifying these essential use exceptions, EPA must consider technical achievability, commercial demands, affordability for residential and small business consumers, safety, and the overall economic costs and environmental impacts compared to historical trends. § 103(e)(4)(B)(i).

[27] § 103(e)(4)(B)(ii).

[28] § 103(e)(4)(B)(iv)(I).

[29] § 103(e)(4)(B)(v)(I).

[30] § 103(e)(4)(B)(v)(II).

[31] The petition process, and the criteria for EPA review of petitions, are described at § 103(f)(3).

[32] § 103(f)(1).

[33] § 103(f)(2)(A).

[34] § 103(f)(2)(B).

[35] That schedule is at § 103(e)(2)(C). *See also* § 103(f)(4).

[36] § 103(f)(6).

[37] § 103(g)(1).

the transfers will result in greater total reductions in the production of regulated substances in each year than would occur during the year in the absence of the transfers.[38] They also must permit two or more persons to transfer production allowances if the transferor will be subject to an enforceable and quantifiable reduction in annual production that (1) exceeds the reduction otherwise applicable to the transferor; (2) exceeds the quantity of production allowances transferred to the transferee; and (3) would not have occurred in the absence of the transaction.[39] In addition, the regulations must provide for the trading of consumption allowances in the same manner as applies to the trading of production allowances.[40]

Equipment Servicing and Repair

EPA also must adopt regulations to control any practice, process, or activity regarding the servicing, repair, disposal, or installation of equipment that involves a regulated substance, a substitute for a regulated substance, the reclaiming of a regulated substance used as a refrigerant, or the reclaiming of a substitute for a regulated substance used as a refrigerant.[41] A regulated substance used as a refrigerant that is recovered must be reclaimed before the regulated substance is sold or transferred to a new owner, except where the recovered regulated substance is sold or transferred to a new owner solely for the purposes of being reclaimed or destroyed.[42] These regulations will not apply to a regulated substance or a substitute for it that is contained in a foam.[43]

Sector Restrictions

EPA is authorized under the 2020 Act to issue rules that restrict—fully, partially, or on a graduated schedule—the use of a regulated substance in the sector or subsector in which the substance is used.[44] EPA must consider the use of negotiated rulemaking, which involves stakeholders in the relevant sector or subsector, before proposing a rule that imposes such restrictions.[45] Any person may petition EPA for the adoption of restrictions on use of a regulated substance in a sector or subsector.[46] In conducting a rulemaking pursuant to this authority, or making a determination to grant or deny a rulemaking petition, EPA must, to the extent practicable, consider a series of factors. These include the best available data; the availability of substitutes; overall economic costs and environmental impacts (as compared to historical trends); and the remaining phase-down period for the regulated substances.[47] Rules adopted pursuant to this authority may not apply to designated essential uses,[48] except for a retrofit application of equipment in existence before the adoption of the 2020 Act.[49]

International Reciprocity

With limited exceptions, the 2020 Act prohibits the trade or transfer of a produc-

[38] § 103(g)(2)(A).

[39] § 103(g)(2)(B).

[40] § 103(g)(2)(C).

[41] § 103(h)(1).

[42] § 103(h)(2)(B).

[43] § 103(h)(4).

[44] § 103(*i*)(1).

[45] § 103(*i*)(2)(A).

[46] § 103(*i*)(3)(A).

[47] § 103(*i*)(4).

[48] These uses are those referred to at § 103(e)(4)(B)(i), (iv).

[49] § 103(*i*)(7)(B). The term "retrofit" is defined at § 103(*i*)(7)(A).

tion allowance or, after January 2, 2033, the export of a regulated substance to a person in a foreign country that has not enacted or otherwise established within a reasonable timeframe the same or similar requirements or otherwise undertaken commitments regarding the production and consumption of regulated substances as the 2020 Act imposes.[50]

A person may engage in a trade or transfer of a production allowance to a person in a foreign country if, at the time of the transfer, EPA revises the number of production allowances for the United States such that the aggregate national production of the regulated substance to be traded under the revised production limits is equal to the least of three numbers. These numbers are (1) the maximum production level permitted for the applicable regulated substance in the year of the transfer, less the production allowances transferred; (2) the maximum production level permitted for the applicable regulated substance in the transfer year under applicable law, less the production allowances transferred; and (3) the average of the actual national production level of the applicable regulated substance for the three-year period ending on the date of the transfer, less the production allowances transferred.[51]

A person also may engage in a trade or transfer of a production allowance otherwise prohibited by the international reciprocity provisions from a person in a foreign country if, at the time of the trade or transfer, EPA finds that the foreign country has revised the domestic production limits of the regulated substance in the same manner as provided with respect to transfers by a person in the United States under the 2020 Act.[52]

Relationship to Other Law

The 2020 Act delegates to EPA the authority to adopt such regulations as are necessary to carry out EPA's functions with respect to the phasedown of HFCs.[53] Specified sections of the Clean Air Act apply to any rules adopted under the 2020 Act as if they were expressly included in Title VI of the Clean Air Act.[54] These sections include those governing enforcement;[55] recordkeeping, inspections, monitoring, and entry;[56] citizen suits;[57] and judicial review and rulemaking procedure.[58]

Preemption

During the five-year period beginning on the date of enactment of the 2020 Act, no state or political subdivision may enforce a statute or administrative action restricting the management or use of a regulated substance with respect to an exclusive use for which a mandatory allocation of allowances is provided under the 2020 Act.[59] If EPA authorizes an additional period for the production or consumption of a regulated substance for such an exclusive use,[60] no state or political subdivision may enforce a statute or administrative actions restricting the management or

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[50] § 103(j)(1).

[51] § 103(j)(2)(A).

[52] § 103(j)(2)(B).

[53] § 103(k)(1)(A).

[54] § 103(k)(1)(C).

[55] 42 U.S.C. § 7413.

[56] 42 U.S.C. § 7414.

[57] 42 U.S.C. § 7604.

[58] 42 U.S.C. § 7607. *See* § 103(k)(1)(C).

[59] § 103(k)(2)(A). The provision governing allocation of allowances cross-referenced in this provision is § 103(e)(4)(B)(iv)(I).

[60] The authority to authorize such an additional period is provided by § 103(e)(4)(B)(v).

use of the regulated substance within that exclusive use for the duration of that additional period.[61]

§ 12:212 Conclusion

By joining the Montreal Protocol of 1987, the United States committed itself to restrict production and consumption of chemicals that deplete the stratospheric ozone layer and created risks to public health and the environment. Congress implemented its responsibilities under the Protocol by adopting Title VI of the 1990 Clean Air Act Amendments. Those provisions required EPA to administer the phaseout, with limited exceptions, of production and consumption of ozone-depleting chemicals such as CFCs, HCFCs, and halons. Like the acid rain control provisions of Title IV of the 1990 amendments, the ozone protection provisions endorsed a form of emissions trading by authorizing the transfer of allowances created by the statute. In accordance with amendments to the Montreal Protocol, EPA accelerated the phaseouts in some instances.

One of the purposes of Title VI was to induce the substitution for ozone-depleting chemicals of chemicals that did not harm the ozone layer. It later became clear, however, that some of these substitutes, such as HFCs, not only had at least some harmful impact on the ozone layer, but were also potent greenhouse gases that contributed to anthropogenic climate change. In the American Innovation and Manufacturing Act of 2020, which was passed as part of a massive appropriations bill, Congress mandated the phasedown of HFCs as well.

XVIII. ENFORCEMENT*

§ 12:213 Introduction

Enforcement of Clean Air Act (CAA) regulations is intended to ensure protection of air quality.[1] Enforcement cases, both civil and criminal, can begin, proceed, and end in many different ways. This section provides a general discussion of state, tribal, and federal enforcement under the CAA.

Statutory authority, legal standards, burdens of proof, and the enforcement process generally will be described for both civil and criminal enforcement. Notably, civil enforcement differs from criminal enforcement in its legal standard, burden of proof, and sometimes the result or resolution.

Liability for an environmental crime requires specific or general intent, or *mens rea*. The knowledge that the act being performed is a violation—or at least intentionally performing the act—is the dividing line between civil and criminal acts. *Mens rea* is also a key factor in determining the possibility of imprisonment in the criminal context. However, these are not the only factors that differ between civil and criminal environmental enforcement cases.

§ 12:214 State and/or Tribal Enforcement

A. Framework

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[61] § 103(k)(2)(B)(i). The period for which this limitation on state regulatory authority applies may not exceed five years from the date on which the period referred to in § 103(k)(2)(A) ends. § 103(k)(2)((B)(ii).

*By **Laura J. Finley** and **Madison B.C. Miller.** Incorporating § 12:49 from versions prior to Fall 2021 by **Phillip D. Reed,** updates by **Susan L. Stephens;** previous updates by **Alan J. Gilbert** and **Lawrence N. Curtin.**

[Section 12:213]

[1] 42 U.S.C. §§ 7401 to 7671q, ELR STAT. CAA §§ 101 to 618.

1. States

A state's authority to enforce federal environmental laws is derived from a patchwork of authorities delegated from EPA, pursuant to the cooperative federalism framework and the CAA.[1] In most states, a state environmental enforcement authority or agency is created by the state legislature through what is known as an enabling statute.

A state must first obtain EPA approval of its State Implementation Plan (SIP) in order to have the authority to implement and enforce federal air quality laws.[2] SIPs must clearly provide for state enforcement of air quality standards and other requirements. For example, CAA § 110(a)(2)(A) explicitly states that each SIP must "include *enforceable* emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter . . ."[3] CAA § 110(a)(2)(C) further requires SIPs to contain provisions for enforcement of said emission limitations and other requirements, stating SIPs must "include a *program to provide for the enforcement* of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D of this subchapter . . ."[4]

With respect to federal rules promulgated under CAA § 111 or § 112, the delegation of authority to a state is somewhat separate from the SIP process. A state with a federally enforceable environmental program under 40 C.F.R. Part 62 may be delegated the authority to implement and enforce the federal rules promulgated pursuant to CAA § 111 and § 112 and 40 C.F.R. Parts 60, 61, and 63 (NSPS and NESHAP).[5] To obtain delegation, a state must demonstrate to EPA that it has all the required authorities for delegation of the § 111 or § 112 program.[6] Regarding NESHAP, 40 C.F.R. § 63.91 sets forth criteria states must meet for delegation of a § 112 program.[7] State delegations are listed in 40 C.F.R. §§ 60.4 and 63.99.

Thus, with the necessary legal framework in place, a state may operate an enforcement program. EPA may enter into a memorandum of understanding to establish the division of enforcement responsibilities with state agencies, or other forms of delegation, depending upon the program at issue. These approvals and agreements are, therefore, administered according to the state-specific legal framework. Additionally, the state usually maintains a memorandum of understanding or some other agreement with the applicable EPA regional office regarding the state enforce-

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[Section 12:214]

[1]Chapter 7 discusses cooperative federalism and states' inherent authority as sovereigns to regulate pollution, public health and wellness, and natural resources. Delegation refers to the transfer of authority from EPA to the state. EPA delegates its authority via a grant of approval to states.

[2]*See* Part IV on SIPs.

[3]Clean Air Act § 110(a)(2)(A), 42 U.S.C.A. § 7410(a)(2)(A).

[4]Clean Air Act § 110(a)(2)(C), 42 U.S.C.A. § 7410(a)(2)(C).

[5]Clean Air Act § 111(c), 42 U.S.C.A. § 7411(c); Clean Air Act § 112(l), 42 U.S.C.A. § 7412(l).

[6]In general, a state must demonstrate it has adequate statutory and other legal authority to implement the programs for which it seeks delegation.

[7]Specifically, 40 C.F.R. § 63.91(d) requires that a state must meet the criteria set forth in CAA § 112(l) to obtain up-front approval status of NESHAPs. Clean Air Act § 112(l)(5)(A) to (D), 42 U.S.C.A. § 7412(l)(5)(A) to (D) requires that states must demonstrate they have adequate legal authority to enforce the rules and implement the program, the schedule for implementing the program and ensuring compliance is expeditious, and the program must be in compliance with guidance issued by the EPA Administrator and will satisfy the objectives of the CAA.

ment program.

Under this program, the state assesses sources' compliance with applicable permits as well as state and federal laws on an individual source basis. The federal CAA does not prohibit states from enforcing more stringent requirements. However, states may maintain legislative restrictions on their ability to promulgate more stringent requirements than the federal CAA.

2. Tribes

Tribes may obtain Treatment as a State (TAS) status from EPA; TAS allows EPA to treat a tribe in a similar manner as states with respect to the major federal environmental statutes, including the CAA.

Specifically, § 301(d) of the CAA, which was enacted with the 1990 CAA amendments, states that the EPA Administrator is authorized to treat tribes as states. The Agency promulgated what is known as the Tribal Authority Rule on February 12, 1998, to implement the provisions of CAA § 301(d) and to authorize eligible tribes to enact and carry out their own tribal air programs.[8]

40 C.F.R. Part 49 sets forth the regulations governing tribes as states, including eligibility requirements for tribes and certain provisions under which it is *not* appropriate to treat tribes as states. Under these rules, tribes may obtain the authority to operate permitting programs and compliance/enforcement programs to exercise oversight of said permit programs.

Tribes must have an approved Tribal Implementation Plan (TIP) to operate CAA programs[9] which are applicable to all areas within the external boundaries of the tribe's reservation (unless stated otherwise) regardless of rights of way or any other patent that may have been issued. Section 110(o) of the CAA states "[i]f an Indian tribe submits an implementation plan to the Administrator pursuant to section 7601(d) of this title, the plan shall be reviewed in accordance with the provisions for review set forth in this section for State plans . . ."[10]

Many tribes have obtained authority to implement parts of the CAA, but few tribes operate CAA enforcement programs. The Navajo Nation of Arizona, the Gila River Indian Community of Arizona, and the St. Regis Mohawk Tribe of New York, have all obtained TAS status from EPA and have enacted air quality programs with some aspect of enforcement. The Cherokee Nation of Oklahoma has enacted an air quality code in anticipation of obtaining TAS status for the CAA in the future.

Looking at each of these three tribes in turn, the Navajo Nation's tribal government codified the Navajo Nation Air Pollution and Prevention Control Act, which authorizes the Navajo Nation to issue permits, implement federal rules, and enter into consent orders for any violations of the Act.[11] The Gila River Indian Community has promulgated ordinances allowing for civil and criminal enforcement of its air quality ordinances through the issuance of penalties and administrative orders.[12] The St. Regis Mohawk Tribe, in turn, is implementing an approved TIP that details its minor source permit program and open burning rules, allowing for enforcement in the case of noncompliance.[13] The Cherokee Nation Air Quality Code, which contains provisions for permitting and enforcement, aims to "ensure that the Nation

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[8]Indian Tribes: Air Quality Planning and Management, 63 Fed. Reg. 7254 (Feb. 12, 1998).

[9]*See* § 12:32 on TIPs.

[10]Clean Air Act § 110(o), 42 U.S.C.A. § 7410(o).

[11]The Navajo Nation Air Pollution Prevention and Control Act, NNC, §§ 1101–1162 (2004), *available at* https://www.navajonationepa.org/Pdf%20files/NNAQCP-NavajoNationCleanAirAct_Final.pdf.

[12]GILA RIVER INDIAN COMMUNITY CODE, tit. 17, § 9 (2008), *available at* http://www.gricdeq.org/view/download.php/air-quality-program/aqmp-parts/part-iii---enforcement-ordinances.

[13]St. Regis Mohawk Tribe, *Tribal Implementation Plan* (2004), *available at* https://www.srmt-nsn.

has an air quality code that is comprehensive and will ensure that the Nation has the authority in place to obtain treatment as state for air programs."[14]

Due to the landmark Supreme Court decision in *Montana v. United States*, there is some question as to whether tribes have authority to assess penalties against non-Indians in Indian Country unless one of the two Montana exceptions applies.[15]

B. *Enforcement Process*

1. Discovery and Notice of Violations

As part of its delegated enforcement program, a state must inspect a certain number of targeted sources per year. During these inspections, the state reviews the source's permit and any applicable federal or state rules in conjunction with the source's records. This inspection may be conducted on- or off-site. A walk-through of the site will also lead to compliance determinations. When the designated state environmental agency completes its inspection, the relevant personnel generate a report, and any violations identified are categorized according to significance level. Depending on state law, a notice of violation must usually be written and sent to the permittee a certain number of days prior to when the state may issue an administrative order assessing penalties and other remedies.

Where a state or tribe is not delegated enforcement powers, EPA will be the primary enforcement authority. Section 114 of the CAA grants EPA investigatory authority which, on its face, is quite broad.[16] Paragraph (1) of § 114(a) authorizes EPA to require owners and operators of emission sources and others "subject to any requirement of" the Act to keep records, make reports, and sample emissions.[17] Paragraph (2) of § 114(a) grants EPA the authority to enter a permittee's premises or other places where required records are kept, and states that inspectors "may at reasonable times have access to and copy any records, inspect any monitoring equipment or method" required by the CAA, and analyze any emissions sampling that permittees are required to conduct.[18]

Congress added significantly to EPA's information-gathering arsenal via the 1990 Amendments, empowering the Agency to use its existing administrative subpoena authority under § 307(a) in enforcement proceedings.[19] The Agency also may pay rewards for information leading to the imposition of criminal sanctions or civil

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gov/_uploads/environment/aqp-airtip.pdf.

[14]Cherokee Nation Air Quality Act of 2004, 63 CHEROKEE NATION CODE ANNOTATED § 2 (1993), *available at* https://www.cherokee.org/media/f3genc52/24356air-quality-code-la_42-04.pdf.

[15]*See* Elizabeth Ann Kronk Warner, *Returning to the Environmental Tribal "Laboratory": An Examination of Environmental Enforcement Techniques In Indian Country*, 6 MICH. J. ENVTL. & ADMIN. L. 341 (2017).

In the U.S. Supreme Court case, Montana v. U. S., 450 U.S. 544, 101 S. Ct. 1245, 67 L. Ed. 2d 493 (1981), the Supreme Court addressed the question of whether tribes have inherent authority over non-Indians on fee lands within a reservation. The court determined tribes lack general authority but carved out two exceptions to this rule now known as the Montana test. The two exceptions that allow a tribe to regulate non-Indians within Indian country are: 1) the tribe may regulate activities of non-members who enter into consensual relationships with the tribe or its members, and 2) a tribe may regulate the conduct of non-Indians on fee lands within its reservation when that conduct threatens or has some direct effect on the political integrity, the economic security, or the health and welfare of the tribe. The Montana case was in the context of the Crow Tribe and whether the tribal government had inherent authority to preclude fishing by non-members within waterways in a reservation to which the tribe did not hold the beneficial interest in the underlying land.

[16]*See generally* U.S. v. Tivian Laboratories, Inc., 589 F.2d 49, 12 Env't. Rep. Cas. (BNA) 1568, 9 Envtl. L. Rep. 20008 (1st Cir. 1978) (constitutionality of section 114 upheld).

[17]Clean Air Act § 114(a)(1), 42 U.S.C.A. § 7414(a)(1).

[18]Clean Air Act § 114(a)(1), (2), 42 U.S.C.A. § 7414(a)(1), (2).

[19]Clean Air Act § 307(a), 42 U.S.C.A. § 7607(a) as amended by § 703 of the 1990 Amendments.

penalties.[20] EPA also must require major sources (and *may* require other sources) to submit "compliance certifications." These certifications must state whether the source is in compliance, whether any violations are continuous or intermittent, and what method was used for determining the source's compliance status, along with other information.[21] Furthermore, a person not directly regulated may be required to keep records under § 114(a)(1), if their business bears directly on others' compliance with the Act.[22]

EPA uses its investigatory authority aggressively but is not completely free from constraint. EPA inspectors must obtain warrants absent permission.[23] However, the grant of authority is sufficiently broad to allow types of inspections not enumerated in the statute—such as aerial surveillance.[24] In other areas, the extent of EPA authority is unclear: for example, courts in the Sixth and Tenth Circuits have held that EPA lacks authority to use private contractors in § 114 inspections,[25] but courts in the Ninth Circuit have taken the opposite view.[26]

A general check on both reporting requirements and inspections is that they must further EPA's regulatory or enforcement responsibilities, and they must be reasonable.[27] Section 114 provides that all information obtained by EPA under the section must be made available to the public, unless the source of the information

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[20]Clean Air Act § 113(f), 42 U.S.C.A. § 7413(f) as added by § 701 of the 1990 Amendments. EPA has proposed regulations governing awards under this provision. *See* 59 Fed. Reg. 22795 (May 3, 1994) (to be codified at 40 C.F.R. Part 65, Subpart BBB).

[21]Clean Air Act § 114(a)(3), 42 U.S.C.A. § 7414(a)(3) as added by § 702(b) of the 1990 Amendments.

[22]Ced's Inc. v. U.S. E.P.A., 745 F.2d 1092, 21 Env't. Rep. Cas. (BNA) 1843, 40 Fed. R. Serv. 2d 26, 14 Envtl. L. Rep. 20869 (7th Cir. 1984) (a manufacturer of unregulated auto parts could be inspected under § 114, because the parts could be used to evade auto emission control requirements in violation of Clean Air Act § 203(a)(3)(B), 42 U.S.C.A. § 7522(a)(3)(B)).

[23]EPA has read the Supreme Court's decision in Marshall v. Barlow's, Inc., 436 U.S. 307, 98 S. Ct. 1816, 56 L. Ed. 2d 305, 6 O.S.H. Cas. (BNA) 1571, 1978 O.S.H. Dec. (CCH) P 22735, 8 Envtl. L. Rep. 20434 (1978) as requiring warrants for administrative inspections under the Occupational Safety and Health Act, as governing Clean Air Act inspections. The Court held that administrative agencies could obtain *ex parte* warrants if surprise were necessary to ensure an accurate compliance investigation and that a formal showing of probable cause was not necessary: The agency need only show that it wished to inspect a facility as part of a "neutral inspection scheme."

[24]Dow Chemical Co. v. U.S., 476 U.S. 227, 106 S. Ct. 1819, 90 L. Ed. 2d 226, 24 Env't. Rep. Cas. (BNA) 1385, 16 Envtl. L. Rep. 20679 (1986). The Court held that EPA's aerial photography of Dow's chemical manufacturing facility was within EPA's authority under § 114 and not a warrantless search prohibited by the Fourth Amendment.

[25]*See* U.S. v. Stauffer Chemical Co., 464 U.S. 165, 104 S. Ct. 575, 78 L. Ed. 2d 388, 20 Env't. Rep. Cas. (BNA) 1257, 14 Envtl. L. Rep. 20064 (1984). The Court held that EPA was collaterally estopped from litigating the question of its authority to use private inspectors against Stauffer in the Sixth Circuit, U.S. v. Stauffer Chemical Co., 684 F.2d 1174, 17 Env't. Rep. Cas. (BNA) 1753, 12 Envtl. L. Rep. 20810 (6th Cir. 1982), judgment aff'd, 464 U.S. 165, 104 S. Ct. 575, 78 L. Ed. 2d 388, 20 Env't. Rep. Cas. (BNA) 1257, 14 Envtl. L. Rep. 20064 (1984), after losing on the identical issue against Stauffer in the Tenth Circuit. Stauffer Chemical Co. v. Environmental Protection Agency, 647 F.2d 1075, 15 Env't. Rep. Cas. (BNA) 2044, 11 Envtl. L. Rep. 20562 (10th Cir. 1981).

[26]The Ninth Circuit held in Bunker Hill Co. Lead and Zinc Smelter v. U.S. Environmental Protection Agency, 658 F.2d 1280, 16 Env't. Rep. Cas. (BNA) 1552, 72 A.L.R. Fed. 168 (9th Cir. 1981) that EPA may use contractor inspectors in the Ninth Circuit (but perhaps not against Stauffer), may not use them in the Sixth or Tenth Circuit against anyone, and may use them in other circuits (but not against Stauffer).

[27]Clean Air Act § 114(a), 42 U.S.C.A. § 7414(a), specifies the purposes for which EPA may use its investigatory authority. The Fourth Amendment imposes the reasonableness requirement. *See, e.g.*, Dow Chemical Co. v. U.S. By and Through Burford, 749 F.2d 307, 21 Env't. Rep. Cas. (BNA) 1913, 14 Envtl. L. Rep. 20858 (6th Cir. 1984), judgment aff'd, 476 U.S. 227, 106 S. Ct. 1819, 90 L. Ed. 2d 226, 24 Env't. Rep. Cas. (BNA) 1385, 16 Envtl. L. Rep. 20679 (1986).

demonstrates that it should be held confidential to protect trade secrets.[28] However, emission data may not be protected.[29] As a specific example, information about the configuration of a manufacturing plant that is not necessary to estimate emissions may be protected.[30]

Finally, § 114 requirements may be enforced with the other authorities of the Act.[31] For example, EPA has used its § 114 investigatory authority to gather evidence to initiate several enforcement actions around the country against electric power plants for allegedly making changes to their facilities that constitute "modifications" subject to NSR/RSD.

i. Monitoring for Compliance

Monitoring for compliance with emission limitations is rarely an easy matter. Many emission limits are stated in terms of mass emission rates, which can be measured only at the top of a stack. The emissions may be spot checked with a stack test, but the procedure is expensive and presents only a snapshot in time. Since conducting stack tests often requires construction of scaffolding to gain access to the top of the stack, it is impossible for regulators to conduct surprise tests. A continuous emission monitoring system (CEMS) is required in a number of federal new source performance standards,[32] and states are required to mandate CEMS in their SIPs.[33]

Regulators have relied on surrogate measurements as a result of these difficulties. For example, SIPs generally include opacity standards along with mass particulate standards.[34] Opacity is a measure of the extent to which a plume of particulate smoke obscures light. Trained "smoke readers" can estimate the opacity following EPA's promulgated Method 9,[35] and so the vast majority of particulate enforcement activities are carried out through opacity readings. Another example is sulfur dioxide

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[28]Clean Air Act § 114(b), 42 U.S.C.A. § 7414(b); 40 C.F.R. pt. 2, subpt. B.

[29]Clean Air Act § 114(b), 42 U.S.C.A. § 7414(b); 40 C.F.R. pt. 2, subpt. B.

[30]RSR Corp. v. E.P.A., 588 F. Supp. 1251, 21 Env't. Rep. Cas. (BNA) 1861, 15 Envtl. L. Rep. 20129 (N.D. Tex. 1984).

[31]Clean Air Act § 114 regulates EPA's authority to conduct inspections, require recordkeeping and monitoring, and enter premises. *See also* U.S. v. Harford Sands, Inc., 575 F. Supp. 733, 20 Env't. Rep. Cas. (BNA) 2264, 14 Envtl. L. Rep. 20337 (D. Md. 1983).

[32]*See, e.g.*, 40 C.F.R. § 60.84(a) (continuous SO_2 monitors required for sulfuric acid plants); 40 C.F.R. § 60.45(a) (continuous SO_2, NO_x, CO or O_3, and opacity monitors required for fossil-fuel-fired steam generators built after Aug. 17, 1971). *See also* 40 C.F.R. § 60.13 (general rules for continuous monitoring); 40 C.F.R. pt. 60, app. B (performance standards for continuous emission monitors). In a case of first impression, a utility was found in violation of state opacity limits more than 19,000 times; continuous emission monitoring data was used as evidence. Sierra Club v. Public Service Co. of Colorado, Inc., 894 F. Supp. 1455, 41 Env't. Rep. Cas. (BNA) 1823, 25 Envtl. L. Rep. 21461 (D. Colo. 1995). The court rejected the utility's argument that evidence of a violation of an opacity limit is restricted to the observations of a trained smoke reader using 40 C.F.R. pt. 60, app. A-4, Method 9. The case was settled for $140 million in added pollution controls. *EPA Pact Requires Colorado Utility to Shoulder Heavy Costs*, 7 INSIDE WASHINGTON PUBLISHERS NO. 11 25, 25 (1996).

[33]*See* 40 C.F.R. § 51.214.

[34]*See, e.g.*, Rules & Regs. of the State of Ga. § 391-3-1-.02(b) (visible emissions in excess of 40% opacity prohibited unless specifically authorized); Rules & Regs. of the State of Ga. § 391-3-1-.02(d)(i) (fuel burning sources with less than 10 million BTU heat input limited to 0.7 pounds of particulate per million BTU of heat input).

[35]40 C.F.R. pt. 60 app. A, Method 9 sets forth the requirements for reading opacity. *See* Portland Cement Ass'n v. Train, 513 F.2d 506, 510, 7 Env't. Rep. Cas. (BNA) 1941, 5 Envtl. L. Rep. 20341, 20342 (D.C. Cir. 1975), holding that opacity reading is a good measure of pollution and aids in emission control). *See* U.S. EPA, POLICY ON CIVIL PENALTIES, EPA GENERAL ENFORCEMENT POLICY #GM-21, *available at* https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf; U.S. EPA, A FRAMEWORK FOR STATUTE-SPECIFIC APPROACHES TO PENALTY ASSESSMENTS: IMPLEMENTING EPA'S POLICY ON CIVIL PENALTIES, EPA GENERAL ENFORCEMENT POLICY #GM-22, *available at* https://www.epa.gov/sites/production/f

from fuel burning sources. The amount of sulfur in the fuel is a useful surrogate for the amount of emissions, since, in the absence of sulfur dioxide controls, all the sulfur generally goes up the stack.[36] Most SIPs therefore include sulfur-in-fuel standards and compliance can be easily tested by sending samples of the fuel for lab analysis.

ii. Compliance Assistance

Both States and the EPA offer compliance assistance in the form of various resources to assist regulated entities in maintaining compliance. EPA funds organizations to administer its Compliance Assistance Centers or online resource information portals,[37] currently serving 16 different categories of industry. For example, *Combustion Portal* contains regulatory information on boilers, incinerators, engines, and wood heating appliances, while *Oil & Natural Gas Energy Extraction* provides resources supporting environmental compliance for entities engaged in energy extraction activities. The Centers all offer information on applicable regulations and current trends, as well as tools such as emission calculators. Likewise, most states provide compliance assistance information either on their websites or directly from their staff who are typically very willing to answer questions and provide resources to regulated entities.

iii. Self-Disclosures

Most states will have set forth a rule, statute, or policy providing a self-disclosure or self-audit program. The breadth of the state program will depend on which federal rules the state has requested and for which rules it has received delegation of enforcement authority. This is because the state may administer an audit or penalty mitigation program only for violations of rules and regulations for which the state is delegated enforcement authority. This approach is generally based on penalty mitigation in order to incentivize regulated entities to conduct voluntary audits and to proactively disclose any discovered violations.

In an effort to encourage regulated entities to find, disclose, correct, and prevent the reoccurrence of violations, EPA in 2008 announced an interim approach to incentivize new owners to take advantage of its Audit Policy. Under this policy, regulated sources perform a self-audit with regard to compliance, including air emissions. The Policy offers eligible new owners of regulated facilities both penalty mitigation and coverage of additional categories of violations.[38] EPA maintains a policy of generally "defer[ring] to state penalty mitigation for self-disclosures as long as the state policy meets minimum requirements for federal delegation."[39]

Mitigation is also available under the EPA policy titled Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, which was published on April 11, 2000.[40] The policy contains nine conditions (defined in detail in Box 1 below).[41] If an entity satisfies all nine, it will be eligible for full mitigation

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iles/documents/penasm-civpen-mem.pdf.

[36]*See, e.g.*, COMAR § 10.18.07 (2021) (in the urbanized areas of the state, solid fuels may not exceed 1% sulfur, distillate fuel oils, 0.3%, and residual fuel oils, 1%).

[37]U.S. EPA, *Compliance Assistance Centers*, http://epa.gov/compliance/compliance-assistance-centers.

[38]73 Fed. Reg. 44991.

[39]Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 65 Fed. Reg. 19618, § I.G (April 11, 2000).

[40]Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 65 Fed. Reg. 19618, § I.G (April 11, 2000).

[41]65 Fed. Reg. 19618, § II.D.

of what is known as the *gravity-based* penalty (explained later in this discussion).[42] However, it will not be eligible for the mitigation of any *economic benefit* portion of the penalty, which is that portion of the penalty assessed to account for any advantage or benefit gained by foregoing compliance measures. If an entity satisfies all but the Systematic Discovery condition,[43] it will be eligible for 75% mitigation of the gravity-based penalty.[44]

The policy is more frequently used in civil enforcement but can be used to disclose criminal violations. EPA may choose to not recommend criminal prosecution by the Department of Justice (DOJ) or any other prosecuting authority when an entity charged with a crime or crimes meets at least conditions two through nine.[45] However, entities will be liable for violations that involve a knowing disregard of or willful blindness to their legal obligations, and individuals are liable for their criminal misconduct.[46] Additionally, the disclosing entity must demonstrate how its audit program, discovery, and disclosure were conducted in good faith and that it has adopted strategies to prevent recurrence of the violation.[47]

An entity that discloses potential criminal violations under the Self-Policing policy may also be eligible for further mitigation under the Audit Policy. However, the potential violation cannot be tied to real or imminent harm to humans or to the environment. Furthermore, while EPA may recommend no prosecution against the disclosing/audited entity, the Agency may still pursue criminal charges against an individual or subsidiary.

In an additional effort to encourage regulated entities to find, disclose, correct, and prevent the reoccurrence of violations, EPA in 2018 created a New Owner Audit Policy aimed specifically at new owners of oil and gas facilities.[48]

Box 1: Detailed description of the nine conditions.

(1) Systematic Discovery

The entity must demonstrate that it discovered the violations via its systematic compliance audit program.

(2) Voluntary Discovery

An entity will not receive self-disclosure credit for something the entity is already required to disclose/report, such as excess emissions. Furthermore, the *discovery* of the violation, rather than the reporting of it, must be voluntary—an important nuance to remember when disclosing violations under EPA's Audit Policy.

(3) Prompt Disclosure

Disclosure within 21 days, unless a shorter timeframe is required under an applicable regulation. EPA will consider extending the deadline in some circumstances.

(4) Discovery and Disclosure Independent of Government or Third-Party Plaintiff

The entity made the discovery through its own efforts or that of a contractor, as opposed to the result of a government agency's investigation or a third-party lawsuit or complaint.

(5) Correction and Remediation

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[42]The gravity-based penalty is that portion of the penalty that reflects the seriousness of the violation. EPA has set forth guidance for developing a penalty policy for the calculation of the gravity portion of penalties under the CAA. Violations are categorized by such factors as amount of harm, type of pollutant, and length of violation, and a base penalty amount is assigned to the violations; this is the gravity component.

[43]Systematic Discovery refers to the entity developing and operating a voluntary compliance auditing program.

[44]65 Fed. Reg. 19618, § C.2.

[45]65 Fed. Reg. 19618, § I.B.

[46]65 Fed. Reg. 19618, § I.B.

[47]65 Fed. Reg. 19618, § I.B.

[48]U.S. EPA, *New Owner Clean Air Act Audit Program for Oil and Natural Gas Exploration and Production Facilities*, https://www.epa.gov/enforcement/new-owner-clean-air-act-audit-program-oil-and-natural-gas-exploration-and-production.

The violation must be corrected and any harm remediated within 60 days, unless there are extenuating circumstances.

(6) Prevent Recurrence

The regulated entity agrees to implement measures to prevent the violation from recurring.

(7) No Repeat Violations

The same or a similar violation must not have occurred within the past three years. If an entity owns/operates multiple facilities, then the repeat violation condition includes any and all of the facilities; in this situation, the applicable timespan is then increased to five years.

(8) Other Violations Excluded

Some violations are nevertheless ineligible for penalty mitigations. Violations that result in "imminent and substantial endangerment to public health or the environment" are excluded from coverage by the Audit Policy. in addition to violations of orders, consent agreements, and plea agreements. However, an entity should still include potentially ineligible violations in their audit report.

(9) Cooperation

The entity promptly provides EPA staff with information the Agency may request. In the case of disclosure of a potential criminal violation, requests and inquiries from EPA will be more detailed. "All requested documents" includes granting access to all employees of the disclosing entity; assistance in investigating the violation, any noncompliance problems related to the disclosure, and any environmental consequences related to the violations; access to all information relevant to the violations disclosed, including that portion of the environmental audit report or documentation from the compliance management system that revealed the violation; and access to the individuals who conducted the audit or review."[49]

* The full text of the policy goes into greater detail about each condition,[50] and EPA has developed interpretive guidance on the Policy's use and applicability.[51]

1. The Process:

Entities can obtain guidance on conducting a compliance evaluation at their facility or facilities.[52] Once the evaluation is complete, and if any violations are discovered, the entity is advised to prepare a report, describing in detail how the audit and the resulting violations meet the criteria for penalty mitigation. Disclosures can be submitted electronically via EPA's Central Data Exchange system.[53] Disclosures of potential civil violations should be sent to the EPA Region where the entity or facility is located, or to EPA Headquarters if the facilities or violations span multiple regions. Disclosures of potential criminal violations are handled by the Agency's Voluntary Disclosures Board (VDB) and should be submitted directly to either the VDB or to the appropriate regional criminal investigation division or DOJ, which will forward the information to VDB. The VDB reviews the audit report and makes a recommendation to the Director of EPA's Office of Criminal Enforcement, Forensics, and Training (the "Deciding Official"), who in turn makes a recommendation to either the United States Attorney's Office (USAO), the DOJ, or both. The USAO and DOJ retain discretion whether to accept the recommendation of the Deciding Official.

The USAO and DOJ will consider multiple factors in assessing whether to bring criminal charges. DOJ has set forth factors (listed in Box 2) that its attorneys are to evaluate when determining whether to bring charges or whether lenience is

[49]65 Fed. Reg. 19618, § I.E.9.

[50]U.S. EPA, INCENTIVES FOR SELF-POLICING: DISCOVERY, DISCLOSURE, CORRECTION AND PREVENTION OF VIOLATIONS; NOTICE, *available at* https://www.govinfo.gov/content/pkg/FR-2000-04-11/pdf/00-8954.pdf.

[51]U.S. EPA, *Audit Policy Interpretive Guidance*, https://www.epa.gov/compliance/audit-policy-interpretive-guidance-questions-and-answers-1997.

[52]Phone numbers are available in the Audit Policy and on EPA's website at https://www.epa.gov/compliance/epas-audit-policy.

[53]U.S. EPA, *Central Data Exchange*, https://cdx.epa.gov/.

appropriate.[54] Defendants need not satisfy all the factors, nor must the factors be satisfied fully. However, the higher the degree of compliance with the factors, the higher the chance of leniency or avoiding prosecution altogether.

Box 2: Prosecution Evaluation Factors

- Voluntary Disclosure
- Cooperation
- Preventative Measures and Compliance Programs
- Pervasiveness of Noncompliance
- Internal Disciplinary Action
- Subsequent Compliance Efforts

It is critical to keep in mind that both EPA and DOJ's self-disclosure policies are just *policies*, not mandates set forth in a regulation or statute. Additionally, audit reports and any consent or plea agreements that result from them will be public record, maintained in EPA's Audit Policy Docket. An entity can claim some information as confidential business information, but it is within EPA's discretion whether to accept it as such.[55]

2. Remedies

States or tribes may assess penalties and require injunctive relief, where appropriate, for certain violations. Not all violations rise to the level of significance that warrants a penalty. EPA has set forth specific categories of violations that rise to a significance level *necessitating* a penalty. Such violations are referred to as High Priority Violations (HPVs).[56] States are not limited to assessing penalties only for HPVs, and may establish criteria by which to assess penalties for other violations not considered HPVs (herein referred to as "state-only Level 1" violations). All violations must be corrected, regardless of significance level.

When a state or tribe identifies violations as either HPVs or state-only Level 1 violations, it may issue penalties and other injunctive remedies; examples of remedies include performing certain corrective actions at the facility or applying for the appropriate permit. Additionally, enforcement agencies traditionally use supplemental environmental projects (SEPs) to satisfy a portion of an assessed penalty. There are also certain situations in which states or tribes may exercise enforcement discretion in order to forego assessing a penalty. This may occur when no environmental harm has occurred and the entity made every good faith effort to comply, or in other situations when equity may call for such discretion.

i. Penalty Calculations

a. EPA HPV Policy

Violations that are categorized by EPA as HPVs are reportable to EPA and must

[54]U.S. DOJ, *Factors in Decisions on Criminal Prosecutions for Environmental Violations in the Context of Significant Voluntary Compliance or Disclosure Efforts by the Violator*, https://www.justice.gov/enrd/factors-decisions-criminal-prosecutions-environmental-violations-context-significant-voluntary.

[55]*See* Memorandum from Assistant Administrator Steven A. Herman to OECA Office Directors, Regional Counsel, Regional Administrators, Deputy Regional Administrators, Regional Enforcement Coordinators *Confidentiality of Information Received Under Agency's Self-Disclosure Policy*, www.epa.gov/sites/production/files/documents/sahmemo.pdf.

[56]Memorandum from Phillip A. Brooks, Director, Air Enforcement Division, Office of Civil Enforcement to Regional Air Enforcement Directors, Regions 1-10, Regional Air Enforcement Branch Chiefs, Regions 1-10, Regional Counsels, Regions 1-10, *Revision of U.S. Environmental Protection Agency's Enforcement Response Policy for High Priority Violations of the Clean Air Act: Timely and Appropriate Enforcement Response to High Priority Violations–2014* (Aug. 25, 2014), https://www.epa.gov/sites/production/files/2015-01/documents/hpvpolicy2014.pdf.

be tracked on a federal level. There are six criteria enumerated in EPA's HPV policy, as published in 2014. The criteria set forth the standards for prioritizing which violations receive the highest scrutiny and oversight. These criteria differ slightly from earlier versions of EPA's HPV policy.[57] It is within the scope of states' and tribes' discretion to determine the monetary penalty amount to assign to HPVs or state-only Level 1 violations, though EPA has issued policies on civil penalties that may serve as guidance.[58]

Box 3: High Priority Violations Criteria

- Criterion 1: Failure to obtain a new source review (NSR) construction permit or the failure to install and/or operate Best Available Control Technology (BACT) (or LAER, for nonattainment areas) for a new major stationary source or a major modification at a major stationary source.
- Criterion 2: Violation of any emission standard, or operating parameter that is a surrogate for an emission standard, issued pursuant to Title I, Part C or D (pertaining to either Prevention of Significant Deterioration of Air Quality or Plan Requirements for Nonattainment Areas), and that continues or is expected to continue for at least 168 hours, or seven days. The occurrence need not be continuous; it may instead be only intermittent or regularly occurring for those seven days.
- Criterion 3: An emission standard—or operating parameter which serves as a surrogate for an emission standard—which is set forth in an applicable NSPS in 40 C.F.R. Part 60 and which recurs for seven consecutive days (though not necessarily continuous).
- Criterion 4: Mirrors Criterion 3, but with respect to violations of a NESHAP emission standard or limitation in 40 C.F.R. Part 61 or 63.
- Criterion 5: Failure to comply with federally enforceable work practices, testing requirements, monitoring, recordkeeping, or reporting requirements which substantially interferes with enforcement or the ability to determine compliance.
- Criterion 6: Catch-all provision that allows EPA and the state enforcement agency to pursue, as HPVs violations, those that are not specified as such in the HPV policy but where circumstances warrant doing so.

b. Economic benefit of noncompliance

There are times when the failure to comply has afforded the violator an economic benefit (BEN) by delaying and/or avoiding compliance with the applicable requirements. EPA's civil penalty policy sets forth the principle that penalties should, at a minimum, remove the significant economic benefits of noncompliance.[59] Assessing a penalty for the economic benefit of the violations serves to put the violator in the same position as it would have been had it followed the necessary and required measures to attain compliance. EPA provides tools on its website for modeling the BEN of a violation.[60] The monetary amount of the calculated economic benefit is added to the gravity-based portion of the penalty. A number of critics question the accuracy of EPA's BEN calculation methodology as biased against defendants on the basis that the model overpredicts economic benefit generated by the defendant's noncompliance.[61]

c. Gravity-based penalty

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[57]U.S. EPA, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, THE TIMELY AND APPROPRIATE (T&A) ENFORCEMENT RESPONSE TO HIGH PRIORITY VIOLATIONS (HPVS) (June 23, 1999), *available at* https://www.epa.gov/sites/production/files/documents/hpvmanualrevised.pdf. Recognition that criteria for prioritizing HPVs have change may be helpful in reviewing past cases; for example, earlier cases identified as HPVs may no longer qualify as HPVs when applying more recent standards.

[58]U.S. EPA, POLICY ON CIVIL PENALTIES, EPA GENERAL ENFORCEMENT POLICY #GM-21 (Feb. 16, 1984), *available at* https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf.

[59]U.S. EPA, POLICY ON CIVIL PENALTIES, EPA GENERAL ENFORCEMENT POLICY #GM-21 (Feb. 16, 1984) at 3, *available at* https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf.

[60]U.S. ENVIRONMENTAL PROTECTION AGENCY, PENALTY AND FINANCIAL MODELS, *available at* https://www.epa.gov/enforcement/penalty-and-financial-models.

[61]*See* Fuhrman, *The Role of EPA's BEN Model in Establishing Civil Penalties*, 21 ELR 10246 (May 1991); Singh, *EPA's Narrow Definition of Economic Benefit Vastly Increases Its Economic Benefit*

The gravity-based portion of the penalty is that amount which is deemed appropriate and is calculated solely based on statutory criteria related to the severity of the violation.[62] Calculating this portion usually involves an analysis of the extent of deviation from compliance and the risk to human health and the environment caused by the violation. The gravity-based portion of the penalty adds a component of deterrence to the penalty.[63]

ii. Supplemental Environmental Projects

EPA and states have used Supplemental Environmental Projects (SEPs) as a policy to settle portions of an assessed penalty in an enforcement case. The EPA defines a SEP as an "environmentally beneficial project or activity that is not required by law, but that a defendant agrees to undertake as part of a settlement or enforcement action."[64] EPA originally issued the SEP policy in 1991 and updated it in 1998 and again in 2015.

As an example, SEPs can give a facility the option to expend financial resources within the facility to voluntarily reduce emissions beyond what is legally required or to fund certain community projects. Projects implemented at a specific facility could include adding control equipment, upgrading existing equipment to improve efficiency, or carrying out some other voluntary act that reduces emissions from the facility or provides another tangible environmental or public health benefit. These projects facilitate environmental benefits and emissions reductions where they would not have occurred otherwise. They can be particularly beneficial and important in areas where environmental justice is at issue since they reduce emissions in communities that bear a disproportionate amount of exposure.

ii. Enforcement Discretion

Under certain circumstances, a state or tribe may choose to use enforcement discretion to forego assessing a penalty. Enforcement discretion would be appropriate when the circumstances of a violation fall outside a state's prescribed penalty mitigation policy, good cause exists to waive the penalty, and little or no environmental harm occurred.

In 2020, EPA responded to the COVID-19 pandemic and the pandemic's resulting worker shortages and travel restrictions by issuing a temporary enforcement policy. This policy provided enforcement discretion for COVID-19 related violations, and was effective from March 13, 2020 through August 31, 2020.[65] EPA's temporary policy was applicable only if the entity made every effort to comply or, if compliance was not attainable, met a subset of requirements.[66] EPA's temporary policy did not

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Estimate, 23 ELR 10121 (Mar. 1993).

[62]*See* 42 U.S.C. § 7413(c), (e); 42 U.S.C. § 7420; U.S. DEPARTMENT OF JUSTICE, JUSTICE MANUAL 5-11.000 and 9-27.000 [hereinafter JM].

[63]U.S. EPA, POLICY ON CIVIL PENALTIES, EPA GENERAL ENFORCEMENT POLICY #GM-21 (Feb. 16, 1984) at 3*, available at* https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf.

[64]Memorandum from Cynthia Giles, Assistant Administrator, U.S. Environmental Protection Agency, to Regional Administrators, *Issuance of the 2015 Update to the 1998 U.S. Environmental Protection Agency Supplemental Environmental Projects Policy* at 1 (Mar. 10, 2015), https://www.epa.gov/sites/production/files/2015-04/documents/sepupdatedpolicy15.pdf.

[65]Memorandum from Susan Parker Bodine, Assistant Administrator for Enforcement Compliance Assurance, U.S. Environmental Protection Agency to All Governmental and Private Sector Partners, *COVID-19 Implications for EPA's Enforcement and Compliance Assurance Program* (Mar. 26, 2020), https://www.epa.gov/sites/production/files/2020-03/documents/oecamemooncovid19implications.pdf. The temporary policy was issued on March 26, 2020 but was retroactively applicable.

[66]Memorandum from Susan Parker Bodine, Assistant Administrator for Enforcement Compliance Assurance, U.S. Environmental Protection Agency to All Governmental and Private Sector Partners, *COVID-19 Implications for EPA's Enforcement and Compliance Assurance Program* at 2–3 (Mar. 26,

apply to violators who demonstrated a criminal *mens rea*.[67] Many states either issued similar temporary policies in response to COVID-19 or adopted EPA's policy outright.[68]

iii. Mitigation of penalties

Mitigation of penalties is separate from enforcement discretion. As noted above, the BEN is that portion of the penalty that is calculated to account for any economic advantage that the entity may have gained by not performing required compliance measures. Any penalty mitigation obtained through a self-disclosure or self-audit will not include the BEN; only the gravity portion of the penalty.

Some state SIP provisions allow for the mitigation of penalties under certain circumstances, such as when the violation was discovered through voluntary self-reporting by the source, voluntary self-disclosures meeting specific criteria (as discussed above), or for excess emissions that occur during startup, shutdown, or malfunction. Providing for mitigation of penalties is different from providing an affirmative defense.[69]

iv. Statute of Limitations

Pursuant to 28 U.S.C. § 2462, states and tribes are granted five years to bring enforcement cases for violations of the federal CAA before the statute of limitations runs. States may codify their own statute of limitations, which may be fewer than five years, but not more, for violations based on federal law. If a state, tribe, or EPA fails to bring an enforcement action within five years, that body forfeits a remedy at law—but not a remedy in equity. Courts have found, in this context, that the concurrent remedy doctrine, which bars plaintiffs from seeking either a remedy in equity or a remedy at law if the statute of limitations has run,[70] does not apply to the federal government. This carveout to the concurrent remedy doctrine allows the federal government to pursue an injunction even though civil fines and penalties are unavailable at law.[71] Courts, furthermore, have found that injunctions do not

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2020), https://www.epa.gov/sites/production/files/2020-03/documents/oecamemooncovid19implications.pdf.

[67]Memorandum from Susan Parker Bodine, Assistant Administrator for Enforcement Compliance Assurance, U.S. Environmental Protection Agency to All Governmental and Private Sector Partners, *COVID-19 Implications for EPA's Enforcement and Compliance Assurance Program* at 7 (Mar. 26, 2020), https://www.epa.gov/sites/production/files/2020-03/documents/oecamemooncovid19implications.pdf.

[68]*See* Letter from John Niermann, Chairman, Texas Commission on Environmental Quality to Concerned Citizens, Public Advocates, and Members of the Regulated Community (Apr. 6, 2020), https://www.tceq.texas.gov/news/tceqnews/features/tceq-message-concerning-covid-19-response); and ARKANSAS DEPARTMENT OF ENERGY AND ENVIRONMENT ENFORCEMENT GUIDANCE, *available at* https://www.adeq.state.ar.us/home/hot_topics/pdfs/energy-and-environment-enforcement-guidance.pdf. A comprehensive list of states and their COVID policies can be found at THOMPSON HINE, COVID-19 ENVIRONMENTAL ENFORCEMENT DISCRETION POLICIES: U.S. EPA AND 50 STATE GUIDE, *available at* https://www.thompsonhine.com/uploads/1135/doc/COVID19_USEPA_50_State_Enforcement_Guide.pdf.

[69]*See* § 12:215 on Citizen Suit Case Studies for a discussion of Affirmative Defenses.

[70]United States v. Luminant Generation Company, L.L.C., 905 F.3d 874 (5th Cir. 2018), reh'g en banc granted, 929 F.3d 316 (5th Cir. 2019) (stating: The Supreme Court has long recognized that "when the jurisdiction of the federal court is concurrent with that of law, or the suit is brought in aid of a legal right, equity will withhold its remedy if the legal right is barred by the local statute of limitations."); Russell v. Todd, 309 U.S. 280, 289, 60 S. Ct. 527, 84 L. Ed. 754 (1940); *see also* Cope v. Anderson, 331 U.S. 461, 464, 67 S. Ct. 1340, 91 L. Ed. 1602 (1947); Nilsen v. City of Moss Point, Miss., 674 F.2d 379, 387, 28 Fair Empl. Prac. Cas. (BNA) 1325, 28 Empl. Prac. Dec. (CCH) P 32685, 30 Empl. Prac. Dec. (CCH) P 33106 (5th Cir. 1982), on reh'g, 701 F.2d 556, 31 Fair Empl. Prac. Cas. (BNA) 612, 31 Empl. Prac. Dec. (CCH) P 33490 (5th Cir. 1983).

[71]U.S. v. Cinergy Corp., 397 F. Supp. 2d 1025, 1032 (S.D. Ind. 2005) (stating, "the doctrine does

amount to civil penalties.[72]

For the purposes of when a statute of limitations runs, courts have made a distinction between violations that accrue anew *each day* and those that accrue with only a *one-time occurrence*. Permits offer an illustration of how this distinction operates in practice. According to the CAA, legal causes of action for failure to obtain a preconstruction or operating PSD permit are subject to the general five-year statute of limitations.[73] However, courts distinguish between complaints alleging *construction* permit violations—construction being a one-time occurrence—and those alleging *operating* permit violations—an ongoing violation so long as the facilities continues operations. This distinction affects the claim's accrual and when the remedy at law for civil fines and penalties is time-barred by the statute of limitations. An action for the failure to obtain a construction permit accrues only once, unless, as discussed below, the construction permit imposes conditions on operation and thereby creates an ongoing obligation to obtain the permit. On the other hand, separate actions for the failure to obtain an operating permit accrue every day the facility operates without a permit, since each day constitutes a separate violation.[74]

PSD preconstruction permits offer a specific example. A line of district court cases established that a failure to obtain a PSD preconstruction permit is a one-time violation that accrues at the time of construction or modification.[75] The 11th and 8th Circuits held in accordance with this line of cases in 2007 and in 2010, respectively.[76] Consequently, suits initiated by both the federal government and private citizen groups are time-barred from pursuing a claim for failure to obtain a PSD preconstruction permit after five years has passed since the time of construction or modification.

3. Administrative Order

An administrative order is usually issued to memorialize and enforce the penalty, as well as any corrective actions or SEPs that must be carried out. Administrative compliance orders either may be unilaterally issued by the state, or they may be negotiated documents between the state and the regulated entity. The order will set forth the facts, conclusions of law, penalty amount, and any other terms for compliance with applicable law. Usually, an order will also contain stipulated terms and penalties for noncompliance with the order. Additionally, the order will contain pro-

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not apply to suits brought by the United States in its official enforcement capacity.") (citing E. I. Du Pont De Nemours & Co. v. Davis, 264 U.S. 456, 44 S. Ct. 364, 68 L. Ed. 788 (1924)); *See* U.S. v. American Elec. Power Service Corp., 136 F. Supp. 2d 808, 811, 52 Env't. Rep. Cas. (BNA) 1955, 52 Env't. Rep. Cas. (BNA) 1960 (S.D. Ohio 2001); U.S. v. Murphy Oil USA, Inc., 143 F. Supp. 2d 1054, 1087, 52 Env't. Rep. Cas. (BNA) 1716 (W.D. Wis. 2001); U.S. v. Telluride Co., 146 F.3d 1241, 1249, 46 Env't. Rep. Cas. (BNA) 1897, 28 Envtl. L. Rep. 21334 (10th Cir. 1998).

[72]U.S. v. Telluride Co., 146 F.3d 1241, 1246, 46 Env't. Rep. Cas. (BNA) 1897, 28 Envtl. L. Rep. 21334 (10th Cir. 1998).

[73]28 U.S.C. § 2462.

[74]Another example is United States v. Luminant Generation Co., LLC, in which the 5th Circuit held that a government plaintiff cannot recover civil penalties for the failure to obtain a construction permit for a major source if the action is not brought within five years of the first date of the construction period. The court found that violations of preconstruction permits are one-time occurrences, as opposed to the failure to obtain an operating permit, which would accrue anew each day.

[75]New York v. Niagara Mohawk Power Corp., 263 F. Supp. 2d 650, 661, 56 Env't. Rep. Cas. (BNA) 1992 (W.D. N.Y. 2003); U.S. v. Illinois Power Co., 245 F. Supp. 2d 951, 957-58, 56 Env't. Rep. Cas. (BNA) 1789 (S.D. Ill. 2003); U.S. v. Murphy Oil USA, Inc., 143 F. Supp. 2d 1054, 1083-84, 52 Env't. Rep. Cas. (BNA) 1716 (W.D. Wis. 2001); U.S. v. Westvaco Corp., 144 F. Supp. 2d 439, 443-44, 52 Env't. Rep. Cas. (BNA) 1891 (D. Md. 2001).

[76]National Parks and Conservation Ass'n, Inc. v. Tennessee Valley Authority, 502 F.3d 1316, 65 Env't. Rep. Cas. (BNA) 1417 (11th Cir. 2007); Sierra Club v. Otter Tail Power Co., 615 F.3d 1008, 71 Env't. Rep. Cas. (BNA) 1551 (8th Cir. 2010).

visions for how and when the case will be considered closed.

EPA may issue an administrative compliance order pursuant to CAA § 113(a), or it may commence a civil action and issue a consent decree under § 113(b). Typically, an administrative order issued by EPA is not subject to public review and comment and is not filed in district court.

A consent decree, in contrast, requires a public comment period and is a civil action filed in district court. DOJ in 1973 promulgated 28 C.F.R. § 50.7 regarding consent judgements in actions to enjoin discharges of pollutants. This rule states that the DOJ may consent to a proposed judgment in an action to enjoin discharges of pollutants into the environment only after "an opportunity is afforded to persons (natural or corporate) who are not named as parties to the action to comment on the proposed judgment prior to its entry by the court."

4. Appeals Process for Administrative Orders

Ordinarily, an order negotiated between the administrative agency and regulated entity is not appealable, because the regulated entity has consented to the terms of the order. However, if a regulated entity fundamentally disagrees with the violations alleged over the course of an enforcement action, an administrative agency may be unsuccessful in reaching a settlement to resolve the cited violations. If this occurs, most states and tribes have the authority to issue a unilateral order against the source without the source's consent. State or tribal administrative law would then dictate the due process afforded to the source after the order is issued. Many state environmental codes provide that the source may challenge the order within a certain number of days, by requesting a hearing governed by an administrative judge. Once the judge issues the order, it is likely then challengeable in district court, depending on the statutory scheme set forth by the state or tribe. Third party challenges to administrative orders are dictated by the citizen suit provision of the federal CAA in § 304, and possibly state or tribal law, if applicable.

5. Global Settlements

An entity, or defendant, facing multiple civil or criminal enforcement issues may at some point request to settle the cases via a "global settlement," which is intended to address and resolve all outstanding violations that a company is facing. The issues in many instances will be related, or there will be multiple claims for the same enforcement issue, such as failed engine tests or multiple facilities with the same permitting issue; the company may also be facing similar claims in multiple jurisdictions. Even if the claims may be unrelated, they can typically all be combined into a global settlement.

In rare instances, a company will face both civil and criminal claims and seek to resolve all through a global settlement. Enforcement agencies, both federal and state, may disfavor combining criminal and civil cases, as such settlements tend to involve separate divisions within an agency or a separate agency altogether, depending on the jurisdiction. DOJ has expressed its preference that defendants wishing to resolve related civil and criminal charges via a global settlement inform government counsel as early in the process as possible.[77] The DOJ refers to these as *parallel proceedings*.[78] The Environment and Natural Resources Division (ENRD) Assistant Attorney General must expressly approve any plea agreement which purports to affect civil or administrative remedies.[79]

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[77]U.S. DOJ Environmental and Natural Resources Division Directive No. 2016-11, *Global Settlement Policy*.

[78]*See* JM 1-12.000.

[79]JM 5-11.101; ENRD Directive No. 2016-11 (Dec. 20, 2016).

The benefit of resolving cases through a global settlement is that a facility can reach an agreement on all outstanding claims at one time through one settlement. Furthermore, because confidentiality agreements are required, such settlements allow multiple agencies, both state and federal, to share information and work together to resolve the cases. Settling cases all at once serves both the entity and the enforcement agencies by saving time and resources.

One complication arising from states participating in a global settlement with EPA and DOJ is that federal agencies maintain jurisdiction only to enforce federal laws. The result is that claims a state wishes to include in the global settlement must also be claims for violations of federal law. For a state, this means regulations that have been included in the state's SIP, discussed in detail elsewhere in this Chapter.

§ 12:215 Criminal Enforcement

A. Mens Rea

While *civil* liability for violations of CAA regulations does not require that the party had actual knowledge of the law's requirements, *criminal* statutes do require that the defendant possess a particular state of mind in performing the act that resulted in the crime, such as knowingly or willfully. For example, in Oklahoma, the offense of unlawful hazardous waste transportation requires that a person "*knowingly and willfully* transports or causes the transportation of hazardous waste."[1] In Colorado, the Revised Statutes provide that "[w]henever the division has reason to believe that a person has *knowingly*. . .violated any requirement or prohibition of an applicable emission control regulation of the commission, state implementation plan, permit required under this article, or any provision for the prevention of significant deterioration under part 2 of this article. . .the division may request either the attorney general or the district attorney for the district in which the alleged violation occurs to pursue criminal penalties."[2] Here, the mental state is an element of the crime that must be satisfied along with the other elements.[3] As with any criminal statute or regulation, the specific requirements will differ from state to state and between a state agency and a federal agency.

Criminal statutes and regulations will most often contain the requisite *mens rea* and burden of proof within the text; some will also prescribe the penalty for a particular crime. For example, the violation for *Tampering with Monitor Device or Method* requires the defendant knowingly carried out such tampering.[4] In this case, the defendant, if found guilty, is subject to a penalty of two years and/or fines pursuant to 18 U.S.C. § 3571.[5] These penalties are doubled if the defendant has a prior conviction.[6]

1. General Intent Versus Specific Intent Crimes

A *specific intent* crime is one that requires that the defendant acted with a specific

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[1]Okla. Stat. tit. 21, § 1230.3 (1993) (emphasis added).

[2]Colo. Rev. Stat. § 25-7-122.1 (2020) (emphasis added).

[3]*See* Rehaif v. United States, 139 S. Ct. 2191, 2195, 204 L. Ed. 2d 594 (2019).

[4]Clean Air Act § 113(c)(2), 42 U.S.C. § 7413(c)(2).

[5]Clean Air Act § 113(c)(2), 42 U.S.C. § 7413(c)(2). Title 18 of the United States Code sets forth federal crimes and criminal procedures.

[6]Clean Air Act § 113(c), 42 U.S.C. § 7413(c).

objective in mind.[7] In contrast, *general intent* requires only that the defendant *knowingly performed the act* that resulted in the violation of law; knowledge that the act is a violation of law is not required.[8] Most environmental crimes are general intent crimes.[9] The majority of criminal violations under the CAA require "knowingly" as the requisite *mens rea*, and that has been found to refer to a general intent.[10]

To explain general intent in another way, a defendant's conduct is criminal where he, she, or they intentionally and knowingly perform an act which results in an emissions violation even if they were not aware at the time that the act was a violation of the law.[11] In fact, in public welfare statutes, the Supreme Court tends to avoid construing statutes to require that defendants know their conduct is unlawful.[12]

The 2009 Supreme Court case *Dean v. United States* discusses how and when the *mens rea* element applies to the other elements of a crime; that is, whether all elements must have been carried out with the requisite *mens rea*.[13] The Court explained that the *mens rea* element may not always apply to every single element of a crime because "it is not unusual to punish individuals for the unintended consequences of their unlawful acts." One could see how this may apply in a case involving an environmental crime where, for example, a regulated entity intentionally fails to perform required spill prevention measures, and a spill occurs, causing air contaminants to be released. In this situation, the entity may not have knowingly released air contaminants, but it did knowingly forego required safety measures that would have prevented the release. A distinction can be made in criminal statutes where knowledge of all the elements of the crime is essential to finding the defendant guilty, versus a case where the defendant's knowledge of one element is sufficient to determine culpability—even if the defendant lacked knowledge of another element.[14]

2. Criminal Negligence

The CAA contains a negligent endangerment provision that provides for misdemeanor penalties for the negligent release of HAPs if the release places persons in imminent danger of death or serious bodily injury.[15]

Intentionally negligent acts are acts that can lead to the violation of an environmental law, creating criminal liability, even if the proximate act or "accident" that caused the release of emissions was not itself intentional. However,

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[7]*See* United States v. Spatig, 870 F.3d 1079, 1084, 85 Env't. Rep. Cas. (BNA) 1133 (9th Cir. 2017).

[8]U.S. v. Starnes, 52 V.I. 1051, 583 F.3d 196, 69 Env't. Rep. Cas. (BNA) 1481 (3d Cir. 2009); Carter v. U.S., 530 U.S. 255, 120 S. Ct. 2159, 147 L. Ed. 2d 203 (2000); Symposium: Environmental Criminal Prosecution: Essential Tool Or Government Overreaching?: Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme, 2009 UTAH L. REV. 1223, 1236-1238.

[9]*See* Lazarus, *Mens Rea in Environmental Criminal Law: Reading Supreme Court Tea Leaves*, 7 FORDHAM ENV. L. REV. 861, 874 (2011).

[10]U.S. v. Starnes, 52 V.I. 1051, 583 F.3d 196, 209-12, 69 Env't. Rep. Cas. (BNA) 1481 (3d Cir. 2009).

[11]*See* Bryan v. U.S., 524 U.S. 184, 193, 118 S. Ct. 1939, 141 L. Ed. 2d 197 (1998); U.S. v. Buckley, 934 F.2d 84, 89, 32 Env't. Rep. Cas. (BNA) 2081, 21 Envtl. L. Rep. 21113 (6th Cir. 1991).

[12]U.S. v. W.R. Grace, 429 F. Supp. 2d 1207, 1228 (D. Mont. 2006).

[13]Dean v. U.S., 556 U.S. 568, 129 S. Ct. 1849, 173 L. Ed. 2d 785 (2009).

[14]*See* U.S. v. Hamilton, 456 F.2d 171 (3d Cir. 1972), U.S. v. Taylor, 239 F.3d 994, 55 Fed. R. Evid. Serv. 952 (9th Cir. 2001), and U.S. v. X-Citement Video, Inc., 513 U.S. 64, 115 S. Ct. 464, 130 L. Ed. 2d 372 (1994).

[15]Clean Air Act § 113(c)(4), 42 U.S.C. § 7413(c)(4) (2000).

"[p]rosecutors should not prosecute accidents where the evidence shows that the accident was unforeseeable or unavoidable."[16]

Multiple scholars of the CAA argue that the negligence intended by Congress in the CAA criminal negligence provision mentioned above is one of only "ordinary negligence," as opposed to a heightened level of negligence such as gross negligence.[17] For ordinary negligence, prosecutors are tasked with proving duty, breach, cause in fact, and proximate cause, and all must be proved beyond a reasonable doubt.[18]

Section 113(c)(5)(A), the "emissions clause," provides that an emissions release in compliance with either an emission standard or a permit does not qualify as a violation of the knowing or negligent endangerment provisions.[19]

B. Standard of Proof

As required by Due Process, just like other crimes, a prosecutor bringing a case against a person or entity accused of environmental crimes must prove beyond a reasonable doubt that the crimes were committed.[20] This is called the standard, or burden, of proof, and it always lies with the government that is prosecuting the defendant.[21] The standard of proof in cases involving criminal negligence will be likewise be *beyond a reasonable doubt*, despite the fact that the mens rea is negligence.

C. State Enforcement of Environmental Crimes

Either a state statute or the state constitution will grant a particular state agency or body enforcement authority to handle the investigation and prosecution of environmental crimes. Typically, the state district attorney or state prosecutor will be granted the authority to prosecute all crimes in a state, including environmental crimes. That said, enforcement of environmental crimes will be carried out by the state agency tasked with environmental protection. This agency often is granted the authority and duty to investigate environmental crimes, typically in conjunction with federal, state, and local law enforcement, as needed. Frequently, state environmental protection agencies will house a dedicated criminal investigation division and possibly even employ former law enforcement officers charged with the investigation of alleged environmental crimes. This criminal investigation unit may be a separate division, or simply agency staff, that supports the other divisions in charge of enforcing air, land, or water regulations.

Cause for an individual or entity to be investigated for environmental crimes can arise in different ways, including but not limited to: a citizen complaint, a report from local law enforcement, or as a result of a state agency performing a routine inspection of the plant or facility.

As needed, the inspectors may obtain a search warrant to further investigate whether there appears to be evidence to support a prosecution of either a regulated entity or individual actor. The regulated entity may be required to submit records, data, or other evidence in response to the search warrant or other requests from the

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[16]59 UNITED STATES ATTORNEYS' BULLETIN: ENVIRONMENTAL CRIMES NO. 4 (July 2011).

[17]*See* U.S. v. Hanousek, 176 F.3d 1116, 48 Env't. Rep. Cas. (BNA) 1303, 29 Envtl. L. Rep. 21049 (9th Cir. 1999); U.S. v. Ortiz, 427 F.3d 1278, 61 Env't. Rep. Cas. (BNA) 1521, 35 Envtl. L. Rep. 20220 (10th Cir. 2005); United States v. Hammer, No. 97-05005-01-CR-SW-RGC (W.D. Mo. June 21, 1997); Lisa, *Negligence-Based Environmental Crimes: Failing to Exercise Due Care Can Be Criminal*, 18 VILL. ENVTL. L.J. 1 (2007), *available at* https://digitalcommons.law.villanova.edu/elj/vol18/iss1/1.

[18]Lisa, *Negligence-Based Environmental Crimes: Failing to Exercise Due Care Can Be Criminal*, 18 VILL. ENVTL. L.J. 1 (2007), p.11, *available at* https://digitalcommons.law.villanova.edu/elj/vol18/iss1/1.

[19]Clean Air Act § 113(c)(5)(A), 42 U.S.C. § 7413(c)(5)(A) (2000); Lisa, *supra* note 17, at 32.

[20]In re Winship, 397 U.S. 358, 364, 90 S. Ct. 1068, 25 L. Ed. 2d 368 (1970).

[21]*See* In re Winship, 397 U.S. 358, 364, 90 S. Ct. 1068, 25 L. Ed. 2d 368 (1970).

agency. Once a case has been investigated and developed, if the evidence supports the finding of an environmental crime, the agency will typically compile a "prosecution package," which will be submitted to a state prosecutor who will determine whether formal charges will be brought.

The level of the crime—e.g., categorized as a misdemeanor or felony—will determine the course of the criminal case from that point. Cases may be resolved through a full jury trial or settle via plea agreements. In cases where criminal charges arise from an inspection by the state agency, there may also be civil or administrative enforcement matters, which will be tracked separately by the agency enforcement staff. If an agency staff member is involved as a witness in the criminal case, that particular staff member typically will not participate in the agency's administrative enforcement case. The consequence for being found guilty, or pleading guilty, for an environmental crime can include, but is not necessarily limited to, imprisonment, fines, community service, and mitigation projects.

A particularly noteworthy case, due to the facts themselves and because the lawsuit was based on state environmental law, involves the Arkema Power Plant in Crosby, Texas. In 2017, the Arkema Power Plant lost power and flooded during Hurricane Harvey. Containers holding, in total, over 500,000 lbs. of organic peroxides burned for several days. Consequently, the company, its chief executive officer, and the plant manager were indicted by a grand jury for reckless emission of air contaminants. The plant manager faced up to five years in prison, and the company up to $1 million in fines. After closing arguments, the presiding judge dropped all charges, stating that prosecutors had not presented sufficient evidence.

Environmental crimes, by their very nature, tend to be multi-agency investigations requiring the input, resources, and/or support of federal, state, and local law enforcement. In 57 areas across the United States, EPA's Criminal Investigation Division has formed task forces with various federal, state, and local partners to coordinate the investigation and deterrence of environmental crimes.[22] Where a defendant has committed violations of both state and federal laws, and a state agency is taking the lead on the case, the USAO will monitor the case and will not pursue an action in federal court if the state is also addressing the federal violations.[23]

D. Tribal Enforcement of Environmental Crimes

Tribes lack the authority to enforce tribal criminal environmental provisions against non-Indians even in Indian Country; their authority is limited to Indians.[24] As discussed previously, the Navajo Nation has adopted an air enforcement program, and the provisions of the code the tribe enacted as a part of that program do provide for the imposition of both civil and criminal penalties.[25] The Air Quality Code adopted by the Cherokee Nation also contains a provision for potential criminal penalties.[26]

E. EPA and DOJ Enforcement of Environmental Crimes

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[22]U.S. EPA, *Criminal Environmental Crime Task Force Partners*, https://www.epa.gov/enforcement/criminal-environmental-crime-task-force-partners.

[23]JM 5-11.113(C), *available at* https://www.justice.gov/jm/justice-manual.

[24]*See* Oliphant v. Suquamish Indian Tribe, 435 U.S. 191, 98 S. Ct. 1011, 55 L. Ed. 2d 209 (1978), the Supreme Court held that tribes have jurisdiction only over members of their own tribe, not all Indians. The Court explained that if the conclusion created jurisdictional gaps, then Congress was the proper body to remedy the issue. Congress subsequently passed an amendment to 25 USCS § 1301, granting tribes criminal jurisdiction over all Indians.

[25]NAVAJO NATION CODE ANN. tit. 4, § 1154(B) (2009).

[26]Cherokee Nation Clean Air Act, 63 CHEROKEE NATION CODE ANNOTATED art. 5, § 2-5-116 (2004).

Box 4: Federal Agencies and Their Roles	
Environmental Protection Agency	**Department of Justice**
• CAA Enforcement Authority • Investigates environmental crimes • Handles administrative enforcement cases • Provides support to DOJ in its prosecution of environmental crimes	• Represents the United States in environmental criminal prosecutions. • Prepares and files prosecutorial documents • Litigates criminal trials

EPA and DOJ both play key roles in prosecuting environmental crimes at the federal level.[27]

As explained above in detail, EPA is charged with the enforcement of federal CAA laws and regulations. The EPA Office of Criminal Enforcement, Forensics and Training investigates environmental crimes, in addition to offering forensics support for civil cases. EPA's Criminal Enforcement Division maintains special agents, investigators, forensic specialists, lawyers, and support staff.

The U.S. Attorneys at DOJ investigate and prosecute environmental crimes in their respective districts, while the DOJ's Environmental Crimes Section (ECS) maintains responsibility for environmental crimes nationwide.[28] The two offices can and do handle cases jointly as needed.[29] However, coordination and communication regarding case status between ECS and U.S. Attorneys' offices is required.[30] Further, either office, after consultation, maintains the authority and right to pursue a case that the other office has declined to prosecute.[31]

Which enforcement cases EPA and/or DOJ takes the lead on or exclusively handles—as opposed to a state—is not always clear cut. For the most part, state environmental agencies and, in some cases, tribes, have received delegation over the majority of the regulations under the CAA, and therefore have the authority to pursue enforcement of those rules where the state/tribe has incorporated the rules into its SIP or TIP.

However, there are certain rules and programs over which EPA has maintained exclusive jurisdiction. For example, while CAA § 111 and § 112 allow EPA to delegate implementation and enforcement authority to state and tribal agencies, there are some specific exceptions. Two such exceptions are NSPS 60.8(b), approving alternative performance test methods, and NESHAP 63.8(f), approval of major alternatives to monitoring.[32]

Box 5: Criminal Violations under the CAA
• Violation of a National Emission Standard for Hazardous Air Pollutants, New Source Performance Standard, an Asbestos NESHAP during demolition/renovation, or a stratospheric Ozone Protection Provision • Violation of a State Implementation Plan • Violation of an Operating Permit Provision • Violation of an Emergency Order • Making false statements in CAA documents • Tampering with monitor devices or methods

[27]The EPA and the United States Coast Guard jointly enforce air quality regulations against subject offshore vessels. *See* International Convention for the Prevention of Pollution from Ships (MARPOL), Annex VI, Feb. 17, 1973, [U.S. treaty source], [international treaty source].

[28]*See* JM 5-11.104.

[29]*See* JM 5-11.104.

[30]*See* JM 5-11.000.

[31]*See* JM 5-11.104.

[32]The full list of authorities retained by EPA is available at U.S. EPA, *Delegation of Clean Air Act Authority*, https://www.epa.gov/caa-permitting/delegation-clean-air-act-authority.

- Knowingly failing to make required notifications or reports
- Knowingly/negligently releasing a HAP and thereby placing a person in imminent danger of death or serious bodily injury.

However, a criminal violation of a non-CAA federal law may also lead to a release of emissions and result in a criminal investigation by EPA. For example, KTX Limited and KTX Properties Inc. (KTX) were charged with negligently releasing hazardous air pollutants. The release occurred following a tank explosion at KTX's chemical and petroleum processing facility in Port Arthur, Texas, on March 31, 2011, after KTX's employees failed to drain a tank on which welding was taking place. The failure was in violation of the Occupational Safety and Health Act; specifically, the defendants made false statements in the hot work permit that was given to the contractors performing the welding. Sparks generated during the welding caused an explosion that injured two employees and killed another, in addition to resulting in the release of hazardous air contaminants.

Both the corporation and individual employees can be named as criminal defendants when an environmental crime is alleged.[33] The case of *United States v. Pearson* explains what categories of employees can be held criminally liable for environmental violations by a company.[34] Where the CAA sets forth who is liable for environmental crimes, it uses the term "person." Employees who hold a supervisory or corporate official role fall under the definition of "person," in addition to employees who are found to have committed acts in violation of environmental laws with the mens rea of "knowing" or "willful."[35]

1. The Process

EPA is authorized to discover environmental crimes through records requests, facility inspections, tips from citizens, investigations of events that cause major harm, and more. After gathering evidence, EPA will then provide the evidence to federal, state, tribal, or local prosecutors who will determine whether and what formal charges will be filed. EPA may also provide forensic analyses and technical evaluations; computer evidence retrieval and evaluation; and expert legal advice and counsel to EPA attorneys, U.S. Attorneys and the DOJ. EPA maintains discretion whether to pursue a criminal investigation of a defendant or rather track it via the Agency's administrative or civil processes.[36]

A DOJ criminal investigation proceeds much like any other criminal case.[37] Investigators could come from a variety of different agencies; sometimes even from state agencies. If the DOJ attorney believes that there is probable cause that a crime has been committed, that attorney has several options:

- Request or conduct further investigation;
- Commence or recommend prosecution;
- Decline prosecution and refer the matter for prosecutorial consideration in an-

[33]Symposium: Environmental Criminal Prosecution: Essential Tool Or Government Overreaching?: Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme, 2009 UTAH L. REV. 1223, 1239–41.

[34]U.S. v. Pearson, 274 F.3d 1225, 1229-30, 53 Env't. Rep. Cas. (BNA) 1838, 32 Envtl. L. Rep. 20363 (9th Cir. 2001).

[35]*See* U.S. v. Pearson, 274 F.3d 1225, 1229-30, 53 Env't. Rep. Cas. (BNA) 1838, 32 Envtl. L. Rep. 20363 (9th Cir. 2001); 42 U.S.C. § 7413(h).

[36]*See* Memorandum from Earl A. Devaney, Director, Office of Criminal Enforcement to All EPA Employees Working in or in Support of the Criminal Enforcement Program, *The Exercise of Investigative Discretion* (Jan. 12, 1994) (on file with the U.S. EPA), https://www.epa.gov/sites/production/files/documents/exercise.pdf.

[37]*See* 18 U.S.C. §§ 3001 to 3742; Fed. R. Crim. P.

other jurisdiction;
- Decline prosecution and commence or recommend pretrial diversion or other non-criminal disposition; or
- Decline prosecution without taking other action.[38]

If the probable cause standard is not met, no prosecution will be pursued, nor may a case be referred to another jurisdiction.[39] Probable cause requires evidence sufficient to obtain and sustain a conviction.[40] If the decision is made to bring charges, a complaint or an information will then be filed, or an indictment sought from a grand jury.[41] Most indictments will include the charging options that are supported by the evidence and the law and explain the charging decision therein.[42] The case will then proceed to trial, or the defendant may enter into some kind of plea agreement or Non Prosecution Agreement (NPA).[43] If a defendant pleads guilty or nolo contendere, he or she may make agreements with the government regarding charges and/or sentencing.[44]

As noted earlier, U.S. Attorneys are responsible for prosecuting cases in their respective districts. The ECS handles crimes that have nationwide implications, cases that constitute novel issues of law, and cases that are cross-jurisdictional or involve international matters.[45] DOJ set forth its Principles of Federal Enforcement in the Department's Justice Manual, in order to ensure cases are pursued effectively, consistently, and fairly, and such that appropriate and proper justice is achieved for victims.[46] The DOJ's Justice Manual applies to all cases initiated under the CAA.

As noted above, the CAA contains a misdemeanor provision for negligent endangerment.[47] However, the government typically focuses its prosecutorial energy on prosecuting violations that are felonies; by their very nature, these are crimes involving more potential or actual harm to the environment and/or human health.[48] The main focus of EPA criminal investigators is potential violations involving significant environmental harm, particularly "repetitive violations, deliberate misconduct, and acts of concealment or falsification."[49] Statistics from recent years illustrate the extent of federal criminal enforcement activity. In FY 2019, a total of 170 criminal cases were opened; of those, 137 defendants were charged.[50] Eight cases were resolved that fiscal year, seven cases were resolved via plea agreements, one resolved

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[38]JM 9-27.200.

[39]JM 9-27.200.

[40]*See* JM 9-27.200; Fed. R. Crim. P. 29(a).

[41]JM 9-27.300.

[42]JM 9-27.300.

[43]JM 9-27.600, .620, .630.

[44]JM 9-27.400.

[45]JM 5-11.104.

[46]*See* JM 9-27.001, .110, .120, .130.

[47]Clean Air Act § 113(c)(4), 42 U.S.C. § 7413(c)(4) (2006).

[48]*See* Symposium: Environmental Criminal Prosecution: Essential Tool Or Government Overreaching?: Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme, 2009 UTAH L. REV. 1223, 1227.

[49]Symposium: Environmental Criminal Prosecution: Essential Tool Or Government Overreaching?: Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme, 2009 UTAH L. REV. 1223, 1227, 1244, citing Memorandum from Earl E. Devaney, Director, Office of Criminal Enforcement, U.S. Envtl. Prot. Agency to All EPA Employees Working in or in Support of the Criminal Enforcement Program 4-5 (Jan. 12, 1994), http://www.epa.gov/sites/production/files/documents/exercise.pdf.

[50]U.S. EPA, ENFORCEMENT ANNUAL RESULTS FOR FY 2019, *available at* https://epa.maps.arcgis.com/apps/Cascade/index.html?appid=c85b89aecc7140f99ca95bc96c664091.

through a non-prosecution agreement, and none went to trial.[51]

Case Study: the Volkswagen Diesel Emissions Scandal

One of the more well-known cases of the last decade involves the Volkswagen company, which installed in various diesel vehicles (with model years spanning 2009 through 2016) software capable of detecting when emissions tests were being run versus when the car was being driven in normal conditions. Thus, the emission control system, designed to reduce NOx, ran properly only while tests were being performed.

DOJ charged Martin Winterkorn, the former chairman of the management board of Volkswagen AG, with conspiracy and wire fraud in connection with the overall scheme by the company to circumvent the emission controls installed in its vehicles. The company entered into a plea agreement, pleading guilty to conspiracy, obstruction of justice, and entry of goods by false statement. The agreement included a $2.8 billion criminal penalty, probation, and a corporate compliance monitor. Also charged criminally were two engineers, five executives and senior managers, and the former manager of VW subsidiary Audi AG.[52]

F. Punishment

1. Factors

The resolution, results, punishment, or sentence for a defendant found guilty of an environmental crime will be based on a multitude of factors, such as the degree of harm to human health or the environment, the entity's compliance history, and the entity's internal compliance program.[53] Punishment can take many forms such as fines, prison sentences, probation, community service, and remediation. State and federal prosecutors likely assess sentencing in the same manner, considering all of the above factors for each case. States may differ somewhat, and each defendant will be evaluated on a case-by-case basis in both the state and federal arenas, but there are broad categories of factors that EPA and DOJ will consider when sentencing a defendant found guilty of environmental crimes. DOJ encourages its attorneys to assess a company's compliance program, asking whether the program is well-designed, whether the program includes adequate resources to effectively function; and whether the program operates well in practice.[54] The United States Sentencing Commission also published its Guidelines Manual for federal prosecutors, which includes a section on sentencing organizations.[55]

Additionally, Environmental Justice is now and will continue to be a top priority for EPA.[56] To the extent that an environmental crime results in harm to a sensitive place or population, entities should expect remediation of that harm to be a part of the sentence or plea agreement.

2. Restitution and Community Service Projects

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[51]EPA maintains an Enforcement Data and Results page where it maintains data on enforcement cases by fiscal year. *See* U.S. EPA, *Summary of Criminal Prosecutions*, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?.

[52]Winterkorn Indictment, United States District Court Eastern District of Michigan Southern Division, Doc. # 120.

[53]U.S. DEPARTMENT OF JUSTICE CRIMINAL DIVISION, EVALUATION OF CORPORATE COMPLIANCE PROGRAMS, *available at* https://www.justice.gov/criminal-fraud/page/file/937501/download.

[54]U.S. DEPARTMENT OF JUSTICE CRIMINAL DIVISION, EVALUATION OF CORPORATE COMPLIANCE PROGRAMS, *available at* https://www.justice.gov/criminal-fraud/page/file/937501/download.

[55]U.S. SENTENCING COMMISSION, GUIDELINES MANUAL, § 8B2.1—EFFECTIVE COMPLIANCE AND ETHICS PROGRAM, *available at* https://guidelines.ussc.gov/gl/%C2%A78B2.1.

[56]*See* U.S. EPA, *Environmental Justice* (Mar. 31, 2021) ("Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."), https://www.epa.gov/environmentaljustice.

DOJ considers restitution and community service to be very important considerations when sentencing a defendant for an environmental crime.[57] Pursuant to federal statute, restitution can be imposed only as a part of a sentence of probation.[58] Additionally, when restitution and a fine are imposed, the payment of the restitution will be prioritized over payment of the fine as well as over the imposition of community service.[59] Restitution sentences will be based on the evidence presented of victims' loss, and the CAA prohibits restitution exceeding the amount of that loss.[60]

When community service is imposed as a sentence for an environmental crime, typically the government prefers to see the nature of the community service contain some logical link to the nature and geographical location of the crime; however, this can be difficult to establish for environmental crimes, particularly those under the CAA.[61] DOJ will also consider the compliance history and general "characteristics of the defendant" when assessing whether a community service sentence is appropriate.[62]

3. Other

Other miscellaneous categories of sentences include requiring the defendant to: conduct compliance audits, employee training, and pollution prevention projects; establish trust funds; or provide public admissions of guilt or apologies.[63]

Box 6: Case Examples[64]

AIREKO Construction Company[65]

In 2017, AIREKO Construction Company was fined $1.5 million and given three years of probation for violating the federal asbestos NESHAP under the CAA. AIREKO entered into a plea agreement that also required the company to pay $172,020 to cover baseline and follow-up medical examinations for victims exposed to asbestos as a result of the company's failure to properly handle and remove asbestos-containing material from a high-rise building. The asbestos-containing material was also illegally disposed of in dumpsters behind the building, and the vice president pled guilty to failing to immediately notify the National Response Center of the release of asbestos. For this, he was fined $15,000 and given a 36-month probation.

Tonawanda Coke Corporation[66]

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[57]Memorandum from Ronald J. Tenpas, Assistant Attorney General to Environmental Crimes Section Attorneys, *Guidance on Restitution, Community Service, and Other Sentencing Measures Imposed in Environmental Crimes Cases* (Jan. 16, 2009), https://www.justice.gov/file/1046141/download.

[58]*See* 18 U.S.C. §§ 3563, 3663.

[59]U.S. EPA, *Criminal Investigations*, https://www.epa.gov/enforcement/criminal-investigations.

[60]Ubau-Marenco v. I.N.S., 67 F.3d 750, 752 (9th Cir. 1995) (overruled by, Fisher v. I.N.S., 79 F.3d 955 (9th Cir. 1996)).

[61]*See supra* note 59.

[62]Ubau-Marenco v. I.N.S., 67 F.3d 750, 752 (9th Cir. 1995) (overruled by, Fisher v. I.N.S., 79 F.3d 955 (9th Cir. 1996)).

[63]Ubau-Marenco v. I.N.S., 67 F.3d 750, 752 (9th Cir. 1995) (overruled by, Fisher v. I.N.S., 79 F.3d 955 (9th Cir. 1996)).

[64]*See* U.S. EPA, *Summary of Criminal Prosecutions*, https://cfpub.epa.gov/compliance/criminal_prosecution/.

[65]*See* U.S. DOJ, *Construction Company Sentenced to Clean Air Act Violations in Puerto Rico*, https://www.justice.gov/opa/pr/construction-company-sentenced-clean-air-act-violations-puerto-rico; U.S. EPA, *Summary of Criminal Prosecutions*, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=3042.

[66]*See* U.S. DOJ, *Tonawanda Coke and Manager Sentenced for Violating the Clean Air Act and Resource Conservation and Recovery Act*, http://www.justice.gov/opa/pr/2014/March/14-crm-288.html; U.S. EPA, *Summary of Criminal Prosecutions,* https://cfpub.epa.gov/compliance/criminal_prosecution/i

One of the largest fines ever resulting from a criminal environmental trial was in the case of Tonawanda Coke Corporation. A federal court in Buffalo New York found the company guilty of releasing hundreds of tons of gas containing benzene into the atmosphere and illegally dumping hazardous waste. In March 2014, the company was sentenced to pay a $12.5 million penalty and $12.2 million in community service payments for criminal violations of the CAA (11 counts) and the Resource Conservation and Recovery Act (three counts). The environmental control manager was convicted of 11 counts of violating the CAA, one count of obstruction of justice, and three counts of violating RCRA. The court sentenced the manager to one year in prison, 100 hours of community service, and a $20,000 fine.

Westward Seafoods Inc.[67]

In contrast to the Tonawanda case, in the case of Westward Seafoods Inc., the defendants were charged with and found guilty of tampering with and failing to operate pollution control equipment. Not only did the defendants fail to run the equipment for two years, but they also attempted to conceal the fact that the equipment was not running as required, by falsifying reporting forms. The powerhouse operator was given three years of probation and ordered to pay a $750 fine. The powerhouse supervisor was sentenced to 45 days in prison, while the assistant chief engineer was sentenced to 70 days in prison; both paid $1,000 fines.

§ 12:216 Role of citizens in enforcement

A. Causes of Action, Notice, Jurisdiction / Venue

1. Causes of Action

CAA § 304 provides causes of action for citizen suits and dictates the parties against whom those actions may be brought.

Citizen suits under CAA § 304(a)(1) and (3) are relevant to the enforcement of environmental requirements against facilities. Specifically, a citizen may bring an action against sources for:

1) Alleged past violations (only if violations have been repeated);
2) Ongoing violations of an emission standard or limitation under the CAA, or
3) Violation of an order issued by EPA or state with respect to such a standard or limitation.[1]

Similarly, citizens may enforce the law against a source for proposing to construct or constructing any new or modified major source without a preconstruction permit under part C or D of subchapter I of the CAA, or against a source that has allegedly violated a permit in the past (if alleged violations are repeated) or has ongoing violations of a permit.[2]

Citizens may also sue EPA for failure to perform a nondiscretionary action, such as issuing a NAAQS or federal rule.[3]

2. Concurrent Civil and Administrative Actions

Active EPA or state pursuit of penalties for violations in the *administrative* realm does not foreclose a citizen suit from being brought by a third party. However, a citizen suit is foreclosed under CAA § 304 if EPA or the state is actively pursuing civil penalties *in court*. Thus, if a citizen files a notice of intent to sue a company under CAA § 304, but the administrative agency at issue is in the process of settling the

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ndex.cfm?action=3&prosecution_summary_id=2555.

[67]*See* U.S. EPA, *Summary of Criminal Prosecutions,* https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=2678.

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[1]Clean Air Act § 304(a)(1), 42 U.S.C.A. § 7604(a)(1).

[2]Clean Air Act § 304(a)(3), 42 U.S.C.A. § 7604(a)(3).

[3]Clean Air Act § 304(a)(2), 42 U.S.C.A. § 7604(a)(2).

violations at issue in the citizen suit, the resulting administrative order may be filed in court by the administrative agency or the regulated party to foreclose the citizen suit.[4] Conversely, the filing of a citizen suit under CAA § 304 in federal court does not restrict a state or local agency from bringing an enforcement action or seeking judicial remedy in state court.[5]

3. Notice, Jurisdiction, and Venue

CAA § 304(b) and (c) address notice and service of complaint requirements. Regulations under 40 C.F.R. Part 54 govern the notice requirements for citizen suits.

If the notice is related to a violation of an emission standard or limitation, or violation of an order, the petitioner must provide a copy of the notice to EPA headquarters, the EPA regional office in which the alleged violation occurred, the state agency authorized to regulate air quality, the governor of said state, and the alleged violator.[6] The notice sent to the alleged violator must be sent via certified mail or delivered in-person to the owner or managing agent of the source in question.[7] If the alleged violator is a corporation, a copy of the notice must be sent certified mail to the registered agent, if any, of such corporation in the state in which such violation is alleged to have occurred.[8] Requirements for the contents of the notice are set forth in 40 C.F.R. § 54.3. Actions regarding the violation of an emission standard by a stationary source may be brought in the federal district court in which the source is located.[9]

4. Citizen Standing

Plaintiffs in citizen suits under CAA § 304 must demonstrate they have standing under the three-part test set forth in seminal case, *Lujan v. Defenders of Wildlife*.[10]

The test requires:

1) An injury in fact that is concrete and actual or imminent;
2) An injury that is fairly traceable to the acts of the defendant. Plaintiffs may pass the minimum standard of "traceability" to demonstrate article III standing to bring a suit, but must also concretely establish causation between the injury and the alleged violations to prevail on the merits and be entitled to relief;[11] and
3) a showing that it is likely that the injury will be redressed by a decision favorable to the plaintiff.[12]

5. Statute of Limitations

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[4]*See generally* Texans United for a Safe Economy Educ. Fund v. Crown Cent. Petroleum Corp., 207 F.3d 789, 50 Env't. Rep. Cas. (BNA) 1596, 30 Envtl. L. Rep. 20506 (5th Cir. 2000); Sierra Club v. Chevron U.S.A., Inc., 834 F.2d 1517, 27 Env't. Rep. Cas. (BNA) 1001, 18 Envtl. L. Rep. 20237 (9th Cir. 1987); Friends of the Earth v. Consolidated Rail Corp., 768 F.2d 57, 22 Env't. Rep. Cas. (BNA) 2224, 15 Envtl. L. Rep. 20674 (2d Cir. 1985).

[5]Clean Air Act § 304(e), 42 U.S.C.A. § 7604(e).

[6]40 C.F.R. § 54.2(a) to (c).

[7]40 C.F.R. § 54.2(c).

[8]40 C.F.R. § 54.2(c).

[9]Clean Air Act § 304(c), 42 U.S.C.A. § 7604(c).

[10]Lujan v. Defenders of Wildlife, 504 U.S. 555, 112 S. Ct. 2130, 119 L. Ed. 2d 351, 34 Env't. Rep. Cas. (BNA) 1785, 22 Envtl. L. Rep. 20913 (1992).

[11]Texans United for a Safe Economy Educ. Fund v. Crown Cent. Petroleum Corp., 207 F.3d 789, 793, 50 Env't. Rep. Cas. (BNA) 1596, 30 Envtl. L. Rep. 20506 (5th Cir. 2000) (stating the issue of standing must not be conflated with the issue of actual liability).

[12]Lujan v. Defenders of Wildlife, 504 U.S. 555, 560–61, 112 S. Ct. 2130, 119 L. Ed. 2d 351, 34 Env't. Rep. Cas. (BNA) 1785, 22 Envtl. L. Rep. 20913 (1992).

Courts have found that citizen suits are subject to the concurrent remedy doctrine. Thereby, if a citizen suit is brought claiming civil fines and penalties that are time-barred, equitable relief such as an injunction will be time-barred as well. Both the 11th Circuit and the 8th Circuit found the concurrent remedy doctrine barred equitable relief in a citizen suit.[13]

In 2016, the Sierra Club brought a citizen suit in the 10th Circuit against Oklahoma Gas and Electric Company, alleging the company modified its boilers and unlawfully failed to obtain a PSD permit for said projects.[14] The Sierra Club sough both penalties and equitable relief for the alleged violations. The 10th Circuit Court of Appeals found Sierra Club's claim for civil penalties was barred by the five year statute of limitations set forth in 28 U.S.C. § 2462.[15] However, the court noted that § 2462 does not explicitly limit actions for equitable relief.[16] Yet the concurrent remedy doctrine provides that a statute barring a legal claim will also bar an equitable claim when the underlying facts are the same for both legal claims.[17] The court ultimately determined that the concurrent remedy doctrine barred Sierra Club from the equitable remedies of an injunction or declaratory relief because said claims were indeed based on the same facts as Sierra Club's time-barred legal claims for civil penalties.[18]

6. Remedies

Courts have the authority to issue an order requiring injunctive relief and/or a penalty be paid. Penalties are assessed and granted by a court for the purpose of deterring future violations.[19] When determining an appropriate amount of penalties to assess, courts consider penalty assessment criteria set forth in CAA § 113(e).

These factors include:

1) The size of the business;
2) The economic impact of the penalty on the business;
3) The violator's full compliance history and good faith efforts to comply;
4) The duration of the violation;
5) Payment by the violator of penalties previously assessed for the same violation;
6) The economic benefit of noncompliance; and
7) The seriousness of the violation.[20]

Additionally, the penalty may be assessed for each day of violation.[21]

Parties may also seek injunctive relief. Courts have required certain factors be

[13]National Parks and Conservation Ass'n, Inc. v. Tennessee Valley Authority, 502 F.3d 1316, 1327, 65 Env't. Rep. Cas. (BNA) 1417 (11th Cir. 2007); Sierra Club v. Otter Tail Power Co., 615 F.3d 1008, 71 Env't. Rep. Cas. (BNA) 1551 (8th Cir. 2010).

[14]Sierra Club v. Oklahoma Gas and Elec. Co., 816 F.3d 666, 82 Env't. Rep. Cas. (BNA) 1089 (10th Cir. 2016).

[15]Sierra Club v. Oklahoma Gas and Elec. Co., 816 F.3d 666, 671, 82 Env't. Rep. Cas. (BNA) 1089 (10th Cir. 2016).

[16]Sierra Club v. Oklahoma Gas and Elec. Co., 816 F.3d 666, 675, 82 Env't. Rep. Cas. (BNA) 1089 (10th Cir. 2016).

[17]Sierra Club v. Oklahoma Gas and Elec. Co., 816 F.3d 666, 82 Env't. Rep. Cas. (BNA) 1089 (10th Cir. 2016).

[18]Sierra Club v. Oklahoma Gas and Elec. Co., 816 F.3d 666, 676, 82 Env't. Rep. Cas. (BNA) 1089 (10th Cir. 2016).

[19]Wildearth Guardians v. Lamar Utilities Bd., 932 F. Supp. 2d 1237, 1248, 76 Env't. Rep. Cas. (BNA) 1786, 81 A.L.R. Fed. 2d 717 (D. Colo. 2013).

[20]Clean Air Act § 113(e)(1), 42 U.S.C.A. § 7413(e)(1).

[21]Clean Air Act § 113(e)(2), 42 U.S.C.A. § 7413(e)(2).

demonstrated by the plaintiff in order to grant an injunction:

a. It has suffered an irreparable injury;
b. Remedies available at law, such as monetary damages, are inadequate to compensate for that injury;
c. Considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and
d. The public interest would not be disserved by a permanent injunction.[22]

Courts may award costs of litigation, including reasonable attorney and expert witness fees, to any party when the court determines such an award is appropriate.[23] The language of the statute implies that courts may award litigation costs to even losing parties. The allowance for cost recovery serves as an incentive to bring suit, as well as a form of insurance, should a party lose.[24]

At least one court has found the imposition of penalties and attorney's fees to be moot once the unit at issue had come into compliance with the CAA; this was particularly based on the court finding there was not a threat of future noncompliance and, therefore, awarding penalties or attorney's fees would not serve the intended purpose of deterring said future noncompliance.[25] Courts have distinguished cases on the basis of whether the imposition of penalties or attorney's fees will deter future noncompliance.[26]

Box 7: Case Study: Affirmative defense for excess emissions

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[22]Sierra Club v. Energy Future Holdings Corp., 2014 U.S Dist. LEXIS 75447 (W. Dist. TX Waco 2014) (citing Abraham v. Alpha Chi Omega, 708 F.3d 614, 626-27, 105 U.S.P.Q.2d 1692 (5th Cir. 2013) (citing eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391, 126 S. Ct. 1837, 164 L. Ed. 2d 641, 78 U.S.P.Q.2d 1577, 27 A.L.R. Fed. 2d 685 (2006) (citations omitted)).

[23]Clean Air Act § 304(d), 42 U.S.C.A. § 7604(d).

[24]Reisenger, Dougherty, & Moser, *Environmental Enforcement and the Limits of Cooperative Federalism: Will Courts Allow Citizen Suits to Pick up the Slack?* 20 DUKE ENVTL. L. POL'Y F.1 (Winter 2010).

[25]*See* WildEarth Guardians v. Public Service Co. of Colorado, 690 F.3d 1174, 75 Env't. Rep. Cas. (BNA) 1651 (10th Cir. 2012).

[26]*See* Wildearth Guardians v. Lamar Utilities Bd., 932 F. Supp. 2d 1237, 1248, 76 Env't. Rep. Cas. (BNA) 1786, 81 A.L.R. Fed. 2d 717 (D. Colo. 2013).

In *NRDC v. EPA*, the D.C. Circuit ruled EPA could not create an affirmative defense in federal rules promulgated under CAA § 112 because CAA § 304 makes it clear that courts—and not EPA—determine whether civil penalties are appropriate.[27] In 2013, EPA promulgated standards for Portland Cement manufacturing plants pursuant to CAA § 112. The standards contained an affirmative defense for private civil suits when the defendant violated emission standards due to an unavoidable malfunction.[28] The affirmative defense was available to the defendant if it proved certain factors by a preponderance of the evidence.[29] In a review of CAA § 304 and § 113, the D.C. Circuit determined that § 304 creates a private right of action, and "the Judiciary, not any executive agency, determines 'the scope'—*including the available remedies*—'of judicial power vested by' statutes establishing private rights of action."[30] The Court looked to the language of CAA § 113, which states that the Administrator may "compromise, modify, or remit . . . an administrative penalty" to determine that EPA's discretion regarding penalties extends only to administrative penalties, and not to civil penalties.[31] Further, the Court determined that the CAA contemplates EPA's role in civil suits as an intervenor or amicus curiae only.[32]

In 2015, EPA promulgated the Startup, Shutdown, and Malfunction (SSM) SIP Call, which applied the holding of *NRDC v. EPA* to CAA § 110, in response to a petition from the Sierra Club.[33] In the SSM SIP Call, EPA issued a finding that certain SIP provisions in 36 states are substantially inadequate to meet the CAA requirements.[34] Specifically, EPA stated, referring to affirmative defenses for excess emissions due to startup, shutdown, and malfunction, that it "believes that SIP provisions that function to alter the jurisdiction of federal courts under CAA section 113 and section 304 to determine liability and to impose remedies are inconsistent with fundamental legal requirements of the CAA, especially with respect to the enforcement regime explicitly created by statute."[35] EPA gave the affected states a final deadline of November 22, 2016, to remove affirmative defense provisions from their SIPs.[36]

In 2020, EPA issued three final withdrawals of its finding of substantial inadequacy and a withdrawal of the SIP call for certain states with SIP provisions subject to the 2015 SSM SIP Call; namely, for the states of Texas, North Carolina, and Iowa. These determinations were made on a case-by-case basis, after consideration of the state's specific affirmative defense SIP provisions, in light of the CAA § 113 and § 304 requirements.[37]

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[27]Natural Resources Defense Council v. E.P.A., 749 F.3d 1055, 1063, 78 Env't. Rep. Cas. (BNA) 1369 (D.C. Cir. 2014).

[28]Natural Resources Defense Council v. E.P.A., 749 F.3d 1055, 1058, 1063, 78 Env't. Rep. Cas. (BNA) 1369 (D.C. Cir. 2014); 40 C.F.R. § 63.1344.

[29]40 C.F.R. § 1344.

[30]Natural Resources Defense Council v. E.P.A., 749 F.3d 1055, 1063, 78 Env't. Rep. Cas. (BNA) 1369 (D.C. Cir. 2014) (citing City of Arlington, Tex. v. F.C.C., 569 U.S. 290, 133 S. Ct. 1863, 185 L. Ed. 2d 941 (2013)) (emphasis added).

[31]Natural Resources Defense Council v. E.P.A., 749 F.3d 1055, 1063, 78 Env't. Rep. Cas. (BNA) 1369 (D.C. Cir. 2014) (citing City of Arlington, Tex. v. F.C.C., 569 U.S. 290, 133 S. Ct. 1863, 185 L. Ed. 2d 941 (2013)) (emphasis added).

[32]Natural Resources Defense Council v. E.P.A., 749 F.3d 1055, 1063, 78 Env't. Rep. Cas. (BNA) 1369 (D.C. Cir. 2014) (citing City of Arlington, Tex. v. F.C.C., 569 U.S. 290, 133 S. Ct. 1863, 185 L. Ed. 2d 941 (2013)) (emphasis added).

[33]80 Fed. Reg. 33840 (June 12, 2015); *See also* Letter from Maxine I. Lepeles, Co-Director, and Aaron S. Oakley, Law Clerk, Attorneys for Sierra Club to Lisa Jackson, Administrator, USEPA, https://www.regulations.gov/document?D=EPA-HQ-OAR-2012-0322-0002.

[34]80 Fed. Reg. 33840.

[35]80 Fed. Reg. 33845.

[36]80 Fed. Reg. 33848.

[37]*See* Withdrawal of Finding of Substantial Inadequacy of Implementation Plan and of Call for Texas State Implementation Plan Revision–Affirmative Defense Provisions, 85 Fed. Reg. 7232 (Feb. 7, 2020); SIP Call Withdrawal and Air Plan Approval; NC: Large Internal Combustion Engines NOx Rule Changes, 85 Fed. Reg. 23700 (April 28, 2020); Air Plan Approval; Iowa; Air Quality Implementation Plan–Muscatine Sulfur Dioxide Nonattainment Area and Startup, Shutdown, Malfunction SIP Call Withdrawal, Prepublication, 40 C.F.R. § 52, *available at* https://www.epa.gov/sites/production/files/

In October 2020, EPA issued guidance stating that certain automatic exemptions or provisions granting discretion to directors of state air programs may be permissible in SIPs under certain circumstances.[38]

§ 12:217 Conclusion

Traversing an enforcement case under the Clean Air Act is a fairly well-established process. However, guidance documents and many resources are available. State and federal agencies also are typically very willing to assist and answer questions, particularly when a regulated entity acts in good faith and willingly participates in the process.

While regulations may change from time to time, the general framework of the CAA more or less stays the same. This allows an entity to track its compliance and stay up-to-date. It also behooves regulated entities to bear in mind the importance of a good internal compliance audit program. Developing a rigorous internal compliance program can prevent the need for enforcement and/or make addressing any enforcement issues that do arise less onerous.

XIX. TRENDS THAT MAY AFFECT IMPLEMENTATION OF THE CLEAN AIR ACT*

XIX(A) TRENDS THAT MAY AFFECT IMPLEMENTATION OF THE CLEAN AIR ACT

§ 12:218 Trends—Introduction

As this chapter demonstrates, the Clean Air Act and its regulations create a complex system for addressing air quality in the United States. But as happens in many contexts, the interpretation and implementation of federal laws and policies can be influenced by political and regulatory trends beyond the scope of the CAA. This section provides a brief overview of several recent trends, including changes in administrations and approaches to the use of science and economics in environmental rulemakings, which could impact decisions under the CAA.

§ 12:219 Trends—Changes in administration

Changes in presidential administrations can usher in new philosophies and approaches towards environmental regulation. These may manifest in many ways, from new decision-making processes, budget priorities, and personnel to changes in interpretations of laws, pace of promulgating regulations, and enforcement policies. During recent presidential transitions, however, the shift has been notably more significant. For example, the Trump Administration rolled back over 100 environmental rules, more than a quarter of which related to air pollution and emissions.[1] While some of these changes were implemented through guidance documents—*e.g.*, EPA's decision not to enforce a 2015 rule restricting the use of

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2020-10/documents/frl-10016-10-region_7.pdf (last visited Nov. 5, 2021).

[38]*See* Memorandum from Andrew R. Wheeler to Regional Administrators 1-10, *Inclusion of Provisions Governing Periods of Startup, Shutdown, and Malfunction in State Implementation Plans* (Oct. 9, 2020), https://www.epa.gov/sites/production/files/2020-10/documents/placeholder_0.pdf (last visited Nov. 5, 2021).

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[1]*See, e.g.,* Nadja Popovich, et al., *The Trump Administration Rolled Back More Than 100 Environmental Rules. Here's the Full List*, N.Y. TIMES (updated Jan. 20, 2021), https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks-list.html (last visited Nov. 5, 2021).

hydrofluorocarbons and the Agency's instructions regarding interpreting "adjacent" in the context of making "source determinations" in new source review and Title V proceedings[2]—many were made via regulations. These included narrowing the scope and/or stringency of Obama-era limits on emissions such as carbon dioxide from electric utility generating units and vehicles, methane from oil and gas facilities, and hydrofluorocarbons from larger refrigeration and air conditioning systems.

The Biden Administration initiated a new swing in the pendulum, starting with several executive orders that called for the review of many environmental decisions issued by the Trump Administration. For example, the White House identified 48 EPA actions to be reviewed pursuant to Executive Order 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," including the Trump Administration's repeal of the Obama-era Clean Power Plan, *i.e.,* regulation of greenhouse gas emissions from existing electric utility generating units.[3] This and other CAA-related decisions are subject to varying phases of review by the Biden Administration and the courts; several organizations track the status of these environmental rollbacks and responses.[4]

Recent years have also seen Congress' robust new use of the Congressional Review Act (the "CRA") following the switch from the Obama to the Trump Administration.[5] The CRA, which gives Congress a defined period of time to invalidate a final regulation—with approval of the President and without recourse to judicial review—had been used only once since its passage in 1996 prior to the Trump Administration.[6] In contrast, the 115th Congress used the CRA to repeal 16 regulations that were adopted near the end of the Obama Administration; although none were CAA regulations, several were environmental regulations.[7] This increased use of the CRA may have been an anomaly. While the 117th Congress introduced six resolutions under the CRA, only three were signed into law (including one regarding a Trump-era oil and natural gas sector regulation of emissions standards for new, reconstructed, and modified sources review).[8]

§ 12:220 Trends—The role of science

Science is not a static subject, nor is its use by regulators and other decision-

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[2]Protection of Stratospheric Ozone: Notification of Guidance and a Stakeholder Meeting Concerning the Significant New Alternatives Policy (SNAP) Program, 83 Fed. Reg. 18431 (Apr. 27, 2018) (EPA's decision regarding hydrofluorocarbons); Memorandum from Anne L. Idsal, Acting Assistant Administrator, EPA, to Regional Administrators, on "Interpreting 'Adjacent' for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas" (Nov. 26, 2019) available at https://www.epa.gov/sites/production/files/2019-12/documents/adjacent_guidance.pdf (last visited Nov. 5, 2021).

[3]Press Release, White House, Fact Sheet: List of Agency Actions for Review (Jan. 20, 2021) (available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/fact-sheet-list-of-agency-actions-for-review/) (last visited Nov. 5, 2021); *see also* Exec. Order No. 13990, 86 Fed. Reg. 7037 (Jan. 20, 2021); Exec. Order No. 14013, 86 Fed. Reg. 8839 (Feb. 4, 2021); Exec. Order No. 14008, 86 Fed. Reg. 7619 (Jan. 27, 2021).

[4]*See, e.g.,* Harvard Environmental & Energy Law Program, *Regulatory Rollback Tracker*, https://eelp.law.harvard.edu/portfolios/environmental-governance/regulatory-tracker/ (last visited Nov. 5, 2021); Berkeley Law Center for Law, Energy, & the Environment, *Reversing Environmental Rollbacks*, https://www.law.berkeley.edu/research/clee/rollback-tracker (last visited Nov. 5, 2021).

[5]5 U.S.C. §§ 801 to 808.

[6]Pub. L. No. 107-5, 115 Stat. 7 (providing for congressional disapproval of the rule submitted by the Department of Labor under chapter 8 of title 5, United States Code, relating to ergonomics).

[7]Cong. Research Serv., R43992, *The Congressional Review Act: Frequently Asked Questions, Version 10*, at pg. 6 (2020).

[8]For updates on these efforts, *see* George Washington University Regulatory Studies Center, *Congressional Review Act Tracker*, https://regulatorystudies.columbian.gwu.edu/congressional-review-act (last visited Nov. 5, 2021).

makers fixed. Many federal policies regarding science are subject to routine updates. For example, EPA's Peer Review Handbook, which was first released in 1998, is now in its fourth edition.[1] Such updates occur primarily through intra-agency processes, but they are also often vetted by internal and/or external advisory groups. However, recent years have seen more holistic efforts to change how science is used by federal agencies, both with respect to who has input on agency decisions that involve interpreting science and what science agencies can consider at all in proceedings like rulemakings. Two examples are discussed below.

Membership on Federal Advisory Committees: In 2017, then EPA Administrator Pruitt issued an order to exclude scientists who were "currently in receipt of EPA grants, either as principal investigator or co-investigator, or in a position that otherwise would reap substantial direct benefit from an EPA grant" from serving on EPA's federal advisory committees, including the Science Advisory Board.[2] Many such committees, which are typically composed of experts from outside the government to provide expertise and/or recommendations to federal agencies, are subject to the Federal Advisory Committee Act, which requires committee membership to be "fairly balanced" and includes conflict of interest provisions.[3]

Despite questions as to whether EPA's order constituted a "final" agency action, it was challenged in three federal district courts. EPA's response to these cases included arguing that plaintiffs did not have standing and that claims under the Administrative Procedure Act and the Federal Advisory Committee Act were nonjusticiable because there was not an adequate standard for review. However, the D.C. Circuit Court of Appeals, the First Circuit Court of Appeals, and a federal New York District Court all found that EPA's directive was indeed subject to judicial review.[4] In vacating the directive, the New York District Court explained that:

> EPA had failed to articulate any reason for changing its longstanding practice of permitting EPA grant recipients to serve on EPA advisory committees . . . . [and] the administrative record produced by the EPA provided no basis for finding that EPA grant recipients suffered from bias on account of those grants when they served as members of EPA advisory committees.[5]

EPA was not required to re-instate individuals who had been removed from federal advisory committees, nor did it reintroduce the directive.

Use of Science in EPA Rulemakings: In January 2021, EPA finalized a controversial regulation, several years in the making, limiting EPA's ability to use studies for which the underlying dose-response data are not deemed available in a manner sufficient for independent validation.[6]

The regulation directed that, when promulgating significant regulatory actions or developing influential scientific information, EPA: (1) shall determine which studies constitute "pivotal science"; (2) should give greater consideration to studies where

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[1]EPA, PEER REVIEW HANDBOOK (4th ed. 2015).

[2]Directive from E. Scott Pruitt, Administrator, EPA, "Strengthening and Improving Membership on EPA Federal Advisory Committees" (Oct. 31, 2017) (available at https://www.epa.gov/sites/production/files/2017-10/documents/final_draft_fac_directive-10.31.2017.pdf) (last visited Nov. 5, 2021).

[3]*See e.g.,* 5 U.S.C. app. § 5(b).

[4]Physicians for Social Responsibility v. Wheeler, 956 F.3d 634, 643, (D.C. Cir. 2020); Union of Concerned Scientists v. Wheeler, 954 F.3d 11, 18-20, (1st Cir. 2020); Natural Resources Defense Council, Inc. v. U.S. Environmental Protection Agency, 438 F. Supp. 3d 220, 229-30, (S.D. N.Y. 2020).

[5]Mem. Op. and Order, Nat. Res. Def. Council, Inc. v. EPA, No. 1:19-cv-05174-DLC, 2020 U.S. Dist. LEXIS 66162 (S.D.N.Y. Apr. 15, 2020).

[6]Strengthening Transparency in Pivotal Science Underlying Significant Regulatory Actions and Influential Scientific Information, 86 Fed. Reg. 469 (Jan. 6, 2021) (to be codified at 40 C.F.R. pt. 30).

the underlying dose-response data are available in a manner sufficient for independent validation; and (3) "may" give "lesser consideration" to such studies where the dose-response data are not available. Thus, EPA would have had to give less weight to a study regarding human health impacts of air pollutants that uses anonymized data from human subjects. Use of such studies, even with limited weight, would also require additional administrative action by EPA. For example, EPA would need to justify its use of a study and publish the Agency's reasoning for that decision. The regulation did allow the EPA Administrator to seek an exemption to use a particular study on a case-by-case basis, but this required documenting the rationale for the exemption, likely creating another aspect of a rulemaking that could be challenged.

As described by EPA, the final rule had a narrower scope than the original proposal (from 2018) and the 2020 supplemental notice of proposed rulemaking. Nonetheless, those opposing the regulation described it as a permanent constraint on EPA's ability to rely on the best available science to set pollution standards. For instance, public health experts highlighted concerns about the rule's effect on studies like the "Harvard Six Cities Study" and the "American Cancer Society's Cancer Prevention Study II," which examine the impact of particulate matter on public health and provide a basis for more aggressive health-based standards for environmental pollution.

The final regulation was issued with an immediate effective date; EPA argued that there was a "good cause" exception under the Administrative Procedure Act to waive the traditional practice of new laws not taking effect until at least 30 days from publication in the Federal Register.[7] The Agency also claimed that the rule was procedural, and thus exempt from the 30-day notice requirement. Environmental groups challenged the final rule in the U.S. District Court for the District of Montana.[8] In two motions for partial summary judgement, plaintiffs challenged EPA's assertion of "good cause" to make the final rule effective immediately and EPA's asserted authority for the regulation under the Federal Housekeeping Statute.[9]

In ruling on the motion regarding the effective date of the final rule, found that the regulation could not be effective immediately. The court explained that the regulation was "no mere internal house-keeping measure," but instead made a "substantive determination of how the agency should weigh particular scientific information in future rulemakings."[10] Following this decision, the Biden Administration asked the court to vacate the rule in its entirety, arguing in part that it was not authorized by the Federal Housekeeping Statute. The court granted the motion and the rule was vacated and remanded to EPA.[11]

Although this regulation and the directive regarding the composition of federal advisory committees have been overturned or withdrawn through a combination of lawsuits and interventions by the Biden Administration, the spectra of such changes to the role of science in government rulemaking has led to questions of whether

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[7]86 Fed. Reg. at 472.

[8]Order, Envtl. Def. Fund v. EPA, No. 4:21-cv-03-BMM, 2021 U.S. Dist. LEXIS 15655 (D. Mont. Jan. 27, 2021).

[9]86 Fed. Reg. at 471. The Federal Housekeeping Statute, 5 U.S.C. § 301, gives certain agencies authority to issue procedural rules, particularly those intended to "govern internal departmental affairs." Chrysler Corp. v. Brown, 441 U.S. 281, 309, 99 S. Ct. 1705, 60 L. Ed. 2d 208, 19 Fair Empl. Prac. Cas. (BNA) 475, 4 Media L. Rep. (BNA) 2441, 26 Cont. Cas. Fed. (CCH) P 83181, 19 Empl. Prac. Dec. (CCH) P 9121 (1979).

[10]Envtl. Def. Fund, 2021 U.S. Dist. LEXIS 15655, at *25.

[11]Envtl. Def. Fund v. EPA, No. 4:21-cv-00003-BMM, 2021 U.S. Dist. LEXIS 24202 (D. Mont. Feb. 1, 2021).

Congress, EPA, or other agencies should put into place mechanisms that protect the non-partisan use of science in decision-making processes. Continued attention to this topic could impact future implementation of the CAA.

§ 12:221 Trends—The role of economics

Just as the role of science in decision-making can be subject to a range of internal and external agency policies and regulations, so too can decisions on how to conduct economic analyses of decisions under the CAA. Variations in how these economic issues are addressed can affect EPA's decisions. For example, the analysis of costs and benefits of significant regulatory actions can play a significant role in the outcome of agency decisions. This dynamic is illustrated by the use of a social cost of carbon and the consideration of co-benefits of environmental regulations in benefit-cost analyses.

Social Cost of Carbon: The social cost of carbon (SCC) is a monetary estimate of the economic damages that would result from emitting a ton of carbon dioxide into the atmosphere (there are separate calculations for the social costs of methane and nitrous oxide). There is no single approach for measuring the SCC, and there are many modeling decisions, including economic choices, that affect the final value.

At the federal level, development of a SCC began in 2009 with an Interagency Working Group on the Social Cost of Carbon devising a methodology for incorporating the social cost of carbon into the federal agency rulemaking process. The process and history of developing the federal SCC is described in Section 24:7(J)(2) of this treatise's chapter on Climate Change, but one commonality is that the SCC has generally been developed via guidance documents and policies rather than integrated into a regulation or other tool that is more difficult to change. For example, via an Executive Order in 2017, President Trump disbanded the Interagency Working Group on the Social Cost of Carbon and stated that the group's prior estimates of the SCC were no longer representative of government policy.

As reported by the United States Government Accountability Office (GAO), the changes in the federal SCC that occurred between the Obama and Trump Administrations, illustrated in the table below, reflect two economic and policy judgements: a change in the discount rate used and a focus on domestic rather than global climate change damages.[1]

Prior and Current Federal Estimates of the Social Cost of Carbon, per Metric Ton, at a 3 Percent Discount Rate in 2018 U.S. Dollars		
Year of emissions	**Prior estimates (based on global climate change damages)**	**Current estimates (based on domestic climate change damages)**
2020	$50	$7
2030	$60	$8
2040	$72	$9
2050	$82	$11
Source: GAO analysis of data from the Interagency Working Group on Social Cost of Greenhouse Gases, EPA, and the United States Gross Domestic Product Price Index from the U.S. Department of Commerce, Bureau of Economic Analyses. | GAO-20-254		

The Biden Administration issued an interim update to the SCC in March 2021, essentially returning to the Obama-era values (adjusted for inflation).[2] The government is expected to conduct a more thorough review, and adjust the SCC as needed,

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[1]U.S. GAO, GAO-20-254, SOCIAL COST OF CARBON: IDENTIFYING A FEDERAL ENTITY TO ADDRESS THE NATIONAL ACADEMIES' RECOMMENDATIONS COULD STRENGTHEN REGULATORY ANALYSIS (2020).

[2]INTERAGENCY WORKING GROUP ON SOCIAL COST OF GREENHOUSE GASSES, TECHNICAL SUPPORT DOCUMENT:

by the start of 2022.

Benefit-Cost Analysis: At the end of 2020, the Trump Administration's EPA promulgated a regulation that it described as establishing "procedural requirements governing the preparation, development, presentation, and consideration of benefit-cost analyses (BCA), including risk assessments used in the BCA, for significant rulemakings conducted under the CAA."[3] These requirements included a limitation on EPA's consideration of co-benefits of CAA regulations. For instance, EPA would have to explain the difference between the expected health benefits from reducing a pollutant directly targeted by a proposed regulation and other indirect co-benefits, such as health benefits from non-target pollutants that would also be reduced because of a new rule.[4] Opponents of the rule argued that it would interfere with EPA's ability to accurately assess the benefits of many air regulations, including those targeting greenhouse gas emissions. The rule created additional new requirements for EPA, such as identifying the specific problem the proposed rule is supposed to address and detailing options other than the one selected and explaining why those alternatives were not chosen.

One of President Biden's first executive orders directed EPA to consider suspending, rescinding, or revising the rule "as soon as possible." Several challenges were brought against the rule. On February 22, 2021, Biden's Administration asked the D.C. Circuit Court of Appeals to put the consolidated challenges against the rule into abeyance for 90 days while EPA reviewed the final regulation. In May 2021, EPA issued an interim final rule to rescind the Trump-era regulation.[5] Whether the Biden or a future Administration will take steps beyond rescinding the prior regulation, such as enshrining consideration of co-benefits into regulations, remains to be seen.

§ 12:222 Trends—Conclusion

This section's discussion of recent trends that could affect decisions under the CAA is not exhaustive, but is a reminder that no law is interpreted or implemented in a vacuum. Whether considering particular issues like the composition of advisory committees or what discount rate to use in calculating the social cost of carbon, different philosophies and approaches to governance will continue to be relevant to understanding the impact and potential of the CAA.

APPENDIX

Table of Acronyms	
A&N	Appropriate and Necessary
ACE	Affordable Clean Energy
ADI	Applicability Determination Index
ANPR	Advance Notice of Proposed Rulemaking
AQCD	Air Quality Criteria Document

SOCIAL COST OF CARBON, METHANE, AND NITROUS OXIDE INTERIM ESTIMATES UNDER EXECUTIVE ORDER 13990 (2021).

[3]Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process, 85 Fed. Reg. 84130 (Dec. 23, 2020) (to be codified at 40 C.F.R. Pt. 83) (earlier iterations of the proposal had envisioned a regulation that would apply to a broader swath of EPA's work, such as regulations under the Clean Water Act and other environmental laws).

[4]Even before the regulation was finalized, the Trump EPA incorporated this approach to co-benefits when it did not consider the co-benefits of reduced particulate matter when re-evaluating the regulation of mercury emissions from electric generating units.

[5]Rescinding the Rule on Increasing Consistency and Transparency in Considering Benefits and Costs in The Clean Air Act Rulemaking Process, 86 Fed. Reg. 26406 (May 14, 2021).

AQCR	Air Quality Control Region
AQL	Acceptable Quality Level
AQRV	Air-quality-related values
ARM	Approved Replicable Methodology
BACT	Best Available Control Technology
BAMM	Best Available Monitoring Methods
BART	Best Available Retrofit Technology
BCA	Benefit-cost analyses
BEN	Economic benefit (portion of a penalty)
C.F.R.	Code of Federal Regulations
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring
CAMD	Clean Air Markets Division
CARB	California Air Resources Board
CASAC	Clean Air Scientific Advisory Committee
CBI	Confidential Business Information
CEM	Continuous Emission Monitoring
CEMS	Continuous Emissions Monitoring System
CG	Conventional Gasoline
CH4	Methane
CISWI	Commercial and Industrial Solid Waste Incinerators
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
COM	Continuous Opacity Monitoring
CPP	Clean Power Plan
CRA	Congressional Review Act
CSAPR	Cross-State Air Pollution Rule
CTG	Control Technique Guidelines
CVCC	Compound Vortex Controlled Combustion
DEEP	Connecticut Department of Energy and Environmental Protection
DHS	Department of Homeland Security
DOJ	U.S. Department of Justice
EAB	Environmental Appeals Board
ECO	Employee Commute Options
ECS	Environmental Crimes Section
e-GGRT	electronic Green House Gas Reporting Tool
EGR	Exhaust Gas Recirculation Valve
EGU	Electricity Generating Unit
ENRD	Environment and Natural Resources Division (DOJ)
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERU	Energy Recovery Unit
FAP	Flexible Air Permit
FEA	Federal Energy Administration
Fed. Reg.	Federal Register
FESHOP	Federally Enforceable State Operating Permit Program
FIP	Federal Implementation Plan
FLIGHT	Flight Level Information on Greenhouse Gas Tool
FLM	Federal Land Manager
FTP	Federal Test Procedure

GACT	Generally Available Control Technology
GCVTC	Grand Canyon Visibility Transport Commission
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
GWP	Global Warming Potential
H2S	Hydrogen sulfide
H2SO4	Sulfuric Acid
HAP	Hazardous Air Pollutant
HC	Hydrocarbon
HFC	Hydrofluorocarbons
HCFC	Hydrochloroflourocarbons
HMIWI	Hospital Waste, Medical Waste, and Infectious Waste Incinerator
HNO3	Nitric Acid
HPV	High Priority Violation
I/M	Inspection and Maintenance
ICAO	United Nations International Civil Aviation Organization
ICS	Intermittent Control Strategies
IPP	Independent Power Protection
IRP	Integrated Review Plan
ISA	Integrated Science Assessment
IVT	Input Verifier Tool
IWI	[Unit] Incinerating Institutional Waste
LAER	Lowest Achievable Emission Rate
LEV	Low Emission Vehicle
LTS	Long-Term Strategy
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics Standards
MMBtu	Million British thermal unit (Btu)
MMT	Methylcyclopentadienyl manganese tricarbonyl
MSAT	Mobile Source Air Toxics
MTOM	Maximum Takeoff Mass
MW	Megawatts
MWC	Municipal Waste Combustor
MWTA	Medical Waste Tracking Act (of 1988)
N2O	Nitrous oxide
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NACWA	National Association of Clean Water Agencies
NAICS	North American Industry Classification System
NCP	Nonconformance penalty
NESHAP	National Emission Standards for Hazardous Air Pollutant
NHSM	Non-Hazardous Secondary Materials
NHTSA	National Highway Transportation Safety Administration
NNSR	Nonattainment New Source Review
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOTC	Northeast Ozone Transport Commission
NOV	Notice of Violation
NOx	Nitrogen Oxide
NPRM	Notice of Proposed Rulemaking
NSPS	New Source Performance Standards
NSR	New Source Review
O3	Ozone

OIRA	Office of Information and Regulatory Affairs
OSHA	Occupational Safety and Health Administration
OSWI	Other [categories of] Solid Waste Incinerators
PA	Policy Assessment
PAL	Plantwide Applicability Limit
Pb	Lead
PEM	Predictive Emission Monitoring
PM	Participate Matter
PM10	Particulate Matter with a diameter of 10 micron or less
PM2.5	Particulate Matter with a diameter of 2.5 micron or less
PSD	Prevention of Significant Deterioration
PSI	Pounds per square inch
PTE	Potential To Emit
QF	Qualifying Small Power Production or Cogeneration Facility
QIP	Quality Improvement Plan
Quad O	40 C.F.R. Part 60, Subpart OOOO (NSPS for the oil and natural gas industry)
Quad Oa	40 C.F.R. Part 60, Subpart OOOOa (to curb emissions of methane)
RACM	Reasonably Available Control Measures
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
REA	Risk and Exposure Assessment
RHR	Regional Haze Rules
RFG	Reformulated gasoline
RFP	Reasonable Further Progress
RFS	Renewable Fuel Standard
RHPWG	Regional Haze Planning Work Group
RIN	Renewable Identification Number
RMP	Risk Management Program
RPG	Reasonable Progress Goal
RPO	Regional Planning Organization
RTR	Risk And Technology Review
RTS	Reasonable progress goals
RVO	Renewable Volume Obligation
RVP	Reid Vapor Pressure
SAFETEA	Safe, Accountable, Flexible, Efficient Transportation Equity Act
SCC	Social Cost of Carbon
SCR	Selective Catalytic Reduction
SEA	Selective Enforcement Auditing
SEP	Supplemental Environmental Project
SESARM	Southeastern Air Pollution Control Agencies
SF6	Sulfur Hexafluoride
SIC	Standard Industrial Classification
SIL	Significant Impact Level
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SOx	Sulfur Oxide
SSI	Sewage Sludge Incinerator
TAS	Treatment as a State
TCM	Transportation Control Measures
TIP	Tribal Implementation Plan (or Transportation Improvement Program)
TPY	Tons Per Year
TSP	Total Suspended Particles

U.S.C.	United States Code
URP	Uniform Rate of Progress
USAO	United States Attorney's Office
VDB	Voluntary Disclosures Board
VISTAS	Visibility Improvement State and Tribal Association
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WEPCO	Wisconsin Electric Power Company
WRAP	Western Regional Air Partnership
µg/m3	Micrograms per cubic meter

Chapter 13

Water*

I. HISTORY OF WATER POLLUTION CONTROL IN THE UNITED STATES

II. FEDERALISM AND GOALS OF THE ACT

III. PUBLIC PARTICIPATION

IV. TITLE II—GRANTS-IN-AID

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*By **Donald W. Stever, Ankur Tohan, Endre Szalay, and Benjamin Mayer** (updates by **Matthew P. Clark** and **Natalie J. Reid).** §§ 13:26, 13:70, and 13:84 by **Jeffrey Gaba;** § 13:55 by **Donald W. Stever** and **Jeffrey Gaba;** § 13:93 by **Joan Ferretti** and **Donald W. Stever** (updates by **Eliza A. Dolin, Sarah W. Sheive**, and **Donald W. Stever**); § 13:117 by **William Funk**.

V. TITLES III AND IV—THE CLEAN WATER REGULATORY PROGRAM

VI. WETLAND PROTECTION

VII. JUDICIAL REVIEW

VIII. ENFORCEMENT

IX. OCEAN DISCHARGES AND OCEAN DUMPING

X. OIL POLLUTION

XI. MISCELLANEOUS CLEAN WATER ACT PROVISIONS

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Law of Wetlands Regulation (LWETR)

Westlaw Search Query

adv: CWA "CLEAN WATER ACT"

adv: "WATER QUALITY ACT"
adv: "RIVERS #AND HARBORS ACT"

Primary Authority

Clean Water Act § 101(a)(1), 33 U.S.C.A. § 1251(a)(1)
Marine Protection, Research, and Sanctuaries Act 16 U.S.C.A. § 1401
Federal Water Pollution Control Act, 33 U.S.C.A. § 1251

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Law of Water Rights & Resources §§ 1:1 et seq.
Law of Wetlands Regulation §§ 4:25 et seq.
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I. HISTORY OF WATER POLLUTION CONTROL IN THE UNITED STATES

Major Titles of the Clean Water Act
Title I—Research and Related Programs
Sections 104, 106, and 117[1] ■ Includes grant funding and comprehensive programs for water pollution control and regionally focused projects (i.e., Chespeake Bay Program)
Title II—Grants for Construction of Treatment Works
Sections 202, 205, 219[2] ■ Outlines federal grants for projects based on a priority list established by states to assist municipalities building or expanding POTWs
Title III—Standards and Enforcement
Sections 301, 303, 309, 319[3] ■ Prohibits discharges into "Waters of the United States" (WOTUS) ■ Establishes water quality standards, effluent limitations, and technology-based standards ■ Directs EPA to issue administrative orders against violators, seek civil penalties, or seek criminal penalties when appropriate ■ Creates nonpoint source management program
Title IV—Permits and Licenses
Sections 402 & 404[4] ■ Establishes National Pollutant Discharge Elimination System (NPDES) permitting scheme ■ Requires that discharge of dredged or fill material into WOTUS must obtain a permit from U.S. Army Corps unless activity is exempted
Title V—General Provisions
Section 505[5] ■ Permits any U.S. citizen to file a citizen suit against: any person who is alleged to have violated an effluent limit or the EPA Administrator for failure to perform duties under the CWA

§ 13:1 In general

This chapter covers the Federal Water Pollution Prevention and Control Act of 1972 (the Act or CWA).[1] Regulation of water polluting discharges during the first two-thirds of the 20th century was primarily the task of the state governments. The federal role was limited to research and development[2] and providing financial and

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[1]33 U.S.C. §§ 1254 to 1267.

[2]33 U.S.C. §§ 1282 to 1299.

[3]33 U.S.C. §§ 1311 to 1329.

[4]33 U.S.C. §§ 1341 to 1344.

[5]33 U.S.C. § 1365.

[Section 13:1]

[1]33 U.S.C.A. §§ 1251 et seq.

[2]For example, the Lawrence, Massachusetts Experiment Station, maintained by the federal government, was responsible for the development of treatment technologies for municipal sewage. The techniques developed at Lawrence are still widely used today, almost a hundred years after their development. The Lawrence facility is maintained as a national historic site open to the public.

technical assistance to the states.[3]

Although the state water pollution control programs were far from uniform, by 1970 they achieved a degree of similarity. The similarity in state programs was primarily the result of the Federal Water Pollution Control Administration's (FWPCA) promotion of its preferred scheme for classifying water bodies according to their uses and applying water quality criteria that varied with each classification. Similarly, since the FWPCA administered grants for the construction of municipal sewage treatment facilities, the federal government used the power of the purse to impose a more-or-less uniform sewage treatment technology on the states.

Notwithstanding the FWPCA's efforts, wide differences in the stringency and enforcement of state water pollution controls persisted, and each time Congress reauthorized the Federal Water Pollution Control grant program after 1960, pleas were made to increase the federal role. One such argument was premised on the ability of industrial polluters to, in effect, blackmail a state into relaxing its standards by threatening to relocate to a state with a more favorable regulatory climate. As a result of such pressures, in the 1965 and 1970 sessions, Congress began to increase the federal role, eventually providing for some degree of federal enforcement of the states' standards, though direct federal enforcement was never a part of the pre-1972 scheme.[4]

There was also the Refuse Act.[5] Although no doubt aimed at the deposit of material that would interfere with navigation,[6] and largely ignored for 60 years after its passage in 1899, a series of Supreme Court decisions broadened the definition of "refuse" to include such things as oil,[7] and, ultimately, President Johnson concluded that a permit from the U.S. Army Corps of Engineers (Corps) was necessary prior to any discharge of refuse into navigable waters.[8]

There was a flurry of activity under the Refuse Act by citizen groups in the late 1960s aimed at forcing a direct federal presence in water pollution control. Their efforts produced scant response from the federal bureaucracy. The Corps was decentralized and ill-equipped to take on the momentous administrative task required of it: issuing permits to tens of thousands of dischargers.

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[3]The Water Quality Act of 1948 established a pattern of state primacy in water pollution regulation and provided for a federal role limited to research and financial aid for the construction of municipal sewage treatment plants. The 1948 legislation was amended in 1956 to provide direct federal subsidization of state water pollution regulatory programs and for broader federal supervision over interstate pollution.

In 1965, Congress again increased the federal presence. Although retaining the basic approach of the 1948 law, the Water Quality Improvement Act of 1965 required states to develop water quality standards applicable to interstate navigable waters, which had to be approved by a new agency, the Federal Water Pollution Control Administration, housed in the U.S. Department of Health, Education, and Welfare.

During the 1950s and 1960s the Federal Water Pollution Control Administration, a subunit of the U.S. Department of the Interior, administered a program of grants-in-aid for municipalities interested in building sewers and sewage treatment plants. It also developed guidelines for translating stream classifications into individual effluent limitations and provided information on such things as the amount of a pollutant that various species of fish could be exposed to without adverse effects.

[4]Federal enforcement was unchanged in form between 1948 and 1972. The 1948 act created the "abatement conference" procedure. It provided for a series of conferences or negotiations between a polluter and the various government agencies, which could result in a negotiated agreement or a compliance order. Orders were subject to judicial review and were enforceable, if found to be feasible, whether by state or federal officials. After 1965, the FWPCA, as an agency with a dedicated mission, somewhat heightened the federal government's level of interest in the process.

[5]33 U.S.C.A. § 403.

[6]Most of the types of "refuse" listed in the statute are of the floating variety.

[7]United States v. Standard Oil Co., 384 U.S. 224 (1966).

[8]Exec. Order No. 11288, 31 Fed. Reg. 9261 (1966).

§ 13:2 Municipal sewage treatment—The federal Grant-In-Aid program

Beginning in the 1950s, Congress began to provide grant moneys to assist municipalities in the design and construction of sewage treatment and collection systems. The construction grants program, as it came to be called, is the one element of the pre-1972 federal water pollution control scheme that survived the historic 1972 amendments and grew throughout the 1970s into a multibillion-dollar program.

The FWPCA administered the construction grants program prior to 1972, when it was turned over to the newly formed U.S. Environmental Protection Agency (EPA or the Agency). It funneled grant money through the state water pollution control agencies, which were required to commit a certain percentage of state and municipal funds. The percentage of federal funding varied over time from as little as 30% to as much as 80%.

The FWPCA required all municipal projects to be developed in three steps: facilities planning, design, and construction. Each step constituted a separate funding decision. In addition, states were required to parcel out available federal funds based on a set of priorities.[1] The states were not uniform in their priorities, and the most prevalent prioritization scheme was the simplest—first come, first served—in light of other relevant considerations such as size and political influence.

Many municipalities never got beyond the first step. A facilities plan is in effect a scoping document. The consultant hired by the municipality studies its existing sewer system, the local geology, and topography, and the user profile and then makes some assumptions about growth over the useful life of a treatment works. The resulting product is a narrative that concludes with a conceptual sewer layout and selection of a type and size of treatment facility. Often following completion of a facilities plan, the municipality would not make it on the priority list for federal funds for the next step: design. The reason was more often than not a refusal on the part of the municipal legislature to commit the local share of design and construction funds required as a prerequisite to federal funds. If enough years elapsed, changes in the municipality, particularly if it was experiencing rapid growth, would necessitate a completely new facilities plan.

The FWPCA required, in addition, that the states exercise at least some level of control over the design of treatment facilities. The degree of state control varied widely. Some states maintained lists of approved consulting engineers and would provide funds only to municipalities that retained an approved engineer. Some, in addition, maintained approved equipment lists. Some state agencies also reviewed and approved facilities plans and design plans submitted by the municipalities and exercised control over changes in design incurred during construction.[2]

One outgrowth from the close working relationship between the consulting engineering fraternity and the state water pollution grant managers was a kind of "old boy" network. This made for somewhat less than arm's-length dealing when the same engineers began representing industrial dischargers with compliance problems, and later, under the 1972 amendments, in connection with National Pollutant Discharge Elimination System (NPDES) permit applications. Veterans from the construction grants program frequently rose to the upper managerial ranks in

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[Section 13:2]

[1]The 1965 act did not mandate how the priorities were to be established.

[2]State approval of plans generally did not insulate the municipality from liability if the "approved" design failed. For example, the state of New Hampshire successfully disclaimed any responsibility for the failure of a lagoon built for the City of Rochester. Daddario v. Rochester, No. 74-0000 (D. N.H.) (unreported).

the agencies, whose mission changed drastically after 1972. Many of these engineer-managers, for example, simply did not believe in enforcement or in penalizing dischargers for noncompliance with regulatory requirements. They also often held the view that there should be engineering solutions to all pollution problems and that the absence of an engineered solution for a particular problem rendered the problem not worthy of significant consideration.

§ 13:3 Municipal sewage treatment—Treatment schemes—Primary treatment

Primary treatment of domestic sewage was the principal achievement of the nineteenth century researchers at the Lawrence Experiment Station, in Lawrence, Massachusetts. The basic technology, unchanged to this day, is simple. The sewage is allowed to accumulate in large tanks called digesters, where enteric bacteria feed on the organic matter. Eventually the residual solid material settles out into a sludge, and the supernatant is released to a receiving water body after having been placed into contact with a chlorine compound that kills some pathogens. The sludge is then either disposed of in a landfill, dewatered and incinerated, composted, or barged or piped into the ocean.[1]

The advantage of primary treatment for municipalities was that it could be employed by the application of "bricks and mortar" construction techniques. It was relatively cheap to install and required little or no expertise in its operation and maintenance. Its disadvantage is that the material ultimately discharged into the receiving water remains high in organic matter, which consumes oxygen, and retains much of the toxic material and many pathogens contained in the raw sewage.

§ 13:4 Municipal sewage treatment—Treatment schemes—Secondary treatment

Secondary treatment is employed to remove dissolved and suspended organic material from primary treated effluent. There are two methods. Biological treatment utilizes specialized bacteria that digest the organic matter. Physical-chemical treatment utilizes chemical reactions and periodic retention of the wastewater and other engineered techniques to remove additional organic matter. Secondary effluent is not drinkable. It still contains significant amounts of organic matter, toxic compounds, and pathogens, albeit in significantly lower concentrations than are found in primary effluent. It is generally believed that the discharge of secondary effluent will not render a receiving water unswimmable and will not interfere with most aquatic organisms. Secondary treatment produces additional sludge.

By 1972, most municipalities that had installed sewage treatment had not progressed beyond primary treatment.

§ 13:5 Municipal sewage treatment—Treatment schemes—Tertiary treatment (advanced wastewater treatment)

Tertiary treatment, which has come to be called advanced wastewater treatment (AWT), envisions either no discharge of effluent to a receiving water or the discharge of effluent from which essentially all pollutants have been removed. The for-

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[Section 13:3]

[1]Sludge disposal is a complex and difficult problem about which more will be said later. Ocean dumping of sludge became subject to separate regulatory requirements under the Ocean Dumping Act in 1976. Land disposal of sludge became subject to possible regulation under the Resource Conservation and Recovery Act as hazardous waste in 1984, and sludge incineration was arguably regulatable under the Clean Air Act (CAA) after its enactment in 1970.

mer is usually achieved by spray-irrigation of forest or range land by which the vegetation takes up the nutrients and organic matter breaks down in the soil. The latter employs very expensive and sophisticated biological and chemical processes to remove nutrients, toxic compounds, and other pollutants. There were virtually no tertiary plants in operation under the pre-1972 regulatory scheme.

Portable water reuse is another treatment scheme which is emerging as a new option for expanding a region's water resource portfolio. There are two types of potable water reuse. The first is indirect potable reuse, in which an environmental buffer, such as a lake or river, is used as a buffer before water is treated at a drinking water treatment plant. The second is direct potable reuse, in which water is treated and distributed directly without an environmental buffer. While potable water reuse is still a developing area, the EPA has published several guidelines on potable water reuse and drinking water.[1] Additionally, a number of states have developed their own potable water reuse programs and guidance.[2]

§ 13:6 Water quality standards—Stream (use) classifications

The basic approach to water pollution control employed by the states prior to 1972 involved setting ambient water quality standards at levels consistent with the dominant uses assigned to the water body by the state legislature. Although there were variations in the approaches and nomenclature used by the various states, particularly in the number of separate subclassifications employed, virtually all of the states followed the general classification scheme promoted by the Federal Water Pollution Control Administration.

The use classification scheme involved assigning a particular use classification to a water body or, most often, to a stretch of stream or river. The use classifications were Class A (drinking water quality), Class B (fishable and swimmable), Class C (moderately degraded by industrial and municipal waste but still able to support some aquatic life), and Class D (open sewers). Stream classification was usually viewed as a legislative prerogative, and classifications often initially represented the status quo on the water body rather than a goal to be achieved. Goal-oriented classification developed during the late 1950s and the 1960s as sportsmen and other citizen groups began to exert pressure on the state legislatures to improve the quality of badly degraded streams.[1] These efforts did not, however, result in any significant improvement in water quality. Individual industries were effective in some state legislatures in securing downward reclassifications, and in some areas water quality continued to decline throughout the 1960s.

As is discussed in more detail in a later section, the 1972 amendments to the Federal Water Pollution Control Act retained the stream classification scheme as an

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[Section 13:5]

[1]*See* U.S. EPA, Potable Water Reuse and Drinking Water, https://www.epa.gov/ground-water-and-drinking-water/potable-water-reuse-and-drinking-water.

[2]*See* U.S. EPA, State Water Reuse Resources, https://www.epa.gov/waterreuse/state-water-reuse-resources#washington.

[Section 13:6]

[1]An example of one such effort that proved to be successful is the cleanup of the Pemigewasett River in New Hampshire. The "Pemi," as it is called locally, begins in Franconia Notch in the White Mountains and flows south until it ends at its confluence with the Winnepesaukee River to form the Merrimack. The river had long been polluted by effluents from three municipalities and a large paper mill, and it was originally classified as a combination of Classes C and D. Primarily through the efforts of an activist legislator, Thomas Urie, who lived on the shores of the Pemi, the river was reclassified in 1962 to Class B, and rigid timetables were included for achieving the upgrading. By 1971, the water in the river was generally Class B quality. For an interesting related effort involving the law of nuisance, see Urie v. Franconia Paper Co., 107 N.H. 131 (1966).

optional control strategy for states wishing to impose a more stringent degree of effluent reduction than that prescribed under the federal law.

§ 13:7 Water quality standards—Water quality standards

Water quality standards are the numerical limits established for individual pollutants that reflect the degree of ambient receiving water degradation considered by the state agency to be consistent with the applicable use classification. In most states, at least some of these limits were fixed in the legislation, although most were left to be established by the state water pollution agency by regulation.[1]

Most of the state agencies looked to the so-called "Red Book," published by the FWPCA, for guidance in the establishment of water quality standards. The federal agency revised the Red Book periodically.

Information contained in the Red Book included suggested dissolved oxygen levels necessary to maintain cold- or warm-water fisheries for Class B purposes and other similar information useful in establishing water quality standards.

§ 13:8 Water quality standards—Pollutant parameters

The states maintained a relatively small number of water quality standards. Rather than address specific pollutants, the use classification scheme established general pollutant parameters, some of which related to single pollutants, but most of which related to conditions. The commonly adopted standards involved oil and grease, pH, total suspended solids (TSS), biochemical oxygen demand (BOD5),[1] coliform (enteric) bacteria, turbidity, phenols, chromium and several other heavy metals, and a number of aesthetic parameters such as odor and color. These parameters were developed by and large at the Lawrence Experiment Station at the end of the 19th century. They worked well in the development of controls for domestic municipal waste.

Unfortunately, due both to the crudeness of these parameters and the relative insensitivity of the detection equipment of the day, many pollutants discharged by industrial facilities simply were not regulated under this scheme. Small amounts of very toxic chemicals, for example, were not included in the parameters and thus were not considered in developing the treatment technology needed to meet the water quality standards. In addition, there was never uniformity in water quality standard setting among the states. The FWPCA could not impose the Red Book on the states and, in most states, the administrative agency was given rather broad latitude in setting the standards.

It was generally up to the discharger to devise a treatment scheme that resulted in its effluent not causing the water quality in the receiving water to fall below the established water quality standards.

§ 13:9 Water quality standards—Mixing zones

It was generally assumed that it was either unfair or infeasible to require the water quality standards to be met at the end of the discharge pipe. Traditional water

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[Section 13:7]

[1]Mass. Gen. Laws. Ann. ch. 21, § 27 (law); Mass. Admin. Code tit. 314, § 4.00 (water quality standards regulation).

[Section 13:8]

[1]Some states utilized separate standards for biological oxygen demand and chemical oxygen demand. The former related to materials, such as organic fertilizers, that stimulated algal growth, which in turn consumed oxygen. The latter related to chemicals that reacted with other compounds in the water body and, in so doing, consumed oxygen.

pollution engineers felt that "end of the pipe" compliance was fundamentally at odds with an ambient standards scheme. Accordingly, the Red Book envisioned, and most of the states provided, that the water quality standards needed to be met only at the end point of an established "mixing zone" downstream of a discharger's outfall. Obviously, the size of the mixing zone allotted to a discharger affected the degree of pollutant reduction required of the facility. The size of the mixing zone was thus the subject of a great deal of bargaining between dischargers and the state agency.

Criticism of mixing zones, echoed by the epithet "dilution is not the solution to pollution," was premised on the notion that aquatic organisms do not respect mixing zone boundaries, and that there should not be any pockets of severe pollution in any water body, such as occurs near the outfall where mixing zones are used. Moreover, since there is no scientific way to fix the boundaries of a mixing zone, its size and shape is inherently arbitrary, introducing an element of unfettered discretion in the regulatory process. Finally, many water bodies are thermally stratified in a very complex fashion, and the behavior of pollutants in such circumstances is impossible to predict with precision, even when employing sophisticated and costly mathematical or physical models. Monitoring for compliance in such circumstances is also exceedingly expensive and imprecise.

The use of mixing zones was prohibited where technology-based limitations were employed by Congress in the 1972 amendments to the Act,[1] though the concept was partially resurrected by Congress in a 1987 amendment to § 301(h).[2]

§ 13:10 Waste load allocation

The difficulties inherent in translating an ambient standard into effluent limitations applicable to individual dischargers are compounded where there is more than one discharger putting pollutants into one receiving water body. Obviously, the state agency could not allocate all of the available "use," in the pollution sense, to a single user. It therefore had the task of allocating the *waste load* among competing users. In the simple case, where there were only two dischargers of essentially the same amounts of a pollutant who were equally able to reduce their effluent, waste load allocation could be accomplished.

There were, however, few simple cases. Often there were dozens of discharge points within a short stretch of river, the dischargers having differing technical and economic capabilities of pollutant reduction. And, of course, the situation would differ over time, with older dischargers leaving and new dischargers coming onto the receiving water. A discharger could spend significant sums of money to meet the water quality standards, only to be faced with a request to reduce its load even more to accommodate a new industry. The political difficulties inherent in such a scheme are obvious. Given a choice between placing a sometimes intolerable additional burden on existing dischargers or saying "no" to a new industry and its local economic benefits, the state agencies would be pressured to go along with a third alternative: reclassifying the stream segment to downgrade it. In short, waste load allocation was shown again and again to be unworkable.

§ 13:11 Industrial dischargers

Under the pre-1972 scheme, industrial dischargers were subject to the same

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[Section 13:9]

[1]*See* the discussion in § 13:50.

[2]EPA continued to allow the mixing zone concept to be employed in connection with optional water-quality-based effluent limitations.

system of water quality standards developed for and applied to municipal sewage discharges. The problems inherent in stream-impact regulation were magnified with the greater numbers of dischargers on a given stream and as new industries or expanded industrial operations added new amounts of pollutants to the receiving streams.

Questions of how much pollution was permissible within the classification were difficult to answer. Even more difficult was how to allocate the burden of additional pollutant reduction to accommodate increased loads. Pressure to reclassify streams downward became incessant in industrial areas. This pressure often took the form of threats by industries to leave the state unless they received favorable water pollution treatment.

Enforcement of the state standards was erratic and difficult. There was essentially no federal presence.[1] Many states did not have a discharge permit program, and many of those that had permit programs did not impose single-number end-of-pipe effluent limitations on dischargers. Proving a violation of the water pollution law thus often involved repeated upstream and downstream sampling of receiving water, and "live box" tests, in which indigenous fish were placed in cages below an outfall and beyond the mixing zone and observed for mortality and morbidity. Except in the case of visible pollutants, repeated violations were simply too expensive to prove.

§ 13:12 Inadequacies and proposals for reform—In general

Many of the perceived inadequacies of the traditional legal mechanism for water pollution regulation have been pointed out in the prior paragraphs.[1] The FWPCA Act Amendments of 1972, discussed in the following sections, mirrors the complaints about the state of state regulation in the subjects it addresses, and several of its provisions, particularly §§ 302 and 303, reflect the political compromises made to preserve pieces of the old system in the face of a demand for radical change.

The primary difficulties with the water quality standards approach lay in the expense and enforcement. Industry groups complained, in addition, that the water quality standards approach produced unfairly disparate regulatory requirements on dischargers based on the degree of political clout wielded by environmentalists interested in a given stream.[2] The abatement conference enforcement scheme was generally viewed as cumbersome and ineffective.[3]

On a nationwide scale, moreover, there was evidence that industries were effectively practicing "pollution blackmail" against state legislatures and water pollution agencies and that some states, particularly in the Deep South, were posturing themselves as "pollution havens," resulting in refusal by the older industrial states

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[Section 13:11]

[1]The 1965 Water Quality Improvement Act provided a mechanism for a state-federal enforcement "conference" among the Administration, the state, and the discharger. These meetings, while theoretically effective vis-à-vis municipalities, which could be threatened with withholding of federal grants, were essentially worthless as a means to leverage industrial dischargers into compliance.

[Section 13:12]

[1]A concise reiteration of the politically significant complaints about the prior scheme can be found in S. Rep. No. 414, 92d Cong., 1st Sess. 1-10 (1972).

[2]Although there are a few notorious examples of such activity, the general pattern of stream classification was for the legislature to preserve the status quo rather than classify for the purpose of upgrading. Most streams bore initial classifications consistent with their present water quality, which reflected current uses. Reclassifications to more stringent levels were rare.

[3]*See* S. Rep. No. 414, 92d Cong., 1st Sess. 2 (1972) (report on S.2770, which ultimately became the Federal Water Pollution Control Act Amendments of 1972).

to act aggressively to clean up badly polluted streams. State water pollution agencies frequently used the mixing zone as a device for minimizing the degree of treatment required of a discharger to a water-quality-limited stream.

There were, moreover, a number of interstate streams lacking an effective method for addressing interstate pollution issues. Federal law provided a means of notification by a discharger's state to a state whose waters the discharge affected, but that device proved ineffective.[4]

Finally, municipal sewage treatment lagged since there was essentially no effective enforcement against municipal dischargers. Although there was a federal grant-in-aid program for publicly owned treatment works (POTW) construction, it was not large enough to provide a significant carrot for large-scale municipal facility construction, and the level of state funding varied widely.

Three major theories for reform had emerged by the late 1960s, each of which required a greater federal presence in water pollution control. These were: (1) taxation of water pollution discharges that exceeded a permitted ceiling, similar to the scheme employed by the German government on the Rhine and Ruhr rivers;[5] (2) development of a federal permit program under the Refuse Act;[6] and (3) creation of an entirely new regulatory program that would employ technology-based standards, rather than water quality, on a nationwide scale.[7]

§ 13:13 Inadequacies and proposals for reform—The Refuse Act program

Although it was largely eclipsed by Congress's decision to create the technology-based program in the Act, further discussion is required of the Refuse Act. In 1970, the President ordered the Corps to develop a permit program under the Refuse Act,[1] which it was to administer jointly with the newly created EPA, which had the authority to veto permits or impose standards based on water quality considerations relevant under the Act (i.e., state water quality standards). The Corps issued regulations in 1971;[2] it began to accept applications for permits authorizing industrial discharges into traditionally navigable waters.[3]

The Refuse Act permit program was enjoined in 1971 for noncompliance with the

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[4]Federal Water Pollution Control Act of 1965, Pub. L. No. 89-234, § 21(b), 79 Stat. 903. *See, e.g.*, New Hampshire v. Atomic Energy Comm'n, 406 F.2d 170 (1st Cir. 1968).

[5]*See* J.H. Dales, Pollution, Property, and Prices (1968); Friedman, Free To Choose (1980) (articulations of this theory). Such an approach was championed by Senator Proxmire, but rejected by the Congress in 1972. *See* 2 Environmental Policy Division, Congressional Research Service, A Legislative History of The Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1316-46 (Comm. Print 1973) (Senate Debate on S.2770, Nov. 2, 1971) [hereinafter cited as Legislative History].

[6]33 U.S.C.A. § 407. This statute prohibits the discharge of "refuse matter" other than "that flowing from streets and sewers and passing therefrom in a liquid state" into navigable waters or their tributaries, unless pursuant to a permit issued by the Corps. It was enacted as part of the Rivers and Harbors Act of 1899, but was enforced only against obstructions to navigation until it was held in United States v. Republic Steel Corp., 362 U.S. 482 (1960), and United States v. Standard Oil, 384 U.S. 224 (1966), that it applied to any industrial waste.

[7]This approach was ultimately adopted in the 1972 CWA.

[Section 13:13]

[1]Exec. Order No. 11574, 35 Fed. Reg. 19627 (1970).

[2]36 Fed. Reg. 6564 (1971) (codified at 33 C.F.R. Part 209).

[3]Discharges from municipal POTWs were exempt under the "streets and sewers" exemption, although liquid industrial waste flowing in sewers was held, in Republic Steel, to be covered. *See also* United States v. Granite State Packing Co., 470 F.2d 303, 3, 4 Env't. Rep. Cas. (BNA) 1706, 3 Envtl. L. Rep. 20074 (1st Cir. 1972). The jurisdictional reach of the Rivers and Harbors Act is to navigable waters and their tributaries, within the traditional test of navigability. They are waters that are subject to the ebb and flow of the tides, and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. *See* United States v.

National Environmental Policy Act of 1969 (NEPA)[4] and was never thereafter implemented, although Refuse Act enforcement continued sporadically and, under the limited circumstances permitted under the Act, continues today.[5] Since the statute provides only criminal penalties, which are not substantial in amount, and implied injunctive remedies, it has never played a major role in water pollution regulation.

Experience with the Refuse Act permit program to some extent influenced the course of development of the Act. For example, the eventual shared state-federal permit program established under § 402 of the 1972 Act was influenced by concerns that a straight Refuse Act permit program would involve too much federal presence,[6] and the Refuse Act was viewed as having a fatal weakness in its nonapplicability to municipal dischargers.[7]

§ 13:14 Inadequacies and proposals for reform—The 1972 Federal Water Pollution Control Act amendments

The choices Congress made in 1972 were embodied in Pub. L. No. 92-500; this became the Act, 33 U.S.C. § 1251. The Act's framework remains with us today, although the law was amended significantly in 1977 by a comprehensive bill known

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Appalachian Elec. Power Co., 311 U.S. 377 (1940); Economy Light & Power Co. v. United States, 256 U.S. 113 (1921); The Daniel Ball, 77 U.S. (10 Wall.) 557 (1870); Minnehaha Creek Watershed Dist. v. Hoffman, 597 F.2d 617, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20334 (8th Cir. 1979); United States v. Stoeco Homes, 498 F.2d 597, 610, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20390 (3d Cir. 1974), *cert. denied*, 420 U.S. 927 (1975); Miami Valley Conservancy Dist. v. Alexander, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20763 (S.D. Ohio 1981); United States v. Cameron, 466 F. Supp. 1099 (M.D. Fla. 1978); United States v. Sunset Cove, Inc., 3 Envtl. L. Rep. (Envtl. L. Inst.) 20370 (D. Or. 1973), *modified and remanded on other grounds*, 514 F.2d 1089, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20409 (9th Cir. 1975).

[4]Kalur v. Resor, 335 F. Supp. 1, 1 Envtl. L. Rep. (Envtl. L. Inst.) 20637 (D.D.C. 1971) (holding that Corps' regulations violated NEPA by failing to provide for preparation of environmental impact statements in connection with permitting activities).

[5]In United States v. Pennsylvania Indus. Chem. Co., 411 U.S. 655, 3 Envtl. L. Rep. (Envtl. L. Inst.) 20401 (1973), a case often cited for language to the effect that pollution is not a property right, the Court held that enforcement of § 13 is not dependent upon a permit program covering all discharges within the statute's reach and confirmed the availability of § 13 to address nonpoint sources selectively. The Refuse Act may be used to address discharges that are not covered by the Act's regulatory program, such as nonpoint source discharges, and discharges that occurred before the effective date of the 1972 amendments and which left a deposit requiring remediation.

A few Refuse Act cases survived the Federal Water Pollution Control Act amendments in the form of negotiated consent decrees that provided effluent limitations. The status of dischargers vis-à-vis the CWA is an interesting issue that was raised in a litigative context in a citizen suit filed in 1987. Hudson River Fishermen's Ass'n v. County of Westchester, No. 87-Civ. 1575 (GLG) (S.D.N.Y. 1987). The county had settled a Refuse Act prosecution in the early 1970s (United States v. Michaelin, No. 72-Civ. 1964 (CBM)), involving discharges of garbage and refuse, along with leachate seepage into the Hudson River at the county's landfill. In the consent decree, entered in 1975, the county agreed, *inter alia*, to cease expansion of the landfill and to install a leachate collection system. Twelve years later, the United States moved for contempt alleging various violations of the consent decree, and the fishermen commenced a citizen suit alleging that discharges of mixed stormwater and leachate from a stormwater collection system that did not exist at the time the Refuse Act suit was initiated, but which was constructed at least in part in connection with the settlement of the suit, violated the CWA since the stormwater collection system did not have an NPDES permit.

[6]2 Environmental Policy Division, Congressional Research Service, A Legislative History of The Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1339 (Comm. Print 1973) (Senate Debate on S.2770, Nov. 2, 1971) (Remarks of Sen. Humphrey).

[7]2 Environmental Policy Division, Congressional Research Service, A Legislative History of The Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1256 (Comm. Print 1973) (Senate Debate on S.2770, Nov. 2, 1971) (Remarks of Senator Muskie).

as the CWA and again in 1987 by the Water Quality Act of 1987.[1]

In enacting the CWA, Congress chose to abandon water quality standards as the primary approach to water pollution control and instead substitute uniform national end-of-the-pipe standards based on technological factors. The standards were to be enforced by a permit program, called the System NPDES, which would be enforced by the states if their programs met specified minimum requirements or, if not, by the EPA. States were left to enforce water-quality-based requirements, but only as a more stringent elective overlay on the federal technology-based scheme.

Thus, the Act represented a clear choice among the alternatives in favor of significantly increased command and control of federal regulation of water pollution. The fledgling Refuse Act permit program was explicitly eliminated.[2] The broad and sweeping new regulatory program was limited, however, in one significant way—it addressed only surface water pollution. Although there was limited discussion of potential groundwater pollution during the debates preceding the enactment of Pub. L. No. 92-500,[3] the statute that finally emerged primarily addressed pollution of surface waters.

II. FEDERALISM AND GOALS OF THE ACT

§ 13:15 In general

The Act marked a significant departure in a number of ways from prior federal involvement in water pollution control. Section 101 articulates a number of hortatory "goals" including the ultimate goal that the "discharge of pollutants into the navigable waters will be eliminated by 1985."[1] The Act represents a fundamental "departure in Federal water pollution control strategy from a water quality standards control mechanism to a discharge control mechanism."[2]

Although § 101(b) of the Act recites an intention to maintain state primacy in water pollution control, it in fact represents a significant shift toward federal domination of the activity. Although the states were left to manage the sewage treatment construction grants program, § 303 preserved state water quality standard schemes, and § 402 provided for delegation of the federal permit program to the states, the overall thrust of the Act diminishes the state role significantly.

State water quality standards are subject to an increased degree of federal oversight and are relegated to a supporting role in the overall program, taking precedence over federal standards only where they are more stringent. States are not free to impose their own technology-based effluent limitations, unless they are more

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[Section 13:14]

[1]*See* Pub. L. No. 92-500, 86 Stat. 816 (1972), amended by Pub. L. No. 93-207, 87 Stat. 906, (1973); Pub. L. No. 93-243, 87 Stat. 1069 (1974); Pub. L. No. 93-592, 88 Stat. 1924 (1975); Pub. L. No. 94-238, 90 Stat. 250 (1976); Pub. L. No. 94-558, 90 Stat. 2639 (1976); Pub. L. No. 95-217, 91 Stat. 1566 (1977); Pub. L. No. 95-576, 92 Stat. 2467 (1978); Pub. L. No. 96-478, 94 Stat. 2303 (1980); Pub. L. No. 96-483, 94 Stat. 2360 (1980); Pub. L. No. 97-35, 95 Stat. 764 (1981); Pub. L. No. 97-117, 95 Stat. 1623 (1981); Pub. L. No. 97-164, 96 Stat. 49 (1982); Pub. L. No. 97-357, 96 Stat. 1712 (1982); Pub. L. No. 97-440, 96 Stat. 2289 (1983); affected by Pub. L. No. 97-216, 96 Stat. 180 (1982); Pub. L. No. 97-272, 96 Stat. 1160 (1982); Pub. L. No. 98-45, 97 Stat. 219 (1983); Pub. L. No. 98-371, 98 Stat. 1213 (1984); Pub. L. No. 98-396, 98 Stat. 1369 (1984); Pub. L. No. 99-88, 99 Stat. 293 (1985); Pub. L. No. 100-4, 101 Stat. 7 (1987).

[2]Section 511(b), 86 Stat. 893 (codified at 33 U.S.C.A. § 1371(b)).

[3]*See, e.g.*, S. Rep. No. 414, 92d Cong., 1st Sess. 73 (1972).

[Section 13:15]

[1]Needless to say, that particular goal was not achieved.

[2]S. Rep. No. 474, 92d Cong., 1st Sess. 11 (1971). The Act's principal sponsor, and primary architect, was Senator Edmund Muskie, of Maine.

stringent than EPA's.[3] Essentially, the Act provided a floor of federal standards premised on technological capability, reserving to the states the power to be stricter if they could afford to do so politically.

The Act also affected state and federal agency activities, primarily in the arid West, involving collection of water and the allocation of water to consumers. Some of these effects were foreseen by Congress, and some were incidental. They have been politically controversial.

Section 102(b)(1) prohibits the use of storage and release of water from federal water projects as a substitute for treatment of pollutants at the source. Section 102(b)(3) gave EPA the authority to determine how much water storage could be employed for water pollution control.[4] Although impoundment discharges are not subject to direct regulation under the Act so long as there is no "addition" of pollutants,[5] the indirect impact of the basic permit program and § 404, which creates a program for regulating discharges of dredged or fill material,[6] raised concern in the West sufficient to spur, in 1977, Senator Wallop sponsoring an amendment that became § 101(g).[7]

Section 101(g) expresses the intention of Congress that the Act not "supersede or abrogate" or "otherwise impair" the rights of states to allocate water within their jurisdictions, and that the Act should not "supersede or abrogate" rights to quantities of water allocated by a state. The section was construed by the Tenth Circuit Court of Appeals in *Riverside Irrigation District v. Andrews*.[8] There the court was faced with arguments that a water project in Colorado should not be required to secure a permit under § 404 of the Act because the permit process and requirements of the regulations would adversely affect the project. The court rejected these arguments and stated that to the extent § 101(g) was inconsistent with the specific substantive provisions of the statute, the latter would govern. The court stated that a "fair reading of the statute as a whole makes clear that, where both the state's interest in allocating water and the federal government's interest in protecting the environment are implicated, Congress intended an accommodation. Such accommodations are best reached in the individual permit process."[9]

What has not yet been determined by the courts is what the substance of such an "accommodation" would be if the parties to the permit process could not agree on the matter. The ultimate question—in the event of an irreconcilable conflict between preserving environmental values and building a water project, which must legally prevail—has not been answered.

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[3]*See* American Petroleum Inst. v. EPA, 540 F.2d 1023, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976) (pointing out tension between the national goals contained in § 101(a) and the language of § 101(b)).

[4]*See* Cape Henry Bird Club v. Laird, 484 F.2d 453, 3 Envtl. L. Rep. (Envtl. L. Inst.) 20786 (4th Cir. 1974) (discussing section generally).

[5]Nat'l Wildlife Fed'n v. Gorsuch, 693 F.2d 156, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20015 (D.C. Cir. 1982), *rev'g* 530 F. Supp. 1291, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20268 (D.D.C. 1982). *But see* Catskill Mountains Chapter of Trout Unlimited v. City of New York, 273 F.3d 481, 490 (2d Cir. 2001) (following United States v. Mead, 533 U.S. 218, 121 S. Ct. 2164, 150 L. Ed. 2d 292 (2001), and refusing to defer to EPA's informal dam discharge interpretation and finding a regulated discharges).

[6]*See generally* § 13:93.

[7]Pub. L. No. 95-217, § 5(a), 91 Stat. 1566 (1977).

[8]Riverside Irrigation Dist. v. Andrews, 758 F.2d 508, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20333 (10th Cir. 1985).

[9]The plaintiff, a local sponsor of the water project, probably initiated the litigation because downstream of the project was a habitat of the whooping crane, an endangered species, which the U.S. Fish and Wildlife Service had already opined would be adversely affected if the proposed dam were built.

III. PUBLIC PARTICIPATION

§ 13:16 In general

The Act significantly broadened the degree to which members of the public are provided opportunity to influence the decision-making of EPA and, to a somewhat lesser degree, states that have been delegated enforcement authority. The most significant example is the citizen suit provision, discussed in a later section of this chapter.

§ 13:17 Public participation in EPA decision-making

Formal public participation can take place at two points in EPA's implementation of the Act. The Agency's general rulemaking activities, by which it develops, among other things, effluent guidelines and promulgates water quality standards, must be undertaken by means of informal rulemaking, in which EPA provides public notice and solicits comments.[1] Section 509(b)'s grant of authority for judicial review of EPA rulemaking actions in the courts of appeals is broad and freely available to "any interested person."[2]

EPA's permit issuance actions under § 402, in states where the Agency issues permits, must include "opportunity for public hearing."[3] The Seventh Circuit Court of Appeals in *United States Steel Corporation v. Train*[4] held that requirement means an adjudicatory, trial-type hearing where requested.[5] EPA has promulgated regulations[6] that establish procedural prerequisites for adjudicatory hearings and provide that certain types of issues are not appropriate for adjudication. EPA's flexible approach to its NPDES adjudicatory hearings was upheld in *Seacoast Anti-Pollution League v. Costle*.[7] Moreover, the Agency is not obligated to hold an adjudicatory hearing in the absence of a legitimate request for one.[8]

[Section 13:17]

[1]Public participation in EPA's Title II activities is very limited, as it is under most federal grant-in-aid programs. However, since NEPA applies to EPA's wastewater treatment grants program, see CWA § 511(c), 33 U.S.C.A. § 1371(c), the public participation afforded by that statute compensates for any lack thereof under Title II. Public participation in decision-making under CWA § 311, 33 U.S.C.A. § 1321, which provides for the expenditure of funds for cleaning up oil spills, is virtually nonexistent.

[2]In practice, the courts have limited judicial review because issues not raised first before the agency are not litigable for the first time in the courts. In addition, the Supreme Court recently held that judicial review in the court of appeals is limited to EPA actions that are explicitly enumerated in Section 509(b). National Ass'n of Mfrs. v. Department of Defense, 138 S. Ct. 617, 199 L. Ed. 2d 501, 85 Env't. Rep. Cas. (BNA) 2155, 2018 A.M.C. 29 (2018).

[3]CWA § 402(a), 33 U.S.C.A. § 1342(a).

[4]United States Steel Corp. v. Train, 556 F.2d 822, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20419 (7th Cir. 1977).

[5]*See* Marathon Oil Co. v. EPA, 564 F.2d 1253 (9th Cir. 1977); *see also* Seacoast Anti-Pollution League v. Costle, 572 F.2d 872, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20207 (1st Cir. 1977), *cert. denied*, 439 U.S. 824 (1978). *Compare* Seacoast Anti-Pollution League v. Costle, 572 F.2d 872, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20207 (1st Cir. 1977) *with* Buttrey v. United States, 690 F.2d 1170, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20124 (5th Cir. 1982) (construing identical language in § 404 to require only informal hearings by the Corps, relying almost exclusively on a single statement in the legislative history by Senator Muskie) *and* Dominion Energy Brayton Point, LLC v. Johnson, 443 F. 3d 12 (1st Cir. 2006) (relying on Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 104 S. Ct. 2778, 81 L. Ed. 2d 694, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20507 (1984), to interpret post-*Seacoast* EPA regulations and finding no nondiscretionary duty to convene an evidentiary hearing).

[6]40 C.F.R. Part 124.

[7]Seacoast Anti-Pollution League v. Costle, 572 F.2d 872, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20207 (1st Cir. 1977), *cert. denied*, 439 U.S. 824 (1978).

[8]*See, e.g.,* 40 C.F.R. § 124.19.

The citizen suit provision, § 505, allows members of the public to intervene in EPA enforcement actions.[9] Citizen suits, to compel EPA to take nondiscretionary action or to enforce the statute's regulatory requirements against private parties, are discussed in a separate section of this chapter.

§ 13:18 Public participation in delegated state programs

States and eligible federally-recognized Indian tribes[1] may be involved in three classes of regulatory activities under the Act; specifically, to:

1. Issue water quality standards and water-quality-based effluent limitations
2. Be delegated the NPDES permit program and thus enforcement authority under the statute
3. "Certify" that federally licensed activities and other federal activities are in compliance with their environmental laws under § 401

Each of these classes of activities provides opportunity for public participation, but the degree and nature of that participation is not as clearly specified as it is for EPA actions. Further, it has not always been clear that public participation in state proceedings was compelled in each case.

EPA maintains separate regulations that set forth minimum public participation procedures for CWA-related activities.[2]

The Agency's regulations implementing its supervisory authority, under § 303, over state water quality standards require that states hold public hearings in connection with review of water quality standards "in accordance with state law, EPA's water quality management regulation[3] and [40 CFR Part 25]."[4] Part 25 identifies procedures and goals for state agencies to pursue in their own public procedures. Essentially, the scope of public participation in water quality standard setting is defined by state law. EPA does not hold hearings on its approval of water quality standards, and it does not provide opportunity for prior notice and comment on its approvals.[5]

The Act provides significantly more direct guidance for public participation in state permit issuance proceedings. Section 402(b)(3) requires, as a condition of delegation of NPDES authority, that the state ensure adequate public notice and provide opportunity for a public hearing before ruling on a permit application.[6] EPA's state permit program regulations require that states provide for public hear-

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[9]The Department of Justice provides formal notice-and-comment opportunity with respect to all consent decrees proposed to be entered in CWA and other EPA litigation. *See* 28 C.F.R. § 50.7.

[Section 13:18]

[1]CWA § 518(e) provides for Indian tribes to play essentially the same role in Indian country that states do within state lands, authorizing EPA to treat eligible federally recognized Indian tribes in a similar manner as a state (TAS) for implementing and managing certain environmental programs. 33 U.S.C. 1377(e).

[2]40 C.F.R. Part 25; *see also* Alan Levin, EPA, Guidance for Implementation of 40 CFR Part 25 Public Participation Regulations in State Public Water System Supervision Program, http://www.epa.gov/safewater/wsg/wsg_16.pdf.

[3]40 C.F.R. § 130.3(b)(6) is specifically mentioned. That provision was repealed in 1985.

[4]40 C.F.R. § 131.20(b). The reference to the water quality management regulation is no longer apposite. EPA amended Part 130 on January 11, 1985, 50 Fed. Reg. 1779 (1985), and the amended regulation deletes the referenced provision.

[5]*See* 40 C.F.R. § 131.21(d).

[6]Identical language is found in FWPCA § 404(h), 33 U.S.C.A. § 1344(h), relating to delegation of the § 404 dredge and fill permit program.

ings,[7] although they do not require states to hold adjudicatory hearings.[8] Echoing the Supreme Court's statement that the Act's "opportunity for public hearing" requirement is "rather amorphous,"[9] it would appear that EPA's regulations allow states to avoid complete equivalency with the federal program.[10]

The question of how similar state and federal public participation provisions must be was raised and discussed, but not fully resolved, in *Citizens for a Better Environment (CBE) v. EPA*.[11] The plaintiff challenged EPA's original state program regulations for their failure to provide mandatory guidance for public involvement in enforcement of state water pollution permits and requirements. CBE unsuccessfully sought a judgment that EPA must, in order to satisfy the requirements of §§ 101(e) and 402(a)(3) and the Act's general policies as reflected in the legislative history, mandate state-level citizen suit provisions substantially similar to § 505.[12] Although the Seventh Circuit struck down EPA's approval of the Illinois NPDES program because the court considered EPA's criteria for judging public participation in state enforcement to be inadequate,[13] the court did not go so far as to mandate equivalency.[14]

The issue was addressed again in *Natural Resources Defense Council, Inc. v. EPA*.[15] The District of Columbia Circuit found that the Act does not require state-level citizen suits and that EPA's decision not to condition state program approval on their availability was a reasonable exercise of discretion. The court also addressed the issue of whether the present regulations are otherwise capable of producing meaningful public involvement in state permit decision-making. It found adequate the requirement that states either allow intervention as of right in enforcement proceedings or agree not to oppose intervention "by any citizen when permissive intervention may be authorized by statute, rule, or regulation."[16]

IV. TITLE II—GRANTS-IN-AID

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[7]*See* 40 C.F.R. § 123.25(a)(28) to (30).

[8]The regulations only cross-reference the informal notice and hearing provisions of the EPA decision-making procedures regulations, 40 C.F.R. § 124.12(a), as mandatory for states.

[9]Costle v. Pacific Legal Found., 445 U.S. 198, 218, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20225, 20230 (1980).

[10]*Cf.* Buttrey v. United States, 690 F.2d 1170, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20124 (5th Cir. 1982) ("it is very possible 'for a term to have different meanings even in the same statute' ") (citing Environmental Defense Fund, Inc. v. Costle, 631 F.2d 922, 927, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20585, 20587 (D.C. Cir. 1980)). *See* Akiak Native Community v. U.S. E.P.A., 625 F.3d 1162, 72 Env't. Rep. Cas. (BNA) 1181 (9th Cir. 2010) (finding that, while Alaska's proposed program does not include same judicial review opportunities as available for federally-issued permits, it provides for meaningful public participation in permitting process, as required under 40 C.F.R. § 123.30).

[11]Citizens for a Better Env't (CBE) v. EPA, 596 F.2d 720, 9 Envtl. L. Rep. (Envtl. L Inst.) 20092 (7th Cir. 1979), supplemented 13 Env 1094 (7th Cir. 1979).

[12]*See* Citizens for a Better Env't (CBE) v. EPA, 596 F.2d 720, 725, 9 Envtl. L. Rep. (Envtl. L Inst.) 20092, 20094 n.8 (7th Cir. 1979), supplemented 13 Env 1094 (7th Cir. 1979).

[13]Citizens for a Better Env't (CBE) v. EPA, 13 Env 1094 (7th Cir. 1979) (denying rehearing of opinion on the merits).

[14]*See* Citizens for a Better Env't (CBE) v. EPA, 596 F.2d 720, 725 n.8, 9 Envtl. L. Rep. (Envtl. L Inst.) 20092, 20094 n.8 (7th Cir. 1979), supplemented 12 Env 1094 (7th Cir. 1979).

[15]Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988).

[16]40 C.F.R. § 123.27(d). In reaching this conclusion, the court relied heavily on EPA's representation at oral argument that the second option is not available in states that do not provide some means of intervention. To a lesser degree, the court also relied on the Agency's interpretation of the first option as requiring that the state's rules for intervention as of right be similar to those of the Federal Rules of Civil Procedure. Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 177–78, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016, 20025 (D.C. Cir. 1988).

§ 13:19 Sewage treatment Grant-In-Aid program—Historical background and general approach

Section 201(a) of the Act states that the purpose of Title II is "to require and to assist the development and implementation of waste treatment plans and management practices that will achieve the goals of" the law. The basic commanding authority is provided by § 201(g), which authorizes EPA "to make grants to any State, municipality, or intermunicipal or interstate agency for the construction of publicly owned treatment works."[1]

Congress effectively terminated the construction grants program as of 1990 as a significant component of the 1987 reauthorization package[2] and provided as a replacement startup funds for a revolving loan program for states to use between 1989 and 1994.[3] The following text in this section and in §§ 13:20 to 13:25 addresses the construction grant program as it existed up to 1990.

Federal financial assistance for the construction of municipal sewers and sewage treatment works preceded the 1972 Act by many years. In fact, the primary function of the FWPCA prior to Pub. L. No. 92-500 was administration of federal monies funneled through the state governments to municipalities.

The FWPCA established the framework for the construction grants process that continues to the present. Funding is provided to the states from appropriation allotments made by Congress biennially on the basis of formulae that take into account statutory factors[4] and the states' "needs" that are determined by "needs surveys" conducted by the administering federal agency.[5]

It is important to understand the three-step process by which federal grants for municipal collection and treatment facilities historically were awarded and the respective roles played by the municipality, its consulting engineers, the state water pollution agency, and EPA, as the successor to the old Act in administering the

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[Section 13:19]

[1]CWA § 212(2), 33 U.S.C.A. § 1292(2), defines "treatment works" broadly to include sewers, pumping stations, stormwater management systems, land acquisition and management, and a number of other systems, essentially intending to cover any and all activities reasonably required in the management of liquid waste generated in a community. *See* Bosco v. Beck, 475 F. Supp. 1029, 1031 (D.N.J. 1979), *aff'd without opinion*, 614 F.2d 769 (3d Cir. 1979), *cert. denied*, 449 U.S. 822 (1980).

The CWA has almost uniformly provided a ceiling on the federal contribution of 75% of the construction costs. Amounts annually available for obligation were initially in the $1 billion to $2 billion range, increasing to a high of $9 billion in 1978. The average available has been in the $4 billion range, with dramatic decreases since 1982. There was substantial litigation between 1972 and 1975 over the question of whether the EPA could refuse to allot the full amount of sums appropriated by Congress for Title II, culminating in Train v. City of New York, 420 U.S. 35, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20162 (1975) and Train v. Campaign Clean Water, 420 U.S. 136, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20166 (1975), in which the Supreme Court determined that the Agency must make available all sums appropriated under § 207. In the Municipal Wastewater Treatment Construction Grant Amendments of 1981, Pub. L. No. 97-117, 95 Stat. 1623, Congress reduced the federal share for entirely new projects to 55%, grandfathering projects already in the three-step pipeline by October 1, 1984, at the 75% rate.

A 1978 amendment to § 201 authorized federal funding of small *privately* owned systems. Subsection (h) authorizes federal funding of small privately owned systems in areas that cannot be cost-effectively served by publicly owned systems.

[2]Pub. L. No. 100-4, § 202, 101 Stat. 15-16.

[3]FWPCA §§ 601 to 607, 33 U.S.C.A. §§ 1381 to 1387, added by Pub. L. No. 100-4, tit. VI, 101 Stat. 22-28 (1987). *See* 53 Fed. Reg. 27564 (1988).

[4]*See* FWPCA § 205(c), 33 U.S.C.A. § 1285(c).

[5]The allocation formulae, which are under current law derived from CWA § 205(a), 33 U.S.C.A. § 1285(a), or specific yearly appropriation acts, have been more or less the same for over 30 years.

construction grants program.[6] Although nothing in the original Federal Water Pollution Control Act specifically referenced a discrete three-step development process,[7] EPA engrafted such a scheme in its initial subpart E regulations shortly after the 1972 Act was enacted and it has subsequently remained a fixture of the program. Congress has, at least implicitly, engrafted it into the law.[8]

A municipality, except for those qualifying after February 4, 1987 for a "design/build" project,[9] wishing to receive federal assistance is required to develop what is called a "facilities plan" as Step 1 of the three-step grant process. Ordinarily this means that it retains a consulting engineering firm to survey the municipality's current and future[10] sewage loads and develop preliminary approaches to siting and design of interceptor sewers[11] and to building (or, as the case may be, upgrading) a POTW. A Step 2 grant application involves seeking money for the design of the system chosen from among those outlined in the facilities plan, and again involves selection of an engineering consultant[12] whose task it will be to design the facility, and to prepare the plans, specifications, and cost estimates that will form the basis for awarding Step 3 construction funds.[13]

It was not uncommon for a municipality to undertake two or more separate facilities plans and never get to construction. In addition, it was typical for an entire major project to be broken up into discrete parts and proceed in piecemeal fashion, with some segments in construction while others were still at the facilities planning stage. Thus, it was theoretically possible that new sewers built with CWA funds could be completed and have to discharge untreated sewage because the end-of-pipe

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[6]EPA administers the program in the construction grants unit of the water program, under the Assistant Administrator for Water, although primary day-to-day responsibility lies with the regional offices. Its policy has always been to delegate administration of the construction grants program to the states to the maximum extent possible. *See* 40 C.F.R. § 35.2000. Most state water pollution agencies (or water pollution units of the EPA) maintain a similar structure. EPA's construction grant regulations, which control its current program, are found at 40 C.F.R. Part 35, subparts E and I. *See* 47 Fed. Reg. 20455 (1982); 49 Fed. Reg. 6234 (1984).

[7]EPA's authority to review POTW projects is contained in § 203 of the FWPCA, 33 U.S.C.A. § 1283. Section 212(1) defined "construction" to include planning and design components. 33 U.S.C.A. § 1292(1).

[8]A 1981 amendment made specific reference to the three-step process. *See* CWA § 201(1), 33 U.S.C.A. § 1281(1). The reference was occasioned by criticism of the process, and the insertion of a requirement that EPA could no longer separately fund *only* Step 1 or Step 2 projects. *See* H.R. Rep. No. 270, 97th Cong., 1st. Sess. 4-5 (1981), *reprinted in* United States Code Congressional and Administrative News pp. 2629, 2632-33.

[9]Section 203(f), 33 U.S.C.A. § 1283(f) (added by Pub. L. No. 100-4, § 204, 101 Stat. 17 (1987)) reauthorized the use of a one-step "design/build" approach for POTW projects that had been inserted in 1981 initially on a very limited basis, increasing the eligibility to projects involving less than $8 million in costs and employing aerated lagoon, trickling filter, stabilization pond, land application, sand filter, or subsurface disposal technology, subject to several other conditions listed in the legislation. The provision is intended to expedite construction of comparatively small, passive systems.

[10]The extent to which POTWs must, or may, be designed to accommodate future growth ("reserve capacity") has been a matter of constant dispute among water pollution policy makers. This matter is discussed in § 13:19.

[11]Interceptor sewers are the mains that collect sewage from the neighborhood pipes that are called "collector sewers." From time to time collector sewers have and have not been eligible for federal funding under Title II.

[12]In practice, most municipalities develop long-term relationships with an engineering firms, which prepare the grant-related documents.

[13]In City of New Haven v. Train, 424 F. Supp. 648, 7 Envtl. L. Rep. (Envtl. L. Inst. 20110 (D. Conn. 1976), the court explored the relationship between CWA § 303(e), 33 U.S.C.A. § 1313(e), which requires states to submit water quality management plans to EPA for approval, and EPA's authority to review the plans for specific POTW projects. The court held that mere approval of a § 303(e) plan that incorporates a project does not eliminate EPA's obligation to review the project for, *inter alia*, its cost-effectiveness under CWA § 203, 33 U.S.C.A. § 1283.

POTW was not yet built. In 1981, Congress amended § 201 to prohibit the award of Step 1 and Step 2 grants alone, essentially forcing municipalities and states to fund preliminary planning and engineering work with local and state funds and to seek reimbursement when Step 3 funds are applied for.[14]

Eligibility of individual projects for funds is determined each year by reference to a state priority list.[15] As in the case of the three-step process, the priority list concept was a holdover from pre-1972 practice that came to EPA along with the staff of the old FWPCA when EPA was created.[16] The 1972 Act did not specifically refer to the priority list concept. In 1977, Congress added § 216 to the Act, specifically leaving priority determination to the states, but setting categories within which priorities must be determined[17] and requiring that at least 25% of the funds allocated to each state each year be obligated for categories of projects other than sewage treatment works.[18] In 1981, partly to account for the negative impacts of reduced budgetary allocations for the program, Congress reversed field somewhat[19] and eliminated collector sewers from priority consideration.[20] It also amended § 216 to express a policy that state priority lists reflect projects that are designed to achieve "optimum water quality management, consistent with the public health and water quality goals and requirements" of the Act.[21] A 1987 amendment to § 203(a) requires a written agreement between EPA and a grant applicant prior to approval of plans, specifications, and estimates, which specifies what elements of the project are eligible for federal payments and provides that EPA is bound by its agreement.

The legislative history of the funding priorities under Title II reflects a tension, often present in federal "pork barrel" legislation, between pressure from the federal regulatory establishment to funnel monies into activities perceived at the time to be in the overall public interest and pressure from the recipient interests for a structure that maximizes the usefulness of the "pork" to them. The seesaw treatment of collector sewers is illustrative. EPA has never favored spending federal funds for construction of new collector sewers, favoring instead the construction of new and upgraded treatment works and the elimination of combined sewers and groundwater infiltration into sanitary sewers. Local interests, on the other hand, have lobbied

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[14]CWA § 201(l), 33 U.S.C.A. § 1281(l).

[15]EPA is not bound to accept a state's priorities. *See* Atlantic City Mun. Utils. Auth. v. Regional Adm'r, 803 F.2d 96, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20106 (3d Cir. 1986) (overruling 616 F. Supp. 722, 16 Envtl. L. Rep. (Envtl L. Inst.) 20152 (D.N.J. 1985) on the question of jurisdiction, but agreeing that, on the merits, EPA properly refused to accept New Jersey's priority ranking for ACMUA's project, the nature of which was inconsistent with EPA's grant policy).

[16]*See* 40 C.F.R. §§ 35.915, 35.2015.

[17]These categories are: (A) secondary treatment, (B) more stringent treatment, (C) infiltration-inflow correction, (D) major sewer system rehabilitation, (E) new collector sewers and appurtenances, (F) new interceptors and appurtenances, and (G) correction of combined storm and sanitary sewer overflows.

[18]This requirement legislatively overruled a policy decision made by EPA in the mid-1970s that treatment capacity take precedence over sewer work, even if that meant exhausting all funds available for treatment facilities.

[19]*See generally* H.R. Rep. No. 408, 97th Cong. 1st Sess. (1981), *reprinted in* United States Code Congressional and Administrative News p 2629.

[20]CWA § 201(g)(1), 33 U.S.C.A. § 1281(g)(1).

[21]The conferees rejected a more stringent Senate provision that would have *required* the state priority lists to list projects in order of precedence reflecting significant public health and water quality benefits. EPA's implementing regulations, 40 C.F.R. § 35.2015(b), seem to reflect more the spirit of the rejected Senate language, stating that the state priority list "should give high priority to projects in priority water quality areas," although the directive is far from mandatory. EPA favored the Senate language because of its desire to channel construction grant funds primarily to heavily polluted urban areas. *See* H.R. Rep. No. 270, 97th Cong., 1st Sess. 26 (1981), *reprinted in* United States Code Congressional and Administrative News pp. 2629, 2653-54.

incessantly for inclusion of collector sewers in the construction grants program, primarily because new sewers are often tied to new real estate development, which produces positive tax benefits. Since 1972, Congress has at one time or another placed collector sewers in the program, taken them out, given them a mandatory piece of the pork pie, and taken it away again.[22]

The statute reflects a number of other sometimes-conflicting policy demands both in its language and in its shifting priorities over time. For example, § 201(b) requires that waste treatment management plans and practices "provide for the application of the best practicable waste treatment technology before any discharge into receiving waters[23] . . . and shall provide for consideration of advanced waste treatment techniques." The latter phrase raises an interesting question of the priorities, if any, to be accorded to AWT facilities. Many communities, particularly in rural, recreational areas, induced their legislatures in the 1970s to reclassify receiving streams to Class A, and applied for grants to fund AWT facilities for those streams. Competition between those communities and more heavily industrial communities seeking to upgrade primary facilities on heavily polluted streams became a political[24] and, at one point, a legal, issue[25] with EPA caught in the middle.

Sections 201(c) to (f) contain language exhorting EPA to encourage areawide wastewater management,[26] recycling and reuse of wastewater, environmentally responsible sludge disposal,[27] integrated sewage and industrial waste treatment facilities that are revenue-producing,[28] and wastewater management options that

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[22]Section 211, for example, authorizes grants to be made only to repair or replace existing collector sewers, or to build new collector sewers in communities "with sufficient existing or planned capacity adequately to treat such collected sewage." 33 U.S.C.A. § 1291.

Funding has, however, not always been allotted under the priority scheme, as discussed in the text, and Congress began to criticize what was viewed as rampant overbuilding of reserve capacity by the late 1970s. Section 10 of Pub. L. No. 97-117 limited federally funded reserve capacity of POTWs receiving initial Step 3 grants after October 1, 1984, to needs existing on the date of the award, and "in no event shall reserve capacity of a facility and its related interceptors . . . be in excess of existing needs on October 1, 1990." Section 2(a) of Pub. L. No. 97-117 amended § 201(g)(1) of the Act, 33 U.S.C.A. § 1281(g)(1), to effectively eliminate funding of collector sewers after 1984.

[23]This requirement relates to the § 201(g)(2)(A) requirement, made mandatory by CWA § 202(b)(2)(B), 33 U.S.C.A. § 1282(b)(2)(B), for POTWs after 1983, that alternative waste management techniques be employed to secure a level of pollutant removal that is better than that which can be obtained using secondary treatment. It should not be confused with the "best practicable treatment" requirement applicable to industrial direct dischargers by July 1, 1977. The reference to "before discharge" is aimed at preventing in-stream monitoring and taking advantage of dilution and the use of mixing zones, approaches in common use by the states prior to 1972 and rejected by the Act.

[24]*See* H.R. Rep. No. 1255, 95th Cong., 2d Sess. 31 (1978); S. Rep. No. 1060, 95th Cong., 2d Sess. 38 (1978); H.R. Rep. No. 1569, 95th Cong., 2d Sess. 8 (1978). All reports complained about EPA's failure to scrutinize the cost-effectiveness of AWT projects funded under Title II in the past.

[25]The legal issue was somewhat tangential. EPA, at the behest of the House Appropriations Committee, undertook cost-effectiveness reviews of AWT grant applications after 1978. Several states challenged EPA's actions. People of the State of Illinois v. Costle (D.D.C.) (unreported) was settled, with a consent decree essentially exempting a number of Illinois projects from cost-effectiveness review. California argued unsuccessfully in California v. EPA, 689 F.2d 217, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21055 (D.C. Cir. 1982) that rigorous cost-effectiveness review violated limitations placed on EPA's ability to reject funding of projects put on state priority lists to those that do not meet the enforceable requirements of the Act. The court reasoned that EPA's action was adequately supported by the broad general policies of Title II and congressional intent engrafted onto budget acts.

[26]CWA § 201(c), 33 U.S.C.A. § 1281(c). *See also* § 13:26.

[27]CWA § 201(d), 33 U.S.C.A. § 1281(d). Section 405 of the Act and Subtitle C of the Resource Conservation and Recovery Act (RCRA) provide bases for substantive regulation of sludge disposal. POTW sludge in heavily industrial communities is a hazardous waste.

[28]Related to this is the hotly debated issue of industrial cost recovery (ICR), discussed in more detail below.

incorporate "open space" and recreational considerations.[29] As part of the 1977 amendments to the Federal Water Pollution Control Act,[30] Congress inserted a specific requirement that municipalities seeking treatment works construction grants affirmatively demonstrate that they have fully studied "innovative and alternative" treatment techniques, such as land disposal and recycling, that minimize pollutant discharge and migration.[31]

§ 13:20 Sewage treatment Grant-In-Aid program—Relationship between the construction grants program and Title III compliance

There are two major issues involving the relationship between the construction grants program and the substantive enforceable compliance obligations imposed upon municipalities by § 301(b) of the Act. One of these issues, whether compliance with the effluent reduction requirements is conditional upon the availability of federal grant funds, has both been litigated and the subject of congressional debate and action. The second, largely untested primarily because of the small amount of municipal enforcement undertaken by EPA, involves the legal significance of EPA (or delegated state) approval of plans for a facility that fails to achieve the statutorily mandated degree of effluent reduction.

In *State Water Control Board v. Train*,[1] the court rejected state-proffered arguments that compliance with the 1977 secondary treatment deadline should be contingent upon the availability of federal grant funds totaling 75% of the project cost, and deferred for a reasonable time following receipt of the funds.[2] Although EPA remained reluctant to move aggressively to enforce the Act's deadlines against many municipalities, it did take enforcement action against a few major, chronic violators of the Act. The Agency consistently refused to tie consent decree compliance to the availability of grant funds.

Pressure on Congress to alleviate the compliance burden on municipalities in light of decreasing appropriations for Title II after 1982 resulted in further slippage of the secondary treatment compliance date to 1988.[3] In 1981, Congress also inserted a curious provision into the law suggesting that "judicial notice" be taken of the 1981 amendments to Title II, "including reduced authorization levels," and that the "parties to Federal consent decrees" containing compliance schedules for POTW construction "reexamine the provisions of such consent decrees and, where required by equity," make "appropriate adjustments in such provisions."[4] This was a compromise between language proffered by municipal interests, who sought a clear legislative overruling of a state water control board, and EPA and the Justice Department, who wanted no action at all.

The second type of case seems to be more difficult. Let us say that a POTW built

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[29]CWA § 201(f), 33 U.S.C.A. § 1281(f). Other than funding a few spray irrigation systems associated with ski areas, EPA appears to have done little with this provision.

[30]Pub. L. No. 95-217, 91 Stat. 1566 (codified at 33 U.S.C.A. §§ 1251 to 1376) (known as the CWA).

[31]CWA § 201(g)(5), 33 U.S.C.A. § 1281(g)(5). A further amendment, in 1981, increased the federal share for innovative and alternative technologies from 75% to 85%, and required each state to set aside between 4% and 7.5% of each year's allotment for innovative and alternative treatment projects.

[Section 13:20]

[1]State Water Control Board v. Train, 424 F. Supp. 146, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20243 (E.D. Va. 1976), *aff'd*, 559 F.2d 921, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20571 (4th Cir. 1977).

[2]The district court did opine that the absence of grant funds might give rise to an equitable defense in an enforcement action.

[3]CWA § 301(i), 33 U.S.C.A. § 1311(i), as amended by the Municipal Wastewater Construction Grant Amendments of 1981, Pub. L. No. 97-117, § 21(a), 95 Stat. 1623.

[4]Pub. L. No. 97-117, § 26, 95 Stat. 1623.

with federal funds fails to operate adequately to meet the effluent limitations in the municipality's NPDES permit, and in response to an enforcement action, the municipality argues that EPA, which approved the plans and specifications for the plant, is estopped from demanding more from the municipality. Although EPA conditions its review on a disclaimer that its approval of the plans does not warrant that the facility will be adequate for Title III purposes, an equitable argument along these lines as a defense to an enforcement action is not without appeal. The one[5] reported case involving this issue was decided in favor of EPA, however.[6]

§ 13:21 Sewage treatment Grant-In-Aid program—Limitations and conditions—Limitations

The primary determiners of eligibility for construction grants are the § 212 definitions of "construction" and "treatment works,"[1] and the priority system employed by EPA and the states. These entry-level criteria are augmented by a number of secondary eligibility criteria, most of which are set forth in §§ 201(g) and 204.

The § 201(g) conditions include a requirement, which has been a part of the law since 1972, that the sewer system of the applicant municipality not be subject to "excessive infiltration." This limitation, which held up many projects during the 1970s while communities carried out infiltration and inflow studies of their sewer systems, is intended to ensure that a minimum of excess water enters the system increasing the capacity (size) of the treatment works required to handle the flow.[2] Section 201(g) also contains provisions requiring analysis of recycling and other alternatives to end-of-the-pipe-and-discharge treatment, reflecting the Act's overall effluent reduction goals as set forth in § 101.[3]

Section 204(a) imposes additional eligibility requirements. Applicant projects must have been identified in a § 208 areawide waste treatment management plan,[4] be in conformity with the state's § 303(e) plan,[5] be included on the state's priority

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[5]The paucity of cases on this point may be explained by two factors: the relative paucity of municipal enforcement and EPA's tendency in such circumstances to simply award further grant funds to correct the problem, a practice that may be characterized as "throwing good money after bad." The closest EPA ever came to seeking reimbursement from a municipality involved the City of Niagara Falls, which spent $40 million in federal funds to build a POTW, one portion of which, because of foundation problems, literally collapsed the day it was turned on. Ultimately, the Agency conditioned a further grant on a promise by the city to investigate the matter and seek legal recourse against the responsible parties.

[6]Garland v. Zurn Indus., Inc., 870 F.2d 320, 29 Env 1753 (5th Cir. 1989). That case involved a third-party action brought by the engineers who designed an innovative EPA-approved and funded (and ultimately inoperable) physical-chemical treatment plant. The engineers sought indemnification from EPA in the event they were found liable for the city's costs of defending against and settling a federal enforcement action for permit violations at the plant. The Fifth Circuit affirmed dismissal of the third-party suit on the grounds that EPA is protected under the Federal Tort Claims Act's "misrepresentation" exception, 28 U.S.C.A. § 2680(h), for any negligence in its analysis, testing, or approval of an unsuccessful wastewater treatment plant.

[Section 13:21]

[1]CWA §§ 212(1), 212(2), 33 U.S.C.A. §§ 1292(1), 1292(2). As discussed above, these definitions are very broad.

[2]The primary causes of infiltration are leaky piping systems and roof gutter and other stormwater drain connections that should go either to storm sewers or into dry wells.

[3]CWA §§ 201(g)(2), 201(g)(5), 33 U.S.C.A. §§ 1281(g)(2), 1281(g)(5).

[4]FWPCA § 204(a)(1), 33 U.S.C.A. § 1284(a)(1).

[5]FWPCA § 204(a)(2), 33 U.S.C.A. § 1284(a)(2). Section 303(e) requires the states to maintain a "continuous planning process" that repeatedly updates information, strategies, and regulatory resources relative to POTW needs, total maximum daily pollutant loads on receiving waters, compliance schedules, sludge handling, and several other concerns.

list, provide for the means of payment of the nonfederal share[6] and for operation when completed,[7] and provide that the facility have sufficient capacity and reserves to satisfy present and projectable future demands.[8]

Finally, Congress has consistently refused to provide carte blanche approval for treatment of waste streams that combine stormwater and sanitary sewage and has prohibited the construction of new combined sewers.[9]

§ 13:22 Sewage treatment Grant-In-Aid program—Limitations and conditions—Conditions

All Title II grants contain mandatory conditions found primarily in § 204(a)(6)[1] and §§ 204(b) to (d).[2]

Sections 204(b)(1), (2), and (4) relate to the section's primary condition that POTW maintain a system of user charges sufficient to cover the operation and maintenance costs of the system.[3] This obligation applies to regional POTW as well as those serving only one community, and the failure of one municipality within a

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[6]In most states the nonfederal share is paid by a combination of direct state grants and local revenue bonds that are paid off by a combination of user fees, tax revenue appropriations, and state assistance funds. FWPCA § 204(a)(4), 33 U.S.C.A. § 1284(a)(4).

[7]FWPCA § 204(a)(4), 33 U.S.C.A. § 1284(a)(4). Most state water pollution agencies require formal POTW operator training and establish operation and maintenance standards for POTWs. Federal legal action arising out of inadequate operation and maintenance is not common, but it is spectacular when it occurs. For example, a federal judge placed the operation of treatment plants in Detroit under a receiver in United States v. City of Detroit, 720 F.2d 443, 14 Envtl. L. Rep. (Env Law Inst.) 20164 (6th Cir. 1983), and in United States v. City of Providence, 492 F. Supp. 602, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20857 (D.R.I. 1980), the government sought monetary sanctions against a municipality that so mismanaged a POTW that it literally filled up with sludge.

[8]CWA § 204(a)(5), 33 U.S.C.A. § 1284(a)(5), as amended by Pub. L. No. 97-117, § 10, 95 Stat. 1623, limits reserve capacity.

[9]Section 201(n), added in 1981, authorizes the expenditure of funds for treating existing combined sewer overflows under limited circumstances, after October 1, 1984.

[Section 13:22]

[1]CWA § 204(a)(6), 33 U.S.C.A. § 1284(a)(6), as amended by Pub. L. No. 97-117, § 11, 95 Stat. 1623, prohibits the use of proprietary requirements that are not based on performance, subject to stated exceptions.

[2]In addition to the mandatory conditions discussed herein, EPA has also imposed conditions it perceives to be necessary to further the statute's water quality goals. *See* § 13:23.

[3]Until 1980, § 204(b)(1) also required that POTWs maintain a system for recovering grant funds used for *construction* costs applicable to the portion of POTW capacity dedicated to industrial users from those users. This provision, called the ICR provision, allowed the municipality to keep 50% of the funds recovered, and required the remaining 50% to be turned over to the U.S. Treasury. A provision added in 1987, § 204(c), allows the imposition of lower user charges on low income residential users.

The theory behind ICR was to ensure relative economic parity between direct industrial dischargers, who are required to construct their own treatment works in compliance with Title III, and "indirect dischargers," whose effluent is discharged to municipal sewers, and who, but for ICR, would be subsidized to the extent of a portion of the federal grant for construction of the POTW (discounted by whatever capital expenditures would be required for compliance with § 307 pretreatment obligations). ICR was never popular with municipalities and industries. Municipalities claimed that EPA's paperwork was too burdensome, and industries argued that ICR imposed too heavy a relative financial burden. These complaints led to a moratorium on ICR imposed by Pub. L. No. 95-217, 91 Stat. 1566 (1977) and outright repeal of ICR by Pub. L. No. 96-483, 94 Stat. 2360 (1980).

The 1980 amendments inserted a new concept, the Industrial Cost Exclusion in place of ICR. Section 201(k) was inserted, which prohibited the use of any grant funds after October 1, 1980, to be used to treat the wastewater flow of any industrial user greater than 50,000 gallons per day sanitary waste equivalent at facilities not grandfathered by the provision. This compromise was eliminated by the 1981 amendments as of November 15, 1981, by Pub. L. No. 97-117, § 10(c), 95 Stat. 1623, having been deemed surplusage in light of the limitations imposed on reserve capacity. Section 204(c), added in 1981, serves to release early grantees from the ICR requirements imposed under prior law.

regional POTW service area to charge user fees to sewer users was held a sufficient basis for withholding grant payments and a refusal to authorize new grants by EPA.[4]

The user charge requirement is that each recipient of waste treatment services pay its proportionate share of the operation and maintenance costs of the treatment system. The amounts charged are based on the volume and character of the waste introduced into the system.[5] The purposes of the user charge requirement are to ensure financial self-sufficiency[6] and to promote water conservation.[7]

Under very limited circumstances, preexisting *ad valorem* tax schemes can be substituted for a system of user charges.[8] Although the user charge system is required to be proportional, EPA has wide latitude in accepting a municipality's formula for assessing charges.[9]

Section 204(d), added in 1981, represents Congress's attempt to mitigate the costs of POTW that fail to meet the applicable effluent limits contained in their NPDES permit. It requires grantees to maintain a contractual relationship with the construction engineer through start-up and for a one-year-shakedown period and certify compliance with the permit limits or correct any deficiency with other than federal funds.

There are a number of additional conditions either found elsewhere in the Act or imposed by other laws. Section 215 requires the use of U.S.-made materials. EPA's standard conditions require adherence to the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.[10] The procedures required under this statute are applicable to all related elements of a Title II-funded project, whether or not they are funded in whole, in part, or not at all by EPA.[11] In addition, grants may not be made after the end of 1984 for facilities discharging into stream segments whose water quality standards have not been reviewed or revised since 1981.[12] Finally, EPA's general assistance regulations,[13] contractor debarment and suspension regulations,[14] and procurement regulations[15] impose a labyrinth of regulatory requirements.

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[4]City of New Brunswick v. Borough of Milltown, 686 F.2d 120, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20803 (3d Cir. 1982). *See also* Middlesex County Utils. Auth. v. Borough of Sayerville, 690 F.2d 358, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21097 (3d Cir. 1982) (holding that § 204(b) does not violate the Tenth Amendment to the U.S. Constitution).

[5]*See* S. Rep No. 414, 92d Cong., 1st Sess. 28 (1972), *reprinted in* 2 Environmental Policy Division, Congressional Research Service, A Legislative History of The Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1446 (Comm. Print 1973) (Senate Debate on S.2770, Nov. 2, 1971).

[6]*See* S. Rep No. 414, 92d Cong., 1st Sess. 28 (1972), *reprinted in* 2 Environmental Policy Division, Congressional Research Service, A Legislative History of The Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1446 (Comm. Print 1973) (Senate Debate on S.2770, Nov. 2, 1971).

[7]*See* S. Rep. No. 370, 95th Cong., 2d Sess. 27; City of New Brunswick, 686 F.2d at 133.

[8]Only those taxing schemes that allocate the cost burden in a manner similar to a user charge system will qualify. CWA § 204(b)(1), (b)(4), 33 U.S.C.A. § 1284(b)(1), (b)(4). This limitation was upheld against an equal protection challenge in Middlesex County Utils. Auth. v. Borough of Sayerville, 690 F.2d 358, 366, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21097, 21101 (3d Cir. 1982).

[9]Hotel Employers Ass'n of San Francisco v. Gorsuch, 669 F.2d 1305, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20591 (9th Cir. 1982) (upholding against due process and equal protection claims, as well as a claim of disproportionality, EPA's approval of San Francisco's user charge system for its combined storm/sanitary sewer system, which allocated surface runoff treatment costs on a pro rata user basis; each user's percentage share of total runoff treatment cost was the same as the percentage share each user contributed to the total cost of treating only sanitary sewage). *See generally* 40 C.F.R. §§ 35.2122, 35.2140, 35.2130.

[10]42 U.S.C.A. §§ 4621. The applicability of this law was affirmed in City of Columbia, S.C. v. Costle, 710 F.2d 1009 (4th Cir. 1983), to Title II projects whether or not they displace any persons.

[11]City of Columbia, S.C. v. Costle, 710 F.2d 1009, 1013 (4th Cir. 1983).

[12]40 C.F.R. § 35.2111.

§ 13:23 Sewage treatment Grant-In-Aid program—Compliance with other environmental laws

EPA is itself subject to several restraints, discussed in this section, that act like conditions on Title II grant applicants.

Section 511(c) makes EPA's grant-related activities subject to the requirements of NEPA.[1] EPA's NEPA regulations exempt Step 1 grants from NEPA compliance, however,[2] and thus applicants for Step 2 and Step 3 (or integrated) grants must provide the Agency with the data with which to undertake an environmental assessment and, if the project is significant enough, an environmental impact statement.[3]

Of the other federal environmental laws, the Endangered Species Act[4] and the Coastal Zone Management Act (CZMA)[5] have figured in Title II-related litigation.

In *Pacific Legal Foundation v. Watt*,[6] the Ninth Circuit dealt with a challenge to EPA's award of Step 1 and Step 2 grants for upgrading the Hyperion sewage treatment plant in Los Angeles. The primary purpose of the grant was to enable the city to cease discharging sludge into the Pacific Ocean. The plaintiff sought to enjoin the grant on, *inter alia*, the grounds that there had been inadequate § 7 consultation about the impact on habitat of the Encinito Blue Butterfly. The court held that Endangered Species Act consultation was "unwarranted" at the Step 1 stage, relying for authority on EPA's NEPA regulation, discussed above.

EPA, as a federal grant-awarding agency, is subject to the provisions of the CZMA in connection with its activities involving projects located in an area covered by a coastal zone management plan.[7] The principal CZMA regulatory requirement is that the project be "consistent with" the applicable plan,[8] and EPA, or the state water pollution agency if grant authority has been delegated, must make the consistency determination.[9]

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[13]40 C.F.R. Part 30.

[14]40 C.F.R. Part 32.

[15]40 C.F.R. Part 33. These regulations embody EPA's bidding and award regulations (the overarching principle is award to the "lowest responsible bidder"), incorporate a wide range of standard federal preferences (e.g., minority or woman owned businesses) and limitations (Davis-Bacon Act requirements, which are imposed under § 513 of the Act, Buy America Act requirements, etc.), and establish procedures for bid protests and challenges, the manner of payment, and the like.

[Section 13:23]

[1]42 U.S.C.A. § 4321. This law is made applicable by § 511(c) of the Act, 33 U.S.C.A. § 1371(c). *See also* Maryland Watermen's Ass'n, Inc. v. Thomas, 1987 U.S. Dist. LEXIS 14992, 25 Env't Rep. Cas. (BNA) 1646 (D.D.C. Feb. 25, 1987) (reviewing a construction grant for NEPA compliance).

[2]40 C.F.R. § 6.50(b)(2).

[3]In Pacific Legal Found. v. Quarles, 440 F. Supp. 316, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20653 (C.D. Cal. 1977), *aff'd sub nom.* and in Kilroy v. Quarles, 614 F.2d 225, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20271 (9th Cir. 1979), NEPA was held not to apply to EPA's conditioning a grant on a system of user charges being put into place.

[4]16 U.S.C.A. § 1531.

[5]16 U.S.C.A. § 1451.

[6]Pacific Legal Foundation v. Watt, 703 F.2d 576, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20392 (9th Cir. 1983).

[7]Of course, POTWs are also subject to all applicable state and local regulatory laws. We have not addressed those requirements here, since they are not federal grant-related.

[8]There is a wide diversity in CZM plans approved by the Department of Commerce under the CZMA. Definition of areas falling within CZM jurisdiction differ from state to state, as do the scope, rigor, and procedures of regulation.

[9]For an interesting perspective on the interrelationship between POTW construction and other environmental laws, see Mumford Cove Ass'n v. Town of Groton, 25 Env 1452 (D. Conn. 1987), in

In *Cape May Greene, Inc. v. Warren*,[10] an application for an upgrade grant that would enable a POTW to serve a large new development located in a sensitive ecosystem within the coastal zone was denied by EPA's Region II on the grounds that it was inconsistent with the state's CZMA plan. The applicant had sought and received a variance from the plan's prohibitions from the local coastal management agency, which had certified consistency to EPA. EPA's denial of the grant was predicated on its opinion that the variance was unlawfully given. The court set aside EPA's decision, holding that it lacked authority to look behind the CZMA agency's action.[11]

In *Shanty Town Associates Limited Partnership v. EPA*,[12] the Fourth Circuit considered a developer's challenge to EPA's authority under the Act to place conditions on a sewage collection system construction grant. The court affirmed the district court's dismissal of the action, holding that EPA's imposition of conditions to protect wetlands and tidal flood plain areas from the development that would otherwise follow on the heels of improved sewage facilities was not arbitrary[13] and did not intrude on the authority of state and local governments to control nonpoint source pollution.[14] The court also found that the conditional grant did not conflict with the CZMA or with the National Flood Insurance Act, because it did not directly regulate land use in the coastal flood plain and EPA properly obtained local officials' approval before making the grant.[15]

§ 13:24 Sewage treatment Grant-In-Aid program—Judicial review of Title II decisions

Grant-related decisions do not fall within the jurisdiction of the courts of appeal enumerated in § 509(b).[1] Most challenges to EPA's refusal to make a grant, or challenges to grants made by the Agency, have been brought in the federal district courts as citizen suits brought under § 505 of the Act[2] or under § 10 of the

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which a federal judge employed the All Writs Act, 28 U.S.C.A. § 1651, to enjoin the town conservation commission from exercising its jurisdiction under the Connecticut inland wetlands regulatory statute in such a way to prevent construction of a POTW outfall the court had earlier ordered to be built to relieve pollution of an estuary.

[10]Cape May Greene, Inc. v. Warren, 698 F.2d 179, 18 Env't. Rep. Cas. (BNA) 1553, 35 Fed. R. Serv. 2d 1337, 13 Envtl. L. Rep. 20319 (3d Cir. 1983).

[11]Prior to Congress's virtual elimination of grants for reserve capacity in the 1981 amendments, EPA occasionally attempted to limit the growth-inducing propensities of new POTW construction by administratively refusing to award funds for overbuilding. *See, e.g.*, Smoke Rise, Inc. v. Washington Suburban Sanitary Comm'n, 400 F. Supp. 1369, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20389 (D.Md. 1974), *aff'd sub nom.* Donohue Constr. Co. v. Montgomery County, 567 F.2d 603 (4th Cir. 1977); Chesapeake Bay Village, Inc. v. Costle, 502 F. Supp. 213, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20355 (D.Md. 1980); State of Maryland ex rel. Burch v. Costle, 452 F. Supp. 1154 (D. Md. 1978).

[12]Shanty Town Associates Ltd. Partnership v. E.P.A., 843 F.2d 782, 27 Env't. Rep. Cas. (BNA) 1540, 18 Envtl. L. Rep. 21227 (4th Cir. 1988).

[13]Shanty Town Assocs. Ltd. P'ship v. EPA, 843 F.2d 782, 795, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21227 (4th Cir. 1988).

[14]Shanty Town Assocs. Ltd. P'ship v. EPA, 843 F.2d 782, 792, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21227 (4th Cir. 1988).

[15]Shanty Town Assocs. Ltd. P'ship v. EPA, 843 F.2d 782, 792–94, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21227 (4th Cir. 1988).

[Section 13:24]

[1]City of Sarasota v. EPA, 813 F.2d 1106, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20647 (11th Cir. 1987) (affirming lack of appellate court jurisdiction to review grant decisions, while rejecting the city's inventive arguments attempting to avoid the inevitable).

[2]*See, e.g.*, Cape May Greene, Inc. v. Warren, 698 F.2d 179, 13 Envtl. L. Rep. (Envtl. L. Inst.)

Administrative Procedure Act (APA).[3] Contractors who disagree with EPA's withholding of funds because of problems with the work have not been uniformly successful in getting through the door to the courthouse because of standing questions.[4]

§ 13:25 Sewage treatment Grant-In-Aid program—Grant administration, protests, and audits

EPA's construction grant regulations, contained primarily in 40 C.F.R. Parts 30, 33, and 35, provide a comprehensive scheme for administration of POTW grants from the application stage to post-construction audits. The basic substantive eligibility and preaward criteria are found in Part 35, subpart E, which governs grants awarded prior to May 12, 1982, and in subpart I, which governs subsequent grants. Procurement and dispute resolution requirements for grants made prior to May 12, 1984, are contained in Part 35,[1] and those regulating subsequently awarded grants are found in Part 33.[2] Standard grant conditions are published at §§ 35.935 et seq. and 35.2200 et seq., and audit requirements are published as an appendix to Part 30.

The rather confusing pattern of grant regulations arises from EPA's consolidation and attempted streamlining of its various grant-in-aid regulations in 1982.[3]

EPA has aggressively sought to exercise the authority granted by § 201(g) of the Act to delegate to the states authority to review and evaluate grant applications; the ground rules for delegation are set forth at 40 C.F.R. Part 35, subpart J.[4] The degree of state delegation is dependent upon the state's capabilities, and delegation

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20319 (3d Cir. 1983); Chesapeake Bay Village, Inc. v. Costle, 502 F. Supp. 213, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20355 (D.Md. 1980) (holding that there is no cause of action for private plaintiffs under § 505, or implied under the *Cort v. Ash* doctrine against state or municipal grantees); *cf.* Fairview Township v. EPA, 773 F.2d 517, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20951 (3d Cir. 1985) (where EPA has not delegated grant administration to a state, it does not have a nondiscretionary duty to act on a grant application within a set period of time, thus there is no basis for a citizen suit by applicant municipality); Atlantic City Mun. Utils. Auth. v. Regional Adm'r, 803 F.2d 96, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20106 (3d Cir. 1986) (following *Fairview* on citizen suit issue and denying jurisdiction under the APA where claim is in essence one for money).

[3]5 U.S.C.A. § 702. *See* Fairview Township v. EPA, 773 F.2d 517, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20951 (3d Cir. 1985) (holding jurisdiction exists in district courts under the APA to hear suit brought by municipality alleging wrongful denial of a grant due to misapplication of guidelines).

[4]*Compare* Dan Caputo Co. v. Russian River Sanitation Dist., 749 F.2d 571 (9th Cir. 1984) (contractor lacks standing under the Act and APA to challenge allocation of grant funds to other contractors to correct alleged deficiencies in work done by original contractor in contract dispute with POTW owner) *and* Standard Eng'rs & Constructors, Inc. v. EPA, 483 F. Supp. 1163 (D. Conn. 1980) (unsuccessful bidder lacks standing to raise challenge to the integrity of the bidding process) *and* Sovereign Constr. Co. v. Philadelphia, 582 F.2d 1276 (3d Cir. 1978) (disappointed bidder lacks standing) *with* CCTW&M v. EPA, 452 F. Supp. 69 (D.N.J. 1978) *and* Union Carbide Corp. v. Train, 73 F.R.D. 620 (S.D.N.Y. 1977); *cf.* Michigan v. City of Allen Park, 573 F. Supp. 1481, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20237 (E.D. Mich. 1980), *aff'd*, 667 F.2d 1028 (6th Cir. 1981).

[Section 13:25]

[1]40 C.F.R. §§ 35.936-35.939.

[2]There are two versions of Part 33. The May 12, 1982 version governs grants awarded between that date and March 28, 1983. The March 28, 1983, version governs subsequently awarded grants. *See* 48 Fed. Reg. 12926 (1983) (explanation of the changes).

[3]*See* 47 Fed. Reg. 20476 (1982). EPA promulgated an elaborate implementation scheme, which allows for voluntary submittal by existing applicants to the new regulations in certain circumstances. *See* 48 Fed. Reg. 12926 (1983) (Implementation Note).

[4]Subpart J was added in 1983, replacing earlier similar regulations. *See* 48 Fed. Reg. 37818 (1983).

terms are set forth in a delegation agreement.[5]

States may be delegated authority to review and certify all construction grant documents required before and after the grant award and generally to manage the program, except for activities EPA cannot delegate. Those include actual decision-making on making payments and terminations, compliance with NEPA and other federal statutes, final resolution of grant audit exceptions, certain procurement determinations, and management of projects containing a heavy federal interest.[6] The states' primary function, then, is to review grant-related documents and "certify" them to EPA as complying with all applicable grant program requirements.[7]

In addition to ensuring that grant applicants have complied with all of the preapplication requirements imposed by the Act, the construction grant regulations seek to ensure that the projects will be designed in accordance with good engineering practice, and will be constructed properly without excessive costs. Thus, EPA oversees the relationship between the municipal sponsor of the project and its contractors and subcontractors, and the bidding process involved in their procurement.[8]

Contractor and subcontractor protests are governed by an administrative appeal process contained in 40 C.F.R. §§ 33.1105-33.1145.[9] Any dispute, whether by a dissatisfied bidder or arising out of contract administration, must be processed according to the procedures set forth in the regulation. The dispute resolution procedures require initial handling of the dispute by the grantee.[10] If the dispute is not resolved by the grantee, appeal may be taken by any "party with a financial interest which is adversely affected" by the grant recipient's decision[11] to the "award official,"[12] who determines the matter by informal procedures (there is no right to a hearing).[13] If the questions posed are purely legal questions, the matter will be resolved by that agency's lawyers.[14] There is no right to a further administrative appeal.[15]

The current regulations specify the kinds of issues that are subject to protest

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[5]*See* 40 C.F.R. § 35.3010.

[6]40 C.F.R. § 35.3015.

[7]EPA acts as an appeal body from state decisions. *See* 40 C.F.R. § 35.3030. There are two types of certification. *All* states are required to certify that a project is entitled to priority in accordance with the priority system. *See* 40 C.F.R. § 35.2042(a). Delegated states also certify compliance with the substantive and procedural grant conditions and regulations. 40 C.F.R. § 35.2042(b). Under the current regulations, the Regional Administrator must approve or disapprove a certification within 45 days of submittal, or it is deemed approved. 40 C.F.R. § 35.2042(b)(2).

[8]*See generally* 40 C.F.R. § 35.3030, 40 C.F.R. §§ 35.936 to 35.938 (grants awarded prior to May 12, 1983); 40 C.F.R. §§ 33.001 to 33.1135 (subsequent grants) (covering procurement of engineering services and construction contracts, including such things as material specifications, bonding and insurance, mandatory contract forms and terms, public notice, solicitation and evaluation of bids, force account work, advertising, change orders, progress payments, retention from progress payments, and similar construction industry considerations).

EPA retains authority to oversee significant change orders and retains authority to terminate a contract for violation of the regulations or other cause.

[9]Pre-1982 grants were, and to an extent still are, governed by a different appeal mechanism contained in 40 C.F.R. § 35.939. The new procedure is somewhat less cumbersome than the old.

[10]40 C.F.R. § 33.1110. *See also* 40 C.F.R. § 35.939(b) to (d) (earlier grants).

[11]40 C.F.R. § 33.1115.

[12]The "award official" is "[t]he EPA official with the authority to execute assistance agreements and to take other actions authorized by [the grant regulations] and by EPA orders." 40 C.F.R. § 30.200. For construction grants this is the Regional Administrator.

[13]A copy of the protest appeal is required to be served on the Regional Counsel. The regulations provide opportunity for a "conference." *See* 40 C.F.R. § 33.1125 (filing requirements); 40 C.F.R. § 33.1145 (review procedures).

[14]The earlier regulations provided for referral of legal questions to the Comptroller General. *See* 40 C.F.R. §§ 35.939(e).

appeals. The pre-1982 regulations took a different approach, listing subjects that are not subject to protest. The old regulations excluded matters of state or local law, most issues arising out of selection of a consulting engineer and arising under the letting of competitively bid lump-sum contracts, basic design decisions, and several other matters.[16] The present regulations state that protest appeals may raise only: (1) issues arising under the procurement provisions of Part 33; (2) alleged violations of state or local law or ordinances "where the award official determines that there is an overriding Federal requirement"; and (3) subcontractor appeals that are limited to the award of the subagreement (i.e., subcontractors may not appeal issues of interpretation or award of the prime contract).[17]

Cost control is regulated by means of the "allowable cost" approach contained in 40 C.F.R. § 30.705 and in Appendix A to 40 C.F.R. Part 35, subpart I.[18] Essentially, EPA will pay only "allowable costs" as defined in the regulation, which reflects the statutes' prohibitions[19] as well as serving an enforcement purpose.[20] Since most projects are built with local funds, with EPA providing reimbursement up to the federal limit, project sponsors act at their financial peril if they incur costs that fall within the "unallowable" category[21] or, in the absence of prior EPA authorization, within the "allowable if approved by EPA" category.[22]

Assurance that projects are built according to expectations is primarily the responsibility of the grantee.[23] EPA inspects the facility prior to operation and requires preparation of a corrective action report at the grantee's expense if the plant fails to meet its permit limits.[24] The standard grant conditions allow EPA to inspect construction, approve significant change orders,[25] and shut down the job if irregularities are noted.[26]

EPA imposes a self-audit requirement on grant recipients,[27] but retains the power to do interim or end-of-project audits.[28] In addition, the Single Audit Act of 1984[29] establishes post-award audit requirements that are binding on all federal assistance recipients. OMB Circular A-128 is made a part of 40 C.F.R. Part 30 by attachment

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[15]40 C.F.R. § 33.1145(g).

[16]*See* 40 C.F.R. § 35.939(j).

[17]40 C.F.R. § 33.1120.

[18]Pre-1982 grants were subject to a less elaborate allowable cost provision. 40 C.F.R. § 35.940.

[19]For example, Appendix A, subpart C defines the allowable costs related to the construction of privately owned treatment or pretreatment facilities in accordance with the requirements of § 201(h), and subpart D spells out the limits on real property acquisition.

[20]Subpart E.2 contains several disallowances for materials or services purchased "in violation of" the grant regulations.

[21]40 C.F.R. §§ 35.940-35.942. For example, EPA does not pay the cost of site acquisition for sewer lines.

[22]*See* 40 C.F.R. §§ 35.940-35.943 (pre-1982 grants); 40 C.F.R. Part 35, subpart I, Appendix A (generally for those expenditures that require prior EPA approval).

[23]40 C.F.R. § 35.2214.

[24]40 C.F.R. §§ 35.2216, 35.2218. There is an exception for innovative technologies.

[25]*See* 40 C.F.R. § 35.2204 (non-minor project changes require a grant amendment).

[26]*See* 40 C.F.R. § 30.900 (relating to stop work orders, payment withholding, suspension or termination of assistance, and annulment. Part 32 of the regulations deals with suspension and debarment).

[27]*See* 40 C.F.R. § 30.510(g).

[28]*See* 40 C.F.R. § 30.540.

[29]Pub. L. No. 98-502, 98 Stat. 2327 (1984).

as Appendix E.[30] The audits supplement an elaborate system of recordkeeping and reporting requirements imposed by 40 C.F.R. § 30.505 and Appendix D of Part 30.

There is a significant degree of failure of POTW to meet their effluent limits consistently, and there have been a few cases of catastrophic failure. EPA has rarely used its granting authority as a lever to force municipal grant recipients to seek redress from negligent engineers or contractors, although it has the power to condition award of a grant in such a circumstance to exhaustion of the grantee's legal remedies against the responsible private entities.[31] The Agency has never aggressively sought to recover federal funds negligently employed by subcontractors. Though there are common law theories supporting such actions, the degree of supervisory power EPA possesses over POTW construction imposes potentially formidable equitable barriers to such actions.

§ 13:26 Water quality management: Planning grants and nonpoint source regulation[1]

The major focus of the CWA has been the implementation, through the NPDES permit program, of effluent limitations on industrial and municipal "point sources" of pollution. Pollution also results, however, from the addition of pollutants by "nonpoint" sources such as agricultural and urban runoff that are not regulated by NPDES permits.[2] Nonpoint source control, however, is not generally amenable to technological controls and is more closely related to land-use planning. As a consequence, the area of nonpoint regulation has been controversial and largely ignored until recently.

Federal efforts to control nonpoint sources have, in the past, largely been limited to funding of areawide management plans under § 208. In the Water Quality Act of 1987, Congress acknowledged the need for control of nonpoint sources and added, as a new national policy, the development of programs for the control of nonpoint sources of pollution "in an expeditious manner."[3] The 1987 amendments added new provisions for the development of plans for the control of nonpoint sources. Federal efforts remain, however, essentially limited to funding of state and regional planning efforts.[4]

§ 13:27 Water quality management: Planning grants and nonpoint source regulation—Grants for water quality planning—Section 319 nonpoint source management programs

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[30]51 Fed. Reg. 6353 (1986).

[31]EPA considered such a condition in the case of the City of Niagara Falls, New York. *See* note 5 in § 13:20.

[Section 13:26]

[1]By **Jeffrey Gaba**.

[2]The Final Draft of U.S. EPA, Office of Water Regulations and Standards Nonpoint Source Guidance (Aug. 1987) [hereinafter *Nonpoint Source Guidance*] defines nonpoint source (NPS) pollution as follows:

> NPS pollution is caused by diffuse sources that are not regulated as point sources and normally is associated with agricultural, silvicultural and urban runoff, runoff from construction activities, etc. Such pollution results in human-made or human-induced alteration of the chemical, physical, biological, and radiological integrity of water. In practical terms, nonpoint source pollution does not result from a discharge at a specific, single location (such as a single pipe) but generally results from land runoff, precipitation, atmospheric deposition, or percolation. Pollution from nonpoint sources occurs when the rate at which pollutant materials entering waterbodies or ground water exceeds natural levels.

[3]CWA § 101(a)(7), 33 U.S.C.A. § 1251(a)(7).

[4]Section 402(p), 33 U.S.C.A. § 1342(p), does require NPDES permits for certain municipal and industrial stormwater discharges.

The Water Quality Act of 1987 added a new § 319 to the CWA that purports to address the problem of nonpoint source pollution. Section 319(a) requires states to prepare a report identifying stream segments that, without "additional action to control nonpoint sources of pollution," cannot reasonably be expected to attain water quality standards or the goals and requirements of the Act. States are also required to identify categories of nonpoint sources that add significant pollution to these waters and a process for identifying the "best management practices and measures" to control these sources. In addition, states are required under § 319(b) to submit "management programs" that contain elements designed to show implementation of controls of nonpoint sources.[1]

The nonpoint source report and management program must be submitted for review and approval by EPA.[2] Unlike the similar provisions in § 304(l) relating to control of toxic pollutants from point sources,[3] EPA may not promulgate its own program for control of nonpoint source pollution if the state fails to act or acts inadequately. If a state fails to submit the required report, EPA may prepare the report itself and then notify Congress.[4] If the state fails to adopt an adequate management program, EPA is authorized, with the approval of the state, to provide technical assistance to a local public agency or organization with authority to control nonpoint source pollution in an adequately large geographic area. If the local authority prepares an acceptable management plan, it will then be eligible for subsequent receipt of federal funding for implementation of the program.[5]

The § 319 program, like the § 208 program that preceded it, relies largely on the "carrot" of federal funding.[6] Section 319(h) authorizes the Administrator to provide grants for up to 60% of the cost of implementation of management programs. Additionally, the Administrator may award grants to states with approved reports and management plans, for the control of groundwater quality. These grants, however, are limited to 50% of total costs with an annual limitation of $150,000. The amendments authorize appropriations of up to $400 million over four years for the program

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[Section 13:27]

[1]Section 319(g), 33 U.S.C.A. § 1329(g), authorizes a state to petition the Administrator to convene an interstate management conference if waters subject to an approved management plan are not meeting their goals, in whole or part, due to nonpoint source pollution from another state. There is no substantive authority to compel agreement among states in these conferences, and the convening of any conference is expressly exempt from citizen suit provisions of § 505.

[2]CWA § 319(d), 33 U.S.C.A. § 1329(d). As of 2003, all states had developed the assessment reports required by § 319(a) and had adopted the management programs required by § 319(b). 68 Fed. Reg. 60653, 60655 (Oct. 23, 2003).

[3]*See* § 13:31; Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1216–17 (1983). EPA published guidance entitled "Implementation of Requirements under § 304(l) of the Clean Water Act, as amended" in March 1988. EPA subsequently promulgated an "interpretative" rule that incorporated portions of § 304(l) into its existing NPDES and water quality regulations. 54 Fed. Reg. 246 (1989). On June 2, 1989, EPA promulgated final regulations defining a surface water toxics control program under § 304(l). 54 Fed. Reg. 23868 (1989).

[4]CWA § 319(d)(3), 33 U.S.C.A. § 1329(d)(3).

[5]CWA § 319(e), 33 U.S.C.A. § 1329(e).

[6]The Water Quality Act of 1987 establishes five primary funding sources related to nonpoint source control:

(1) Section 205(j)(5) construction grant set-aside of up to 1% of each state's construction grant allotment;

(2) Section 319(h) grant authorizations for implementation of approved 319 management programs;

(3) Section 319(i) grant authorizations for groundwater quality protection activities;

(4) Section 201(g)(1) discretionary set-aside from construction grant funds; and

(5) Section 603(c)(2) for loans from the newly established state revolving funds.

and Congress has consistently reauthorized § 319(h) funding at levels near or above $200 million since 1999.

§ 13:28 Water quality management: Planning grants and nonpoint source regulation—Grants for water quality planning—Section 208 areawide management plans

Prior to the 1987 amendments, the primary vehicle established by the Act to address the nonpoint source pollution problem was the areawide waste treatment management planning provisions of § 208.[1] Pursuant to § 208, states are required to designate areas that, "as a result of urban-industrial concentrations and other factors, [have] substantial water quality control problems," and designate a regional planning organization for such areas and to develop areawide management plans for control of pollution.[2] Plans are required to address a number of factors.[3] With respect to point sources, these plans are to identify necessary waste treatment facilities, specify construction priorities, and develop a regulatory program for assuring that municipal waste treatment and industrial pretreatment requirements are implemented. The plans are also to identify and establish procedures and methods to control nonpoint source pollution problems from agriculture and silviculture, mining, and salt water intrusions into rivers, lakes, and estuaries from sources including groundwater extraction. The plans are also to address the process of control of disposal of wastes on land to protect ground and surface water quality.

These § 208 plans are subject to federal approval, and subsequent activities, including NPDES and § 404 dredge and fill permitting, are required to be consistent with the plans. The Act also supplied a major carrot for implementing the planning requirements. Section 208 authorized the issuance of planning grants to states for the costs of developing the areawide management plans.

The § 208 areawide planning process has not been generally considered a successful program. By 1979, only a limited number of water quality plans had been certified by the states and EPA, and EPA has stopped issuing grants for the implementation of the § 208 process.[4] The reasons for the relative failure of the program are not hard to identify. First, administration and funding of the program got off to a slow start. EPA was sued both for failure to promulgate appropriate regulations implementing the § 208 program[5] and for failure to disburse § 208 planning funds.[6] Second, the § 208 process attempted to promote regional planning which, however

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[Section 13:28]

[1]CWA § 208, 33 U.S.C.A. § 1288. In 1977, § 208 was amended by adding a new § 208(j), which provides for "agricultural cost sharing." This program, administered by the Department of Agriculture through the Soil Conservation Service, authorizes the grant of funds for owners and operators of "rural land" for the purpose of "installing and maintaining measures incorporating best management practices to control nonpoint source pollution for improved water quality." Regulations for this "Rural Clean Water Program" are contained in 7 C.F.R. §§ 634.1-634.50.

[2]CWA § 208(a), 33 U.S.C.A. § 1288(a). In 1975, a court concluded that § 208 required states to undertake planning responsibility for areas which had not been designated as having significant pollution problems. Nat. Res. Def. Council, Inc. v. Train, 396 F. Supp. 1386, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20405 (D.D.C. 1975), *aff'd*, 564 F.2d 573, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20702 (D.C. Cir. 1977).

[3]CWA § 208(b), 33 U.S.C.A. 1288(b). Section 208 also requires designation of regional "management" agencies to implement the requirements of the plan. CWA § 208(c), 33 U.S.C.A. § 1288(c).

[4]40 C.F.R. §§ 35.250 to 35.360 (authorizes planning grants pursuant to §§ 106, 205(h), and 205(j)).

[5]*See* Nat. Res. Def. Council, Inc. v. Train, 396 F. Supp. 1386, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20405 (D.D.C. 1975), *aff'd*, 564 F.2d 573, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20702 (D.C. Cir. 1977).

[6]Nat'l Ass'n of Regional Councils v. Costle, 564 F.2d 583, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20737 (D.C. Cir. 1977).

logical it may be, did not fit within the traditional scheme of state and municipal political authority.[7] Further, the primary emphasis at the federal level was on implementation of the effluent guidelines and NPDES permit provisions of the Act, and federal resources were not devoted to the program. Finally, and most importantly, nonpoint source pollution control is a difficult and controversial process. It involves land-use issues and control of agricultural processes, which are politically difficult to identify and implement.[8]

The total maximum daily loads (TMDL) process has created leverage for implementing and funding nonpoint source controls. In the TMDL process, point sources understand that they will continue to have more costly controls imposed on them if no one does anything about nonpoint sources. The nonpoint source controls are often more economical than more point source controls, so the point sources can often be convinced to fund nonpoint source control activities (by others) if they in turn get some assurance that more point source controls will not be imposed, at least in the short term.

§ 13:29 Water quality management: Planning grants and nonpoint source regulation—Grants for water quality planning—Water quality management planning

EPA has combined elements of the CWA to create a comprehensive water quality management program that requires states to develop and implement a state or areawide "Water Quality Management" (WQM) Plan.[1] These regulations implement not only § 208 but also the planning grant provisions of §§ 106 and 205, the requirements for a continuing planning process under § 303(e), and the water quality monitoring requirements of § 305. The WQM Plan consists of § 208 and § 303(e) plans and certified and approved updates to those plans.

EPA regulations require that states develop a water quality management plan that identifies point and nonpoint sources of pollution, considers alternative solutions, and recommends control approaches and programs. The plan elements include, among others: identification and priority ranking of water quality limited stream segments and development of TMDL for these segments, as required by § 303(d);[2] identification of necessary industrial and municipal treatment facilities and construction priorities, as required by § 208;[3] description of regulatory and nonregulatory programs activities and Best Management Practices (BMPs) for control of nonpoint source pollution;[4] identification of management agencies necessary to carry out the plan;[5] and identification and development of programs for control of groundwater pollution to the extent required by § 208(b)(2)(K) of the Act.[6]

Additionally, water quality management planning includes submission of the biennial water quality report, as required by § 305(b), which describes and assesses

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[7] *See* Wilkins, The Implementation of Water Pollution Control Measures—Section 208 of the Water Pollution Control Act Amendments, 15 Land & Water L. Rev. 479 (1980).

[8] *See* Jungman, Areawide Planning Under the Federal Water Pollution Control Act Amendments of 1972: Intergovernmental and Land Use Implications, 54 Tex. L. Rev. 1047 (1976).

[Section 13:29]

[1] 40 C.F.R. Part 130. *See* U.S. EPA, Office of Water, State Clean Water Strategies: Meeting the Challenge of the Future (Dec. 1987).

[2] 40 C.F.R. § 130.6(c)(1).

[3] 40 C.F.R. § 130.6(c)(3).

[4] 40 C.F.R. § 130.6(c)(4).

[5] 40 C.F.R. § 130.6(c)(5).

[6] 40 C.F.R. § 130.6(c)(9).

the current status of water quality within the state[7] and development of state water quality standards pursuant to § 303.[8] The state is required to certify by letter to EPA that WQM Plan updates are consistent with all other parts of the plan.[9] Construction grant and permit decisions must be made in accordance with certified and approved WQM Plans.[10]

Funding of water quality management activities is now provided through a combination of grant programs under the CWA. The Agency now authorizes funding for various water quality purposes under §§ 106 and 205.[11] EPA regulations identifying specific funding eligibility and grant administrative requirements for these funds are found in 40 C.F.R. Part 35, subpart A, *Financial Assistance for Continuing Environmental Programs.*

§ 13:30 Water quality management: Planning grants and nonpoint source regulation—Regulation of nonpoint sources

The CWA permit programs, both NPDES and § 404 dredge and fill permits, are triggered by the discharge of pollutants from a "point source."[1] Nonpoint sources are not specifically regulated under the Act. Sections 208 and 319 of the Act, however, authorize imposition of regulatory programs to control nonpoint source pollution, and EPA regulations require states to implement BMPs for control of these nonpoint sources.[2]

EPA has provided only the most general definition of BMPs. The water quality management regulations define BMPs as methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and non-structural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.[3] Thus, § 208 and agency regulations authorize virtually any form of control technique under the rubric of best management practice. Nonpoint source BMPs are a largely unexplored area under the CWA.[4]

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[7]40 C.F.R. § 130.8.

[8]40 C.F.R. § 130.3.

[9]40 C.F.R. § 130.6(e).

[10]40 C.F.R. § 130.6(f).

[11]40 C.F.R. §§ 35.250-35.360 (authorizes planning grants pursuant to §§ 106, 205(h), and 205(j)).

[Section 13:30]

[1]CWA § 301(a), 33 U.S.C.A. 1311(a). *Cf.* United States v. Earth Sciences, Inc., 599 F.2d 368, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20542 (10th Cir. 1979) (discussion of mining companies activities as point source for purpose of NPDES permitting); Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983) (discussion of land clearing activity as point source for purposes of § 404 dredge and fill permit).

[2]These "best management practices" implemented through § 208 are presumably to be distinguished from the BMP for the control of toxic pollutants under § 304(e). These toxic BMPs may supplement industrial effluent limitations guidelines and control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage.

[3]40 C.F.R. § 130.2(m).

[4]One commentator has noted that states might be able to use § 208 to regulate activity on federal lands. *See* Comment, Regulation of Nonpoint Sources of Water Pollution in Oregon Under § 208 of the Federal Water Pollution Control Act, 60 Or. L. Rev. 184, 189 n.29 (1981).

EPA regulations also put some limited teeth in the BMP requirements by limiting reduction in water quality standards if higher standards could be achieved by "cost effective and reasonable BMP for nonpoint source control." 40 C.F.R. § 131.10(h)(2).

§ 13:31 Jurisdictional scope

Section 301(a) of the Act establishes its jurisdictional limits. It states: "Except in compliance with this section and §§ 302, 306, 307, 318, 402 and 404 of this Act,[1] the discharge of any pollutant by any person shall be unlawful."

It is in the definitional provision, § 502, however, that the true jurisdictional scope and limitations are found. Section 502(12) defines "discharge of a pollutant" to mean "(A) any addition of any pollutant to navigable waters from any point source, and (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft." The jurisdictional reach is further defined by the key definitions of "navigable waters," "pollutant," and "point source," which are found at §§ 502(7), 502(6), and 502(14), respectively.[2]

§ 13:32 Jurisdictional scope—Waters of the United States

The Act regulates "discharges" into "navigable waters," defined as "waters of the United States (WOTUS)."[1] The legislative history of the term[2] shows that Congress "intended to repudiate limits that had been placed on federal regulation by earlier water pollution control statutes and to exercise its powers under the commerce clause to regulate at least some waters that would not be deemed 'navigable' under the classical understanding of that term."[3] Thus, courts have held that the Act applies to wetland areas that "form the border of or are in reasonable proximity to other waters of the United States," even though there is no apparent surface connection,[4] to non-navigable tributaries seasonally connected to traditionally naviga-

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[Section 13:31]

[1]§ 302 sets water-quality-related effluent limitation standards for point source discharges; § 306 set standards for performance for certain discharge sources; § 307 sets toxic and pretreatment effluent standards; § 318 governs discharges by aquaculture projects; § 402 establishes the NPDES permitting program; § 404 governs permits issued by the Corps for the discharge of dredged or fill material.

[2]The term "addition" is not defined. It is the source of disputes over EPA's net-gross regulations, discussed in § 13:62. It also spawned jurisdiction over the question of whether releases from impoundments must be regulated under the Act. *See* Nat'l Wildlife Fed'n v. Gorsuch, 693 F.2d 156, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20015 (D.C. Cir. 1982). In Rybachek v. EPA, 904 F.2d 1276, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20973 (9th Cir. 1990), the court quickly dispensed with a challenge to EPA's determination that the discharge of sluiced paydirt into streams by placer miners constitutes the "addition" of pollutants. *But see* Froebel v. Meyer, 13 F. Supp. 2d 843 (E.D. Wis. 1998) (holding that redepositing of indigenous sediment caused by state agency's removal of dam did not result in any "discharge of dredged material" that would require a permit from the Corps).

[Section 13:32]

[1]CWA § 502(7); 33 U.S.C.A. § 1362(7).

[2]*See* S. Conf. Rep. No. 1236, 92d Cong. (1972).

[3]United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 106 S. Ct. 455, 88 L. Ed. 2d 419, 23 Env't Rep. Cas. (BNA) 1561, 16 Envtl. L. Rep. 20086, 20089 (1985); United States v. Ashland Oil & Transp. Co., 504 F.2d 1317, 7 Env't Rep. Cas. (BNA) 1114, 4 Envtl. L. Rep. 20784 (6th Cir. 1974). Under the classical test of "navigability," waters had to be either subject to the ebb and flow of the tide or be "navigable in fact . . . when they form in their ordinary condition by themselves, or by uniting with other waters, a continued highway" in the chain of interstate or foreign commerce. The Daniel Ball, 77 U.S. 557, 19 L. Ed. 999, 2000 A.M.C. 2106, 1870 WL 12737 (1870). Though the *Daniel Ball* test was expanded in the 20th century by such cases as United States v. Appalachian Elec. Power Co., 311 U.S. 377, 409, 61 S. Ct. 291, 85 L. Ed. 243, 1941 A.M.C. 1 (1940), to encompass historically non-navigable streams that could be made navigable "after reasonable improvement," the classical formula still left tens of thousands of miles of tributaries beyond the reach of federal jurisdiction.

[4]United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 106 S. Ct. 455, 88 L. Ed. 2d 419, 23 Env't Rep. Cas. (BNA) 1561, 16 Envtl. L. Rep. 20086 (1985). *But see* Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Eng'rs, 531 U.S. 159, 121 S. Ct. 675, 148 L. Ed. 2d 576, 51 Env't

ble waters,[5] to intermittent streams,[6] and to ditches and irrigation canals.[7]

Moreover, Congress intended that the term "waters of the United States" be given the "broadest constitutional interpretation."[8] Although wholly intrastate water bodies have been held within the Act's jurisdiction,[9] there is undoubtedly a limit to federal jurisdiction imposed by the limits of the commerce power. However, just what that limit is has yet to be precisely defined.[10] For instance, one limitation imposed by the language of the Act itself, and its legislative history, is underground waters. The leading decision, acquiesced to by EPA, is *Exxon Corp. v. Train*,[11] which held that EPA lacks control over deep well injection where the wells are not connected to surface waters (the usual case), since Congress decided to leave groundwater regulation up to the states.[12]

In addition, EPA and the Corps do not include prior convert croplands within the scope of WOTUS. The 1985 Farm Bill included Highly Erodible Land Conservation and Wetland Conservation Compliance or "Swampbuster" provisions designed to

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Rep. Cas. (BNA) 1833, 31 Envtl. L. Rep. 20382 (2001) (holding that isolated waters that have no connection to WOTUS other than by the migration of birds are not subject to the CWA).

[5]United States v. Texas Pipe Line Co., 611 F.2d 345, 14 Env't Rep. Cas. (BNA) 1120, 10 Envtl. L. Rep. 20184, 52 A.L.R. Fed. 783 (10th Cir. 1979); P. F. Z. Properties, Inc. v. Train, 393 F. Supp. 1370, 7 Env't Rep. Cas. (BNA) 1930 (D.D.C. 1975).

[6]United States v. Moses, 496 F.3d 984, 64 Env't Rep. Cas. (BNA) 1993 (9th Cir. 2007) (holding that a seasonally intermittent stream constituted "waters of the United States"); United States v. Phelps Dodge Corp., 391 F. Supp. 1181, 7 Env't Rep. Cas. (BNA) 1823, 5 Envtl. L. Rep. 20308 (D. Ariz. 1975); Avoyelles Sportsmen's League, Inc. v. Alexander, 511 F. Supp. 278, 17 Env't Rep. Cas. (BNA) 1375, 11 Envtl. L. Rep. 20321 (W.D. La. 1981), *judgment aff'd in part*, *rev'd in part*, 715 F.2d 897, 19 Env't Rep. Cas. (BNA) 1841, 13 Envtl. L. Rep. 20942 (5th Cir. 1983). In United States v. Akers, 651 F. Supp. 320, 25 Env't Rep. Cas. (BNA) 1609, 17 Envtl. L. Rep. 20702 (E.D. Cal. 1987), the district court concluded that CWA jurisdiction extended to an area whose only source of water was manmade irrigation structures. To similar effect, see Track 12, Inc. v. District Eng'r, U.S. Army Corps of Eng'rs, St. Paul, Minn., 618 F. Supp. 448, 24 Env't Rep. Cas. (BNA) 1574, 16 Envtl. L. Rep. 20163 (D. Minn. 1985), and United States v. Ciampitti, 583 F. Supp. 483, 20 Env't Rep. Cas. (BNA) 1926 (D.N.J. 1984). Several courts have held that EPA has authority to regulate internal streams of wastewater produced by dischargers. *See, e.g.*, Texas Mun. Power Agency v. Administrator of U.S. E.P.A., 836 F.2d 1482, 27 Env't Rep. Cas. (BNA) 1249, 18 Envtl. L. Rep. 20538 (5th Cir. 1988).

[7]Headwaters, Inc. v. Talent Irrigation Dist., 243 F.3d 526, 533, 52 Env't Rep. Cas. (BNA) 1001, 31 Envtl. L. Rep. 20535 (9th Cir. 2001) (holding that irrigation canals were "waters of the United States"); United States v. Eidson, 108 F.3d 1336, 1341-42, 44 Env't Rep. Cas. (BNA) 1550, 27 Envtl. L. Rep. 20853 (11th Cir. 1997) (holding that ditch connected to sewer drain and running into canal constituted "waters of the United States").

[8]118 Cong. Rec. 33757 (1972) (remarks of Rep. Dingell on consideration of conference report).

[9]United States v. Byrd, 609 F.2d 1204, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20757 (7th Cir. 1979).

[10]In Hoffman Homes, Inc. v. EPA, 999 F.2d 256, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21139 (7th Cir. 1993), for example, the court held that, since millions of people throughout North America spend more than a billion dollars per year on hunting, trapping, and observing migratory birds, activities affecting any wetlands potentially used by such birds also affect interstate commerce.

[11]Exxon Corp. v. Train, 554 F.2d 1310, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20594 (5th Cir. 1977); *accord* Village of Oconomowoc Lake v. Dayton Hudson Corp., 24 F.3d 962, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21080 (7th Cir. 1994). *But see* United States Steel Corp. v. Train, 556 F.2d 822, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20419 (7th Cir. 1977). For a discussion of recent district court decisions addressing whether the Act's permitting provisions apply to discharges to groundwater, see Umatilla Waterquality Protective Ass'n v. Smith Frozen Foods, Inc., 962 F. Supp. 1312, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21411 (D. Or. 1997) (holding that the Act does not regulate groundwater that is hydrologically connected to surface water).

[12]Groundwater discharges are, however, regulated under the Safe Drinking Water Act and the Resource Conservation and Recovery Act. It should be noted that courts recently have found that the discharge of pollutants to navigable waters through groundwater is jurisdictional under the CWA. See Section 13:34.

reduce the conversion of wetlands for agricultural purposes.[13] In other words, draining, filling, leveling, clearing stumps, or otherwise altering a wetland will result in loss of eligibility for U.S. Department of Agriculture (USDA) program benefits. But, Prior Converted Cropland (PC) is exempt from the Swampbuster provisions. As a result, PC areas can be further drained, cropped, or filled without loss of eligibility for USDA program benefits and, in some areas, may be exempt from wetland regulations administered by the Corps under Section 404 of the CWA. But, if PC areas change to non-agricultural use, or are abandoned based on Corps and EPA criteria, then the PC areas may be regulated under the CWA.

In addition, conforming modifications were made to several regulations in which the definition of "waters of the United States" or of "navigable waters" is relevant.[14] In 1985, the Supreme Court upheld the Corps' authority over intrastate wetlands as "waters of the United States" under the Corps' regulatory definition of wetlands.[15] In 2001, however, the Court struck down the Corps' "Migratory Bird Rule" pursuant to which the Corps regulated "isolated waters" as "waters of the United States."[16]

In *Rapanos v. United States*, the Supreme Court issued an opinion that may ultimately narrow the meaning of "waters of the United States."[17] In the plurality opinion, Justice Scalia took a narrow view of the phrase. Justice Kennedy, however, took a broader view in his concurring opinion.[18] Circuit courts have since varied in their application of the Rapanos opinions.[19]

In light of the Supreme Court's decisions in *SWANNC*, *Riverside Bayview*, and *Rapanos*, in June 2015, the EPA and the Corps issued a rulemaking (the "Clean Water Rule") to clarify the definition of "waters of the United States" under the CWA.[20] Later that year, the U.S. Court of Appeals for the Sixth Circuit issued a

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[13]*Wetland Conservation Provisions (Swampbuster),* USDA (Sept. 12, 2018 4:36pm) https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/wetlands/?cid=stelprdb1043554.

[14]58 Fed. Reg. 45008, 45036-45038 (Aug. 25, 1993).

[15]United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 134, 106 S. Ct. 455, 88 L. Ed. 2d 419, 23 Env't Rep. Cas. (BNA) 1561, 16 Envtl. L. Rep. 20086 (1985).

[16]Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Eng'rs (SWANCC), 531 U.S. 159, 171, 174, 121 S. Ct. 675, 148 L. Ed. 2d 576, 51 Env't Rep. Cas. (BNA) 1833, 31 Envtl. L. Rep. 20382 (2001). In response to SWANCC, the Corps and EPA issued guidance to the field that "the Court's holding was strictly limited to waters that are 'nonnavigable, isolated, [and] intrastate.' " Memorandum from Gary S. Guzy, General Counsel, EPA, and Robert M. Anderson, Chief Counsel, the Corps, Regarding Supreme Court Ruling Concerning CWA Jurisdiction over Isolated Waters (Jan. 19, 2001).

[17]Rapanos v. United States, 547 U.S. 715, 126 S. Ct. 2208, 165 L. Ed. 2d 159, 62 Env't Rep. Cas. (BNA) 1481, 36 Envtl. L. Rep. 20116 (2006).

[18]See § 13:96 for additional details regarding the *Rapanos v. United States* opinion and its potential effects on the Corps' wetlands jurisdiction. *See also* Memorandum from Benjamin Grumbles, EPA & John Woodley, Jr., Department of the Army, Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* and *Carabell v. United States* (Dec. 2, 2008), http://www.epa.gov/owow/wetlands/pdf/CWA_jurisdiction_Following_Rapanos120208.pdf.

[19]*Compare* United States v. Johnson, 467 F.3d 56, 36 Envtl. L. Rep. 20218, 162 O.G.R. 1289 (1st Cir. 2006) (the reasoning of either Scalia's plurality opinion or Kennedy's concurring opinion will apply to determine CWA jurisdiction); United States v. Cundiff, 555 F.3d 200, 68 Env't Rep. Cas. (BNA) 1289 (6th Cir. 2009) (holding that federal jurisdiction was appropriate under either) *with* United States v. Robison, 505 F.3d 1208, 65 Env't Rep. Cas. (BNA) 1385 (11th Cir. 2007) (the reasoning of Kennedy's concurring opinion will apply to determine CWA jurisdiction).

[20]Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37054 (June 29, 2015) (to be codified at 33 C.F.R Pt. 328, 40 C.F.R. Pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401). The final rule defines "waters of the United States" as

> (1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters of which were subject to ebb and flow of the tide; (2) All interstate waters, including interstate wetlands; (3) the territorial seas; (4) All impoundments of waters otherwise identi-

nationwide stay of the rule.[21] After issuing the stay, the Sixth Circuit ruled that it had jurisdiction under the CWA to directly review challenges to the proposed Clean Water Rule.[22] The U.S. Supreme Court reversed and remanded, holding that challenges to the Clean Water Rule must be brought in the federal district courts.[23]

On February 28, 2017, President Trump signed the "Executive Order on Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule."[24] The executive order calls on the EPA and the Corps to review the Clean Water Rule and "publish for notice and comment a proposed rule rescinding or revising the rule. . . ." The executive order directs that the EPA and the Corps "shall consider interpreting the term 'navigable waters' " in a manner "consistent with Justice Scalia's opinion in *Rapanos*."

Consistent with the executive order, EPA and the Corps repealed the Clean Water Rule and, on April 21, 2020, the EPA and the Corps finalized the Navigable Waters Protection Rule to define "waters of the United States," which became effective on June 22, 2020.[25] The Navigable Waters Protection Rule was challenged by states, tribes, and environmental groups in federal district courts in several jurisdictions. Litigation is ongoing.[26] On 30 August 2021, a federal district judge in the District of Arizona, ordered the remand and vacatur of the Navigable Waters

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fied as waters of the United States under this section; (5) All tributaries as defined in paragraph (c)(3) . . . (6) All waters adjacent to a water identified in (a)(1)-(5) of this section including wetlands, ponds, lakes, oxbows, impoundments and similar waters[.].

80 Fed. Reg. 37054, 37104-105.

The definition also includes Prairie Potholes, Carolina and Delmarva Bays, Poscosins, Western Vernal Pools, and Texas Coastal Prairie Wetlands, where such waters are determined on a case-specific basis to have a significant nexus to a water identified in (1) through (3) above. *Id.* at 37105. Moreover, under the final rule "waters of the United States" means

> [a]ll waters located within the 100-year floodplain of a water identified in (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section.

Id.

The final rule clarifies that where waters are adjacent to any waters identified in section (a)(6) of the rule, then the case-specific, significant nexus analysis is not required. *Id.*

[21]In re E.P.A., 803 F.3d 804, 81 Env't. Rep. Cas. (BNA) 1389, 2015 A.M.C. 2409 (6th Cir. 2015), order vacated, 713 Fed. Appx. 489 (6th Cir. 2018) (finding that the petitions demonstrated a substantial possibility of success on the merits).

[22]In re U.S. Dept. of Defense, U.S. E.P.A. Final Rule: Clean Water Rule: Definition of Waters of U.S., 817 F.3d 261, 81 Env't. Rep. Cas. (BNA) 2165 (6th Cir. 2016), cert. granted, 137 S. Ct. 811, 196 L. Ed. 2d 595 (2017) and rev'd and remanded, 138 S. Ct. 617, 199 L. Ed. 2d 501, 85 Env't. Rep. Cas. (BNA) 2155, 2018 A.M.C. 29 (2018).

[23]National Ass'n of Mfrs. v. Department of Defense, 138 S. Ct. 617, 199 L. Ed. 2d 501, 85 Env't. Rep. Cas. (BNA) 2155, 2018 A.M.C. 29 (2018). Challenges to the Clean Water Rule are being litigated in districts courts. [*See e.g.*, North Dakota et al. v. EPA, No. 3:15-cv-59 (D. N.D. filed June 29, 2015).]

[24]Exec. Order No. 12778, 82 Fed. Reg. 12497 (Feb. 28, 2017), https://www.whitehouse.gov/presidential-actions/presidential-executive-order-restoring-rule-law-federalism-economic-growth-reviewing-waters-united-states-rule/.

[25]*See* The Navigable Waters Protection Rule: Definition of "Waters of the United States," 85 Fed. Reg. 22,250 (Apr. 21, 2020). In pertinent part, the Navigable Waters Protection Rule revised the definition of WOTUS to specifically exclude, among other elements, groundwater, ephemeral water features, diffuse stormwater runoff, ditches that are not traditional navigable waters, prior converted upland, artificial lakes and ponds, water-filled depressions incidental to mining or construction, stormwater control features, groundwater recharge, and waste treatment systems. *See* Id. at 22,251–52.

[26]See, e.g., State of Colorado v. U.S. Environmental Protection Agency, et al., No. 20-cv-1461 (filed May 22, 2020, D.Col.); Conservation Law Foundation v. U.S. Environmental Protection Agency, et al., No. 20-cv-10820 (filed Apr. 29, 2020, D.Mass.); Navajo Nation v. Andrew Wheeler, et al., No. 20-cv-00602 (filed June 22, 2020, D.N.M.).

Protection Rule.[27] In vacating the rule, the court found that the rule contained "fundamental, substantive flaws that cannot be cured without revising or replacing the NWPR's definition of 'waters of the United States,' " and that "remanding without vacatur would risk serious environmental harm," noting that the EPA and the Corps "identified indicators of a substantial reduction in waters covered under the NWPR compared to previous rules and practices."[28] With the Navigable Waters Protection Rule vacated, the EPA and the Corps confirmed on September 3, 2021 that they would halt implementation of the NWPR nationwide and will interpret "waters of the United States" consistent with the pre-2015 regulatory regime, including the agencies' 2008 guidance interpreting the U.S. Supreme Court's decision in *U.S. v. Rapanos*.[29]

On January 20, 2021, President Biden signed the "Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," which directs federal agencies to review all existing regulations, orders, guidance documents, policies, and any other similar agency actions promulgated, issued, or adopted between January 20, 2017, and January 20, 2021.[30] Consistent with the executive order, on June 9, 2021, the EPA and the Corps announced their intent to revise the definition of "waters of the United States."[31] On November 18, 2021, the EPA and the Corps announced their proposed rule redefining Waters of the U.S. under the Clean Water Act.[32] The proposal, in part, reverted to the agencies' 1986 regulatory definition. But, the proposal also incorporated new terms based on the Supreme Court's fractured opinion in the *Rapanos* case and the agencies' guidance following that decision (e.g., relative permanent waters and concepts from the significant nexus analysis). On January 18, 2023, the agencies published its final rule, which became effective on March 20, 2023.[33] But the saga didn't end there.

On May 25, 2023, the Supreme Court issued its decision in *Sackett v. Environmental Protection Agency* and held that the CWA extends to only those "wetlands with a continuous surface connection to bodies that are 'waters of the United States' in their own right," such that they are indistinguishable from those waters.[34] The case involved a challenge to an EPA compliance order stating that landowners' Idaho property contained jurisdictional wetlands and directing them to remove fill and restore the property to its natural state. The landowners had argued EPA lacked jurisdiction because any wetlands on their property were not "waters of the United States." The district court granted summary judgment for EPA and the Ninth Circuit affirmed, holding that the CWA covers adjacent wetlands with a significant nexus to traditional navigable waters and that the property satisfied that standard. The Supreme Court held, 5-4, that the CWA extends only to wetlands that are "as a practical matter indistinguishable from waters of the United States," which requires establishing that the adjacent water body constitutes "water(s) of the United States" and that the wetland has a continuous surface connection with that water body such that it is "difficult to determine where the 'water' ends and the 'wetland'

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[27]Pasqua Yaqui Tribe v. U.S. EPA, No. CV-20-00266-TUC-RM (Aug. 30, 2021).

[28]*Id.* at 9.

[29]Current Implementation of Waters of the United States, EPA, https://www.epa.gov/wotus/current-implementation-waters-united-states.

[30]Exec. Ord. 13990 (Jan. 20, 2021).

[31]See New Release, EPA, Army Announce Intent to Revise Definition of WOTUS (June 9, 2021), available at https://www.epa.gov/newsreleases/epa-army-announce-intent-revise-definition-wotus.

[32]EPA and Army Take Action to Provide Certainty for the Definition of WOTUS, https://www.epa.gov/newsreleases/epa-and-army-take-action-provide-certainty-definition-wotus.

[33]88 Fed. Reg. 3004, "Revised Definition of 'Waters of the United States' " (Jan. 18, 2023).

[34]Sackett v. Environmental Protection Agency, 598 U.S. __, 143 S. CT. 1322 (U.S. May 25, 2023).

begins." It found the wetlands on the landowners' property were "distinguishable from any possibly covered waters," reversed the appellate ruling, and remanded for further proceedings.

While EPA's and Army's 2023 rule defining "waters of the United States" was not directly before the Supreme Court, the decision in *Sackett* made clear that certain aspects of the 2023 rule were invalid. On August 29, 2023, EPA and the Corps announced a final rule amending the 2023 definition to conform with the ruling.[35] For example, the new rule removes the significant nexus test from consideration when identifying tributaries and other waters as federally protected. The "conforming rule" became effective on September 8, 2023.

§ 13:33 Jurisdictional scope—Point source

The Act regulates the discharge of pollutants from "point sources."[1] A point source is defined by § 502(14) as "any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants may be discharged."[2] The term was expanded by a 1987 amendment to embrace specifically a "landfill leachate collection system."[3] Courts have generally interpreted "point source" expansively to include such things as shipboard guns,[4] erosion-created ditches and gullies carrying leachate from a spoil pile,[5] leakage from a waste lagoon,[6] a bulldozer blade,[7] net-pen sea farms,[8] and discharges from industrial factories that are in addition to discharges from irrigated

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[35]88 Fed. Reg. 61964, Revised Definition of "Waters of the United States"; Conforming (Sept. 8, 2023).

[Section 13:33]

[1]Section 208 of the Act, discussed in § 13:26, addresses nonpoint sources.

[2]The Supreme Court has held that a point source is created even where pollutants originating elsewhere merely pass through the source because it is a conveyance and is, therefore, covered by the NPDES program. South Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians, 541 U.S. 95, 124 S. Ct. 1537 (2004).

Manure-spreading vehicles, manure-storing fields, and ditches used to store or transfer waste from livestock operations are part of concentrated feeding operations (CAFO) and are, therefore, point sources. Community Ass'n for Restoration of Env't v. Henry Bosma Dairy, 305 F.3d 943, 33 Envtl. L. Rep. (Envtl. L. Inst.) 20048 (9th Cir. 2002). An EPA final rule revises and updates the NPDES provisions that define which operations are concentrated animal feeding operations CAFO and establishes a mandatory duty for all CAFOs to apply for an NPDES permit and to develop and implement a nutrient management plan. National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations, 68 Fed. Reg. 7175 (Feb. 12, 2003) (40 C.F.R. Part 9, 122-23, 412). The EPA continues to defer certain NPDES permit requirements for CAFOs in order to propose new rules for CAFOs. *See* 72 Fed. Reg. 40245 (July 27, 2007).

[3]Pub. L. No. 100-4, § 507, 101 Stat. 78.

[4]Romero-Barcelo v. Brown, 643 F.2d 835, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20391 (1st Cir. 1981), *rev'd and remanded on other grounds sub nom.* Weinberger v. Romero-Barcelo, 456 U.S. 305, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20538 (1982).

[5]Sierra Club v. Abston Constr. Co., 620 F.2d 41, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20552 (5th Cir. 1980).

[6]United States v. Oxford Royal Mushroom Prods., Inc., 487 F. Supp. 852, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20549 (E.D. Pa. 1980).

[7]Avoyelles Sportsmen's League v. Alexander, 473 F. Supp. 525, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20315 (W.D. La. 1979), *aff'd sub nom.* Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983).

[8]U.S. Public Interest Research Group v. Atlantic Salmon of Maine, LLC., 215 F. Supp. 2d 239, 249-255 (D. Me. 2002).

agriculture.[9] EPA efforts to avoid regulation entirely by exempting classes of hard-to-regulate point sources have been rejected.[10] For example, despite EPA arguments to the contrary, the Sixth Circuit has held that pesticide residue and excess pesticide are subject to regulation under the Act because the application of pesticide constitutes a point source.[11]

Some courts have refused to take an expansive view, however. In *National Wildlife Federation v. Gorsuch,*[12] for example, the District of Columbia Circuit overruled a lower court decision that had held dams were point sources.[13] Similarly, *United States v. Plaza Health Lab., Inc.*,[14] although a criminal case, held that a human being was not a point source under the Act.[15] Cows and other "inherently mobile" animals are also not point sources.[16] The Ninth Circuit has held that "a system of ditches, culverts, and channels" collecting stormwater alongside logging roads is a point source[17] and that, absent EPA guidance, the discharge of stormwater from utility poles is not a point source.[18]

§ 13:34 Jurisdictional scope—Discharge

The "discharge" of a pollutant requires the "addition" of that pollutant to water from a point source, vessel, or other floating craft.[1] EPA's interpretive position has been that, for an "addition" to occur, a point source must introduce a pollutant into a water body from the "outside world."[2] In *National Wildlife Federation v. Gorsuch*, the D.C. Court of Appeals found that EPA's "outside world" interpretation of "addi-

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[9]Pacific Coast Federation of Fisherman's Ass'ns v. Glaser, No. CIV S-2:11-2980-KJM-CKD, 2013 WL 4230266, *13, 77 ERC 1945 (E.D. Cal. Sept. 16, 2013) (holding that the point source exemption "return flows from irrigated agriculture" does not extend to additional discharges unrelated to crop production).

[10]*See* Nat. Res. Def. Council, Inc. v. Costle, 568 F.2d 1369, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20028 (D.C. Cir. 1977).

[11]Nat'l Cotton Council of America v. U.S. E.P.A., 553 F.3d 927, 940, 68 Env't Rep. Cas. (BNA) 1129 (6th Cir. 2009).

[12]Wildlife Fed'n v. Gorsuch, 693 F.2d 156, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20015 (D.C. Cir. 1982), *rev'g* 530 F. Supp. 1291, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20268 (D.D.C. 1982). *But cf.* S.D. Warren Co. v. Maine Bd. of Envtl. Protection, 547 U.S. 370, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20089 (2006) (holding that discharges from dams are subject to regulation under the FWPCA, as discussed in § 13:34).

[13]The court relied primarily on legislative intent to limit the impact of the Act on water projects, as evidenced by § 101(g) of the Act, 33 U.S.C.A. § 1251(g), and deference to EPA's administrative interpretation, which had, however, not been consistent. *See* Stever, Deference to Administrative Agencies in Federal Environmental, Health and Safety Litigation—Thoughts on Varying Judicial Application of the Rule, 6 W. New Eng. L. Rev. 35, 63 (1983).

[14]United States v. Plaza Health Lab., Inc., 3 F.3d 643, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21526 (2d Cir. 1993), *cert. denied sub nom.* United States v. Villegas, 62 U.S.L.W. 3861 (June 27, 1994) (No. 93-1572).

[15]After analyzing the Act, its legislative history, and caselaw concerning the definition of "point source," the court concluded that because the Act was, at best, ambiguous as to the definition, the rule of lenity ultimately required the court to reverse the defendant's conviction.

[16]*See, e.g.*, Oregon Nat. Desert Ass'n v. Dombeck, 172 F.3d 1092, 1099 (9th Cir. 1998). A district court held that a cruise terminal is not a point source. Puget Soundkeeper Alliance v. Cruise Terminals of America, LLC, No. C14-0476JCC, 2015 WL 7431415, *7, 81 ERC 2144 (W.D. Wash. Nov. 20, 2015).

[17]Northwest Environmental Defense Center v. Decker, 728 F.3d 1085 (9th Cir. 2013).

[18]Ecological Rights Foundation v. Pacific Gas and Elec. Co., 713 F.3d 502, 509-10, 76 Env't Rep. Cas. (BNA) 1618, 83 A.L.R. Fed. 2d 611 (9th Cir. 2013).

[Section 13:34]

[1]CWA § 502(12), 33 U.S.C.A. § 1362(12).

[2]*See* U.S. ex rel. Tennessee Valley Authority v. Tennessee Water Quality Control Bd., 717 F.2d 992, 998, 19 Env't Rep. Cas. (BNA) 1826, 14 Envtl. L. Rep. 20598, 20601 (6th Cir. 1983); Nat'l Wildlife Federation v. Gorsuch, 693 F.2d 156, 175, 18 Env't Rep. Cas. (BNA) 1105, 13 Envtl. L. Rep. 20015 (D.C.

tion" was not manifestly unreasonable.[3] In *S.D. Warren Co. v. Maine Board of Environmental Protection*, however, the Supreme Court interpreted "discharge" to include water that is chemically, physically, biologically, or radiologically altered when its flow is slowed by a dam and held that water flowing through a dam is subject to regulation under the Act.[4]

In *South Florida Management District v. Miccosukee Tribe of Indians*, a case involving the transfer of polluted water through a pump system into a less polluted body of water, the Supreme Court held that the "discharge of a pollutant" includes "point sources" through which pollutants merely pass.[5] That is to say, point sources need not generate pollutants, they "need only convey pollutants into navigable waters to be subject to the Act."[6] EPA subsequently issued its "water transfers rule" clarifying that "water transfers are not subject to regulation under the [NPDES] permitting program."[7] The rule defines water transfers "as an activity that conveys or connects WOTUS without subjecting the transferred water to intervening industrial, municipal, or commercial use."[8]

The "addition" language in the definition is the source of EPA's "net-gross" policy, which is discussed in § 13:62.

In addition to the statutorily exempt discharges, EPA has administratively exempted "indirect dischargers" from regulation except under the pretreatment program. "Indirect dischargers" are persons who discharge to a publicly owned treatment works.[9] The Agency has also administratively excluded authorized discharges to private treatment works,[10] discharges of dredged or fill material regulated under § 404 and certain marine discharges,[11] along with discharges directed pursuant to § 311 or pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act,[12] from the NPDES permit program.

Generally speaking, the CWA does not require NPDES permits for discharges to groundwater.[13] However, the U.S. Supreme Court clarified in *County of Maui, Hawaii v. Hawaii Wildlife Fund* that, under some circumstances, discharges to

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Cir. 1982).

[3]Nat'l Wildlife Federation v. Gorsuch, 693 F.2d 156, 175, 18 Env't Rep. Cas. (BNA) 1105, 13 Envtl. L. Rep. 20015 (D.C. Cir. 1982).

[4]S.D. Warren Co. v. Maine Board of Environmental Protection, 547 U.S. 370, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20089 (2006); *see also* Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York, 451 F.3d 77, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20111 (2d Cir. 2006) (finding that distinct body of water containing pollutants, which is transferred to another water body, constitutes an "addition" of pollutant and thus triggering CWA permit requirement); Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York, 273 F.3d 481 (2d Cir. 2001) (same); Greenfield Mills, Inc. v. O'Bannon, 189 F. Supp. 2d 893, 912 (N.D. Ind. 2002), *aff'd in part, rev'd in part and remanded by* 361 F.3d 934, 34 Envtl. L. Rep. (Envtl. L. Inst.) 20022 (7th Cir. 2004) (Despite granting defendants' motion for summary judgment, the court found that "[p]laintiffs' claim that sediment which is actively excavated and replaced into the same body of water constitutes a 'discharge of a pollutant' requiring a § 402 permit has some teeth.").

[5]South Florida Water Management Dist. v. Miccosukee Tribe of Indians, 541 U.S. 95, 105, 124 S. Ct. 1537, 158 L. Ed. 2d 264, 58 Env't Rep. Cas. (BNA) 1001, 34 Envtl. L. Rep. 20021 (2004).

[6]73 Fed. Reg. 33697, 33702 n.7 (June 13, 2008) (citation omitted).

[7]73 Fed. Reg. 33697 (June 13, 2008).

[8]73 Fed. Reg. 33697 (June 13, 2008).

[9]40 C.F.R. § 122.3.

[10]40 C.F.R. § 122.3(g).

[11]40 C.F.R. § 122.3(b), 3(a).

[12]40 C.F.R. § 122.3(d).

[13]The 2015 Clean Water Rule explicitly excludes groundwater from the definition of "waters of the United States." 80 Fed. Reg. 37,054, 37,055 (June 29, 2015). *See* Sierra Club v. Virginia Elec. and Power Co., 145 F. Supp. 3d 601 (E.D. Va. 2015), stay pending appeal denied, 2016 WL 5349081 (E.D.

groundwater may require an NPDES permit where such discharges are the "functional equivalent of a direct discharge" to surface waters.[14] The Court articulated factors that would comprise a "functional equivalent" test, while acknowledging that the standards it set forth were far from a bright-line rules and would require highly fact specific determinations. The non-exhaustive list of factors the Court suggested in applying the "functional equivalent" test include: (1) transit time; (2) distance traveled; (3) the nature of the material through which the pollutant travels; (4) the extent to which the pollutant is diluted or chemically changed as it travels; (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source; (6) the manner by or area in which the pollutant enters the navigable waters; and (7) the degree to which the pollution (at that point) has maintained its specific identity.[15] The EPA has subsequently released a guidance memorandum on the application of the Court's decision to permitting under the CWA.[16]

In July 2021, on remand of the U.S. Supreme Court's 2020 holding, the U.S. District Court for the District of Hawaii granted Hawaii Wildlife Fund's Motion for Summary Judgement. Applying the functional equivalent test outlined by the Supreme Court, the Hawaii District Court held that the balance of factors: time, distance,[17] relative amount of the pollution entering the water, and specific identity of the discharge from the County of Maui's injection wells into the groundwater and

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Va. 2016) (finding that a plaintiff presents a claim for relief under the CWA where there is a discharge of pollutants to surface waters through hydrologically connected groundwater); Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC, 141 F. Supp. 3d 428 (M.D. N.C. 2015), motion to certify appeal denied, 2016 WL 6783918 (M.D. N.C. 2016) (finding that the CWA regulates the discharge of pollutants to navigable waters via groundwater); *see also* Hawai'i Wildlife Fund v. County of Maui, 2015 WL 1608430 (D. Haw. 2015) (holding that the Lahaina Wastewater Reclamation Facility required an NPDES permit because the treated wastewater has been detected in the nearshore waters of the Pacific Ocean).

[14]County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 206 L. Ed. 2d 640 (2020). The ruling in County of Maui v. Hawaii Wildlife Fund resolved the existing circuit split over whether NPDES permits are required for discharges to groundwater that migrate to surface waters within the jurisdictional reach of the CWA. The Fifth and Seventh Circuits had previously held that no NPDES permitted is required for discharges to grounwater even where the discharge reaches surface waters. *See* Rice v. Harken Exploration Co., 250 F.3d 264, 52 Env't. Rep. Cas. (BNA) 1321, 31 Envtl. L. Rep. 20599, 154 O.G.R. 180 (5th Cir. 2001); Village of Oconomowoc Lake v. Dayton Hudson Corp., 24 F.3d 962, 38 Env't. Rep. Cas. (BNA) 1760, 24 Envtl. L. Rep. 21080 (7th Cir. 1994). More recently, however, the Fourth and Ninth Circuits had reached the opposite conclusion; holding that, under the factual circumstances at issue in each case, the CWA regulates discharges to groundwater that eventually reach CWA jurisdictional waters. *See* Upstate Forever v. Kinder Morgan Energy Partners, No. 17-1640 (4th Cir. April 12, 2018) (holding that release of gasoline from a ruptured pipeline that traveled 1000 feet via groundwater into a stream was an ongoing point source discharge); Hawaii Wildlife Fund v. County Of Maui, No. 15-17447 (9th Cir. Feb. 1, 2018) (holding that point source discharges to groundwater are subject to the CWA, where the ultimate discharge of pollutants to surface waters is "fairly traceable" to point sources). *See also* Sierra Club v. Virginia Elec. and Power Co., 145 F. Supp. 3d 601 (E.D. Va. 2015), stay pending appeal denied, 2016 WL 5349081 (E.D. Va. 2016) (finding that a plaintiff presents a claim for relief under the CWA where there is a discharge of pollutants to surface waters through hydrologically connected groundwater); Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC, 141 F. Supp. 3d 428 (M.D. N.C. 2015) (finding that the CWA regulates the discharge of pollutants to navigable waters via groundwater).

[15]County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 1476–77, 206 L. Ed. 2d 640 (2020).

[16]Guidance Memorandum, Applying the Supreme Court's County of Maui v. Hawaii Wildlife Fund Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program from Anna Wildeman, Acting Assistant Administrator, U.S. Environmental Protection Agency, Office of Water (Jan. 14, 2021) (available at https://www.epa.gov/sites/production/files/2021-01/documents/final_ow_maui_guidance_document_-_signed_1.14.21.pdf).

[17]The court notes that time and distance are the most important factors to be considered. Hawai'i Wildlife Fund v. County of Maui, 2021 WL 3160428, at *18 (D. Haw. 2021).

ultimately the Pacific Ocean are the functional equivalent of a direct discharge, requiring a NPDES permit.[18] Accordingly, the court directed judgment ordered in favor of the plaintiffs Hawaii Wildlife Fund.

§ 13:35 Jurisdictional scope—Pollutant

The Act contains a general definition of "pollutant" in § 502(6), and also defines "toxic pollutant" in § 502(13), the latter definition for the purpose of § 307.[1] "Pollutant" is defined as "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials,[2] heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water."[3]

Although the term is exceedingly broad,[4] EPA has chosen to regulate pollutant discharges somewhat selectively. For many years, for example, the Agency did not address storm sewer discharges that did not contain sewage. That changed in 1987 when Congress passed the Water Quality of Act of 1987 regulating stormwater discharges.[5] The Agency was also slow to develop separate effluent limitations for many toxic pollutants present in relatively small amounts in many industrial discharges.[6]

§ 13:36 The national pollutant discharge elimination program—Statutory scheme

The principal enforcement mechanism of the Act is the NPDES permit program,

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[18]The Court also considered raw volume of the pollutant as a dispositive factor, but also stated that without the inclusion of the additional, the Court would still find functional equivalency requiring an NPDES permit. Hawai'i Wildlife Fund v. County of Maui, 2021 WL 3160428, at *18 (D. Haw. 2021).

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[1]The statute also has a definition of "pollution." Section 502(19) defines this term as "the man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of water." 33 U.S.C.A. § 1362(19). This term was relied upon by the court in FMC Corp. v. Train, 539 F.2d 973, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (4th Cir. 1976) in upholding effluent limitations for "chemical oxygen demand" (cod), in the absence of a showing that this pollutant caused "harm."

[2]EPA administratively excluded most radioactive waste materials from its regulatory program in view of overlapping jurisdiction of the Nuclear Regulatory Commission. This exclusion was upheld in Train v. Colorado Pub. Interest Research Group, 426 U.S. 1, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20549 (1976).

[3]Specifically exempted are "sewage from vessels," which is regulated separately under § 312 of the Act, 33 U.S.C.A. § 1322, and materials injected into wells to facilitate oil and gas production or oil and gas production water injected into wells where regulated by the state.

[4]Chlorine and alum added by the City of New York to water pumped from the Hudson River to make it potable have been held to be "pollutants" when backwashed into reservoirs. Hudson River Fishermen's Ass'n v. City of N.Y., 751 F. Supp. 1088 (S.D.N.Y. 1990), *aff'd without opinion*, 940 F.2d 649 (2d Cir. 1991).

[5]*See* Pub. L. No. 100-4, 101 Stat. 7 (1987); *see also* 40 C.F.R. § 122.26 (requiring permits for certain stormwater discharges). EPA implemented the stormwater discharge permit program in two phases. Nat. Res. Def. Council v. U.S. E.P.A., 526 F.3d 591, 594–99, 66 Env't Rep. Cas. (BNA) 1948 (9th Cir. 2008). EPA issued Phase I in 1990, which established requirements for construction activities on five acres or more of land. Nat. Res. Def. Council v. U.S. E.P.A., 526 F.3d 591, 595, 66 Env't Rep. Cas. (BNA) 1948 (9th Cir. 2008). In 1999, EPA issued Phase II, regulating construction activities disturbing one to five acres of land. *Id.* at 598. *See also generally infra* §§ 13:68, 13.69.

[6]See Nat. Res. Def. Council, Inc. v. Train, 519 F.2d 287, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20578 (D.C. Cir. 1975), and subsequent developments culminating in Citizens for a Better Env't v. Gorsuch, 718 F.2d 1117 (D.C. Cir. 1983) (upholding district court's refusal to modify consent decree). *See also generally infra* §§ 13:77, 13:79-13:82.

established by § 402 of the Act.[1] Section 301(a) makes it unlawful to discharge a pollutant from a point source *without a permit*,[2] and § 402 lays the groundwork for the NPDES program. Although a number of other federal agencies, most notably the Federal Energy Regulatory Commission (FERC) and the Nuclear Regulatory Commission, address water quality issues generally in their licensing activities, the Act contains the superior authority.[3]

NPDES permits can be developed by EPA, states, or Indian tribes.[4] State programs came on line starting in 1974, and the majority of states now administer NPDES programs.[5] Federally-recognized tribes may also receive NPDES authority after meeting certain requirements.[6]

EPA separately issues federal NPDES permits to dischargers in states and tribal lands when those governments have not sought and received NPDES authority pursuant to § 402(b). That provision sets forth the minimum substantive authority states and tribes must meet,[7] along with the minimum enforcement authority they must have,[8] and several special requirements relating to publicly owned treatment works.[9]

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[1]33 U.S.C.A. § 1342. *See generally* U.S. EPA, National Pollutant Discharge Elimination System, NPDES Permit Program Basics Frequently Asked Questions, http://cfpub.epa.gov/npdes/faqs.cfm?program_id=45.

[2]Discharges of dredged or fill material are permitted under § 404. Oil discharges are flatly prohibited by § 311. Marine sanitation devices (vessel wastes) are subject to special treatment under § 312.

[3]*See* Nat'l Wildlife Federation v. Consumers Power Co., 862 F.2d 580, 28 Env't Rep. Cas. (BNA) 1572, 19 Envtl. L. Rep. 20235 (6th Cir. 1988); Monongahela Power Co. v. Marsh, 809 F.2d 41, 17 Envtl. L. Rep. 20422 (D.C. Cir. 1987).

[4]*See* U.S. EPA, Regulatory Information, Rules and Regulations Implemented under the Safe Drinking Water Act, Rules and Regulations Implemented under the Clean Water Act, http://water.epa.gov/lawsregs/rulesregs/.

[5]*See* U.S. EPA, National Pollutant Discharge Elimination System (NPDES), State and Tribal Program Authorization Status, http://cfpub.epa.gov/npdes/statestribes/astatus.cfm. State NPDES permit program requirements are implemented through 40 C.F.R. § 123.

[6]Generally, a Tribe may be found eligible to a NPDES permitting program if it can demonstrate (1) it is federally recognized; (2) it has a governing body carrying out substantial government duties and powers; (3) it has appropriate authority; and (4) it is (or will be) capable of carrying out the functions of the NPDES program. See 40 C.F.R. §§ 130.16; 123.31

[7]States must have authority to issue permits that apply, and insure compliance with, any applicable requirements of §§ 301, 302, 306, 307, and 403; are for fixed terms not exceeding five years; . . . can be terminated or modified for cause for . . . violation of any condition of the permit, obtaining a permit by misrepresentation or failure to disclose fully all material facts, [and] change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge"; and which "control the disposal of pollutants into wells."

[8]Their laws must be adequate to issue permits that "apply, and assure compliance with, all applicable requirements of § 308" and to provide inspection, monitoring and reporting requirements at least as stringent as those contained in § 308, provide for public notice and opportunity for public hearings prior to permit issuance, provide for notice of permit applications to EPA, provide notice and opportunity for input by other states whose waters may be affected, provide for denial in the case of certain impediments to the navigation rights of the public, and provide for injunctive relief and both civil and criminal penalties. EPA's decision not to require state programs to provide for the federal maximum civil and criminal penalties has been upheld. *See* Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988).

[9]Essentially, these provisions seek to ensure that delegated state programs will address industrial contributors to publicly owned treatment works in a way that is consistent with § 307(b)'s pretreatment scheme.

Most of the "first round" NPDES permits[10] were issued by EPA and contained single-number effluent limitations for pollutant parameters affecting pollutants identified in the permit application as emanating from the source, and for which EPA had the technical knowledge to fashion effluent limitations.[11] Most of the effluent limits for industrial dischargers[12] were based upon "best professional judgment" effluent criteria rather than generally applicable effluent guidelines, which were not promulgated for most source categories until well after the first round permits had been issued.[13] The first round permits also contained compliance schedules by which the source was to install pollution control equipment sufficient to achieve the effluent limitations contained in the permits.[14]

State programs started to come on line in 1974, and the number of approved state programs steadily increased throughout the 1970s. Currently, 47 states administer approved NPDES programs.[15] As of the date of this publication, no tribe has an EPA-approved NPDES permitting program.[16]

CWA § 402 allows for the issuance of both individual and general permits.[17] Each individual permit is tailored to an individual discharger's particular operations.[18] General permits, on the other hand, are designed to cover a class or category of discharger operations. Examples of general permits include the Vessels General Permit, the Multi-Sector General Permit, and the Construction General Permit.[19]

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[10]"First round" permits were issued to existing dischargers roughly for the period from 1972 to 1977.

[11]Exotic toxic pollutants were largely unaddressed in the first round permits.

[12]Permits issued to POTWs contained effluent limitations sufficient to meet EPA's formulation of secondary treatment.

[13]Of course, some permits contained water-quality-based effluent limitations, since the Act preserved the old water quality standards approach as a more stringent alternative to technology-based effluent limits.

[14]Current and historical information on EPA's issuance and use of technology based limitations and best professional judgment standards is available through EPA's website. *See* U.S. EPA, Water Quality Standards History, Statutory History, *available at* http://water.epa.gov/scitech/swguidance/standards/history.cfm; U.S. EPA, National Pollutant Discharge Elimination System (NPDES), Water Quality and Technology-Based Permitting, *available at* http://cfpub.epa.gov/npdes/generalissues/watertechnology.cfm?program_id=45; U.S. EPA, Water: Industry Effluent Guidelines, Frequent Questions, *available at* http://water.epa.gov/scitech/wastetech/guide/questions_index.cfm. For more information on effluent standard and limitations, *see infra* §§ 13:48-13:83.

[15]With exception of Massachusetts, New Hampshire, and New Mexico, all states have EPA-approved NPDES permit programs. For more information on the status of EPA approval for state NPDES permitting programs, *see* https://www.epa.gov/npdes/npdes-state-program-authority (last visited on August 16, 2021).

[16]For more information on tribes approved for TAS status, *see* https://www.epa.gov/tribal/tribes-approved-treatment-state-tas (last visited on August 16, 2021).

[17]*See* U.S. EPA, Regulatory Information, Rules and Regulations Implemented under the Safe Drinking Water Act, Rules and Regulations Implemented under the Clean Water Act, http://water.epa.gov/lawsregs/rulesregs/.

[18]*See* http://water.epa.gov/lawsregs/rulesregs/; *see also* U.S. EPA, National Pollutant Discharge Elimination System (NPDES), Accessing Individual NPDES Permits and Fact Sheet through Envirofacts, http://cfpub.epa.gov/npdes/permitissuance/permitscanning.cfm.

[19]*See* U.S. EPA, Regulatory Information, Rules and Regulations Implemented under the Safe Drinking Water Act, Rules and Regulations Implemented under the Clean Water Act, http://water.epa.gov/lawsregs/rulesregs/. *See also* U.S. EPA, National Pollutant Discharge Elimination System (NPDES), Vessel Discharges, http://cfpub.epa.gov/npdes/home.cfm?program_id=350 (last visited June 22, 2014); U.S. EPA, National Pollutant Discharge Elimination System (NPDES), EPA's Multi-Sector General Permit (MSGP), http://cfpub.epa.gov/npdes/stormwater/msgp.cfm; U.S. EPA, National Pollutant Discharge Elimination System (NPDES), EPA Construction General Permit, http://cfpub.epa.gov/npdes/stormwater/cgp.cfm#final2008cgp; U.S. EPA, National Pollutant Discharge Elimination System (NPDES),

§ 13:37 The national pollutant discharge elimination program—State certification—Section 401

Section 401(a) requires every "applicant for a federal license or permit to conduct any activity . . . which may result in any discharge to navigable waters" to present the federal licensing entity a certification from the state or federally-recognized Indian tribe[1] approved for treatment as a state wherein the discharge originates[2] that the discharge will comply with the applicable provisions of the Act.[3] Failure or refusal of a state to act on a request for certification within a "reasonable time (which shall not exceed one year)" is deemed a waiver of certification.[4] The D.C. Circuit affirmed that this one-year time limit could not be tolled by agreement of the parties.[5] Section 401 applies to *all* federal licenses and permits, including EPA-issued NPDES permits.[6] States are required to provide for public notice and "to the extent it deems appropriate," for public hearings.[7]

On July 13, 2020, EPA finalized the "Clean Water Act Section 401 Certification Rule," which revised and updated EPA's regulations implementing Section 401.[8] The rule addressed some key areas of the § 401 certification process, including: (1) the timelines for review and action (confirming that in no case may action on a certification request be taken later than one year after receipt of a certification request); and (2) the scope of certification review (clarifying that the scope of a certifying authority's review is limited to assuring that discharge from a point source into a water of the United States will comply with "water quality requirements" as defined

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NPDES General Permit Inventory, http://cfpub.epa.gov/npdes/permitissuance/genpermits.cfm.

[Section 13:37]

[1]*See* Delaware Riverkeeper Network v. U.S. Environmental Protection Agency, 2020 WL 7488962, at *1 (E.D. Pa. 2020).

[2]If an interstate water pollution control entity has jurisdiction, then certification must come from it.

[3]33 U.S.C. § 1341(a)(1). In the Ninth Circuit, cattle grazing is not subject to the certification requirement of § 401 of the Clean Water Act. *See* Oregon Nat. Desert Ass'n v. Dombeck, 172 F.3d 1092 (9th Cir. 1998).

[4]New York State Department of Environmental Conservation v. Federal Energy Regulatory Commission, 884 F.3d 450, 85 Env't. Rep. Cas. (BNA) 2703 (2d Cir. 2018) (held that § 401 creates a bright-line one-year limit on the state's right to certify compliance with the CWA). Federal agencies can proscribe a "reasonable time" for certification that is less than the statutory outer limit of one year. *See* 33 C.F.R. § 325.2(b)(1)(ii) (Corps regulations governing 401 certification, which states that "[a] waiver may be explicit, or will be deemed to occur if the certifying agency fails or refuses to act on a request for certification within 60 days after receipt of such a request unless the district engineer determines a shorter or longer period is reasonable for the state to act.").

[5]Hoopa Valley Tribe v. Federal Energy Regulatory Commission, 913 F.3d 1099, 102 Fed. R. Serv. 3d 944 (D.C. Cir. 2019), cert. denied, 140 S. Ct. 650, 205 L. Ed. 2d 410 (2019). The holding in Hoopa Valley expressly repudiated dicta in New York State Department of Environmental Conservation v. Federal Energy Regulatory Commission, 884 F.3d 450, 85 Env't. Rep. Cas. (BNA) 2703 (2d Cir. 2018) suggesting that a state could "request that the applicant withdraw and resubmit the application" in order to toll the one-year limitation.

[6]Each federal agency, including EPA, provides procedures for meeting the certification obligation as a component of its procedural regulations. EPA's regulations are published at 40 C.F.R. Part 121.

[7]The Seventh Circuit Court of Appeals held in Consolidation Coal Co. v. EPA, 537 F.2d 1236 (7th Cir. 1976) that an adjudicatory hearing was required before the insertion of a material condition in an NPDES permit by a state, and that if the state did not provide for such a hearing, the federal permit issuer would have to do so. The Supreme Court's subsequent holding in Costle v. Pacific Legal Found., 445 U.S. 198, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20225 (1980), modifies the force of this decision to *opportunity* for an adjudicatory hearing.

[8]Clean Water Act Section 401 Certification Rule, 85 Fed. Reg. 42,210 (July 13, 2020) (codified at 40 C.F.R. Part 121).

in the rule).[9] The final rule became effective on September 11, 2020, and has been challenged in multiple federal district courts.[10] On October 12, 2021, in *In re Clean Water Act Rulemaking*, Case No. C 20-04636, the U.S. District Court for the Northern District of California vacated the rule, finding that it was inconsistent with Supreme Court precedent in PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700, in that it improperly limits certifying agency authority to impose conditions and limitations on discharges and is inconsistent with the Clean Water Act's goal of providing primary responsibility to state agencies to review and issue 401 certifications. In vacating the rule, the court explicitly held that vacatur would result in the temporary reinstatement of the pre-Trump 401 water quality certification rules, noting that the Biden Administration EPA was already considering additional changes to 401 certification regulations, but estimated that the new proposed rulemaking could not be approved until Spring 2023. On June 2, 2021, EPA published a notice of intention to reconsider and revise the Clean Water Act Section 401 Certification Rule.[11] As of the date of this publication, the EPA has not issued a final rule.

Section 401(d) provides that a certification, which becomes a condition of the federal permit, may set forth "any effluent limitations and other limitations, and monitoring requirements necessary to assure" that the applicant's discharge will comply with applicable requirements of the Act "and with any other appropriate requirement under state law." The Supreme Court has interpreted this language to mean that, "pursuant to § 401, States may condition certification upon any limitations necessary to ensure compliance with state water quality standards," including "broad, narrative criteria based on, for example, 'aesthetics.' "[12]

How to challenge a state certification or denial of certification was the subject of litigation during the first round of NPDES permit issuance. The primary issue raised in connection with § 401 was whether state actions were challengeable in federal court. Though some courts have held that § 401 certifications are matters of state law, subject to judicial review, if at all, in state court,[13] other federal courts have reviewed challenges to CWA permits based on the CWA's state certification requirement.[14]

§ 13:38 The national pollutant discharge elimination program—Standards, criteria, and conditions

EPA's substantive NPDES permit program regulations are published at 40 C.F.R.

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[9]For an overview of the 401 Certification Rule and its key changes, *see* https://www.epa.gov/cwa-401/2020-clean-water-act-section-401-certification-rule (lasted visited on August 16, 2021).

[10]*See* California v. Andrew R. Wheeler, No. 3:30-cv-04869 (N.D. Cal., filed July 21, 2020) and Delaware River Keeper Network v. U.S. Environmental Protection Agency, No. 2:20-cv-03412 (E.D. Penn., filed July 13, 2020).

[11]86 Fed. Reg. 29541 (June 2, 2021).

[12]PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, 511 U.S. 700, 713–14, 716, 114 S. Ct. 1900, 128 L. Ed. 2d 716, 38 Env't Rep. Cas. (BNA) 1593, 152 Pub. Util. Rep. 4th (PUR) 190, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20945 (1994).

[13]*See* Sun Enterprises, Ltd. v. Train, 532 F.2d 280, 8 Env't Rep. Cas. (BNA) 1891, 6 Envtl. L. Rep. 20331 (2d Cir. 1976); Mobil Oil Corp. v. Kelley, 426 F. Supp. 230, 9 Env't Rep. Cas. (BNA) 1545 (S.D. Ala. 1976); Town of Sutton v. Water Supply and Pollution Control Commission, 116 N.H. 154, 355 A.2d 867, 8 Env't Rep. Cas. (BNA) 2085 (1976). *But see* Power Authority of State of N. Y. v. Department of Environmental Conservation of State of N. Y., 379 F. Supp. 243 (N.D. N.Y. 1974).

[14]*See, e.g.*, Airport Communities Coal. v. Graves, 280 F. Supp. 2d 1207 (W.D. Wash. 2003) (holding that the Corps was not obligated to include state conditions to a permit issued more than one year after a request for the State's certification).

Part 122, which governs general program requirements,[1] permit application and special program requirements,[2] standard permit conditions,[3] and regulations dealing with permit transfer, modification, revocation and reissuance, and termination.[4] Most of the Part 122 requirements are equally applicable to state, tribe- or EPA-issued permits.[5]

§ 13:39 The national pollutant discharge elimination program—Standards, criteria, and conditions—Exclusions

EPA's NPDES regulations exclude a number of potential sources of water pollution from the requirement that a permit be secured. Some of the excluded sources simply reflect statutory exemptions, such as those for irrigation return flows,[1] dredge or fill material,[2] discharges into POTW or privately owned treatment works which have permits,[3] and discharges from nonpoint sources of pollution.[4] However, the Ninth Circuit, in *Northwest Environmental Advocates v. EPA*,[5] affirmed the Northern District Court of California's vacation of 40 C.F.R. § 122.3(a), which previously exempted vessel discharges from NPDES permitting. In response, EPA developed a permitting program to cover discharges from certain vessels.[6]

A final exclusion, 40 C.F.R. § 122.3(d), relates to discharges authorized by government officials pursuant to oil or hazardous substance cleanup activities undertaken pursuant to § 311 of the Act (for oil) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

§ 13:40 The national pollutant discharge elimination program—Standards, criteria, and conditions—Permit duration

NPDES permits are for five years, after which a new permit must be secured or the discharge must cease. Expired EPA-issued permits continue in force, however,

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[1]These are found in subpart A, which includes definitions, exclusions, prohibitions, effect of a permit, continuation of existing permits, and confidentiality. 40 C.F.R. §§ 122.1-122.7.

[2]These are found in subpart B, which includes permit application requirements, who must be the signatory, and special regulations covering concentrated animal feedlots, aquaculture, separate storm sewers, silvicultural activities, general permits and provisions relating to new sources and new dischargers. 40 C.F.R. §§ 122.21-122.29.

[3]Contained in subpart C. 40 C.F.R. §§ 122.41-122.50.

[4]Contained in subpart D. 40 C.F.R. §§ 122.61-122.64.

[5]Northwest Environmental Advocates v. U.S. E.PA., 537 F.3d 1006 (9th Cir. 2008). The NPDES regulations were largely upheld in the face of a broad-based challenge in Nat'l Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988). However, the court struck down provisions allowing the Agency to consider non-water-quality conditions when issuing pollutant discharge permits, as opposed to when preparing general new source standards. The court also held that EPA acted arbitrarily in refusing to recognize the upset defense for violations of water-quality-related standards solely because the defense would be difficult for dischargers to establish.

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[1]40 C.F.R. § 122.3(f).

[2]40 C.F.R. § 122.3(b).

[3]40 C.F.R. § 122.3(c), (g).

[4]40 C.F.R. § 122.3(e). Not exempt are discharges from concentrated animal feeding operations, aquatic animal feeding operations, aquacultural operations, and certain silvicultural operations.

[5]Northwest Envtl. Advocates v. EPA, 537 F.3d 1006, 38 Envtl. L. Rep. (Envtl. L. Inst.) 20183 (9th Cir. 2008).

[6]*See*, *e.g.*, U.S. EPA, National Pollutant Discharge Elimination System (NPDES), Vessel Discharges Overview, http://cfpub.epa.gov/npdes/home.cfm?program_id=350.

by virtue of 5 U.S.C.A. § 558(c) until a new permit is issued, provided the applicant has submitted a complete application for a new permit at least 180 days before the expiration date[1] and failure to issue the new permit is not due to the fault of the applicant.[2] Continuation of state-issued permits or continuation of EPA-issued permits in states that secured NPDES authority between the date of issuance and the date of expiration is governed by state law.[3]

Where a permit has expired yet remained in force and the permittee is in violation of one or more of its terms, EPA may enforce the terms of the expired permit, deny a new permit for cause, issue a new permit with enforcement conditions, or terminate the permit as provided in the applicable regulations.[4]

§ 13:41 The national pollutant discharge elimination program—Standards, criteria, and conditions—Application requirements

The contents of NPDES permit applications for various types of regulated dischargers are governed by 40 C.F.R. § 122.21 and Appendix D thereto. Initially, EPA did not require extensive effluent testing as a part of the application process. Beginning in 1980, however, the Agency began requiring renewal permit applicants to test for a wide range of toxic constituents that had previously not been specifically addressed in the NPDES program. Section 122.21(g) requires a manufacturing, mining, commercial, or silvicultural discharger to state in the application whether it "knows or has reason to believe" that its discharge contains any of the constituents listed in various sections of Appendix D either in any concentration, or above specified concentrations, depending upon the nature of the constituent.[1] If the applicant identifies one of the Appendix D constituents, the regulations require that it provide quantitative information in its possession, or develop quantitative data, about the constituent; in other words, that it test the effluent for the presence of the substance.[2] A renewal permit applicant must submit effluent data on toxic pollutants at the same time it submits its renewal application—180 days before the permit expiration date—and not some months afterward, as had been the practice under prior regulations.[3]

NPDES permit applications are required to be signed by individuals who fall within specified categories of authority set forth in 40 C.F.R. § 122.22. For corporations, for example, the signatory must be a "responsible corporate officer," defined to be limited to corporate officers in charge of a "principal business function" or a manager of a major manufacturing unit.[4] The signing person is required to certify under oath that the document is correct and is exposed to significant civil and criminal penalties in the event the document is incomplete or contains false or mislead-

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[Section 13:40]

[1]40 C.F.R. §§ 122.6(a), 122.21(c). Section 122.6(a) was upheld in Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988).

[2]40 C.F.R. § 122.6(a)(2).

[3]40 C.F.R. § 122.6(d). The regulation provides that if state law does not provide for continuation of expired permits, the facility is deemed to be operating without a permit for federal law purposes between the expiration date and the date a new state permit is effective.

[4]40 C.F.R. § 122.6(c).

[Section 13:41]

[1]The threshold for reporting was hotly contested during EPA's rulemaking.

[2]40 C.F.R. § 122.21(g)(8) exempts certain "small businesses" from the expensive testing requirement for toxics.

[3]40 C.F.R. §§ 122.21, 123.62 (withdrawing authority of NPDES program directors to grant case-by-case extensions).

[4]For the specific requisites, see 40 C.F.R. § 122.22(a).

ing material.[5]

§ 13:42 The national pollutant discharge elimination program—Standards, criteria, and conditions—General permits

EPA has chosen not to require individual NPDES permits for certain kinds of activities that arguably require a permit under the statute, but instead has "by rule" generally permitted such activities, although the Act does not clearly authorize such permits. 40 C.F.R. § 122.28 specifies the types of activities covered by general permits.[1] For one type of point source, offshore oil and gas facilities, EPA has issued federal-only general permits.[2] Stormwater discharges are subject to general permitting either by EPA or the states.[3] The regulations contain provisions for requiring individual permits in special cases for specific sources that might otherwise be generally permitted.[4]

§ 13:43 The national pollutant discharge elimination program—Standards, criteria, and conditions—Permit terms

Certain standard conditions, set out in 40 C.F.R. § 122.41, are inserted in all NPDES permits, whether issued by EPA or a state agency. Some of these conditions are enforcement-related and others impose substantive standards or procedural requirements.[1] The standard conditions are not waivable or modifiable.

Although all of the general conditions are potentially significant to dischargers, several deserve specific discussion. 40 C.F.R. §§ 122.41(j) and 122.41(l)(4) require

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[5]The certification language is set forth at 40 C.F.R. § 122.22(d). See CWA § 309(c)(2), 33 U.S.C.A. § 1319(c)(2), for penalties.

[Section 13:42]

[1]These are primarily stormwater discharges, which are specifically referenced in the regulation. The Agency will, however, consider other types of sources for general permit treatment if they involve the same or similar types of operations, discharge the same types of wastes, require the same types of effluent limitations or operating conditions, require the same or similar monitoring, and are more appropriately controlled by a general permit than individual source-by-source permits. *See* 40 C.F.R. § 122.28(a)(2)(ii).

[2]States are prohibited from taking delegated authority to regulate these sources.

[3]Stormwater discharges have been controversial. The subject is treated in a separate section below.

[4]*See* 40 C.F.R. § 122.28(b)(2). An individual permit may be sought by petition filed by an "interested person" with respect to a specific discharge. The grounds for requiring an individual permit include: (1) that the discharge is a significant contributor of pollution in terms of its quantity and characteristics; (2) the discharger is not in compliance with the general permit conditions; (3) there has been a change in the availability of abatement technology; (4) effluent guidelines covering the source category have been promulgated; (5) a water quality management plan covering the sources has been approved; or (6) the source ceases to qualify for general permitting under the criteria for eligibility, which are set forth at 40 C.F.R. § 122.28(a). *See* 40 C.F.R. § 122.28(b)(2)(i). There are special rules for EPA-issued general permits and for offshore oil facilities. *See* 40 C.F.R. §§ 122.28(b)(ii), 122.28(c).

[Section 13:43]

[1]The subjects of the standard conditions are: (1) duty to comply; (2) duty to reapply; (3) need to halt or reduce activity not a defense to an enforcement action; (4) duty to mitigate harm in the event of a violation; (5) duty of proper operation and maintenance; (6) a statement of the revocation, reissuance, and modification powers; (7) a statement that the permit does not create a property right; (8) a duty to provide information; (9) authorization for inspection and entry; (10) monitoring and recordkeeping requirements, prescribing the signatory; (11) reporting requirements, for such occurrences as process changes, anticipated noncompliance, transfer of ownership, mandatory discharge monitoring reporting, and actual incidents of noncompliance; (12) limitations on bypassing treatment facilities; and (13) rules relating to "upsets" of the treatment process.

discharge monitoring reports (DMRs) to be made.[2] The requirement of self-monitoring is significant since citizen enforcement actions can be mounted and proven based on these documents and thus are inexpensive for the plaintiffs. Proof based on a permittee's own DMR is, in addition, strong, since the DMRs are arguably an admission. Challenge to the truthfulness of one's DMRs may open one to charges that other provisions of the regulations were violated.

The "upset"[3] and "bypass"[4] provisions are also worthy of special mention. EPA chose, for reasons of administrative convenience, to treat the problem of unavoidable exceedances of the effluent limitations as permit-related enforcement matters rather than build upset and bypass provisions into all of the substantive effluent guidelines.[5] The upshot of EPA's treatment of these two types of anticipated exceedances of the effluent limitations is to place the burden of proof that any given exceedance was an unavoidable upset or bypass on the permittee as an affirmative defense to an enforcement action rather than recognize them as an inherent, authorized part of a treatment scheme.

Section 122.41(n)(3) specifies the terms upon which an upset may be raised as a defense to an enforcement action alleging a permit violation. The cause of what is truly an upset must be identified, the facility must have been properly operated at the time, requisite reports filed, and required remedial measures taken.[6]

Bypasses are prohibited under § 122.41(m) unless required to prevent "loss of life, personal injury or severe property damage," where there are no "feasible alternatives," as defined, and the permittee has submitted notice as required by the regulation.[7]

Permits also may contain additional general terms, established by the permit writer to incorporate state law-based requirements,[8] and there are special conditions relating to toxic constituents in the effluent of manufacturing, commercial, mining, and silvicultural dischargers and special notice requirements for POTW that relate to the volume and character of waste streams contributed by indirect dischargers.[9]

The core of an NPDES permit is, of course, the effluent limitations contained in it that apply to each outfall[10] of a source. These are generally single numbers expressed in the terms of the applicable guidelines. Since permits are in part enforcement devices, they may also contain compliance schedules and other enforcement-related

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[2]DMRs are governed, as to the methodology for monitoring, by 40 C.F.R. Part 136.

[3]An "upset" involves a failure of waste treatment equipment to operate at the level required by the EPA regulations, for reasons beyond the operator's control.

[4]"Bypass" refers to the necessity, from time to time, to route wastes around all portions of a treatment system so that operators can perform maintenance on it.

[5]EPA's choice on this issue was narrowly upheld in American Petroleum Inst. v. EPA, 661 F.2d 340, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20076 (5th Cir. 1981) (effluent limitations, oil and gas extraction).

[6]The Agency's decision not to extend the upset defense to instances of noncompliance with water-quality-based limitations, as opposed to technology-based limitations, solely because the defense would be difficult for dischargers to establish was found to be arbitrary and capricious in Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988).

[7]EPA's definition of "severe property damage" was criticized by the Ninth Circuit in Marathon Oil Co. v. EPA, 564 F.2d 1253 (9th Cir. 1977), as vague. That criticism was rejected by the Fifth Circuit in American Petroleum Inst. v. EPA, 661 F.2d 340, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20076 (5th Cir. 1981), on its understanding that EPA's definition would include as severe property damage "the shutting in of a [petroleum extraction] well."

[8]*See* 40 C.F.R. § 122.43.

[9]*See* 40 C.F.R. §§ 122.42(a), 122.42(b), 122.43.

[10]The term "outfall" is generally applied to discrete point sources.

terms.[11] 40 C.F.R. §§ 122.44 to 122.50 contain the ground rules and methodologies relevant to effluent limitations in permits.[12]

§ 13:44 The national pollutant discharge elimination program—Procedures—In general

NPDES permits, whether issued by EPA or a state, must be preceded by public notice and "opportunity for a public hearing."[1] Controversy developed over the nature of the "public hearing" obligation, and appellate courts decided that NPDES-related hearings must be adjudicatory (quasi-trials) in nature.[2] Prior to May 2000, EPA's decision-making procedures (40 C.F.R. Part 124) had provided for full evidentiary hearings in connection with all NPDES decision-making except for "initial licensing" decisions, for which a "non-advisory panel" (NAP) hearing is provided. In May 2000, EPA eliminated the full evidentiary hearing (40 C.F.R. Part 124, subpart E) and the NAP hearing (40 C.F.R. Part 124, subpart F) procedures. Instead, 30 days after a decision is made on an NPDES permit, any person who has filed comments on the draft permit or participated in a public hearing may petition the EPA Environmental Appeals Board to review any condition of the permit decision. Persons affected by an NPDES general permit cannot file a petition or otherwise challenge the conditions of the general permit in further EPA proceedings; rather, they can either challenge the permit in court or apply for an individual permit and then petition the Board to review the permit. The Board may also decide on its own initiative to review any condition related to an NPDES permit.[3]

§ 13:45 The national pollutant discharge elimination program—Procedures—EPA-issued permits

EPA's NPDES permitting procedures are contained in Part 124 of its regulations, although Part 125, which articulates additional public participation policies and procedures, affects NPDES permit administration to a degree.[1] The Agency's permit-issuing procedures are fairly decentralized, most authority having been delegated to the 10 regional offices. The procedural regulations are reasonably straightforward and do not require extensive discussion.

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[11]The sampling requirements can be waived for guideline-listed pollutants if the discharger can certify that the pollutant is not present in the discharge or is present only at background levels with no increase due to activities of the discharger. *See* 65 Fed. Reg. 30886, 30893-30894 (May 15, 2000).

[12]*See also* 40 C.F.R. Part 125, which contains criteria and standards for BPJ effluent limitations (subpart A), aquaculture projects (subpart B), CWA § 301(k) innovative technology compliance date extensions (subpart C), Fundamentally Different Factors Variances (subpart D), economic variances from BAT under § 301(c) of the Act (subpart E), water-quality-related CWA § 301(g) variances (subpart F), CWA § 301(h) variances (subpart G), heat variances under CWA §§ 316(a) and 316(b) (subparts H and I), compliance date extensions under CWA § 301(i) (subpart J), "best management practices" (subpart K), sewage sludge disposal (subpart L), and ocean dumping (subpart M).

[Section 13:44]

[1]*See* CWA § 402(b), 33 U.S.C.A. § 1342(b).

[2]*See, e.g.,* U.S. Steel Corp. v. Train, 556 F.2d 822, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20419 (7th Cir. 1977); Seacoast Anti-Pollution League v. Costle, 572 F.2d 872, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20207 (1st Cir. 1978); Marathon Oil Co. v. EPA, 564 F.2d 1253 (9th Cir. 1977).

[3]65 Fed. Reg. 30886, 30911 (May 15, 2000), codified at 40 C.F.R. § 124.19(a), (b).

[Section 13:45]

[1]Part 124 subpart A contains general procedural requirements applicable to permits in a number of EPA programs—essentially the paper flow requirements; subpart D contains specific procedural requirements for NPDES permits, which are either in addition to or different from subpart A requirements; subparts E and F set the procedural requirements for evidentiary and NAP hearings, respectively.

The obligation imposed by § 124.13 is important both to applicants and to those who seek to challenge the terms of a proposed permit. It imposes an affirmative obligation on participants to "raise all reasonably ascertainable issues and submit all reasonably available arguments" during the comment period. Failure to do so will probably be sufficient to bar a participant from raising the issue on judicial review of EPA's decision.

EPA-issued permits for new sources are required by § 511 of the Act to comply with NEPA. EPA's NPDES regulations accommodate this additional requirement.[2]

§ 13:46 The national pollutant discharge elimination program—Procedures—State-issued permits

State NPDES permits are issued on the standard NPDES permit form produced by EPA, which contains the standard NPDES conditions. Most of the "paper" permit processing requirements of part 124 that are applicable to EPA-issued permits are also applicable to permits issued by states pursuant to delegated NPDES authority, by virtue of the provisions of 40 C.F.R. Part 123.25.[1] EPA does not, however, require states to provide for evidentiary or NAP hearings, and state NPDES procedures vary widely.[2]

Section 402(d) of the Act empowers EPA to veto state-issued permits. The statute requires EPA to state the basis for its objection to the issuance of the permit and the effluent limitations or conditions EPA would require.[3] Once EPA vetoes a permit and the state fails to issue a new, acceptable permit, EPA acquires jurisdiction to issue a new permit and to alter provisions that were not the subject of its veto.[4] EPA's procedures for reviewing state permits are published at 40 C.F.R. Part 123, subpart C. They provide notification requirements, carve out types of sources for which notice is not required, and establish hearing procedures relative to EPA objections. An EPA veto is subject to judicial review in the appropriate court of appeals;[5] failure or refusal to veto is not a reviewable action. The Agency's veto authority was upheld in *Natural Resources Defense Council, Inc. v. EPA*.[6]

§ 13:47 The national pollutant discharge elimination program—Procedures—Transfer, modification, revocation and reissuance, and termination

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[2]*See* 40 C.F.R. § 124.61, § 6.805.

[Section 13:46]

[1]Part 123 sets the regulatory standards for state assumption of NPDES authority.

[2]EPA's refusal to require states to provide opportunity for evidentiary hearings is based on its correct interpretation of the federal caselaw as requiring evidentiary hearings for federally issued permits because of the particular gloss placed on the phrase "opportunity for public hearing" by the federal APA, and caselaw interpreting it, which is not applicable to states.

[3]Sections 402(e) and (f) authorize EPA to exclude categories of point sources from § 402(d) treatment, thereby avoiding receipt of notice of and waiving its right to veto and modify classes of permits.

[4]*See* Champion Int'l Corp. v. EPA, 648 F. Supp. 1390, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20486 (W.D.N.C. 1986), *vacated and remanded*, 850 F.2d 182, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21372 (4th Cir. 1988) (EPA properly assumed permitting authority, but district court was not entitled to review substance of EPA's objections to state permit until EPA decided whether to issue permit). The substantive issue in this litigation, whether EPA properly imposed numerical criteria on a narrative water quality standard, was addressed by § 308(d) of the Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 39, by means of an amendment to CWA § 303(c)(2), 33 U.S.C.A. § 1313(c)(2).

[5]*See, e.g.,* Crown Simpson Pulp Co. v. Costle, 445 U.S. 193, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20230 (1980).

[6]Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir 1988).

NPDES permits ordinarily may be transferred to reflect a change in ownership of the discharger upon notification to the permit writer and a written agreement between the transferor and transferee containing a specific date for transfer of permit responsibility, coverage, and liability between them.[1] EPA (and the states or tribes) retain the right, however, to modify or revoke and reissue the permit in the event of a transfer of ownership or other responsibility.[2]

In general, permits may be revoked and reissued in modified form under the circumstances listed in the box below.

Grounds for Revoking and Reissuing Modified Permit

- The facility or permitted activity is materially altered
- Testing or other information reveals the presence of regulatable amounts of toxic constituents
- Under certain circumstances of changed regulations[3]
- Modify a compliance schedule for good cause
- Accommodate a variance granted under any of the Act's variance provisions[4]
- Incorporate a § 307(a) toxic effluent standard
- Insert limitations required by a "reopener" clause in the permit[5]
- Insert "net" effluent limits or to remove them
- Insert a pretreatment-related compliance schedule
- Insert limits occasioned by the impact of the discharge on another state's waters when that state was not notified during the permitting process
- Insert a new "notification level" regarding anticipated pollutant discharges
- Modify a compliance schedule to reflect an innovative technology waiver
- Insert terms arising out of settlement of the consolidated permits litigation[6]
- Replace best professional judgment (BPJ) effluent limitations with effluent guideline-based limitations that are more stringent[7]
- Correct technical errors
- Accommodate treatment system failures[8]

For years, EPA was plagued with what to do when an existing permit contained BPJ or water-quality-based effluent limitations that were more stringent than subsequently issued national guidelines or revised water-quality-based effluent standards would require. The problem involved the notion of when a renewed, reissued, or modified permit could "backslide" the level of treatment to take account of new, less stringent requirements.

[Section 13:47]

[1]40 C.F.R. § 122.61(b).

[2]40 C.F.R. §§ 122.61(a), 122.61(b)(3).

[3]The reader must carefully examine 40 C.F.R. § 122.62(a)(3).

[4]CWA §§ 301(c), 301(g), 301(h), 301(i), 301(k), 316(a), 33 U.S.C.A. §§ 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1326(a), or for "fundamentally different factors."

[5]Reopeners' may be inserted to accommodate toxic effluent limitations, 40 C.F.R. § 122.41(b), or pretreatment conditions. 40 C.F.R. § 403.10(d).

[6]*See*, *e.g.*, Nat. Res. Def. Council, Inc. v. EPA, No. 80-1607 and consolidated cases (D.C. Cir. filed 1980), *see* Natural Resources Defense Council v. U.S. Environmental Protection Agency, 673 F.2d 392, 15 Env't. Rep. Cas. (BNA) 1157, 11 Envtl. L. Rep. 20011 (D.C. Cir. 1980).

[7]Only where there are disproportionately different operating and maintenance costs between the facility and those assumed for the class of facilities in developing the effluent guideline.

[8]*See generally* 40 C.F.R. § 122.62(a).

Congress addressed the issue by adding § 402(o) to the CWA in 1987. This provision sets out the circumstances under which backsliding can occur. Those circumstances, set forth in a listing in § 402(o)(2), include:

(1) Where alterations to the facility made subsequent to permit issuance justify less stringent limits;
(2) Where new factual information has come to light that would have caused the original permit to have been less stringent had it been known at the time of issuance;
(3) To correct "technical mistakes or mistaken interpretations of law";[9]
(4) Due to events over which the permittee has no control and for which there is no reasonable available remedy;
(5) Where the permittee has received one of the § 301 or § 316 waivers or modifications;
(6) Where properly installed and maintained and operated treatment facilities have not achieved the effluent limits;[10] and
(7) For water-quality-based limits only, to reflect the changes produced by a revised waste load allocation formula for the receiving water.[11]

Modification or revocation and reissuance may be imposed upon a permittee as an alternative to termination for cause or in the event of a transfer of the permit.[12]

Termination is an enforcement device. A permit may be terminated for noncompliance with its terms, for the permittee's failure to state all relevant facts or to misrepresent relevant facts in connection with its application, in the event EPA determines that the permitted activity endangers human health or the environment, or where a changed condition requires reduction or elimination of the discharge.[13]

In May 2000, EPA streamlined the termination procedures in cases where the permittee has permanently terminated its entire discharge or had redirected its discharge into a POTW. In these cases, the EPA Director may terminate a permit by giving notice to the permittee and without following 40 C.F.R. Part 124 procedures. These expedited termination procedures would not be available if the permittee is subject to a state and/or federal enforcement action or if the pollutants were disposed of in wells or by land application of effluent.[14]

§ 13:48 Effluent standards and limitations—Technology-based discharge limitations

Section 301(a) of the Act prohibits the discharge of pollutants from a point source into WOTUS without a permit issued pursuant to the Act.[1] Section 301(b) established a two-step process for the imposition of increasingly stringent

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[9]This is not available for backsliding more stringent water-quality-based limitations.

[10]Though the backslide may only be to the point that the treatment system *can* achieve.

[11]The statute contains several other qualifiers and limitations. Certain of EPA's more controversial backsliding regulations were challenged and upheld in Nat'l Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988) (backsliding by holders of permits containing limits based on "best professional judgment").

[12]40 C.F.R. § 122.62(b). Termination for cause is governed by 40 C.F.R. § 122.64.

[13]*See* 40 C.F.R. § 122.64(a).

[14]65 Fed. Reg. 30886, 30894 to 30895 (May 15, 2000).

[Section 13:48]

[1]The § 301(a) prohibition, 33 U.S.C.A. § 1311(a), was held to be applicable only to point sources made subject to effluent standards or limitations promulgated by EPA (hence, not fully self-executing). Stream Pollution Control Bd. of State of Ind. v. U.S. Steel Corp., 512 F.2d 1036, 7 Env't Rep. Cas.

technology-based effluent limitations[2] into NPDES permits issued to *existing* polluters[3] as the national "floor" level of pollutant removal[4] for industrial and, in the original Act, for POTW dischargers.[5] The deadline for achievement of the initial level of pollutant removal was 1977. The 1972 Act set 1983 as the deadline for achievement of the more stringent second tier pollutant removal, but that deadline was moved back to 1984, and in some cases to 1987, by the 1977 CWA.[6]

§ 13:49 Effluent standards and limitations—Technology-based discharge limitations—Publicly owned treatment works

As was discussed in the introductory material, the technology for removing pollutants from sewage was essentially developed in the nineteenth century. Congress's choice of the preferred pollutant removal technology for POTW is embodied in the language of § 301(b)(2)(B) of the Act. Under the original 1972 statutory scheme, "secondary treatment," as defined by EPA using factors contained in § 304(d)(1), was to be the level of treatment achieved by 1977. By 1983, a more advanced level of treatment, "best practicable waste treatment technology," developed under § 201(g), was to have been achieved.[1]

The second level of treatment was eliminated in the 1981 amendments to the Act,[2] essentially leaving the imposition of a treatment level more stringent than secondary treatment to the states, by water quality limited effluent limitations or some other means.

EPA's effluent limitations reflecting its choice for secondary treatment are set forth at 40 C.F.R. § 133.102.[3] In general, there are two basic technologies used to

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(BNA) 1791, 5 Envtl. L. Rep. 20261 (7th Cir. 1975), *abrogated on other grounds by* U. S. Steel Corp. v. Train, 556 F.2d 822, 10 Env't Rep. Cas. (BNA) 1001, 7 Envtl. L. Rep. 20419 (7th Cir. 1977). *But see* Weinberger v. Romero-Barcelo, 456 U.S. 305, 102 S. Ct. 1798, 72 L. Ed. 2d 91, 17 Env't Rep. Cas. (BNA) 1217, 12 Envtl. L. Rep. 20538 (1982) (discussing scope of remedial discretion in federal court in fashioning injunction in a citizen suit brought to stop discharge of pollutants not theretofore regulated by EPA).

[2]The Ninth Circuit in Our Children's Earth Foundation v. EPA, 527 F.3d 842, 38 Envtl. L. Rep. (Envtl. L. Inst.) 20125 (9th Cir. 2008), panel rehearing overruling 506 F.3d 781, 37 Envtl. L. Rep. (Envtl. L. Inst.) 20269 (9th Cir. 2007), held that EPA's review of technology-based effluent criteria is discretionary, rather than mandatory, because the statute is ambiguous as to the requirements for review.

[3]Separate requirements were established for "new sources" of pollution. These are discussed in § 13:64.

[4]As discussed in § 13:77, states are free to impose more stringent effluent limitations that are premised on water quality considerations. *See* American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068 (3d Cir. 1975).

[5]The 1972 CWA envisioned an initial requirement of secondary treatment for POTWs, to be achieved by 1977, with a higher level of treatment achieved by 1983. The CWA of 1977, and Pub. L. No. 97-117, 95 Stat. 1623 (1981), for all practical intents and purposes, froze POTW treatment levels at secondary treatment, except for water-quality-limited dischargers.

[6]*See* § 13:55.

[Section 13:49]

[1]CWA § 301(b)(2)(B) (version in force in 1972).

[2]Pub. L. No. 97-117, §§ 2-23, 95 Stat. 1623-32 (1981).

[3]The pollutants addressed in secondary treatment are BODs (the five-day measure of the pollutant parameter biochemical oxygen demand), suspended solids (SS), and pH, although there are some variations in sampling for these parameters such as the substitution of chemical oxygen demand (COD) or total organic carbon for BOD in some circumstances and the use of carbonaceous BOD (CBODs) in some circumstances. *See generally* 40 C.F.R. §§ 133.104, 133.105.

achieve secondary effluent levels—biological treatment[4] and physical/chemical treatment.[5] All secondary treatment facilities produce sludge as a by-product, and all are required to chlorinate their effluent at the point of discharge.

Sludge has been a persistent problem for secondary POTW. It must be disposed of.[6] There are several methods for sludge disposal—drying and incineration, composting, landfilling, or land application for beneficial use. Section 405 of the Act empowers EPA to regulate the disposal of sewage sludge, and sludge that is sufficiently contaminated with toxic or hazardous constituents may be subject to regulation under the Resource Conservation and Recovery Act (RCRA).[7]

§ 13:50 Effluent standards and limitations—Technology-based discharge limitations—Publicly owned treatment works—Marine discharge waivers

In response to complaints, primarily from municipalities on the Pacific coast who argued that it was not cost effective or environmentally required to require POTW discharging directly into deep ocean waters to meet secondary standards, Congress added § 301(h) to the statute in 1977. Although the primary push for a marine discharge waiver came from the West Coast, § 301(h) as enacted contained no geographical limitation other than the limitation to discharges to marine waters.[1] EPA's initial implementing regulations barred municipalities that had already installed secondary plants from taking advantage of § 301(h). They also prohibited a § 301(h) waiver that would allow the discharge of wastewater that had received less than primary treatment. Both of these restrictions were struck down by the D.C. Circuit in *Natural Resources Defense Council, Inc. v. EPA.*[2] In 1987, Congress reinstated the second restriction with an amendment to the statute, § 301(h)(9)(2). No waiver is permitted to allow the treatment capacity to dip below primary treatment "after initial mixing."[3]

The most significant aspect of § 301(h) is its limitation to discharges of sewage from a POTW into "marine waters." The "marine waters" term is defined narrowly by the statute to mean "deep waters of the territorial sea or the waters of the contiguous zone, or . . . saline estuarine waters where there is strong tidal movement and other hydrological and geological characteristics" that EPA determines are ade-

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[4]Examples are oxidation ponds, lagoons, and trickling filters. *See* CWA § 304(d)(4), 33 U.S.C.A. § 1314(d)(4).

[5]Physical/chemical facilities employ a variety of means to remove pollutants, including settlement, aeration, flocculation, bacterial digestion, and other engineered means.

[6]*See, e.g.*, United States v. District of Columbia, 654 F.2d 802, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20595 (D.C. Cir. 1981).

[7]EPA issued regulations in 1989 establishing state sludge management program requirements and procedures for non-NPDES state programs, 40 C.F.R. Part 501, and revised the NPDES permit requirements and procedures, 40 C.F.R. Parts 122, 123, and 124, to incorporate sludge permitting and state program requirements. *See* 54 Fed. Reg. 18716 (May 2, 1989).

[Section 13:50]

[1]*See*, *e.g.*, Nat. Res. Def. Council, Inc. v. EPA, 656 F.2d 768, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20487 (D.C. Cir. 1981).

[2]Nat. Res. Def. Council, Inc. v. EPA, 656 F.2d 768, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20487 (D.C. Cir. 1981). The challenge was brought not by NRDC but by the Pacific Legal Foundation and the City of Skagway, Alaska. Congress subsequently codified the NRDC court's ruling regarding secondary treatment and legislatively overruled a third holding that had struck down EPA's refusal to consider sludge discharges as a proper topic for § 301(h). *See* Pub. L. No. 97-717, 95 Stat. 1623 (1981).

[3]The conference report contains an admonition that EPA not apply the mixing zone concept expansively. *See* H.R. Rep. No. 1004, 99th Cong., 2d Sess. 119 (1986).

quate to meet the protective criteria of § 301(h)(2)[4] and the policy statement of § 101(a)(2).

EPA defined a number of the subsidiary terms within the statutory definition. The most significant of these is the Agency's definition in 40 C.F.R. § 125.58(q) of the term "saline estuarine waters" to effectively exclude upper estuaries from § 301(h) eligibility.[5] The Agency's definitional conservatism was buttressed by Congress in 1987 when the legislature added a new last sentence to § 301(h) that essentially codifies EPA's restriction on § 301(h) permits for stressed saline estuarine waters and other stressed waters (regardless of the reasons for the stress), and prohibits or makes it difficult for EPA to issue permits for discharges into marine waters that are not well flushed or contain excessive sludge blankets.[6]

There are, in addition to the basic water-quality-related criterion discussed above, a number of other statutory prerequisites an applicant must meet before qualifying for a § 301(h) waiver. They are:

(1) There be in existence an applicable water quality standard specific to the pollutants for which the waiver is requested;[7]

(2) The applicant must have established a system for monitoring the impact of the discharge on a "representative sample of aquatic biota, to the extent practicable";[8]

(3) The modified discharge will not result in any additional requirements to be imposed on any other discharger or on nonpoint sources;[9]

(4) All applicable pretreatment requirements for sources introducing waste into the facility will be enforced;[10]

(5) The applicant has established "to the extent practicable" a "schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources" into the POTW;[11]

(6) There not be new or "substantially increased" discharges from the facility

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[4]Section 301(h)(2), using language borrowed from § 316(a), requires protection of water supplies, maintenance of water quality standards, and "protection and propagation of a balanced, indigenous, population of shellfish, fish and wildlife."

[5]"Saline estuarine waters" means those semi-enclosed coastal waters which have a free connection to the territorial sea, undergo net seaward exchange with ocean waters, and have salinities comparable to those of the ocean. Generally, these waters are near the mouth of estuaries and have cross-sectional annual mean salinities greater than 25 parts per thousand. 40 C.F.R. § 125.58(v).

[6]There is also a specific prohibition against issuance of a § 301(h) permit to New York City.

[7]CWA § 301(h)(1), 33 U.S.C.A. § 1311(h)(1). See 40 C.F.R. § 125.58(cc) for EPA's regulatory definition of "water quality standards." Implementing regulations are published at 40 C.F.R. § 125.68.

[8]CWA § 301(h)(3), 33 U.S.C.A. § 1311(h)(3). EPA's regulation, 40 C.F.R. § 125.63, requires the establishment of an elaborate biological and water quality monitoring scheme and requires the applicant to provide useful baseline data with which to compare subsequent monitored data. Except for monitoring sediments for accumulations of toxics, EPA's regulation permits monitoring for water quality impacts outside of a "Zone of Initial Dilution" (ZID), defined as the equivalent of the mixing zone allowed in connection with enforcement of state water quality standards. The ZID concept permits some water column effects within the ZID but prohibits "extreme adverse biological impacts" within the ZID. *See* 40 C.F.R. § 125.62(c)(3).

The monitoring requirements are specific and detailed and must be carefully considered by applicants and opponents.

[9]EPA's regulation, 40 C.F.R. § 125.63, requires the applicant to secure a determination from the state agency responsible for wasteload allocations to this effect.

[10]CWA § 301(h)(5), 33 U.S.C.A. § 1311(h)(5).

[11]CWA § 301(h)(6), 33 U.S.C.A. § 1311(h)(6). EPA significantly fleshed out this requirement in 40 C.F.R. § 125.64, requiring, at least for large POTW, extensive chemical analyses, source identification, and source control activities.

once the permit is issued;[12]

(7) The effects of other discharges be considered;[13] and,

(8) For municipalities with populations larger than 50,000, that they have an approved pretreatment program in place (or at least one that otherwise ensures the removal of toxics introduced by industrial dischargers to at least the same extent as secondary treatment).

In a number of respects, EPA has attempted to soften the financial burden of a § 301(h) demonstration for small municipalities.[14] The principal relief afforded to small municipalities is less rigorous monitoring requirements, and some relief from the toxics control program.[15]

Congress limited the availability of § 301(h), in an amendment adopted in 1982, to municipalities that applied not later than December 29, 1982.[16] The application door was reopened for a brief period following the effective date of the Water Quality Act of 1987.[17]

§ 13:51 Effluent standards and limitations—Technology-based discharge limitations—Publicly owned treatment works—Funding-limited compliance extensions

Section 301(i) of the Act provides for a limited compliance date extension for POTW and point sources discharging to them where EPA has failed to make construction grant monies available to the municipality in time to complete construction of facilities needed to comply with the permit terms. There are a number of additional limitations set forth in the statute, as codified, and in the session law, Pub. L. No. 97-717, which amended the provision in 1981.[1]

§ 13:52 Effluent standards and limitations—Technology-based discharge limitations—Existing industrial sources—General approach and BPT—Effluent guidelines

EPA's initial task in implementing the Act was to develop the initial effluent limitations and issue the first round of permits that would make the first phase of effluent reduction enforceable. Section 301(b)(1)(A) required the achievement, not later than July 1, 1977, of effluent limitations for non-POTW that required the application of the "best practicable control technology currently available," as defined under § 304(b) of the Act. Congress did not spell out as clearly as it might have the relationship between §§ 301, 304, and 402. EPA chose to construe that relationship in a way that expedited permit issuance and minimized administrative workload.

The Agency's approach to the first round permit issuance was to develop nation-

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[12]CWA § 301(h)(7), 33 U.S.C.A. § 1311(h)(8). *See also* 40 C.F.R. § 125.65. This condition affects facilities with combined storm and sanitary sewers and also requires a mass balance to be undertaken of pollutant inflows.

[13]CWA § 301(h)(3), 33 U.S.C.A. § 1311(h)(3) (1987).

[14]EPA defines small applicants as municipalities with populations of less than 50,000 or average dry weather flows of less than five million gallons per day (5mgd), measured as of the end of the five year permit term. *See* 40 C.F.R. § 125.58(c).

[15]*See, e.g.*, 40 C.F.R. §§ 125.62(b)(2), 125.64(a)(2).

[16]*See* CWA § 301(j)(1)(A), 33 U.S.C.A. § 1311(j)(1)(A).

[17]CWA § 301(j)(1)(A), 33 U.S.C.A. § 1311(j)(1)(A), as amended by Pub. L. No. 100-4, § 303(f), 101 Stat. 34 (1987).

[Section 13:51]

[1]Section 21 of Pub. L. No. 97-717, 95 Stat. 1623 (1981) effectively limited the outside date for compliance to 1983 for many potential applicants.

ally applicable effluent limitations affecting categories of industries identified in national effluent guidelines produced under § 304,[1] which would result in single-number effluent limitations that would be inserted into NPDES permits by the permit writers.[2] Permits written before the promulgation of the national limitations contained individually negotiated or imposed effluent limitations based upon the "best professional judgment" (BPJ) of the permit writer.[3] Certain parameters in the BPJ permits were sometimes more stringent than those ultimately required by the national effluent limitations for the permittee's source category. Whether these permits could be reopened and the less stringent limitations inserted was a matter of constant debate between EPA and discharger lobbies.[4]

Best practicable technology (BPT) effluent limitations were required to be in conformity with § 304(b)(1)(A) and (b)(1)(B). The important requirements of this scheme are (1) effluent limitations should be uniform among industrial categories and classes;[5] (2) the degree of effluent reduction is not dependent upon water quality;[6] and (3) the cost of application of any given technology in relation to its effluent reduction benefits is a factor to be considered, but a limited cost-effectiveness analysis is sufficient, and a formal cost-benefit analysis is not required.[7]

In practical terms, the BPT requirement involved selection of a treatment technology for each class of industry[8] that represented the average of the best technology in use at the time the guidelines were effective.[9] EPA's categorical effluent limitations provoked a fair amount of litigation over the question of when technology was

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[Section 13:52]

[1]EPA published the nationally uniform effluent limitations and § 304 effluent guidelines simultaneously. This approach was upheld in E.I. Dupont de Nemours & Co. v. Train, 430 U.S. 112, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20191 (1977), *aff'd in part* 528 F.2d 1136 (4th Cir. 1975).

[2]The single-number effluent limitation approach was also upheld in *DuPont v. Train*, subject to the availability of a variance for industries whose processes did not fit the categories looked at by EPA in determining the national numbers. Industry litigants argued unsuccessfully that the statute required EPA to set a range of numbers that would be individually tailored to each permit by the permit writer. The judicially created "fundamentally different factors" variance was the subject of subsequent litigation and is discussed in § 13:54.

[3]CWA § 402, 33 U.S.C.A. § 1342; Nat. Res. Def. Council, Inc. v. U.S. E.P.A., 859 F.2d 156, 183 (1988).

[4]*See, e.g.*, 39 Fed. Reg. 9612 to 9616 (1974).

[5]*See* E.I. du Pont De Nemours & Co. v. Train, 541 F.2d 1018, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20371 (4th Cir. 1976), *aff'd in part*, 430 U.S. 112 (1977).

[6]*See* Weyerhaeuser v. Costle, 590 F.2d 1011, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20284 (D.C. Cir. 1978); Appalachian Power Co. v. EPA, 671 F.2d 801, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20278 (4th Cir. 1982).

[7]*See* CPC Int'l v. Train, 540 F.2d 1329, 6 Envtl. L. Rep. 20728 (8th Cir. 1976); American Petroleum Inst. v. EPA, 540 F.2d 1023, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976); *see also* Appalachian Power Co. v. Train, 545 F.2d 1351, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20732 (4th Cir. 1976); American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068 (3d Cir. 1975). *Cf.* American Paper Inst. v. Train, 543 F.2d 328, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20729 (D.C. Cir. 1976). In Chemical Mfrs. Assn. v. EPA, 870 F.2d 177, 19 Envtl. L. Rep. (Envtl. L. Inst) 20989 (5th Cir. 1989), the court held EPA may determine that a technology is not BPT on the basis of the cost-effectiveness analysis only when the costs are "wholly disproportionate" to the potential effluent reduction benefits. *Accord* Rybachek v. EPA, 904 F.2d 1276, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20973 (9th Cir. 1990) (settling ponds for placer mining).

[8]Industry subcategories were determined by reference to process similarities, effluent similarities, and similarities in the age of the plants of that type. Thus, for example, the overall pulp and paper industry contained several subcategories, the primary ones being kraft mills and sulfite process mills.

[9]*See* CWA § 304(b)(B), 33 U.S.C.A. § 1314(b)(1)(B); *see also* American Petroleum Inst. v. EPA, 540 F.2d 1023, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976); Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20467 (2d Cir. 1976); American Meat Inst. v. EPA,

"available,"[10] and whether EPA could include in-plant process modifications in the BPT calculus or was limited to end-of-the-pipe add-on technology.[11] Although § 101(a)(1) contained a "no discharge of pollutants" goal statement, EPA was unsuccessful in the few attempts it made at imposing total recycling as a BPT limit.[12]

The statute requires separate effluent limitations for each regulated pollutant. EPA initially established effluent limitations for a small number of compounds, largely ignoring several hundred complex organic compounds that are discharged in small quantities by a minority of industrial plants. EPA promulgated BPT limitations for BOD5,[13] TSS,[14] pH, various metals,[15] arsenic, cyanides, COD, phenols, heat,[16] oil and grease, and some organic compounds.[17]

A 1987 amendment to § 301(b) implicitly authorized the establishment of more stringent BPT for subcategories addressed after 1982 by providing a compliance extension for sources subject to such requirements.

§ 13:53 Effluent standards and limitations—Technology-based discharge limitations—Existing industrial sources—Variances from BPT effluent limitations guidelines

Congress intended that BPT effluent limitations serve as the floor, or minimum level of pollution control, applicable to existing industrial dischargers.[1] Consistent with this intention there are no statutory variances from BPT limitations. Neither

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526 F.2d 442, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20029 (7th Cir. 1975).

[10]Foreign plants were held a sufficient basis for determining the availability of a treatment technology in American Frozen Food Inst. v. Train, 539 F.2d 107, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20485 (D.C. Cir. 1976). Transfer of technology from one industrial category to another as a basis for a BPT limitation was upheld in California & Hawaiian Sugar Co. v. EPA, 533 F.2d 280, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20383 (2d Cir. 1977). Technology not currently in use might be required if the record clearly demonstrated its availability by the compliance date. *See* American Meat Inst. v. EPA, 526 F.2d 442, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20029 (D.C. Cir. 1976); Tanners' Council v. Train, 540 F.2d 1188, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20379 (4th Cir. 1976). An effluent limitation was set aside because the record did not demonstrate that it could be achieved using normal industry practice, in FMC Corp. v. Train, 539 F.2d 973, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (4th Cir. 1976).

[11]The courts addressing the issue squarely have all held that EPA was not limited to end-pipe technology, and those conclusions are consistent with legislative history on the House of Representatives' side. *See generally* H.R. Rep. No. 911, 92d Cong., 2d Sess. (1972); American Petroleum Inst. v. EPA, 540 F.2d 1023, 1033, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976); American Paper Inst. v. Train, 543 F.2d 328, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20729 (D.C. Cir. 1976); E.I. du Pont De Nemours & Co. v. Train, 541 F.2d 1018, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20371 (4th Cir. 1976), *aff'd in part*, 430 U.S. 112 (1977).

[12]*See* Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20467 (2d Cir. 1976).

[13]*See* Weyerhaeuser v. Costle, 590 F.2d 1011, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20284 (D.C. Cir. 1978) (consideration of a challenge to a BOD5 limitation).

[14]*See* Nat'l Crushed Stone Ass'n, Inc. v. EPA, 601 F.2d 111, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20535 (4th Cir. 1979), *rev'd on other grounds*, 449 U.S. 64, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20924 (1980).

[15]These include mercury, zinc, chromium, iron, aluminum, copper, and nickel.

[16]A special variance was provided for discharges of heat in § 316. This provision is discussed below.

[17]*See* BASF Wyandotte v. Costle, 598 F.2d 637, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20609 (1st Cir. 1979), *remanded regulations upheld*, 614 F.2d 21, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20150 (1st Cir. 1980) (reviewing effluent limitations for pesticide manufacturing subcategory).

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[1]Although subsequent BAT and BCT effluent limitations may be more stringent, neither may be less stringent than BPT.

the § 301(c) economic variance[2] nor the § 301(g) water quality variance[3] are available to alter otherwise applicable BPT limitations.

Although there are no explicit statutory variances from BPT, EPA has developed an administrative variance, the "fundamentally different factors" (FDF) variance, that is applicable to most technology-based limits under the CWA.[4] The FDF variance is intended to ensure that individual dischargers are subject to effluent limitations that are based on the statutory factors specified in the Act.[5] The Agency has stated:

> When EPA establishes national limits under these sections of the Act, EPA considers a great deal of information regarding the appropriate statutory factors from various dischargers in an industrial category. In some cases, however, data on a particular discharger may not be considered. It may therefore be necessary, on a case-by-case basis, to vary the nationally prescribed limits for a particular discharger if the relevant statutory factors relating to that discharger are shown to be fundamentally different from those previously considered by EPA.[6] It is EPA's position that the FDF variance does not excuse compliance from technology-based limitations but merely provides for an individual definition of those requirements.[7] Consistent with the view that the FDF is merely a site-specific application of statutory factors, the FDF variance may be used to make national limitations either more or less stringent.[8]

The FDF variance acts as a "safety valve" that helps EPA justify the normal application of uniform national effluent limitations.[9] Indeed, in *E.I. DuPont de Nemours v. Train*,[10] the Supreme Court indicated that the FDF variance might be a necessary component of BPT effluent limitations guidelines.[11] The Court subsequently determined that § 301(l), which prohibits the modification of any standard applicable to toxic pollutants, did not prohibit the use of the FDF variance to alter effluent limitations on toxic pollutants in categorical pretreatment standards and

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[2]CWA § 301(c), 33 U.S.C.A. § 1311(c). EPA v. Nat'l Crushed Stone Ass'n, 449 U.S. 64, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20924 (1980).

[3]CWA § 301(g), 33 U.S.C.A. § 1311(g).

[4]Through the FDF variance individual dischargers may be able to justify alternate BPT, BAT, BCT, and categorical pretreatment requirements. 40 C.F.R. subpart D specifies criteria for approval of FDF variances from effluent limitations developed under §§ 301 and 304 of the Act. The FDF variance is not, however, available from New Source Performance Standards developed pursuant to § 306 of the Act. The Supreme Court upheld the separate treatment of NSPS in E.I. du Pont De Nemours & Co. v. Train, 430 U.S. 112, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20191 (1977). The FDF variance procedures for steam electric power plants have been promulgated separately. *See* 40 C.F.R. § 423.12. The FDF variance provisions for the categorical pretreatment requirements are promulgated at 40 C.F.R. § 403.13.

[5]One court described the FDF variance as authorizing "individual operators to argue, that, given the overall impact of an effluent limitation on their operations, they are faced with *stricter* requirements than the Act authorizes EPA to place on the industry as a whole." Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1035, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20284, 20293 (D.C. Cir. 1978) (emphasis in original).

[6]44 Fed. Reg. 32893 (1979).

[7]44 Fed. Reg. 32893 (1979).

[8]*Compare* 40 C.F.R. § 125.31(b) *with* 40 C.F.R. § 125.31(c).

[9]The court in Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1035, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20284, 20293 (D.C. Cir. 1978), described the FDF variance as a "pin hole" escape valve.

[10]E.I. DuPont de Nemours & Co. v. Train, 430 U.S. 112, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20191 (1977).

[11]The Court, discussing EPA's authority to adopt national effluent limitations guidelines, concluded that "the statute authorizes the 1977 [BPT] as well as the 1983 [BAT] limitations to be set by regulation as long as some allowance is made for variations in individual plants, as EPA has done by including a variance clause [the FDF variance] in its 1977 limitations." E.I. DuPont De Nemours & Co. v. Train, 430 U.S. 112, 128, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20191, 20194 (1977).

presumably all technology-based limitations.[12]

EPA regulations for approving FDF variances from effluent limitations guidelines are found at 40 C.F.R. Part 125, subpart D.[13] These regulations authorize the approval of alternate effluent limitations for an individual source if, among other things, that source can demonstrate that "factors relating to the control of the discharge are fundamentally different than those considered by EPA in establishing the national limits." The regulations specify a number of factors that may be used to justify an FDF variance. These factors include the nature and quality of pollutants contained in the raw waste load, the volume of the discharger's wastewater, non-water-quality environmental impacts, energy requirements in complying with standards, engineering and process differences in applying control technology, and cost of compliance with required control technology.

A "fundamental difference" with respect to these factors may justify a FDF variance if the discharger can demonstrate that they result in: (1) a "removal cost wholly out of proportion to the removal cost considered during development of the national limits"; or (2) "a non-water quality environmental impact (including energy requirements) fundamentally more adverse than the impact considered during development of the national limits."

There are several situations where an FDF variance will *not* be granted. First, EPA is explicit that a discharger's inability to afford pollution control technology is not a basis for an FDF variance. An FDF variance is appropriate only if the "cost of compliance" is fundamentally different than that which EPA considered when developing the national limitation. For example, if EPA, when promulgating a national BPT limitation, concluded that facilities within the subcategory could meet the limitation for $10 per pound, an individual facility might be eligible for an FDF variance if it could demonstrate that, due to differences with respect to the enumerated factors, it would cost the facility $100 per pound to achieve the limitations. Mere inability to afford the $10 per pound would not be a basis for granting an FDF variance.[14]

Second, an FDF variance will not be granted based on claims of the impact of the discharge on local receiving water quality.[15] For example, a variance would not be granted based on a claim that a discharge will have no effect on water quality because of unique local factors.[16] Since the effect on local water quality is not a factor to be considered in establishing national effluent limitations, it is not a basis for altering these limitations based on FDF variances.[17]

Third, a claim that EPA inappropriately applied the statutory factors when developing the national limitations would not appropriately be raised through an

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[12]Chemical Mfrs. Ass'n v. Nat. Res. Def. Council, Inc., 470 U.S. 116, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20230 (1985). *See* Gaba, Regulation of Toxic Pollutants under the Clean Water Act: NPDES Toxics Control Strategies, 50 J. Air L. & Comm. 761, 775–78 (1985).

[13]Similar provisions dealing with FDF variances from categorical pretreatment requirements are contained in 40 C.F.R. § 403.13.

[14]The Supreme Court noted in *Nat'l Crushed Stone v. EPA* that "to allow a variance based on the maximum technology affordable by the point source, even if that technology fails to meet BPT effluent limitations, would undercut the purpose and function of BPT limitations." Nat'l Crushed Stone Ass'n v. EPA, 449 U.S. 64, 78, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20924, 20927 (1980). The ability to afford compliance may, however, be the basis for receiving a § 301(c) economic variance. *See* § 13:61.

[15]40 C.F.R. § 125.31(e)(4).

[16]In some cases a § 301(g) water quality variance might be granted based on demonstration of the effect of a discharge on local receiving water quality. *See* § 13:61.

[17]*See* Appalachian Power Co. v. EPA, 671 F.2d 801, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20278 (4th Cir. 1982).

FDF variance.[18] This basic challenge to the effluent limitations would be brought under the judicial review provisions of § 509(b)(1)(F). Finally, EPA has provided that inability to achieve effluent limitations within the time allowed by the Act is not a ground for an FDF variance.[19] A request for an FDF variance is considered as part of the permit issuance process. EPA has promulgated procedures for review of an application for an FDF variance[20] and appeal from the Agency's decision.[21] Separate procedures are applicable for FDF variances from categorical pretreatment requirements.[22] Where a state is the permit issuer, EPA may review and veto any FDF variance. EPA's rejection of a state-issued FDF variance has been considered "denial" of a permit by EPA reviewable in the U.S. courts of appeals pursuant to § 509(b)(1)(F).[23]

§ 13:54 Effluent standards and limitations—Technology-based discharge limitations—Existing industrial sources—Extension of 1977 deadline

Many dischargers failed to meet the effluent limitations in their NPDES permits before the July 1, 1977 deadline arrived. Some dischargers had decided to tie into POTW, which had not been completed by the deadline, some built treatment facilities that failed to live up to their design, some encountered construction delays, some simply did not begin compliance actions on time, and a few made no attempt whatever to comply with the limitations, including compliance schedules, in their permits.

There was sufficient "justifiable" noncompliance that whether or not the 1977 deadline could be "extended"—by administrative action, such as by means of a permit amendment or administrative compliance order, or in a judicially approved consent decree—became a significant issue. The majority of courts addressing the administrative relief issue concluded that when Congress said "not later than July 1, 1977," in § 301(a), it meant just that, and neither EPA nor a state permit writer had the power to extend the compliance deadline.[1] Congress addressed the issue of 1977 deadline compliance in the 1977 amendments and expressly provided relief only for dischargers who had committed to tie into a POTW prior to July 1, 1977, and who could not do so by the deadline because the POTW was "unable to accept such discharge without construction," which is delayed due to federal funding prior-

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[18]40 C.F.R. § 125.31(e)(2).

[19]40 C.F.R. § 125.31(e)(1).

[20]40 C.F.R. §§ 122.21(m)(1)(i), 124.62 to 124.63.

[21]40 C.F.R. § 124.64.

[22]*See* 40 C.F.R. § 403.13.

[23]Crown Simpson Pulp Co. v. Costle, 445 U.S. 193, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20230 (1980). *But see* Northwest Environmental Advocates v. U.S. E.P.A., 537 F. 3d 1006, 1016-18 (9th Cir. 2008) (district court had jurisdiction of EPA's denial of review of plaintiff's petition to repeal ultra vires regulation). One court held that the 90-day period in which to seek judicial review runs from the date of receipt of notice of EPA's denial of the variance request. *See* Georgia Pacific Corp. v. EPA, 671 F.2d 1235, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20415 (9th Cir. 1982).

[Section 13:54]

[1]*See* Bethlehem Steel Corp. v. Train, 544 F.2d 657, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20019 (3d Cir. 1976); State Water Control Bd. v. Train, 559 F.2d 921, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20571 (4th Cir. 1977) (POTWs); *cf.* Republic Steel Corp. v. Train, 557 F.2d 91, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20509 (6th Cir. 1977), *remanded* in light of 1977 amendments, 434 U.S. 1030 (1978) (deadline cannot be applied to entities who did not receive permit until after December 31, 1974, permit issuance deadline of CWA § 402(h)); *see also* U.S. Steel Corp. v. Train, 556 F.2d 822, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20419 (7th Cir. 1977). *Contra* Monongahela Power Co. v. EPA, 586 F.2d 318, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20884 (4th Cir. 1978).

ity decisions.[2]

Whether a court, by its own order or by approving a consent decree in an enforcement action, could authorize an extension raised interesting questions of statutory interpretation. One court, the Sixth Circuit in *Republic Steel Corporation v. Costle*,[3] believed that Congress had closed the door on judicial relief by not providing for it in the 1977 amendments when the issue was clearly before it. That conclusion is suspect in view of the Supreme Court's later broad affirmation of judicial authority to provide equitable relief in CWA enforcement cases in *Weinberger v. Romero-Barcelo*.[4]

The argument against deadline extensions by consent decree involves slightly different considerations. Essentially, the argument goes that if Congress intended to prevent EPA from granting extensions by permit or other administrative order, it would be a perversion to allow that result to be achieved simply by the filing of a complaint and negotiation of a compliance order that is memorialized in an agreement signed by a judge. On the other hand, it is an arguable waste of resources to require the government to litigate every deadline case, with the inevitable result being some kind of a judicially imposed deadline extension, stretched out even further by the time it takes to litigate the case. The question was never put before the courts.

A 1987 amendment to § 301 allowed slippage of the compliance date for BPT to three years after effluent guidelines are promulgated, but not later than March 31, 1989, for pollutants or industry subcategories for which EPA had not issued effluent guidelines in time for earlier compliance.

§ 13:55 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control[1]

The Act as adopted in Pub. L. No. 92-500 contained two levels of technology-based control: best practicable control technology, discussed in the previous section, and best available control technology (BAT). BAT was to be achieved by July 1, 1983, and required for all regulated dischargers application of "the best available technology economically achievable for each category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants."[2]

Congress radically altered this scheme as part of its overhaul of the law in 1977.[3] The principal motivation for change was the perceived need to address the problem

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[2]CWA §§ 301(i), 301(j), 33 U.S.C.A. §§ 1311(i), 1311(j). In Republic Steel Corp. v. Costle, 581 F.2d 1228, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20686 (6th Cir. 1978), the court read this legislative history as evidencing a firm intention that other dischargers could be afforded no relief, even by the courts. The prerequisites for this extension are explicit. Congress addressed this provision again in 1981, both extending and limiting the availability of the POTW discharger extension.

[3]Republic Steel Corporation v. Costle, 581 F.2d 1228, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20686 (6th Cir. 1978).

[4]Weinberger v. Romero-Barcelo, 456 U.S. 305, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20538 (1982). Although the specific issue before the Court was whether a person found to be discharging a pollutant without a permit, in clear violation of § 301(a)'s prohibition, must cease the discharge immediately or can be placed under a compliance schedule for securing a permit, the Court's reasoning would appear to legitimize a post-1977 compliance schedule for achieving BPT effluent limitations.

[Section 13:55]

[1]By **Donald W. Stever** and **Jeffrey Gaba;** updated by **Ronald Raider** and **Vance Hughes**.

[2]CWA § 301(b)(2)(A), 33 U.S.C.A. § 1311(b)(2)(A) (version in force in 1972).

[3]Pub. L. No. 95-217, 91 Stat. 1566 (1977).

of toxic pollutants more aggressively.[4] It was decided that the primary function of BAT should be to provide the technological analog to § 307's health-based toxic effluent limitations, along the lines of the approach EPA took in settling *Natural Resources Defense Council, Inc. v. Train*.[5] Thus, BAT, which initially had been envisioned as a general technology-based criterion, was transformed into a new strategic tool, the primary purpose of which was to address toxic effluents.

At the same time, industrial dischargers who produced only sewage and other "conventional" effluents argued for parity with their counterparts who discharged into municipal sewage systems and urged successfully that BPT had achieved a greater degree of effluent reduction than previously anticipated. Consequently, they should be spared the expense of significantly increased burdens of effluent reduction.[6]

Thus, after the 1977 amendments, § 301(b) addressed four classes of pollutants differently, establishing levels of technology to be applied by July 1, 1984, and in some cases, July 1, 1987. These are: (1) Conventional Pollutants (compliance by July 1, 1984); (2) Toxic Pollutants (compliance by July 1, 1984, for industries and pollutants covered by consent decree in *Natural Resources Defense Council, Inc. v. Train*,[7] and three years following establishment of standards or limitations for others); (3) Unconventional Pollutants (compliance by July 1, 1984, or three years after standards or limitations are established, but not later than July 1, 1987); and (4) Heat. It is also apparent that whatever intentions existed in 1972 to utilize BAT as the vehicle to achieve zero discharge, that state of affairs was diluted by the 1977 amendments.

The compliance deadlines for certain industries were extended further in 1987 by amendments to § 301 contained in the Water Quality Act of 1987.[8] The compliance deadline for BAT, Best Conventional Pollutant Control Technology (BCT), and Best Professional Judgment (BPJ)-based effluent limitations was extended to within three years of promulgation of the relevant guidelines (or in the case of BPJ, the date the limitations are promulgated), but in all events not later than March 31, 1989.[9] Limited further slippage was contemplated by Congress, as indicated by the Conference Report concession that in the event effluent limitations were not promulgated to enable dischargers to meet the 1989 deadline, EPA could issue either BPJ or guideline-based permits along with administrative orders and compli-

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[4]*See* 3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 326–28 (Comm. Print 1978) (House Debate on Conference Report) [hereinafter cited as 1977 Legislative History].

[5]Nat. Res. Def. Council, Inc. v. Train, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20588 (D.D.C. 1976), *remanded in part on other grounds sub nom.* Nat. Res. Def. Council, Inc. v. Costle, 561 F.2d 904, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20547 (D.C. Cir. 1978), *reaff'd sub nom.* Nat. Res. Def. Council, Inc. v. Gorsuch, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20570 (D.D.C. 1982), *aff'd sub nom.* Citizens for a Better Env't v. Gorsuch, 718 F.2d 1117, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20975 (D.C. Cir. 1983). The terms of this decree and its significance to the toxic pollutant control program are discussed in § 13:59.

[6]*See* 3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 330–31 (Comm. Print 1978) (House Debate on Conference Report).

[7]*See* § 13:59.

[8]Pub. L. No. 100-4, 101 Stat. 7 (1987).

[9]The 1989 date was coupled with an amendment to § 301(f), which required EPA to issue its long-promised effluent guidelines for organic chemicals, synthetic fibers, plastics, and pesticide point source categories by the end of 1987. Pub. L. No. 100-4, § 301(f), 101 Stat. 30 (1987). EPA finally issued its effluent guidelines, including categorical pretreatment requirements, for the organic chemicals, plastics, and synthetic fibers category on November 5, 1987. 52 Fed. Reg. 42522 (1987) (codified at 40 C.F.R. Parts 414 and 416). The guidelines were upheld for the most part in Chem. Mfrs. Ass'n v. EPA, 870 F.2d 177, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20989 (5th Cir. 1989).

ance schedules.[10]

§ 13:56 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Conventional pollutants

Section 301(b)(2)(E) requires that point sources discharging "conventional" pollutants identified pursuant to § 304(a)(4) must have achieved effluent reduction within three years after promulgation of BCT effluent guidelines for the discharger's source subcategory, or no later than March 31, 1989.[1] A modest deadline extension is available for dischargers who install an innovative production process or control technique that qualifies for favorable treatment under § 301(k).[2] Reductions must meet the degree required by application of the "best conventional pollutant control technology,'' determined by EPA pursuant to § 304(b)(4) of the statute, as reconsidered every five years.[3]

Conventional pollutants are those that have traditionally been regulated in discharges from municipal POTW—BOD, SS, fecal coliform, pH,[4] and oil and grease.[5]

The effluent limitations established for conventional pollutants for regulated classes or categories of point sources are required by § 304(b)(4) to reflect the "reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived"[6] (the Industry Cost-Effectiveness Test[7]), the same general factors including age, process, etc., applicable to BPT,[8] and a significant, somewhat confusing, "cost test" intended to roughly equate BCT technology to that required of POTW after 1977.

The "cost test" in § 304(b)(4)(B) requires consideration of "the comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources." The conference report on Pub. L. No. 95-217 stated that this could produce "somewhat more than best practicable technology or could be somewhat less than best available technology for nonconventional pollutants" and indeed could either require "no more than that which would result from best practicable technology but also could result in effluent reductions equal to that required in application of best available technology."[9]

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[10]H.R. Rep. No. 1004, 99th Cong., 2d Sess. 115 (1986).

[Section 13:56]

[1]The original deadline, July 1, 1984, was extended by the Water Quality Act of 1987, Pub. L. No. 100-4, § 301, 101 Stat. 29, in the face of EPA's failure to issue defensible BCT guidelines in time to secure compliance with the 1984 deadline for very many discharge categories.

[2]Section 301(k) was made applicable to conventional pollutant discharges by the Water Quality Act of 1987. Pub. L. No. 100-4, § 305(b), 101 Stat. 35.

[3]3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 459 (Comm. Print 1978) (House Debate on Conference Report).

[4]CWA § 304(a)(4), 33 U.S.C.A. § 1314(a)(4).

[5]Added by EPA under the discretionary authority provided under CWA § 304(a)(4), 33 U.S.C.A. § 1314(a)(4). *See* 40 C.F.R. § 401.16.

[6]*See* American Paper Inst. v. EPA, 660 F.2d 954, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20865 (4th Cir. 1981).

[7]The language is identical to that used for BPT and should be construed in the same way.

[8]These factors include the age of equipment and facilities involved, the process employed, engineering considerations, process changes, non-water-quality environmental impacts, and energy requirements.

[9]H.R. Rep. No. 830, 95th Cong., 1st Sess. 85 (1977) (Conference Report).

Congress's explanation of the provision understandably did little to assist EPA in determining precisely what the cost relationship between BCT and post-secondary POTW limits should be. The floor manager for the House articulated the relationship somewhat differently. He stated that "[e]ssentially, we are talking about removing additional 'cheap pounds' of conventional pollutants . . . . BCT . . . anticipates and accepts the possibility of an increase in stringency beyond BPT, but not resulting in increased costs beyond the 'knee of the curve,' the take off point where incremental costs begin to exceed incremental benefits."[10]

EPA initially interpreted the statute as providing a single "reasonableness test," in which the industrial cost-effectiveness factor and the POTW cost comparison would be employed as a single test, and it promulgated its initial BCT guidelines on that basis. Those guidelines were struck down by the Fourth Circuit in *American Paper Institute v. EPA*,[11] with the court concluding that EPA was required to undertake an initial industry cost-effectiveness analysis along with the POTW cost comparison test and consider the standard in light of both.[12]

EPA implemented the POTW cost comparison test by comparing the cost of industrial effluent removal beyond BPT to the incremental cost of moving a POTW from secondary treatment to advanced secondary treatment (AST),[13] an approach found acceptable by the Fourth Circuit in *American Paper*.

EPA subsequently withdrew most of its initial BCT guidelines and repromulgated them along with a revised BCT methodology in 1986.[14] Under the 1986 methodology, the Agency refined its POTW cost comparison test somewhat[15] and created a new Industry Cost-Effectiveness Test.[16]

Congress provided a "fundamentally different factors" variance for BCT (also ap-

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[10]3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 330 (Comm. Print 1978) (House Debate on Conference Report). In Chemical Mfrs. Ass'n v. EPA, 870 F.2d 177, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20989 (5th Cir. 1989), industry plaintiffs unsuccessfully invoked the "knee of the curve" test in claiming that EPA must apply the BCT cost test when revising BPT standards. The court held that the promulgation of the BCT requirements did not override EPA's authority to prepare BPT standards—in this case, standards for conventional pollutants from the organic chemicals, plastics, and synthetic fibers category.

[11]American Paper Institute v. EPA, 660 F.2d 954, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20865 (4th Cir. 1981).

[12]In a strongly worded partial dissent, Judge Phillips disagreed with the majority's reading of § 304(b)(4)(B). In his view, the statute commanded EPA to take as its lodestar the imposition of no further requirements (beyond those justified by BPT) than can be justified by demonstrating a reasonable relationship between the costs incurred and the benefits to be achieved through compliance, looking always to the end goal of total elimination of pollutant discharges by 1985. In testing reasonableness of the cost/benefit relationship, EPA must compare—because it affords a convenient and trustworthy cost/benefit relationship for comparison—the experience in effluent level reductions had by publicly owned treatment works. American Paper Institute v. U.S. E.P.A., 660 F.2d 954, 966, 16 Env't Rep. Cas. (BNA) 1252, 11 Envtl. L. Rep. 20865, 20870 (4th Cir. 1981).

[13]*See generally* 43 Fed. Reg. 37572 (1983). AST, as employed in EPA's construction grants program, involves a treatment facility that can produce effluent of a higher quality than secondary, still using secondary treatment technology. Translated into single-number effluent limits, AST facilities must meet limits from 10 to 29 mg/1 for BOD and TSS, as compared to 30/30 for secondary.

[14]51 Fed. Reg. 24974 (1986). This rulemaking had a rather tortured history, with several false starts and midcourse alterations. *See* 47 Fed. Reg. 49176 (1982); 48 Fed. Reg. 24742 (1983); 48 Fed. Reg. 44091; 49 Fed. Reg. 37046 (1984). EPA's general methodology is not published in the Code of Federal Regulations.

[15]To pass the POTW test, the cost per pound of conventional pollutant removed by industrial dischargers in upgrading from BPT to the candidate BCT must have been less than the cost per pound of conventional pollutant removed in upgrading a POTW from secondary treatment to advanced secondary. The Agency makes certain cost assumptions per pound that vary depending on the long- or short-term nature of the performance data. *See* 51 Fed. Reg. 24976 (1986).

[16]For each industry subcategory, EPA computes a ratio of two incremental costs: the cost per

plicable to BAT) in § 301(n).[17]

§ 13:57 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—BAT for nonconventional pollutants

Pollutants that are not conventional pollutants, as defined in § 304(a)(4) or added to the conventional pollutant list by EPA, are not heat, and that are not toxic pollutants, as defined by § 502(13), are "nonconventional pollutants."[1] Examples include ammonia, chlorides, nitrates, iron, and color. EPA's determination to classify settleable solids as nonconventional pollutants, and thus to issue BAT-level controls for them, was upheld in *Rybachek v. EPA*.[2]

Point source categories discharging nonconventional pollutants are required to employ the best available control technology economically achievable[3] within three years of the adoption of BAT limitations for the subcategory, or by July 1, 1987, at the latest.[4] Individual sources discharging nonconventional pollutants are provided the opportunity to obtain a source-specific "waiver" of the BAT requirement by § 301(g), which is patterned after the § 316(a) waiver available to heat dischargers in the 1972 Act.

In order to qualify for a § 301(g) waiver, a discharger must demonstrate to EPA, "with the concurrence of the State," that the source is in compliance with the applicable BPT or more stringent water-quality-based effluent limitations and satisfy two other water-quality-related criteria. The additional criteria are that the discharge as modified will not result in the imposition of additional requirements "on any other point or nonpoint source" and that it will not interfere with the maintenance of water quality, will "assure" protection of water supplies and aquatic life,[5] and will not result in the discharge of pollutants in "quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity, or teratogenicity), or synergistic propensities."

In order to prevent double variances, § 301(g)(2) requires sources also interested

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pound removed by the BCT candidate technology relative to BPT and the cost per pound removed by BPT relative to no treatment (i.e., comparing the raw wasteload with pollutant load after application of BPT). The ratio of the first of these costs divided by the second is evaluated to determine cost-effectiveness, and is related to the POTW cost-comparison test. See 52 Fed. Reg. 24976 (1987); 51 Fed. Reg. 45094 (1986) (BCT limitations for pharmaceutical manufacturing subcategory) for assumptions and further explication, and application of the methodology.

[17] *See* § 13:57 (discussion in the footnotes).

[Section 13:57]

[1] CWA § 301(b)(2)(F), 33 U.S.C.A. § 1311(b)(2)(F).

[2] Rybachek v. EPA, 904 F.2d 1276, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20973 (9th Cir. 1990).

[3] BAT, including the § 304 factors that are involved, are discussed in detail in the section dealing with toxic pollutants.

[4] The statutory language on the deadlines provides within three years, "or not later than July 1, 1984, whichever is later, but in no case later than July 1, 1987," no doubt in recognition of EPA's chronic inability to promulgate regulations swiftly.

[5] CWA § 301(g)(2), 33 U.S.C.A. § 1311(g)(2). The statutory language relating to aquatic life is similar, but not identical, to § 316(a). It states that the modification must "assure . . . the protection and propogation of a balanced population of shellfish, fish and wildlife, and allow recreational activities, in and on the water." This provision is arguably somewhat less protective than § 316(a), which requires protection of a balanced "indigenous" aquatic population.

in a § 301(c) variance to apply for both at the same time.[6]

Since its addition to the law, § 301(g) has been under attack by environmental organizations, and it was never popular with EPA's professional staff. The Agency had not issued general § 301(g) regulations by late 1985, when it announced that it had decided to terminate its rulemaking activities under the provision.[7] Thus, decisions on variance requests involved case-by-case decision-making on the basis of EPA's informal guidance.

Congress amended § 301(g) in 1987 to limit the availability of § 301(g) variances to chlorine, iron, ammonia, color, and total phenols, in the absence of specific EPA rulemaking to add additional pollutants to the eligibility list.[8] Apparently concerned about the prospect that the rigidity of the resulting scheme for nonqualifying pollutants would meet with a hostile judicial reaction,[9] Congress added a "fundamentally different factors" variance provision in § 301(n) (applicable to BCT as well as BAT). The FDF variance essentially mirrors the variance standards developed by EPA for BPT.[10]

§ 13:58 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Heat

Point source discharges of heat (thermal pollution)[1] are regulated under the Act's technology-based schema, but must be dealt with separately in light of § 316 of the Act and EPA's approach to regulating the primary point source category of relevance, steam electric power plants. Indeed, the entire history of thermal pollution regulation in the United States may be likened to a tug-of-war between EPA and the electric utility industry.

EPA initially promulgated steam electric point source effluent guidelines for heat based on its application of the § 304(b) technology criteria, which prohibited the discharge of heat except from cooling pond or cooling lake outlets or cooling tower blowdown.[2] The guideline was invalidated by the Fourth Circuit in *Appalachian Power Company v. Train*,[3] on the ground that the Agency's cost effectiveness analysis failed to provide an adequate comparison of the cost of achieving the level of ef-

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[6]CWA § 301(c), 33 U.S.C.A. § 1311(c), variances are discussed in § 13:61.

[7]*See* 50 Fed. Reg. 44673 (1985). Elimination of § 301(g) was high on the list of legislative priorities for the 97th Congress's reauthorization of the law.

[8]The statutory listing criteria place the burden of proof on listing proponents and are designed to prevent the addition of pollutants that are toxic to the list.

[9]Remarks of Philip Cummings, Majority Counsel, Senate Committee on Public Works and the Environment, Subcommittee on the Environment, July 1987.

[10]The criteria are that: (1) the facility be fundamentally different from the ones used in developing the applicable guidelines, other than by the cost of employing implementing technology; (2) the information relied upon either was provided to EPA during its § 304 standard-setting rulemaking, or the applicant did not have a reasonable opportunity to provide it at that time; (3) the treatment level proposed as an alternative is no less stringent than justified to account for the fundamental differences; and (4) the alternative will not produce "markedly more adverse non-water quality environmental impacts than those associated with the national limitations."

[Section 13:58]

[1]Heat can have an adverse effect on aquatic organisms in a number of ways. It changes the dissolved oxygen regime, for example, and at the same time alters the metabolic rate of many organisms. Fish can be killed by thermal shock, or if they become acclimated to living in a warm plume, by cold shock if the source shuts down. In its extreme, heat discharges can contribute to long-term species substitution in confined ecosystems such as lakes.

[2]39 Fed. Reg. 36186 (1974) (adopting effluent guidelines including 40 C.F.R. § 423.13(1), subsequently repealed, as discussed below). *See also* 40 Fed. Reg. 7095, 15690 (1975).

[3]Appalachian Power Company v. Train, 545 F.2d 1351 (4th Cir. 1976).

fluent reduction mandated and the "ecological benefits to be derived therefrom."[4]

EPA has not subsequently repromulgated BAT regulations for heat and thus, where pressed to establish BAT for a given source, would set BAT on the basis of *ad hoc* "best professional judgment," in similar fashion to its approach to the initial round of NPDES permits issued in the early 1970s before the promulgation of many BPT guidelines.[5] EPA has not, however, issued many permits containing BAT limits because of the availability of a special variance for heat contained in § 316 of the Act. Virtually all dischargers whose thermal component is sufficient to require a separate effluent limitation apply for § 316 variances on the theory that whatever level EPA set a best professional judgement BAT limit would be more stringent than any § 316-derived limit.[6]

Section 316 requires consideration of both the environmental effects of the discharge of heat[7] and the technological design of the cooling water intake structure.[8] In order to qualify for the variance, the applicant must demonstrate, following an adjudicatory hearing,[9] that the effluent limitations that would be imposed under § 301 are more stringent than necessary and the alternate effluent limitations proposed are adequate, taking into account the interaction of heat with other pollutants, to "assure the protection and propogation of a balanced, indigenous population of shellfish, fish, and wildlife in and on" the receiving water. Section 316(b) requires that the "location, design, construction and capacity of the cooling-water intake structures reflect the best technology available for minimizing adverse environmental impact."[10]

In 1993, EPA agreed to issue three separate rulemakings implementing Section 316(b).[11] EPA's proposed regulations implementing § 316(b) set forth national requirements applicable to the location, design, capacity, and construction of cooling water intake structures in order to meet the best-technology-available standards for reducing adverse environmental impacts associated with those structures. EPA's objectives include the substantial reduction of negative impacts resulting from impingement (pinning of marine organisms against cooling water intake structures) and entrainment (drawing of marine organisms into cooling water intake systems) at new and existing facilities and the preservation of endangered aquatic organisms inhabiting nearby ecosystems.

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[4]Appalachian Power Company v. Train, 545 F.2d 1351 (4th Cir. 1976). The court's reasoning hinged on its focus on the requirement of § 301(b)(2)(A) that BAT limits "result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants" as requiring specific consideration of receiving water benefits in setting BAT. EPA's analysis had focused only on effluent reduction benefits. The court's analysis seems clearly contrary to both the letter of the statute and the legislative history.

[5]EPA's guidelines for BPJ permit limits are found at 40 C.F.R. § 125.3.

[6]*See* In Re Public Serv. Co. of N.H., 10 Env 1257 (1977) (Decision of Administrator).

There are situations in which this assumption, which lies behind EPA's own reasoning for not rushing to repromulgate thermal BAT guidelines, would not hold true, particularly if the Agency were to aggressively apply § 316(b), discussed in this section, which relates to intake structures. One can conceive of receiving waters containing relatively heat-sensitive aquatic organisms that are not water-quality-limited under state law, and thus which would compel a stringent § 316-derived limit.

[7]CWA § 316(a), 33 U.S.C.A. § 1326(a).

[8]CWA § 316(b), 33 U.S.C.A. § 1326(b).

[9]The requirement of an adjudicatory hearing was established in Seacoast Anti-Pollution League v. Costle, 572 F.2d 872, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20207 (1st Cir. 1978), *cert. denied sub nom.* Public Serv. Co. of N.H. v. Seacoast Anti-Pollution League, 439 U.S. 824 (1978).

[10]CWA § 316(b), 33 U.S.C.A. § 1326(b).

[11]For more information on EPA's cooling water intake rulemaking, see U.S. EPA, Cooling Water Intakes—Rulemaking History, *available at* http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/rules.cfm.

EPA issued rules for all new cooling water intake structures in December 2001 (Phase I). In February 2004 and June 2006, EPA issued rules for all existing electric-generating facilities, Phase II and Phase III, respectively. The Phase II rule and portions of the Phase III rule were later remanded to EPA for reconsideration. As part of that reconsideration, on May 19, 2014, EPA issued a final rule for cooling water intake structures at existing facilities. The May 19 rule requires existing facilities that have or are required to have an NPDES permit, are designed to withdraw more than two million gallons per day from WOTUS, and use at least 25% of the withdrawn water exclusively for cooling purposes to: (i) achieve a national best-technology-available standard for impingement mortality; (ii) implement site-specific entrainment requirements; and (iii) and achieve national best-technology-available standards for impingement mortality and entrainment for new units.[12]

§ 13:59 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Technology-based effluent standards for toxic pollutants: BAT

Effluent limitations for toxic pollutants must be premised either on technology-based criteria developed under §§ 301(b)(2)(C), (D) and 304(b)(2)(B), or on alternative effluent limitations established under § 307(a). The latter are discussed in a subsequent section of this chapter.[1]

The history of technology-based limitations for toxic pollutants involves a fascinating interrelationship between litigation under the 1972 Act's requirement that all sources apply the "best available technology economically achievable" for all pollutants by 1983[2] and the 1977 amendments, which extended the compliance deadline and limited BAT to toxic pollutants and nonconventional pollutants.[3] A brief restatement of the history is required for a full understanding of the present scheme.

In 1973, the Natural Resources Defense Council (NRDC) and several other environmental organizations commenced a lawsuit in which they alleged that EPA had defaulted on a mandatory duty arising under § 307(a)(1) of the Act to establish effluent limitations for toxic pollutants. That action was settled and the consent decree agreed to by the parties established the basic framework for decision-making that was to drive the 1977 amendments related to toxics.[4]

The NRDC consent decree compelled EPA to develop technology-based BAT efflu-

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[12]For more information on the May 19, 2014 final rule, see U.S. EPA, Cooling Water Intakes, http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/#final. *See also* Craig P. Wilson and Maureen O'Dea Brill, EPA Promulgates Final Standards for Cooling Water Intake Structures, http://www.klgates.com/epa-promulgates-final-standards-for-cooling-water-intake-structures-06-03-2014/#_ftnref1.

[Section 13:59]

[1]*See* § 13:70. There are actually two additional ways in which toxic effluent limitations can be established. The first is by means of water-quality-based or water-quality-related standards promulgated pursuant to §§ 303 or 302 of the Act. The second is by means of "toxic effluent standards" promulgated under § 307(a)(2). The latter are "control requirements based on an established relationship between" the pollutant and a "receiving water/ecosystem impact." 3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 460 (Comm. Print 1978) (House Debate on Conference Report) (remarks of Sen. Muskie). EPA has to date promulgated toxic effluent limitations for aldrin/dieldrin, DDT, Endrin, Toxaphene, Benzidine, and PCBs. *See* 40 C.F.R. § 129; *see also* Hercules, Inc. v. EPA, 598 F.2d 91, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20811 (D.C. Cir. 1978). Section 307(a)(2) limitations are enforceable against dischargers whether or not they are contained in the discharger's permit. *See* CWA § 402(k), 33 U.S.C.A. § 1342(k).

[2]CWA § 301(b)(2)(A) (version in force in 1972).

[3]For a general discussion of nonconventional pollutants, see § 13:57.

[4]Several industry groups who had intervened in the action disagreed with the terms of the settlement and challenged its legality. *See* Environmental Defense Fund v. Costle, 561 F.2d 904, 7 Envtl. L.

ent guidelines for 65 toxic pollutants discharged by 21 industry subcategories contained on a list appended to the decree (the industries are called "primary" industries in EPA's regulations) and established a year-by-year schedule for promulgating the required guidelines. The decree also established criteria for removing pollutants from the list of 65,[5] as well as a procedure for adding pollutants to the list. Under the statutory scheme of the 1972 Act, it was unclear whether toxic pollutants could be the subject of BAT limitations or whether § 307 health-based limitations were the exclusive means of regulating them. EPA's NRDC agreement cast the die in the direction of BAT. Moreover, although § 307 clearly governed which pollutants should be regulated and provided general listing criteria, it provided no criteria for delisting pollutants. The consent decree essentially made that law.

The decree provides that pollutants can be delisted where the existing standards are limiting, where the pollutants exist in intake water and are thus only passed through the dischargers, where the pollutants are undetectable using state-of-the-art equipment or are present in only a small number of unique sources, where they are in such small quantities as not effectively removable, and where the amounts discharged are not likely to cause adverse effects.[6]

The decree, which also contains provisions relative to the establishment of health-based limitations,[7] figured prominently in the congressional debates leading up to enactment of the 1977 CWA. Although the only explicit reference to the consent decree is § 301(b)(2)(C)'s incorporation by reference of the list of 65 pollutants appended to the decree for which the Act established a mandatory compliance deadline of July 1, 1984, the general thrust of the 1977 amendments dealing with toxics tracks the approach taken in the consent decree, particularly in the retention of the consent decree's bias in favor of BAT limitations over impact-based limitations.[8]

The methodology for the development of BAT for toxics begins with the listing of the pollutant under § 307(a) for pollutants not already on the list of 65. The statutory listing factors, taken essentially from the NRDC decree, are persistence, degradability, the presence of affected organisms in receiving waters, the importance of affected organisms, and the nature and extent of the effect on them.[9]

BAT effluent limitations must meet the general criteria set forth in § 301 and be formulated pursuant to the more specific guidance of § 304(b)(2). The overarching criterion is that the limitations be premised on the "best available technology economically achievable" by the relevant industrial subcategory.[10] Section 304(b)(2) makes it clear that the technology employed may be based on treatment techniques, process and procedure innovations, operating methods, or other means, thereby

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Rep. (Envtl. L. Inst.) 20547 (D.C. Cir. 1977) (remanding decree to district court for consideration of legal arguments relative to the power of EPA to agree to terms, subsequently rejected by district judge who left decree intact).

[5]This is commonly referred to as the "paragraph 8" procedure, from the number of the paragraph in the decree in which it is found.

[6]Nat. Res. Def. Council, Inc. v. Train, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20588 (D.D.C. 1976) (settlement agreement).

[7]These are discussed in § 13:70.

[8]*See* 3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 459–61 (Comm. Print 1978) (House Debate on Conference Report).

[9]Of the criteria, the one relating to the importance of affected organisms provides a significant discretionary latitude. As noted above, the 1977 amendments treat pollutants contained on the NRDC list more stringently in terms of deadlines than pollutants not on the list.

[10]CWA § 301(b)(2)(A), 33 U.S.C.A. § 1311(b)(2)(A).

encouraging technologies other than "black box" technologies.[11]

Section 304(e) allows limitations to be based on "best management practices" for toxic pollutants. EPA has administratively limited this authority to controlling plant site runoff and spills,[12] although the statute arguably authorizes broader application.

As in the case of BPT, § 304(b) requires consideration of a number of "factors" in setting BAT, which are of greatest significance in dividing industries into subcategories to which uniform limitations are to be applied. These factors are the age of equipment and facilities,[13] the processes employed, engineering aspects of various control techniques, the cost of achieving the effluent reduction, non-water-quality environmental impacts, and "such other factors as the Administrator deems appropriate."[14] Consideration of costs, in contrast to BPT, does not involve a cost-benefit analysis,[15] but instead involves weighing costs in the overall determination of the achievability of technology. EPA's primary legal obligation with respect to costs is to explain its cost analysis fully,[16] and the standard by which the costs are measured is whether they are "reasonable."[17]

Many of the statutory requirements have been refined in their application to specific industries and litigation reviewing the resulting guidelines. Among the concepts that have been so refined are the standards by which technology may be deemed to be "available,"[18] by which it may be considered to be "achievable,"[19] and, of course, the degree to which economic factors may affect the establishment of guidelines.

EPA's approach to establishing BAT, which is consistent with the legislative history, has generally been to fix the limitations at the levels achievable by "the optimally operating plant, the pilot plant which acts as a beacon to show what is

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[11] *See* 33 U.S.C.A. § 1311(b)(2); American Petroleum Inst. v. EPA, 540 F.2d 1023, 1033, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976).

[12] *See* 40 C.F.R. § 122.44(k).

[13] The age factor relates to both the engineering feasibility of applying the equipment needed to achieve BAT to the production stream and to physical and economic constraints in installing it. American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1048, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20076 (3d Cir. 1975).

[14] This latter phrase has been interpreted as intended to give EPA latitude to add new factors. Kennecott Corp. v. EPA, 780 F.2d 445, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20435 (4th Cir. 1985).

[15] *Compare* CWA § 304(b)(1)(B), (4)(B) *with* (2)(B). *See also* American Iron and Steel Institute v. E.P.A., 526 F.2d 1027, 8 Env't Rep. Cas. (BNA) 1321, 6 Envtl. L. Rep. 20068 (3d Cir. 1975), *judgment amended*, 560 F.2d 589, 10 Env't Rep. Cas. (BNA) 1549, 7 Envtl. L. Rep. 20624, 44 A.L.R. Fed. 813 (3d Cir. 1977) (discussing § 301(b)(2)(A) of the Act and pointing out uncertainty in the role cost is to play under the statute); 45 Fed. Reg. 49454 (1980) (proposed regulation in which there is a discussion of how EPA "considers" costs in setting BAT).

[16] Ass'n of Pacific Fisheries v. EPA, 615 F.2d 794, 815, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20336, 20343 (9th Cir. 1980). EPA produces a Development Document for all of its effluent guidelines. An economic analysis either is included as a part of it or is undertaken in a separate document associated with it.

[17] American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1058, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20081 (3d Cir. 1975). *Accord* Rybachek v. EPA, 904 F.2d 1276, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20973 (9th Cir. 1990).

[18] *See* Hooker Chems. & Plastics Co. v. Train, 537 F.2d 639, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20478 (2d Cir. 1976) (phosphorus manufacturing).

[19] *See* American Meat Inst. v. EPA, 526 F.2d 442, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20029 (7th Cir. 1975) (ammonia limitation in meat processing guidelines); *see also* Chemical Mfrs. Ass'n v. EPA, 870 F.2d 177, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20989 (5th Cir. 1989), *clarified on reh'g and remanded in part*, 885 F.2d 253, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20076 (1990), *cert. denied sub nom.*, PPG Indus., Inc. v. EPA, 495 U.S. 910, 110 S. Ct. 1936 (1990) (rejecting claim that OCPSF guidelines for toxics are unachievable).

possible."[20] The Agency's selection of pilot plants is sometimes the target of criticism on the ground that the plant chosen is not representative of some or all of the subcategory to which the technology will be applied.[21]

Section 301(b)(2)(A) requires, in addition, that the limitations represent "reasonable further progress toward the national goal of eliminating the discharge of all pollutants" and that BAT limitations "require the elimination of discharges of all pollutants if . . . such elimination is technologically and economically achievable" for the category or class at issue. Accordingly, EPA has occasionally adopted a "no discharge" limit for a pollutant.[22]

Inherent in the technology-forcing aspect of BAT is a lack of clear data within all industry subcategories upon which a determination of "availability" and "achievability" can be made. Thus, one of the most often litigated methodologies employed by EPA in setting BAT is its assumption that technology can be transferred from one industry, or one industrial subcategory, to another where it has never before been employed. The Eighth Circuit Court of Appeals laid down a three-part test in 1975 that has been followed generally by other courts, establishing the Agency's burden in technology transfer situations. The Agency must: (1) show that the transfer technology is available outside the industry in which it is employed; (2) determine that the technology is transferable to the transferee industry; and (3) make a reasonable prediction that the technology if used will be capable of removing the increment required by the effluent standards.[23] Courts have given considerable deference to EPA's technology transfer judgments.[24]

Another common BAT issue is whether the EPA can lawfully impose technology that is clearly not in use within the industry at the time the guidelines are promulgated. The Agency's burden on this score is to demonstrate "the existence of some technology which, if implemented, may reasonably be expected to achieve the . . . standards" by the compliance date.[25] The early cases, which are the source of most of the law on this topic, dealt with standards that did not need to be achieved for six to eight years from promulgation. The courts imposed a continuing duty on EPA to review the development of technology, and an obligation to revise the BAT

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[20]Kennecott v. EPA, 780 F.2d 445, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20435 (4th Cir. 1986). *See* 3 Environmental Policy Division, Congressional Research Service, A Legislative History of the Clean Water Act of 1977, 95th Cong., 2d Sess. 798 (Comm. Print 1978) (House Debate on Conference Report). BAT is usually, but not necessarily, less stringent than § 306 New Source Performance Standards. *See* discussion in American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1058, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20081 (3d Cir. 1975).

[21]*See, e.g.*, FMC Corp. v. Train, 539 F.2d 973, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (4th Cir. 1976) (synthetic plastics) (establishing the principle that EPA had to establish achievability before compliance date if its development document, relying on pilot plant was insufficient); Hooker Chems. & Plastics Co. v. Train, 537 F.2d 620, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20467 (2d Cir. 1976) (phosphorus manufacturing) (holding that EPA was required to consider whether technology shown to be successful in pilot plant located in a warm climate would be feasible in a cold climate).

[22]*See, e.g.*, Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20467 (2d Cir. 1976) (no discharge of process water for phosphorus industry set aside); *see also* Kennecott Corp. v. EPA, 780 F.2d 445, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20435 (4th Cir. 1986) (upholding no discharge limitation for blast furnace slag granulation in the primary lead industry).

[23]*See, e.g.,* Kennecott Corp. v. EPA, 780 F.2d 445, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20435 (4th Cir. 1986); Tanners' Council v. Train, 540 F.2d 1188, 1192, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20379, 20380 (4th Cir. 1976); CPC Int'l v. Train, 515 F.2d 1032, 1048, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20392, 20399 (8th Cir. 1975).

[24]*See* Kennecott Corp. v. EPA, 780 F.2d 445, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20435 (4th Cir. 1986) (upholding EPA's use of technology used in a Japanese facility in a production process as transferable to another industry as wastewater control technology).

[25]Hooker Chems. & Plastics Co. v. Train, 537 F.2d 620, 636 (2d Cir. 1976); American Meat Inst. v. EPA, 526 F.2d 442, 463, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20029, 20038 (7th Cir. 1975).

standard if its prediction about it proved false.[26]

Industries critical of EPA's chosen technology argued that the guidelines should be struck down if the Agency's development document did not clearly demonstrate that achievability was possible by the compliance date. Those arguments were predicated in part by the Act's bar against challenging regulations as a defense to an enforcement action,[27] the industries arguing that to leave an uncertain technology-forcing regulation in place was to put the industries in jeopardy of noncompliance without any meaningful opportunity for judicial review. The Third Circuit, in *American Iron and Steel Institute v. EPA*, responded by stating that the matter was subject to further review by the court of appeals following EPA's mandatory review of the guideline pursuant to § 301(d) five years after its promulgation.[28] The Fourth Circuit, in *FMC Corp. v. Train*,[29] stated, similarly, that where technology postulated to meet the limitations for the entire affected subcategory does not in fact pan out, EPA has a duty to reconsider the guidelines prior to the implementation date, and if EPA fails at that time to demonstrate achievability, the issue can be resurrected on review.[30]

A final issue is the extent to which EPA must account in the effluent guidelines for anomalies within the subcategory of the industry affected by them. This issue normally arises where the pilot technology relied upon by the Agency may be more difficult to employ at one group of plants than at others. In *American Iron & Steel Institute*, the Third Circuit stated that EPA is not required, *sua sponte*, to consider engineering issues "of particular or localized concern," such as water supply problems experienced by a few steel facilities in arid areas.[31] The Second Circuit, however, stated in *Hooker Chemical & Plastics Co. v. Train* that EPA was required to specifically consider the costs of employing recycling technology in cold regions if there is "at least one manufacturer in a cold climate."[32]

Most of the litigated issues arise because EPA's development document does not completely address the issue or raises questions that are inadequately answered during the administrative rulemaking process. The development document is the centerpiece of any effluent guidelines rulemaking. Though compiled by staff working in the effluent guidelines division of the water program, development documents are primarily the workproduct of consultants hired by EPA to do field and analytical work. The depth of research will understandably vary with the amount of money al-

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[26]*See* FMC Corp. v. Train, 539 F.2d 973, 985, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382, 20386 (4th Cir. 1976); American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1062, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20083 (3d Cir. 1975).

[27]CWA § 509(b)(2), 33 U.S.C.A. § 1369(b)(2).

[28]American Iron & Steel Inst., 526 F.2d 1027, 1062, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20083 (1975). The Third Circuit's solution provides little solace for industries subject to limitations promulgated less than five years prior to the compliance date, and presumably the shorter the time between guideline promulgation and compliance date the greater burden EPA has to show achievability and availability in its initial record.

[29]FMC Corp. v. Train, 539 F.2d 973, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (4th Cir. 1976).

[30]An interesting issue not addressed by either court is what happens if the Agency fails to undertake any subsequent rulemaking in the face of clear notice that the industry believes the guideline to be unachievable, and the implementation deadline is looming. The Fourth Circuit's opinion implies, without stating so, that the Agency's duty is mandatory, giving rise to a mandamus right. The Third Circuit's approach would appear to defer any duty to the five-year review point. Whether nonaction at that point must take the form of formal rulemaking subject to court of appeals review is an open issue.

[31]American Iron & Steel Institute, 526 F.2d 1050, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20077 (1975).

[32]Hooker Chem. & Plastics Co. v. Train, 537 F.2d 620, 634, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20467, 20475 (2d Cir. 1976).

lotted to the contractor and the contractor's expertise. The quality of development documents has not been uniform, and gaps in the document's scope have been the source of more than one remand.

Although originally precluded for BAT, a "fundamentally different factors variance," with statutory eligibility criteria, was made available to BAT in 1987, with the addition of § 301(n).[33]

§ 13:60 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Compliance deadline extensions and transitional permits

The 1977 CWA allowed an extension of the deadline for achieving BAT to July 1, 1987, for facilities that install an innovative production process or control technique meeting the criteria established by § 301(k).[1] The deadline was changed by the Water Quality Act of 1987 to "two years after the date for compliance with such effluent limitation which would otherwise be applicable under such subsection" to conform § 301(k) to the other deadline extensions provided in the 1987 Act. The provision was also made available with respect to conventional pollutants.

The criteria require a showing that the innovative process "will result in an effluent reduction significantly greater than" would be accomplished through adherence to the standards and moves toward the goal of eliminating the discharge of all pollutants.[2] For control techniques, the criteria are that the technique have "a substantial likelihood for enabling the facility to comply with the applicable effluent limitation by achieving a significantly greater effluent reduction than that required by the . . . limitation and moves toward the national goal of eliminating the discharge of all pollutants" or involves a system "that has the potential for significantly lower costs than" the technology determined by EPA to be economically achievable.[3]

Processes or control techniques meeting the above criteria may be approved for compliance extension, however, only on a finding by (or approved by) EPA that the system "has the potential for industrywide application."[4]

Since EPA was, and continues to be, slow in its adoption of toxic BAT effluent guidelines,[5] a number of NPDES permits were issued containing effluent limitations for toxic discharges on an *ad hoc* basis pursuant to 40 C.F.R. § 125.3,[6] and many permits issued to dischargers of toxic pollutants contained no effluent limitations specifically covering such pollutants. Although EPA's regulation requires the permit writer seeking to insert *ad hoc* limits into a permit to apply the statutory criteria in establishing such limitations, there are inevitably cases in which the *ad hoc* limita-

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[33]The criteria are that: (1) the facility be fundamentally different from the ones used in developing the applicable guidelines, other than by the cost of employing implementing technology; (2) the information relied upon either provided to EPA during its § 304 standard-setting rulemaking or the applicant did not have a reasonable opportunity to provide it at that time; (3) the treatment level proposed as an alternative is no less stringent than justified to account for the fundamental differences; and (4) the alternative will not produce "markedly more adverse non-water quality environmental impacts than those associated with the national limitations."

[Section 13:60]

[1]EPA had no regulations implementing this provision as of the 1987 amendments.

[2]33 U.S.C. § 1331(k).

[3]33 U.S.C. § 1331(k).

[4]33 U.S.C. § 1331(k).

[5]The pace of the current effluent guideline program is largely governed by a consent decree committing EPA to schedules for proposing and finalizing effluent guidelines as required by § 304(m) of the Act, 33 U.S.C.A. § 1314(m). Nat. Res. Def. Council v. Browner, No. 89-2980 (D.D.C. Jan. 31, 1992).

[6]These are generally referred to as "best professional judgment," or "BPJ" effluent limitations.

tions are either more or less stringent than would be required by subsequently promulgated BAT effluent guidelines. In such a case, or the case where a permit does not contain a relevant limitation at all, the question arises whether the permit must, or may, be amended to incorporate the national guidelines.

EPA's treatment of the problem of transitional permits was somewhat convoluted. Permits issued or existing on or before June 30, 1981, for any of the "primary industry" subcategory facilities were required to be modified to include any applicable toxic effluent limitations or standards that had already been promulgated or "approved"[7] or a condition requiring that they be reopened for insertion of any subsequently promulgated toxic standards or limitations. At the point EPA issues a relevant standard or limitation applicable to the permittee's subcategory, the permit is required to be modified or revoked and reissued to insert the new standard or limitation only if it is more stringent than the existing *ad hoc* limitation in the permit (if any) or if it covers a pollutant not addressed in the permit. Thus, "backsliding" to insert a less stringent national standard or limitation was not permitted.

Permits issued after July 1, 1984, are required to contain toxic effluent limitations covering all toxic pollutants contained on the NRDC consent decree list or subsequently listed under § 307(a)(1), whether or not EPA has promulgated national standards and limitations for such pollutants or industry subcategory.[8] Such permits are not required to incorporate the reopener clause, but the regulation does not prohibit the permit writer from including it.[9]

A final transitional issue involves the rare case of EPA's promulgation of toxic impact-based effluent limitations under § 307(a)(2). Such standards are enforceable even in the absence of permit limits and are required by § 307(a)(6) to be effective and enforceable not more than a year after promulgation, with a maximum cap of three years for source categories that EPA determines cannot feasibly meet the limitation earlier.[10]

§ 13:61 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Variances: Section 301(c) economic variances

Section 301(c) of the Act authorizes a modification of BAT limitations applicable to nontoxic, nonconventional pollutants upon a showing by the discharger that the modified limitations: "(1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants."[1] Unlike the FDF variance, a § 301(c) economic variance may be granted based on a showing that an individual discharger simply cannot afford to comply with BAT requirements.[2] Although EPA has promulgated regulations providing procedures for application for

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[7]40 C.F.R. § 122.44(c)(1). "Approved" limitations are preexisting limitations that EPA determines satisfy the BAT criteria.

[8]40 C.F.R. § 122.44(c)(2).

[9]40 C.F.R. § 122.44(c)(2). *See* 49 Fed. Reg. 31842 (1984). Other permittees and limitations are governed by the general reopener and reissuance provisions of the NPDES regulations, 40 C.F.R. §§ 122.43, 122.62.

[10]As noted earlier, EPA has promulgated § 307(a)(2) limitations for only a handful of pollutants. That fact is probably a product of two factors: its workload pushing out BATs and a rather cumbersome rulemaking process, which includes provision for quasi-adjudicatory hearings, under § 307(a)(2).

[Section 13:61]

[1]CWA § 301(c), 33 U.S.C.A. § 1311(c).

[2]*See* EPA v. Nat'l Crushed Stone Ass'n, 449 U.S. 64, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20924 (1980).

and determination of § 301(c) variance requests,[3] it has yet to promulgate regulations on the substantive requirements for the grant of a § 301(c) variance.[4]

There are several restrictions on the grant of a § 301(c) variance. First, the variance is only available from BAT limitations; § 301(c) is not applicable to BPT limitations. Second, the variance is only available from limitations on nonconventional pollutants. The section expressly provides for a variance from the BAT requirements applicable to toxic and nonconventional pollutants. Although this would seem to authorize a § 301(c) variance from BAT toxic limits, § 301(l) precludes any modification of effluent limitations applicable to toxic pollutants.[5] Third, in some cases, a § 301(c) variance may not even be available from BAT limits on nontoxic, nonconventional pollutants if that pollutant is being limited as an "indicator" for a toxic pollutant. Finally, § 301(j) limits the period for applying for § 301(c) variances to nine months after promulgation of the applicable effluent guideline.[6]

§ 13:62 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Removal of pollutants in intake water (net/gross issue)

In many cases, the wastewater discharged by an industrial source was initially brought into the facility for use in the industrial process from a surface or groundwater source that already contained pollutants. One of the persistent controversies under the Act has been whether EPA could limit the total amount of pollutants in the facility's waste stream regardless of the origin of the pollutants or whether the Agency could only limit the amount of pollutants added by the facility. Industry argued that EPA could not set limitations on the "gross" amount of pollutants in effluent, but only on the "net" amounts added by the industrial source itself.[1] EPA conceded early in the development of its water program that in some cases effluent limitations should be written on a "net" basis.[2]

EPA's current regulations contain a "net/gross" provision.[3] The regulations allow a discharger to request a credit from otherwise applicable effluent limitations based on the presence of pollutants in its intake waters.[4] There are several significant prerequisites to obtaining a credit. For example, a credit will be granted only if; (1) credits are specifically authorized in the effluent limitations guidelines or the applicant is able to demonstrate that its pollution control system would produce an effluent meeting the guidelines but for the presence of the pollutants in the intake

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[3]40 C.F.R. §§ 122.21(l)(2), 124.62.

[4]40 C.F.R. Part 125; subpart E is reserved for those regulations.

[5]*See* Chemical Mfrs. Ass'n v. Nat. Res. Def. Council, Inc., 470 U.S. 116, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20230 (1985).

[6]Section 301(j)(1)(B) limits applications for modifications of the BAT requirements in § 301(b)(2)(A) as it applies to nonconventional pollutants to 270 days from the date of promulgation of the requirements or 270 days after the adoption of the 1977 CWA amendments, whichever is later. *See* 40 C.F.R. § 122.21(l)(2)(i).

[Section 13:62]

[1]Industry groups had argued, *inter alia*, that the definition of "discharge of a pollutant" in § 502(12) referred to the "addition" of pollutants to navigable waters from a point source, and where the pollutants had initially been present in the intake water they were not "added" by the facility. *See* Appalachian Power Co. v. Train, 545 F.2d 1351, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20732 (4th Cir. 1976).

[2]*See* American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068 (3d Cir. 1975).

[3]40 C.F.R. § 122.45(g).

[4]Establishing "net" limitations by means of a credit from otherwise applicable effluent guidelines was upheld in American Petroleum Inst. v. EPA, 540 F.2d 1023, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976).

water; (2) the constituents of "generic" pollutants such as BOD and TSS in the discharger's effluent are "substantially similar" to the constituents of these pollutants in the intake water;[5] and (3) the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made or, in the event it is not, the permit writer finds that no environmental degradation will result.[6] In any case, the credit will be granted only to the extent necessary to achieve the applicable effluent limitations up to the maximum amount of pollutants in the intake water.[7]

§ 13:63 Effluent standards and limitations—Technology-based discharge limitations—BCT and BAT: The final level of control—Mass- versus concentration-based limitations

The basic goal of the Act is the elimination of the discharge of pollutants, and that goal is reflected in the degree of effluent reduction achieved by the technology-based effluent limitations. In order to achieve an actual reduction in the amount of pollutants discharged by a source, most effluent limitations are written as limits on the total quantity of pollutants that may be discharged. These "mass" based limits are phrased as limitations on the quantity of pollutants that may be discharged per unit of production. For example, the BPT limitation in the Cracking Subcategory of the Petroleum Refining Point Source Category provides that a source may not discharge more than 6.9 pounds of TSS per 1000 barrels of feedstock.[1] Thus, at a given level of production, there is an actual limit on the number of pounds of pollutants that may be discharged. EPA regulations that implement the NPDES permit program state a clear preference for mass limitations.[2]

The alternative to mass-based limitations are "concentration-based" limitations, which limit the concentration of pollutants in wastewater. In contrast to mass-based limits, a concentration-based limitation might not result in any actual reduction in the amount of pollutants discharged from a facility. Sources may achieve the applicable concentration merely by diluting the waste stream. Accordingly, the NPDES regulations prohibit use of dilution as a treatment technique for meeting technology-based effluent limits.[3]

Concentration-based limitations may nevertheless be written in a number of circumstances.[4] These include limitations for pollutants like pH or temperature, which are not suitable for regulation based on mass, or limitations in industries where there is a wide and uncontrollable variation in the amount of wastewater per unit of production. For example, the BPT limitations for oil and grease for the Offshore Subcategory of the Oil and Gas Extraction Point Source Category provide that the concentration of oil and grease discharged may not exceed 72 milligrams

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[5]These "generic" pollutants actually include a large number of unidentified constituents.

[6]40 C.F.R. § 122.45(g)(1), (2), (4).

[7]40 C.F.R. § 122.45(g)(3).

[Section 13:63]

[1]40 C.F.R. § 419.22.

[2]40 C.F.R. § 122.45(f).

[3]*See* 40 C.F.R. § 122.45(f).

[4]40 C.F.R. § 122.45(f)(1)(i) to (iii) authorizes other than mass-based limitations for: "(1) pH, temperature, and other parameters which cannot be expressed in terms of mass; (2) where applicable effluent limitations or standards are expressed in other terms"; or (3) where mass limitations "are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation and 'permit conditions assure that dilution will not be used as a substitute for treatment.' "

per liter of produced waters.[5] Produced waters are extracted along with oil, and the amount associated with a barrel of oil varies widely not only among different wells but also over the life of a given well. Thus, it would be difficult, indeed probably impossible, to write a workable mass-based limitation expressed in terms of the total quantity of oil and grease per barrel or other reasonable unit of production.

An unavoidable consequence of concentration-based limitations, such as the oil and grease limitation used in the example, is that greater quantities of pollutants are discharged when the volume of wastewater increases.

§ 13:64 Effluent standards and limitations—Technology-based discharge limitations—New sources and new dischargers—New source performance standards

Section 306 of the Act requires "new sources" within source categories for which new source performance standards (NSPS) are required to meet more stringent effluent limitations than are applicable to existing sources. EPA is required to promulgate standards that reflect "the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants."[1]

Section 306(b)(1)(A) contains a list of source categories for which EPA was mandated to develop NSPS. Additions to the list are discretionary with EPA. EPA publishes NSPS for the various source categories alongside the other effluent limitations in 40 C.F.R. subpart I.[2]

As in the case of EPA's other technology-based standards, its initial NSPS for a number of industry subcategories were challenged during the 1970s. Those lawsuits saw arguments similar to those raised in challenges to the other guidelines, such as when is the technology "demonstrated,"[3] whether the 1983 BAT standards and the NSPS could be equivalent or whether NSPS can be "demonstrated" if BAT is not,[4] and how cost is to be factored into the standards.[5] In practice, EPA has commonly equated the NSPS for a given source category with the applicable BAT or BPT. Since § 306(b)(1)(B) requires EPA to periodically update the NSPS in line with advances in technology, the NSPS should, over time, become more stringent than the existing source standards in many subcategories in which they are currently

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[5]40 C.F.R. § 435.12.

[Section 13:64]

[1]CWA § 306(a)(1), 33 U.S.C.A. § 1316(a)(1).

[2]40 C.F.R. § 400 (effluent limitations guidelines begin with § 405).

[3]FMC Corp. v. Train, 539 F.2d 973, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (4th Cir. 1976) (record must demonstrate the technology in place at particular plants whose operating characteristics are evident); *see also* Appalachian Power Co. v. Train, 545 F.2d 1351, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20732 (4th Cir. 1976); Tanners' Council v. Train, 540 F.2d 1188 6 Envtl. L. Rep. (Envtl. L. Inst.) 20379 (4th Cir. 1976); Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 639, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20478 (2d Cir. 1976); CPC Int'l v. Train, 540 F.2d 1329, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20728 (8th Cir. 1976); Nat'l Renderers Ass'n v. EPA, 541 F.2d 1281, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20735 (8th Cir. 1976).

[4]American Petroleum Inst. v. EPA, 540 F.2d 1023, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20748 (10th Cir. 1976); American Iron and Steel Inst. v. EPA, 526 F.2d 1027, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068 (3d Cir. 1975). NSPS were generally viewed as required to be as least as stringent as BAT. Nat'l Renderers Ass'n v. EPA, 541 F.2d 1281, 1289, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20735 (8th Cir. 1976).

[5]Costs must be "considered" but are less a factor than under § 304. American Iron and Steel Inst. v. EPA, 526 F.2d 1027, 1058, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20068, 20081 (3d Cir. 1975) (relying on legislative history).

equivalent.

In contrast to the standards for existing sources, the Supreme Court, in *DuPont v. Train*, held that EPA is not required to provide a variance mechanism for new sources.[6]

§ 13:65 Effluent standards and limitations—Technology-based discharge limitations—New sources and new dischargers—What is a new source

A "source" is a "building, structure, facility or installation from which there is or may be the discharge of pollutants."[1] A "new source" is one in which "the construction is commenced after the publication of proposed regulations prescribing a standard of performance . . . which will be applicable to such source, if such standard is thereafter promulgated in accordance with" § 306.[2] Although § 306(b)(1)(B) requires EPA to promulgate NSPSs within 120 days of proposal, its penchant for missing statutory deadlines by a long shot creates an understandable problem for potential new sources in light of the statutory language.

EPA's NPDES regulations alleviate the potential problem posed by the statute by defining new source as one whose construction is commenced after publication of final standards or after publication of proposed standards if they become final within 120 days.[3] Construction is "commenced" by the "placement, assembly, or installation of facilities or equipment (including contractual obligations to purchase such facilities or equipment) at the premises where such equipment will be used, including preparation work at such premises.[4]

EPA goes further, however. Section 122.29 of its regulations states that, as a general matter,[5] a source meeting the "new source" definition is nevertheless a new source only if it is constructed at a site where no other source is located, totally re-

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[6]E.I. du Pont De Nemours & Co. v. Train, 430 U.S. 112, 138, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20191, 20197 (1977).

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[1]CWA § 306(a)(3), 33 U.S.C.A. § 1316(a)(3). A modification, such as a new discharge facility, has been held not to be a "source." *See* Mahelona v. Hawaiian Elec. Co., 418 F. Supp. 1328, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20031 (D. 1976). The original Senate Bill, S.2770, specifically covered modifications of existing sources. *See* S. Rep. No. 414, 92d Cong., 1st Sess. 61 (1971). The language relating to modifications was dropped from the bill in conference.

[2]CWA § 306(a)(2), 33 U.S.C.A. § 1316(a)(2).

[3]*See* 40 C.F.R. § 122.2.

[4]CWA § 306(a)(5), 33 U.S.C.A. § 1316(a)(5). EPA's NPDES regulations, 40 C.F.R. § 122.29(b)(4), are clearer. EPA defines construction as commencing upon: (1) beginning, as part of a continuous on-site construction program, any "placement, assembly, or installation of equipment" or any "significant site preparation work . . . which is necessary for the placement, assembly, or installation of new source facilities or equipment"; or (2) entering into a "binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time." The Agency includes within the grasp of the NSPS options that cannot be terminated "without substantial loss" and excludes most engineering and design contracts.

EPA defines "facilities or equipment" as "buildings, structures, process or production equipment or machinery which form a permanent part of the new source and which will be used in its operation, if these facilities or equipment are of such value as to represent a substantial commitment to construct." 40 C.F.R. § 122.29(a)(5). The definition excludes engineering and design-related facilities and equipment.

[5]The Agency reserves to itself the ability to lay different ground rules in individual NSPS rulemaking, an option the Agency exercised in the NSPS for placer mining, see 40 C.F.R. § 440.144(c), an activity that involves the periodic movement, abandonment, and reactivation of mines, as well as the creation of wholly "new" ones, during the normal course of operation. EPA's determination to apply several factors, including movement of the mine outside of an NPDES-permitted area, alteration of the nature or quantity of pollutants discharged, and operation of the mine in a permit area that has not

places the process or production equipment that causes the discharge of pollutants, or its processes are "substantially independent" of those of any existing source on the same site[6] *and* an NSPS is independently applicable to it.[7]

Section 122.21(k) of EPA's NPDES regulations set forth requirements for formal new source status determinations by EPA.

§ 13:66 Effluent standards and limitations—Technology-based discharge limitations—New sources and new dischargers—The consequences of being a new source

New sources[1] must meet the applicable NSPS. If they comply with the standards, they are insulated from having any more stringent limitations imposed for a period of 10 years following completion of construction or during the period of depreciation allowed under §§ 167 or 169 of the Internal Revenue Code, whichever period is shorter.[2]

A significant requirement applicable only to new sources is the application of the National Environmental Policy Act to permits issued by EPA containing NSPSs.[3]

§ 13:67 Effluent standards and limitations—Technology-based discharge limitations—New sources and new dischargers—New dischargers and modified sources

EPA created a hybrid, the "new discharger," in its NPDES permit regulations.[1] A new discharger is a "building, structure, facility or installation" from which there may be a discharge of pollutants that "did not commence the discharge of pollutants at a particular site before August 13, 1979," which is not a new source and which "has never received a finally effective NPDES permit for discharges at that site."[2] The term includes indirect dischargers whose discharges commenced after August 13, 1979.

The "new discharger" concept is primarily aimed at mobile point sources such as

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been mined during the term of the currently valid NPDES permit, on a case-by-case basis, was upheld in Rybachek v. EPA, 904 F.2d 1276, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20973 (9th Cir. 1990).

[6]40 C.F.R. § 122.29(b)(1). EPA defines "site" for these purposes as "the land or water area where any 'facility or activity' is physically located or conducted, including adjacent land used in connection with the facility or activity." 40 C.F.R. § 122.2.

[7]40 C.F.R. § 122.29(b)(2). A source that meets all of the criteria except the latter one is deemed a "new discharger" and is subject to different requirements, which are discussed below.

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[1]New source means "any building, structure, facility, or installation from which there is or may be a 'discharge of pollutants,' the construction of which commenced: (a) [a]fter promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or (b) [a]fter proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal." 40 C.F.R. § 122.2.

[2]CWA § 306(d), 33 U.S.C.A. § 1316(d). *See also* 40 C.F.R. § 122.29(d)(1)(i) (makes it clear that such sources are not insulated from more stringent water-quality-based limits or toxic effluent standards); 40 C.F.R. § 122.29(d)(1)(ii) (provides that the source will have to meet the applicable § 301 limit immediately upon the expiration of the ten-year or other protection period, without a start-up grace period).

[3]*See* FWPCA § 511(c)(1), 33 U.S.C.A. § 1371(c)(1); 40 C.F.R. § 122.29(c). State-issued permits issued pursuant to §§ 306(c) and 402 are not subject to NEPA. *See* 40 C.F.R. § 122.29(c).

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[1]See discussion at 48 Fed. Reg. 39619 (1983).

[2]40 C.F.R. § 122.2. The definition goes on to specify certain specific types of facilities the agency intended to cover.

factory ships and mobile drilling rigs, which move from site to site and would otherwise be considered new sources each time they move. The concept also embraces fixed dischargers that would be new sources but for the fact that there are no NSPS applicable to them at the time they commence construction.[3]

Essentially, new dischargers are provided the 10-year NSPS protection period if they meet applicable NSPS prior to commencing their discharge.[4] They are not subject to NEPA, but are subjected to the start-up restriction imposed on new sources.[5]

New construction at a site where there is an already existing source that is not totally independent of the existing source is considered a modification of the existing source and does not qualify for new source or new discharger treatment.[6]

§ 13:68 Effluent standards and limitations—Stormwater discharges—Background

Stormwater, particularly in urban areas, has plagued EPA's water pollution program, as it did the states prior to enactment of the CWA. EPA's handling of stormwater discharges over the years has been the subject of criticism from environmental organizations, which view stormwater as a significant source of pollution that has been inadequately regulated.

Stormwater affects the program in two ways. Older municipalities frequently have combined storm and sanitary sewer systems, which during periods of dry weather convey only sewage, but whose volume of water flow increases tremendously following a rain storm. Sewage treatment technology works best with concentrated influent. When significant dilution occurs, the efficiency of the treatment process deteriorates or, worse yet, the treatment regimen can literally be washed out, requiring a long restart period.

EPA has addressed the problem in several ways. First, the Title II design criteria require treatment plants in municipalities with combined sewers to be designed to accommodate wet weather flows without bypass. In addition, during the 1970s, EPA required municipalities with combined sewers to conduct "infiltration and inflow" analyses as a prerequisite to eligibility for Title II funds. The "I & I" program, as it was called, was intended to uncover leaks in the sewer system where groundwater could enter it and to find and eliminate such things as roof and cellar drain connections, which tend to exacerbate wet weather flows. Finally, the secondary treatment standards are structured to accommodate combined sewer POTW, which have difficulty meeting the percentage removal requirements of the basic limitation.[1]

The second category of stormwater discharges encompasses stormwater-only discharges that discharge to a surface water. EPA initially excluded such discharges from the NPDES program and was severely criticized for doing so.[2] It later reversed its position somewhat and modified the NPDES regulations to accommodate

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[3]*See* 40 C.F.R. § 122.29(b)(2).

[4]40 C.F.R. § 122.29(d).

[5]*See* 40 C.F.R. § 122.29(d)(4).

[6]40 C.F.R. § 122.29(b)(3).

[Section 13:68]

[1]*See* 40 C.F.R. § 133.103(a).

[2]The Agency was primarily concerned about the administrative burden that would be imposed upon it were it required to permit tens of thousands of storm sewer outfalls, which discharge large quantities of water and relatively small amounts of pollutants. Unfortunately, the pollutant load from stormwater discharges turned out to be greater than first thought, and as regulatory interest turned to toxic pollutants, complaints about the Agency's policy grew louder.

stormwater discharges in 1984,[3] treating stormwater discharges as a hybrid point source, subject to special requirements and, to some extent minimal regulation by "general permits."

40 C.F.R. § 122.26 created a structure that encouraged closer scrutiny of storm sewer systems emanating from heavily industrialized areas and discouraged regulation of rural agricultural systems. The regulations define as "storm water point sources" generically only those that are in large urbanized areas or discharge "from lands or facilities used for industrial or commercial activities." Other stormwater discharges were considered such for regulatory purposes only if specifically designated by the permitting authority pursuant to specific criteria.[4]

EPA's 1984 regulations phased in stormwater point sources for permitting purposes. "Group I" storm sewers, which included specifically designated sewers, those located in industrial yard areas, or for which effluent limitations have been established, were required to apply for a permit by December 31, 1987. All other "regulated" stormwater discharges were not required to be covered by a permit application until June 30, 1989.

Privately owned or operated storm sewer systems with multiple users, such as systems emanating from industrial parks where the collector sewers are owned by the discharging industries, were treated differently from municipal systems. In certain cases, the NPDES regulations allowed the permit writer to require separate permits of the contributors to such a system.

Nevertheless, EPA's clear thrust has been to maximize the use of general permits to cut down the administrative burden imposed by permitting stormwater point sources. Section 122.28(a)(2) specifically includes stormwater point sources as general permit targets, provided they meet the criteria of § 122.28(a)(1).[5]

§ 13:69 Effluent standards and limitations—Stormwater discharges—The 1987 amendments

As discussed in § 13:68 above, EPA's regulation of stormwater discharges has historically been a controversial subject, particularly with environmental groups. Addressing stormwater discharges directly, in 1987 Congress added § 402(p) to the statute.[1] This provision suspended until 1992 EPA's authority to require a permit for discharges composed "entirely of stormwater,"[2] except for four significant categories of stormwater discharges. Stormwater-only discharges for which permits are or may be required in the interim include: (1) those for which permits had been issued prior to the enactment date of the amendment; (2) discharges "associated with

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[3]*See* 49 Fed. Reg. 38046 (1984).

[4]The permit writer was limited by considerations contained in promulgated stormwater point source effluent guidelines. Nevertheless, in spite of any such limitation, a source could also be designated if EPA approves a § 208 nonpoint source water quality management plan applicable to such source, or if the criteria for calling it a "significant contributor of pollution" were met. Those criteria include consideration of the location of the discharge, its size, the quantity and nature of the pollutants reaching WOTUS, and "other relevant factors."

[5]Those criteria all relate to confined political or geographic areas.

[Section 13:69]

[1]Pub. L. No. 100-4, § 405, 101 Stat. 69 (1987).

[2]This term is not defined. All stormwater contains pollutants picked up during the course of runoff. Clearly stormwater containing landfill leachate would seem not to be included within the scope of the term, but what of stormwater that contains pollutants from legal or illegal floor drains in commercial or industrial facilities?

industrial activity";[3] (3) discharges from large and midsize municipal separate storm sewers;[4] and (4) discharges that have been identified and designated by state or EPA officials as causing a violation of water quality standards or is otherwise a "significant contributor of pollutants to the waters of the United States."[5] EPA codified these amendments by revisions to its stormwater regulations in 1989.[6]

Under the 1987 legislative timetable, discharges associated with industrial activity and those from municipalities of a population greater than 250,000 were to be covered by EPA permit regulations by not later than two years after the enactment date.[7] Such dischargers were to have submitted a completed permit application within three years of the enactment date, and permits were to be issued within a year after that. EPA was given two years longer to develop regulations and issue permits covering municipalities of a population between 100,000 and 250,000. EPA was prohibited from addressing smaller municipal stormwater discharges until it has completed a study mandated by the legislation and in no event before 1992.

EPA implemented its stormwater discharge program in two phases.[8] Phase I was issued in 1990 and requires medium and large cities and certain counties with populations over 100,000 to obtain an NPDES permit for stormwater discharges. Phase II was issued in 1999 and requires smaller municipal separate storm sewer systems (MS4s) to obtain an NPDES permit for stormwater discharges.

EPA issued the industrial and municipal stormwater permit application regulations in November 1990, which included requirements for medium municipal separate storm sewers, and were not due until 1991.[9] The primary category of nonmunicipal dischargers which must file stormwater permit applications is composed of facilities that have a "storm water discharge associated with industrial activity," defined as "the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant."[10] Such discharges must be permitted whether they discharge immediately to WOTUS or travel through a municipal separate storm sewer before reaching such waters.[11]

Industrial dischargers must certify that all of the outfalls covered in the permit application have been tested for nonstormwater discharges that are not covered by an NPDES permit, except for outfalls where stormwater is intentionally mixed with process or nonprocess wastewater streams that are already identified in and covered by a permit. Applicants for discharges composed of stormwater and nonstormwater must report in detail on the nonstormwater component of the discharge.[12]

Ten listed categories of facilities are presumptively considered to be engaging in "industrial activity";[13] discharges from areas at these facilities that are "directly re-

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[3]33 U.S.C.A. § 1342(p)(2)(B); 40 C.F.R. § 122.26(b)(14).

[4]33 U.S.C.A. § 1342(p)(2)(C), (D). The cutoff is a population of 100,000.

[5]33 U.S.C.A. § 1342(p)(2)(E). Congress also amended § 502(14) of the Act to expressly exclude from the definition of point source agricultural stormwater discharges. 33 U.S.C.A. § 502(14).

[6]*See* 54 Fed. Reg. 246 (1989).

[7]Pub. L. No. 100-4 became law on February 4, 1987.

[8]U.S. Environmental Protection Agency, Stormwater Discharge from Municipal Separate Storm Sewer Systems (MS4s), http://cfpub.epa.gov/npdes/stormwater/munic.cfm; *see also* Nat. Res. Def. Council v. U.S. E.P.A., 526 F.3d 591, 595-598, 66 Env't Rep. Cas. (BNA) 1948 (9th Cir.).

[9]55 Fed. Reg. 47990 (1990), codified at 40 C.F.R. Part 122.

[10]40 C.F.R. § 122.26(b)(14).

[11]*See* 55 Fed. Reg. at 47998 to 47999.

[12]*See* 40 C.F.R. § 122.26(c)(1).

[13]These include facilities subject to stormwater effluent limitations guidelines, NSPS, or toxic pol-

lated" to manufacturing, processing, or raw materials storage areas[14] must be included in the application even if the water does not actually contact any industrial materials. Notably, stormwater runoff from logging roads is not considered to be "associated with industrial activity."[15] Although discharges from areas located on plant lands separate from the plant's industrial activities, such as office buildings and parking lots, are excluded from the definition, the exception does not apply if drainage from the excluded areas is mixed with stormwater drained from industrial areas.[16]

A second group of "light industry" facilities having stormwater discharges associated with industrial activity presumptively will not have to file an application unless their industrial activity is actually exposed to stormwater. These include facilities covered by over 20 Standard Industrial Classification Codes, including those engaged in manufacturing metal products, electronic and medical equipment, products made from purchased glass, and warehousing.[17] In the final rule, EPA justified this differential treatment for light industrial facilities on the grounds that most of their activities occur indoors and the volume of pollutants generated by their outdoor activities (such as equipment storage and stack emissions) is minimal.[18] In 1992, however, the Ninth Circuit invalidated this portion of the rule as arbitrary and capricious, finding that EPA failed to provide any facts in the record to support its claims as to the characteristics of discharges from light industrial facilities, and that the statute, in any case, does not permit the use of an "actual exposure" text for these categories of facilities.[19]

For covered industrial dischargers, the regulations provide for three types of permits: individual permits, group permits, and promulgated general permits. An individual application, requiring extensive facility-specific information and quantitative sampling data, must be submitted unless the discharger qualifies for a group or

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lutant effluent standards under 40 C.F.R. subchapter N; facilities with certain Standard Industrial Classifications, hazardous waste treatment, storage or disposal facilities, landfills, land application sites, and open dumps; recycling facilities such as metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards; steam electric power generating facilities' certain transportation facilities; treatment works treating domestic sewage; and construction activity involving more than five acres. 40 C.F.R. § 122.26(b)(14)(i) to (x).

[14]Such "dirty" areas include plant yards, immediate access roads and rail lines used by materials carriers, refuse sites, sites used for the application or disposal of process wastewaters, shipping and receiving areas, manufacturing buildings, storage areas—including tank farms, for raw materials and products—and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. 40 C.F.R. § 122.26(b)(14).

[15]Decker v. Northwest Environmental Defense Center, 133 S. Ct. 1326, 1336-38, 185 L. Ed. 2d 447, 76 Env't Rep. Cas. (BNA) 1001 (2013).

[16]40 C.F.R. § 122.26(b)(14). EPA states in the preamble that a facility will generally be held responsible for sheet flow or discharged stormwater from upstream facilities that enters the land or commingles with the discharge from the downstream facility. Ultimately, however, these conditions will be addressed by permitting upstream facilities and requiring downstream facilities to develop management practices to segregate or otherwise prevent commingling of discharges. *See* 55 Fed. Reg. 47990, 48010 (1990).

[17]40 C.F.R. § 122.26(b)(14), (b)(14)(xi). Most retail and commercial facilities are not regulated under the rule, pending the results of further studies.

[18]55 Fed. Reg. 47990, 48008 (1990).

[19]Nat. Res. Def. Council, Inc. v. EPA, 966 F.2d 1292, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20950 (9th Cir. 1992). The court also struck down EPA's exemption for construction sites of less than five acres, finding that EPA had failed to adequately support its determination that discharges from such sites would have only *de minimis* adverse effects, and upheld the exemption for uncontaminated runoff from mining, oil, and gas activities. Nat. Res. Def. Council, Inc. v. EPA, 966 F.2d 1292, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20950 (9th Cir. 1992). *See also* American Mining Congress v. EPA, 965 F.2d 759, 22 Envtl. L. Rep. (Envtl. L. Inst.) 21135 (9th Cir. 1992) (upholding classification of discharges from inactive mines as "associated with industrial activity").

general permit. A group application may be filed by an entity representing a group of applicants (excluding facilities that have existing individual NPDES permits for stormwater) that are part of the same effluent limitation subcategory or are sufficiently similar as to be appropriate for general permit coverage.[20]

The third type of permit for which some industrial dischargers may be eligible is a general permit. As an initial matter, general permits will cover the majority of stormwater discharges associated with industrial activity located in states without authorized NPDES programs. General permits will also serve as models for states with authorized NPDES permits. Once EPA has issued general permits for stormwater discharges associated with industrial activity, facilities will seek coverage under a general permit by filing a notification of intent.[21]

Individual applications were to be submitted by November 18, 1991.[22] Part 1 of a group application was required to be filed by March 18, 1991, and Part 2 within 12 months of approval of the group. Facilities rejected as part of a group are given 12 months from the date of rejection to submit an individual permit application.[23] A separate set of deadlines applies to applications for stormwater discharges associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000, other than an airport, power plant, or uncontrolled sanitary landfill.[24]

Also covered by the stormwater permitting regulations are discharges from large or medium municipal separate storm sewer systems, which are defined to include discharges into waters of the U.S. from municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.[25] The operator must either participate with one or more other system operators in a permit application that covers

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[20]*See* 40 C.F.R. subpart N.

[21]*See* 55 Fed. Reg. 47990, 48003 (1990). EPA's preamble discussion indicates that general permits will provide baseline stormwater management practices with additional specific management practices for certain categories of industries. *See* 55 Fed. Reg. 47990, 48006.

[22]EPA extended the deadline for submission of individual industrial stormwater applications to October 1, 1992. 57 Fed. Reg. 56548 (Nov. 5, 1992). The deadline for a facility rejected as a member of a group application was extended to no later than 12 months after the date of rejection or October 1, 1992, whichever comes first. 56 Fed. Reg. 56549 (Nov. 5, 1992).

[23]EPA extended the deadline for submission of Part 1 to September 30, 1991. 56 Fed. Reg. 12098 (Mar. 21, 1991). EPA also extended the deadline to submit Part 2, to October 1, 1992. 57 Fed. Reg. 11394 (Apr. 2, 1992). *See also* Dire Emergency Supplemental Appropriations Act of 1991, Pub. L. 102-27, § 307, 105 Stat. 130, 152 (1991) (ratifying EPA extension for Part 2). Facilities with existing permits for stormwater discharges associated with industrial activity must submit new applications 180 days before their permits expire, see 40 C.F.R. § 122.26(e)(6), while applications for new discharges must generally be submitted 180 days before the date on which the discharge is to commence, see 40 C.F.R. § 122.21(c)(1).

[24]Individual applications for such discharges had to be submitted by October 1, 1992, except in two cases. For municipal facilities identified in a timely submitted Part 1 group application, where the group application is denied or the particular facility is rejected from the group, the facility need not submit an individual application until the 180th day after the date of denial or rejection or October 1, 1992, whichever is later. Facilities owned or operated by a municipality with a population of less than 100,000 need not submit an individual application until further notice, unless required under § 402(p)(2)(A) or (E) of the Act. With regard to group applications, for facilities owned or operated by a municipality with a population of less than 250,000, and for airports, power plants, and uncontrolled landfills owned or operated by a municipality with a population of less than 100,000, group application deadlines are May 18, 1992, for Part 1 and May 17, 1992, for Part 2. *See* 57 Fed. Reg. 11394 (Apr. 2, 1992). This differential treatment for discharges from industrial facilities owned or operated by municipalities was not contemplated by either the CWA or EPA's rules but rather is a product of special provisions in the Intermodal Surface Transportation Efficiency Act of 1991, Pub. L. 102-240, § 1068, 105 Stat. 1914, 2007 (1991).

[25]40 C.F.R. § 122.26(b)(8). Large systems include those that either serve a population of 250,000 or more, are located in unincorporated areas within specifically listed counties, or are specifically designated by EPA. 40 C.F.R. § 122.26(b)(4). Medium systems include those that either serve a popula-

all, or a portion of all, discharges from the system; submit a distinct permit application, which only covers discharges from the sewers for which the operator is responsible; or, where there is a regional authority with authority over a stormwater management program, be included in an application submitted by that authority.[26] EPA may issue one system-wide permit covering all discharges from a single system or issue separate permits for categories of discharges within the system.[27]

Municipal separate storm sewer permit applications have two parts.[28] Part 1 of the permit application, which must include detailed system-specific information and a sampling plan, is due by November 18, 1991, for large systems and May 18, 1992, for medium systems. Part 2, consisting of analytical data and a proposed management program for reducing "illicit discharges" must be submitted by November 16, 1992, for large systems and May 17, 1993, for medium systems.[29]

Stormwater discharges from small municipalities (those serving less than 100,000 persons) and construction sites of less than five acres also require permits. As part of the permit requirements, municipalities are required to implement six measures, at a minimum, to reduce pollutants in stormwater: public education and outreach, public involvement, illicit discharge detection and elimination, construction site runoff control, post-construction stormwater management in new development and redevelopment, and pollution prevention and good housekeeping of municipal operations.[30] For small construction sites, the EPA requires the implementation of BMP.[31]

Finally, EPA, authorized states, or federally-recognized tribes granted treatment as a state retain their authority to require submission of a permit application by other dischargers of stormwater where the discharge is found to contribute to a violation of water quality standards or to be a significant contributor of pollutants to the WOTUS.[32]

EPA's extension of the statutorily established deadlines for submission of permit applications by individual industrial dischargers and large and medium storm sewer systems was declared unlawful in 1992, as was the Agency's failure to include in the 1990 stormwater rule deadlines for permit issuance and permit compliance.[33] The court declined to enjoin EPA from further extensions for permit applications but ordered it to inform the regulated community of the statutory deadlines for permit approval and compliance.

The stormwater permitting process will be conducted according to permitting priorities to be established by EPA. As an initial matter, Tier I baseline permitting

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tion of 100,000 or more, are located in specifically listed counties, or are specifically designated. 40 C.F.R. § 122.26(b)(7). Not covered by the regulations are discharges of stormwater to combined, as opposed to separate, sewer systems that mix stormwater and sanitary or process wastewater. 40 C.F.R. § 122.26(a)(7).

[26]40 C.F.R. § 122.26(a)(3)(iii).

[27]40 C.F.R. § 122.26(a)(3)(ii). A single permit application for sewers in adjacent or interconnected systems may also be submitted. 40 C.F.R. § 122.26(a)(3)(iv).

[28]*See* 40 C.F.R. § 122.26(d). Defenders of Wildlife v. Browner, 191 F.3d 1159 (9th Cir. 1999) (holding that EPA has the authority to require municipalities to comply strictly with state water-quality standards with regard to stormwater discharges).

[29]40 C.F.R. § 122.26(e)(3), (4). Industrial facilities that discharge to a municipal separate stormwater system serving more than 100,000 people were required to provide the municipal system with certain facility-specific information by May 15, 1991. 40 C.F.R. § 122.26(a)(4).

[30]40 C.F.R. § 122.34; *see also* 64 Fed. Reg. 68721 (1999), codified at 40 C.F.R. §§ 122.30-122.37.

[31]64 Fed. Reg. 68721 (1999), codified at 40 C.F.R. § 122.26(c).

[32]40 C.F.R. § 122.26(e)(5).

[33]Natural Res. Def. Council, Inc. v. EPA, 966 F.2d 1292, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20950 (9th Cir. 1992).

will involve the development of one or more general permits to initially cover the majority of stormwater discharges associated with industrial activity. Tier II watershed permitting will involve the targeting for permitting of facilities located in watersheds shown to be adversely impacted by stormwater discharges associated with industrial activity. Specific industry categories will be targeted for individual or industry-specific permits in Tier III, and other specific facilities will be targeted for individual permits in Tier IV.[34]

EPA has published a general NPDES permit for stormwater discharges associated with industrial activity to be used in states lacking authorized NPDES programs. The permit requires covered facilities to develop stormwater pollution prevention plans and sets forth specific monitoring and reporting requirements. Numeric effluent limitations are implemented for a limited number of regulated activities, including discharges from hazardous waste landfills, nonhazardous waste landfills, and coal storage piles. The general permit otherwise relies on non-numeric effluent limitations.[35]

§ 13:70 Effluent standards and limitations—Water-quality-based limitations[1]

The CWA authorizes the imposition of "water-quality-based limitations" in NPDES permits where technology-based limitations are not adequate to ensure that receiving streams will satisfy water quality standards and designated uses. Technology-based limits focus on the technological and economic capacity of a category of industrial dischargers to control pollution. In contrast, water-quality-based limits focus on the environmental effects of the discharge. Dischargers must meet technology-based limitations applicable to all point sources in a discrete industrial category. Water-quality-based limitations may be imposed as an additional, and a more stringent, limitation where warranted by the adverse water quality effects of a discharge.

Several provisions of the Act authorize the imposition of water-quality-based limitations. These include the water quality standards provisions of § 303,[2] the toxic effluent standard provisions of § 307(a)(2),[3] and the water-quality-based effluent limitations provisions of § 302.[4] Additionally, § 403 provides for the inclusion of water-quality-based restrictions for discharges into marine waters.[5] Finally, § 510 preserves state and tribal authority to impose more stringent requirements.[6]

Where sources have come into compliance with the BAT requirements of the Act, and water quality degradation has persisted, these water-quality-based limitations will take on increasing importance as the mechanism for achieving additional post-BAT discharge reductions. Without question, the § 303 water quality standards program is by far the most important of these provisions. Because it is the basis for most water-quality-based provisions in NPDES permits, the failure of EPA and the

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[34] *See* 55 Fed. Reg. 47990, 48002 (1990).

[35] *See* 73 Fed. Reg. 56572 (Sept. 29, 2008); U.S. EPA, Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008).

[Section 13:70]

[1] By **Jeffrey Gaba;** updates by **Ronald Raider** and **Vance Hughes.**

[2] 33 U.S.C.A. § 1313. *See* § 13:71-§ 13:75.

[3] CWA § 307(a)(2), 33 U.S.C.A. § 1317(a)(2). *See* § 13:77.

[4] CWA § 302, 33 U.S.C.A. § 1322. *See* § 13:76.

[5] CWA § 403, 33 U.S.C.A. § 1343. *See* § 13:78.

[6] 33 U.S.C.A. § 1370; *see, e.g.*, Ga. Code Ann. § 12-5-23.2 (1998) (Georgia phosphorus standards for lakes).

states to implement water-quality-based permitting strategies has resulted in a series of successful citizen suits.[7] The authority of §§ 307 and 302 has been little used, but remains available for imposing additional post-BAT limitations.[8]

§ 13:71 Effluent standards and limitations—Water-quality-based limitations—Water quality standards

Section 303 of the CWA requires states to establish, and review every three years, water quality standards for all waters within their jurisdiction.[1] Water quality standards in concept are simple. States must specify one or more uses for which each body of water in the state is to be maintained.[2] These "designated uses" might for one stream include "warm water fishery"; for another it might be "public drinking water supply."

Examples of Typical Designated Uses[3]

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[7]*See, e.g.*, Alaska Ctr. for the Env't v. Reilly, 762 F. Supp. 1422, 1426-29, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21305, 21306-08 (W.D. Wash. 1991), 796 F. Supp. 1374, 22 Envtl. L. Rep. (Envtl. L. Inst.) 21204 (W.D. Wash. 1992); *aff'd sub nom.* Alaska Ctr. for the Env't v. Browner, 20 F.3d 981, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20702 (9th Cir. 1994) (court held that Alaska had constructively submitted no total maximum daily load (TMDL) analyses and ordered EPA to initiate establishment of TMDLs and to identify impaired water bodies); Sierra Club v. Hankinson, 939 F. Supp. 865, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20280 (N.D. Ga. 1996) (court held EPA's failure to disapprove state's inadequate TMDL submission violates APA and failure to promulgate TMDLs for state violated CWA).

[8]*See* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1217–18 (1983).

[Section 13:71]

[1]Section 303(a) of the 1972 Federal Water Pollution Control Act Amendments required states to establish water quality standards for intrastate as well as interstate waters by May 1983. States had previously been required to adopt water quality standards for interstate waters by the Water Quality Act of 1965, which contained the predecessor to existing water quality standards provisions. *See* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1177–86 (1983); *see also* Kentucky ex rel. Hancock v. Train, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20689 (E.D. Ky. 1976) (discussion of the range of waters for which states must establish water quality standards).

Section 303(c), 33 U.S.C.A. § 1313(a), contains the currently applicable requirements for review of existing water quality standards. Section 303(c)(1) requires that each state hold public hearings at least once every three years for the purpose of reviewing water quality standards. Section 303(c)(2) provides that any "revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses."

[2]36 Vand. L. Rev. 1167, 1217–18 (1983).

[3]*See* State of Washington, Dep't. Ecology, Surface Water Quality: Designated Uses, https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards/Designated-uses.

Aquatic life uses	Recreational uses	Water supply uses	Miscellaneous uses
• Char spawning and rearing • Core summer salmonid habitat • Salmonid spawning, rearing, and migration • Salmonid rearing and migration only • Non-anadromous interior redband trout • Indigenous warm water species	Primary contact	• Domestic water supply • Industrial water supply • Agricultural water supply • Stock watering	• Wildlife habitat • Fish harvesting • Commerce and navigation • Boating • Aesthetic values

Federally-recognized tribes granted treatment as a state typically maintain the same type of uses as listed above, but may state more explicit purpose of promoting the health, welfare, political integrity, economic well-being, and traditional culture of the tribe.[4] Some states have also adopted new Tribal Beneficial Uses listing uses to help protect activities specific to Native American cultures and their uses of state waters, including the consumption of non-commercial fish or shellfish.[5]

In addition to designated uses, the state must also set water quality "criteria."[6] These criteria are the levels of pollutants in the water which will ensure that the designated use will be maintained. Thus, a criterion for the "warm water fishery" might be a minimum dissolved oxygen of 5 milligrams per liter in the stream. These criteria are ambient criteria; they specify the levels of pollutants in the water body itself and not in the discharge. These criteria may also be narrative based on qualities such as "aesthetics."[7]

Section 301(b)(1)(c) of the Act requires that NPDES permits include limitations that will ensure that water quality standards are not violated.[8] This includes water quality standards of the state in which the discharge occurs, as well as the stan-

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[4]*See*, *e.g.*, Pueblo of Acoma Water Quality Standards, https://www.epa.gov/sites/default/files/2014-10/documents/acoma-wqs.pdf.

[5]*See* California Water Boards, Tribal Beneficial Uses—Cultural Uses of Water, https://www.waterboards.ca.gov/tribal_affairs/beneficial_uses.html.

[6]33 U.S.C.A. § 1314(a)(1); *see* § 13:73.

[7]33 U.S.C.A. § 1313(c); PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, 511 U.S. 700, 715–16, 24 Envtl. L. Rep. 20945 (1994). *See also* Sierra Club v. Meiburg, 296 F.3d 1021, 32 Envtl. L. Rep. 20776 (11th Cir. 2002) (discussing nonpoint sources, water quality standards, and total maximum daily loads in the context of 33 U.S.C. § 1313).

[8]CWA § 301(b)(1)(c), 33 U.S.C.A. § 1311(b)(1)(c). Under § 401, states must certify that a project that may result in a discharge will comply with water quality standards and "other requirements" of state law, and the provision authorizes the state to specify the effluent limitations and other limitations necessary to ensure that the project meets those requirements. *See* CWA § 401, 33 U.S.C.A. § 1341. In PUD No. 1 of Jefferson County v. Washington Dep't of Ecology, 511 U.S. 700, 114 S. Ct. 1900, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20945 (1994), the U.S. Supreme Court upheld Washington State's imposition of minimum stream flow conditions as part of its certification that a hydroelectric plant would meet state water quality standards.

There are four basic elements to a water quality standard. 40 C.F.R. Part 131, subpart B. These elements are: (1) designated use of the water body; (2) water quality criteria to protect the designated use; (3) an antidegradation policy to maintain and protect existing uses and waters; and (4) general policies for implementation. *Id. See also* U.S. EPA, What are Water Quality Standards?, http://water.epa.gov/scitech/swguidance/standards/about_index.cfm; U.S. EPA, EPA's Water Quality Standard

dards of neighboring states affected by the discharge.[9] Permit writers must determine whether the amount of a pollutant discharged by a source will cause the level of a pollutant in a stream to exceed criteria values,[10] and specific end-of-pipe numerical limitations can be placed in a permit to ensure that this does not occur.[11] Assessment of water quality is complex. Because most monitoring data provides no more than an instantaneous snapshot of stream quality, a comprehensive assessment is preferable and will be based on frequent sampling and computer analyses beyond the resource capabilities of most states. All point sources must meet applicable technology-based limitations; water quality standards based restrictions are imposed as an additional and a more stringent limitation only where the discharge will cause violation of water quality standards.

Although water quality standards are set by the states, the Administrator is responsible for reviewing state standards to ensure that they meet the requirements of the Act.[12] The Administrator is also responsible for reviewing tribal standards set forward by federally-recognized tribes granted status as a state. Notably, a "gap" exists for establishment of water quality standards on Indian reservations for those tribes not treated as a state because state water quality standards are not generally applicable to Indian lands.[13]

If the Administrator determines that states or tribes treated as states do not meet these requirements, EPA may promulgate necessary changes to the standards which then become the applicable standards for that state.[14] EPA has promulgated regulations specifying requirements for state adoption of water quality standards.[15]

Review of EPA's decisions approving and disapproving state water quality standards raises some difficult questions. According to EPA, disapproving a state water

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Handbook: Second Edition, http://water.epa.gov/scitech/swguidance/standards/handbook/index.cfm; U.S. EPA, EPA's Technical Support Document for Water Quality-Based Toxics Control, http://water.epa.gov/scitech/swguidance/standards/handbook/upload/2002_10_25_npdes_pubs_owm0264.pdf.

[9]*See* Arkansas v. Oklahoma, 503 U.S. 91, 112 S. Ct. 1046, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20552 (1992); *see also* 40 C.F.R. § 131.10(b) ("In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.").

[10]*See* § 13:75.

[11]However, EPA has approved and states can develop mixing zones. 40 C.F.R. § 131.13. *See also* U.S. EPA, EPA's Technical Support Document for Water Quality-Based Toxics Control, http://water.epa.gov/scitech/swguidance/standards/handbook/upload/2002_10_25_npdes_pubs_owm0264.pdf; 40 C.F.R. § 125.121(c) (definition of "mixing zone").

[12]CWA § 303(c)(3), 33 U.S.C.A. § 1313(c)(3).

[13]*See* Federal Baseline Water Quality Standards for Indian Reservations, 81 Fed. Reg. 66,900 (Sept. 29, 2016). While a number of tribes that qualified for treatment as a state have put forward their own water quality standards, there exists over 300 tribes with reservation lands and not all of these tribes have applied for treatment as a state. Except for the 74 tribes with EPA-approved water quality standards in place, the one instance where the EPA has promulgated federal water quality standards for a tribe, and the six tribes for which the EPA has approved states to adopt water quality standards on reservations, there is a gap in the water quality protection under the CWA for waters on Indian reservations. The EPA is currently engaged in a rulemaking to promulgate tribal baseline water quality standards for reservation lands.

[14]CWA § 303(c)(4), 33 U.S.C.A. § 1313(c)(4).

[15]40 C.F.R. Part 131. The Water Quality Act of 1987 amended § 303(d) by prohibiting revisions of "total maximum daily loads" unless a designated use has been removed "in accordance with regulations established under this section" or, in the case of high quality waters, unless the action is "consistent with the antidegradation policy established under this section." It is unclear the extent to which Congress intended to codify existing EPA regulations on revisions of designated uses, see § 13:72 note 5, and antidegradation, see § 13:74 notes 6–8. States, pursuant to § 510 of the Act, are authorized to impose more stringent standards if they choose. Thus, these federal regulations specify the minimum requirements that states must achieve for standards to be federally approved.

quality standard has no effect because the disapproved state standard remains in effect until EPA promulgates a federal standard.[16] Based on this position, EPA has claimed that its disapproval of a state standard is not ripe for review and that review is available, if at all, in a challenge to federally promulgated standards.[17] Environmental groups have had some success suing EPA under the CWA citizen suit provisions when EPA has failed to promulgate new water quality standards following its disapproval of state standards.[18] Once EPA formally disapproves a state standard, the CWA imposes a nondiscretionary duty on EPA to promulgate federal standards "promptly."[19] Several courts have held that citizens could sue to compel EPA to perform this nondiscretionary duty when EPA had "unreasonably" delayed promulgation.[20] Plaintiffs have also had some success in review of EPA's approval of a state water quality standard.[21]

§ 13:72 Effluent standards and limitations—Water-quality-based limitations—Water quality standards—Requirements for state water quality standards—Designated uses

Section 303(c)(2) of the Act provides that standards shall be such as to "protect public health or welfare, enhance the quality of water and serve the purposes of this Act."[1] EPA has interpreted this provision to require that state water quality standards achieve the goals of the Act specified in § 101(a)(2), which provides that "wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish and wildlife, and provides for recreation in and on the water."[2]

To achieve this goal, EPA regulations require that all designated uses must, at a

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[16]*See* 40 C.F.R. § 131.21(c).

[17]*See, e.g.*, Stream Pollution Control Bd. v. Alexander, 11 Env 1564 (S.D. Ind. 1978).

[18]Section 505(a) of the CWA allows citizen suits where, among other things, the EPA Administrator has failed to perform a nondiscretionary duty. *See, e.g.*, Alaska Ctr. for the Env't. v. Reilly, 762 F. Supp. 1422, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21305 (W.D. Wash. 1991). *But see* Gulf Restoration Network v. McCarthy, 783 F.3d 227, 242–43, 45 Envtl. L. Rep. (Envtl. L. Inst.) 20076 (5th Cir. 2015) (finding that so long as EPA provides an adequate explanation it may exercise its discreation to decline to make a determination as to whether a new water quality standard is necessary to meet the requirements of the CWA).

[19]Review is a greater problem when EPA has not formally acted in response to a state submission; presumably, EPA fails in its nondiscretionary duty to approve or disapprove after some period of time. *See, e.g.*, Scott v. City of Hammond, 741 F.2d 992, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20631 (5th Cir. 1984).

[20]*See* Idaho Conservation League v. Browner, 968 F. Supp. 546 (W.D. Wash. 1997) (unreasonable delay when EPA took two years from the date of state submission to disapprove standards and seven months had passed since disapproval); Raymond Proffitt Found. v. EPA, 930 F. Supp. 1088, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21601 (E.D. Pa. 1996) (a delay of 588 days); Defenders of Wildlife v. Browner, 909 F. Supp. 1342, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20894 (D. Ariz. 1995) (delays of 11 and 19 months). *But see* Puget Soundkeeper Alliance v. U.S. EPA, No. C13-1839-JCC, 2014 WL 4674393, 79 ERC 2094 (W.D. Wash. Sept. 18, 2014) (finding that EPA did not fail to act promptly where the agency did not propose standards within four month of making a determination).

[21]*See, e.g.*, Nat. Res. Def. Council, Inc. v. EPA, 16 F.3d 1395, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20496 (4th Cir. 1993) (review of EPA approval of state water quality criteria for dioxin); City of Albuquerque v. Browner, 865 F. Supp. 733, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20422 (D.N.M. 1993) (in a challenge to EPA approval of tribal water quality standards, jurisdiction for review of EPA action is claimed under the APA and Declaratory Judgment Act).

[Section 13:72]

[1]CWA § 303(c)(2), 33 U.S.C.A. § 1313(c)(2). Additionally, the section provides that states shall take into consideration the value of waters for such uses as "public water supplies, propagation of fish and wildlife, recreational purposes and agricultural, industrial and other purposes."

[2]CWA § 101(a)(2), 33 U.S.C.A. § 1251(a)(2). *See* Gaba, Federal Supervision of State Water Quality

minimum, specify that waters are fit for aquatic protection and recreation, so-called "fishable/swimmable" waters, wherever these uses are attainable.[3] States are required to perform a "use attainability analysis" of waters not designated for these minimum uses.[4] States can justify a lower designated use only if the attainability analysis demonstrates that the uses are not attainable either because of natural environmental factors or because imposition of control measures to achieve these uses would result in "substantial and widespread economic and social impact."[5] EPA has not specifically defined either the precise designated uses necessary to meet the "fishable/swimmable" goals of § 101(a)(2) nor the extent of the economic impact which will satisfy the required showing of widespread economic and social impact.[6]

§ 13:73 Effluent standards and limitations—Water-quality-based limitations—Water quality standards—Requirements for state water quality standards—Water quality criteria

State water quality criteria specify the concentrations of pollutants which, if not exceeded in the water body, will ensure that the designated uses are maintained.[1] In most cases, the required criteria consist of numerical concentrations for specific pollutants.[2] EPA has published recommended concentrations for a range of traditional pollutants, such as bacteria and dissolved solids, and for each of the 65 CWA toxic pollutants.[3] Additionally, states may establish criteria either on a narrative basis, such as a general requirement that a water body will not be toxic to man

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Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1194–95 (1983). The Senate Report on the predecessor bill to the Water Quality Act of 1987 states, "Ordinarily, State water quality standards established under § 303 designate the use specified in § 101(a)(2) of the Act." S. Rep. No. 50, 99th Cong., 1st Sess. 24 (1986).

[3]*See* 40 C.F.R. §§ 131.6(a), 131.10(g); Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1194–96 (1983).

[4]40 C.F.R. § 131.10(j).

[5]40 C.F.R. § 131.10(g). The Water Quality Act of 1987 amended § 303(d) to prohibit the revision of total maximum daily loads for point sources on segments that are not attaining water quality standards, unless the revision will ensure attainment of the standard or "the designated use which is not being attained is removed in accordance with regulations established under this section." It is not clear the extent to which this language was intended to codify EPA's then existing regulations relating to alteration or "downgrading" of designated uses. The House Report on its predecessor bill, in its discussion of proposed but not adopted revisions dealing with 304(a)(1) water quality criteria, does impliedly endorse EPA's current regulations when it states that "the Act and EPA regulations provide an appropriate mechanism for readjusting water quality standards where standards are unattainable." H.R. Rep. No. 189, 99th Cong., 1st Sess. 27(1986).

[6]General guidance on implementation of the water quality standards regulations is, however, contained in the Agency's Water Quality Standards Handbook.

[Section 13:73]

[1]At least in one case, with respect to dissolved oxygen, the criteria set a minimum rather than a maximum value for concentration in the water body.

[2]*See* 40 C.F.R. § 131.11(b). The Water Quality Act of 1987 amended § 303(c)(2)(B) to require states to establish numerical criteria for toxic pollutants where national criteria have been established pursuant to § 304(a).

[3]EPA publishes "water quality criteria documents" pursuant to § 304(a)(1) of the Act. This section requires that EPA publish "criteria for water quality accurately reflecting the latest scientific knowledge" on various biological and ecological effects of pollutants. These documents contain both information on the environmental effects of pollutants and a recommended ambient concentration for protection of aquatic communities and for protection of human health. EPA has stated that these criteria values are recommendations and have no direct regulatory effect. *See* 45 Fed. Reg. 79318 (1980).

EPA has published a series of compilations of § 304(a)(1) water quality criteria. The first published compilation was the Quality Criteria for Water (1976), the so-called "Red Book." As part of a comprehensive settlement of litigation involving regulation of toxic pollutants, EPA has prepared criteria for all 65. In its Notice of Availability of criteria documents for 64 of these pollutants, EPA

or terrestrial or aquatic life, or based on bioassay results, such as the requirement that the concentration of toxic materials in a water body not exceed 0.1 of the 96-hour median lethal concentration (LC50) for aquatic organisms.[4] Issues relating to development and implementation of narrative and bioassay-based criteria are discussed elsewhere in this treatise.[5]

The Water Quality Act of 1987 amended § 303(c)(2)(B) to require states to establish criteria for toxic pollutants "the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the state, as necessary to support such designated uses." In guidance to the states, EPA indicated that states could achieve compliance with § 303(c)(2)(B) either by: (1) adopting numeric criteria for all toxic pollutants for which EPA has issued criteria guidance under § 304(a); (2) adopting numeric criteria "where such pollutants could reasonably be expected to interfere with designated uses"; or (3) adopting procedures to translate state narrative criteria into numeric criteria.[6] In 1992, EPA promulgated chemical-specific, numeric criteria for priority toxic pollutants for the 14 states that had not yet adopted regulations that EPA determined complied with the requirements of § 303(c)(2)(B).[7] Criteria were promulgated that addressed both protection of human health and aquatic life. Selection of a federal criterion value for the pollutants raised a number of issues. Among the more controversial was determination of an "acceptable" risk level for human carcinogens. Rather than identify a single risk level, EPA based the criteria values on its assessment or risk levels that the states had used in establishing other criteria or had identified as state policy. Thus, the risk levels, and the resulting criteria, varied among the states.[8]

EPA consistently has taken the position that it will reject specific criteria values adopted by a state if they do not meet federal requirements.[9] Under EPA regulations, a state criterion value must be based on either the recommended national criterion, the national criterion value modified to reflect local conditions using EPA methodology, or on "other scientifically defensible methods."[10] This reliance on the national recommended criteria has, in the past, been known as "presumptive

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described its revised methodology for developing water quality criteria. *See* 45 Fed. Reg. 79317 (1980). EPA has continued to publish criteria on additional pollutants since that time. The most current compilation of water quality criteria can be found at https://www.epa.gov/wqc/national-recommended-water-quality-criteria.

[4]40 C.F.R. § 131.11(b). *See generally* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1205 (1983). The Water Quality Act of 1987 amended § 303(c)(2)(B) by specifically authorizing the use of criteria based on biological assessment or monitoring where numerical criteria have not been established. A new § 304(a)(8) requires the Administrator to develop and publish information on methods for establishing and measuring water quality criteria for toxic pollutants on other bases than pollutant-by-pollutant criteria, including biological monitoring and assessment methods.

[5]See § 13:81 for a discussion of bioassay-based limits and § 13:82 for a discussion of narrative criteria.

[6]Existing EPA regulations do not, however, explicitly require that a state include criteria for any specific pollutant in its water quality standards. For nontoxic pollutants, the regulations merely have a general requirement that states adopt sufficient criteria "to protect the designated use." 40 C.F.R. § 131.11(a)(1). EPA has a slightly different set of requirements for toxic pollutants. First, the regulations require that states review water bodies where "toxic pollutants may be adversely affecting water quality or the attainment of designated uses or where the levels of toxic pollutants are at a level to warrant concern." 40 C.F.R. § 131.11(a)(2). The only requirement that states adopt criteria for toxic pollutants, however, is that they are "sufficient to protect the designated use." 40 C.F.R. § 131.11(a)(2).

[7]57 Fed. Reg. 60848 (1992).

[8]The risk values used ranged from a risk of one in 100,000 to one in 1,000,000. 57 Fed. Reg. 60848 (1992).

[9]*See* 40 C.F.R. Part 131, subpart D (water quality standards).

[10]40 C.F.R. § 131.11(b)(1).

applicability."[11] A group of stakeholders, however, challenged EPA's promulgation of water quality standards for California and several other states, forcing EPA to agree that national criteria for metals were overly stringent. In settlement of the litigation, EPA agreed to restate the criteria for several metals as dissolved.[12] Notwithstanding that clarification, water-quality-based permit limits for metals must be translated and stated in terms of total recoverable metals.[13]

In *Mississippi Commission on Natural Resources v. Costle*,[14] the Fifth Circuit upheld EPA's rejection of the Alabama criterion for dissolved oxygen that was less stringent than the national value. The court held that it was not unreasonable for the Agency "to require states to justify standards not in conformance with the criteria policy."[15] The court further held that EPA's review of the criterion value itself, as opposed to the designated use that the criterion supported, was based exclusively on scientific data and did not require an assessment of the economic impact of adoption of the criterion.[16]

A number of states have confronted EPA over the criterion value for dioxin. The scientific data on human health effects of dioxin is quite controversial, and recommended values vary widely among government and scientific bodies.[17] Several states, including Maryland and Mississippi, have adopted criteria for dioxin that are 100 times higher than the recommended national criterion value.[18] In *Natural Resources Defense Council v. EPA*,[19] the Fourth Circuit upheld EPA's approval of the dioxin standard for Maryland and Virginia. The court's opinion is noteworthy, among other reasons, for the court's willingness to allow EPA to base its approval on certain generic assumptions relating to dioxin's toxicity and the estimated amount of human consumption. The court, for example, concluded that EPA had properly exercised its judgment when it declined to base its analysis of dioxin exposure on evidence of higher fish consumption among subpopulations of Native Americans.

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[11]EPA stated that it has abandoned the policy of presumptive applicability of the § 304(a)(1) water quality criteria, but the regulations in effect continue to employ this policy. *See* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1209–13 (1983).

[12]*See* American Forest & Paper Ass'n, Inc. v. EPA, consolidated case no. 93-0694 RMU (D.D.C.) (in which the challenge to EPA's National Toxic Rule (57 Fed. Reg. 60848 (Dec. 22, 1992)) was partially settled by publication of a stay of the rule as to certain metals (60 Fed. Reg. 22228 (May 4, 1995)) and simultaneous promulgation of an Interim Final Rule based on the bioavailable or dissolved fraction of metals toxic to aquatic life (60 Fed. Reg. 22229 to 22237 (May 4, 1995))). EPA subsequently published updated § 304(a) criteria for 157 pollutants on December 7, 1998, expressing several metals criteria as dissolved (63 Fed. Reg. 67548 to 67558).

[13]40 C.F.R. § 122.45(c).

[14]Mississippi Commission on Nat. Res. v. Costle, 625 F.2d 1269, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20931 (5th Cir. 1980).

[15]Mississippi Commission on Nat. Res. v. Costle, 625 F.2d 1269, 1276, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20931 (5th Cir. 1980).

[16]Mississippi Commission on Nat. Res. v. Costle, 625 F.2d 1269, 1277, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20931 (5th Cir. 1980).

[17]The § 304(a)(1) criterion for dioxin, consistent with criteria for other suspected carcinogens, concludes that any exposure to dioxin represents some risk of cancer, and the document provides a range of values representing different risk levels. *See* 49 Fed. Reg. 5831 (1984). In 1992, EPA promulgated criteria for dioxin in states that had not complied with § 303(c)(2)(B). The dioxin criteria was set for most states at 0.013 parts per quadrillion (a risk level of one in a million). *See* 57 Fed. Reg. 60848 (1992).

[18]*See* 21 Env't Rep. (Current Events) (BNA) 1803 (Feb. 8, 1991) (discussing EPA's approval of the Maryland criterion for dioxin of 1.2 parts per quadrillion); 21 Env't Rep. (Current Events) (BNA) 2155 (Apr. 5, 1991) (discussing Mississippi's adoption of a dioxin criterion of 1 part per quadrillion).

[19]Natural Res. Def. Council, Inc. v. EPA, 16 F.3d 1395, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20496 (4th Cir. 1993).

More recently, the EPA has confronted some states on their implementation of human health water quality criteria and the protection of tribal subsistence/sustenance fishers. For example, in 2016, EPA partially disapproved certain human health water quality criteria adopted by the State of Washington and promulgated federal water quality criteria in their place.[20] EPA calculated the federal criteria using fish consumption rates and cancer risk level, among other factors, that the agency determined were necessary "to ensure that the criteria are set at levels that will adequately protect Washington residents, including tribes with treaty-reserved rights, from exposure to toxic pollutants."[21] In 2020, and following a petition from several entities asking the EPA to reconsider the partial disapproval of Washington's 2016 human health criteria, EPA withdrew its 2016 rulemaking because the state adopted and EPA approved revised human health criteria the EPA determined are protective of Washington's designated uses for its waters.[22]

§ 13:74 Effluent standards and limitations—Water-quality-based limitations—Water quality standards—Requirements for state water quality standards—Antidegradation

In addition to its specific requirements for designated uses and criteria, EPA has adopted an antidegradation policy that precludes states from adopting water quality standards which do not protect existing uses and existing water quality, and that limits the circumstances under which a state may authorize degradation of existing water quality.[1] Under EPA's regulations, states are required to adopt an antidegradation policy which protects existing wastestream uses and the level of water quality necessary to protect those uses.[2]

Where existing water quality exceeds that necessary to achieve the § 101(a)(2) goals, water quality can be degraded to the minimum fishable/swimmable levels only where "necessary to accommodate important economic or social development."[3] This degradation of water quality may only be allowed after satisfying specific intergovernmental consultation and public participation requirements. EPA regulations preclude any degradation of water quality in water constituting an "outstanding National resource."[4]

The promulgation of an antidegradation requirement based on the 1972 Amendments to the Federal Water Pollution Control Act has been one of the more controversial aspects of the Act.[5] Prior to the Water Quality Act of 1987, the CWA contained no explicit reference to an antidegradation requirement. EPA's policy was

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[20]81 Fed. Reg. 85417 (December 29, 2016). EPA also took a similar action in Maine, disapproving certain human health water quality criteria adopted by the State of Maine as applicable and promulgated federal water quality criteria in their place to protect the sustenance fishing designated use in waters in Indian lands and in waters subject to sustenance fishing rights under the Maine Implementing Act (MIA). 81 Fed. Reg. 92466 (December 19, 2016).

[21]81 Fed. Reg. 85417, 85418.

[22]85 Fed. Reg. 28494 (May 13, 2020). In 2020, EPA also withdrew is prior disapproval of Maine's human health criteria because Maine adopted, and EPA approved, human health criteria that the Agency determined are protective of the designated uses applicable to waters in the State of Maine. 85 Fed. Reg. 82936 (December 21, 2020).

[Section 13:74]

[1]40 C.F.R. § 131.12.

[2]40 C.F.R. § 131.12(a)(1).

[3]40 C.F.R. § 131.12(a)(2).

[4]40 C.F.R. § 131.12(a)(3). For a discussion of the public participation requirements in a state antidegradation regulation, see Columbus & Franklin County Metro. Park Dist. v. Shank, 600 N.E.2d 1042 (Ohio 1992).

[5]*See generally* Hines, A Decade of Nondegradation Policy in Congress and the Courts: The Erratic

based in part on a federal antidegradation policy that preceded the CWA and in part on the specified goals of the Act.[6]

The 1987 Amendments to the CWA included a new § 303(d)(4)(B) that allows revision of permit effluent limits based on total maximum daily loads where water quality equals or exceeds levels necessary to attain water quality standards only if the revision "is subject to and consistent with the antidegradation policy established under this section." There is no other amendment that defines "the antidegradation policy." Legislative history suggests that Congress intended this provision to codify EPA's existing antidegradation regulations.[7]

The antidegradation program is linked to the new antibacksliding provisions of § 402(o). Under the antibacksliding provision of § 402(o)(2), BPJ or water-quality-based permit limitations may not be relaxed unless the permittee satisfies certain enumerated conditions.[8] In addition, § 402(o)(1) indicates that a water-quality-based permit may also be relaxed if the change satisfies the antidegradation policy in § 303(d)(4).[9] The Conference Report states that "backsliding from water-quality-based effluent limitations can only proceed according to the procedures and applying the decision standard of antidegradation policy established by § 303 of the Act, and where the proposed backsliding is found to be consistent with this antidegradation policy."[10]

§ 13:75 Effluent standards and limitations—Water-quality-based limitations—Water quality standards—Implementation of water quality standards

The designation of water quality standards for a particular body of water is merely one step to the ultimate objective of placing enforceable restrictions on sources of pollution. Additional steps include the determination of TMDL for water bodies and the translation of such loads into specific numerical pollutant limits contained in an NPDES permit.

Pursuit of Clean Air and Clean Water, 62 Iowa L. Rev. 643 (1977).

[6]Hines, A Decade of Nondegradation Policy in Congress and the Courts: The Erratic Pursuit of Clean Air and Clean Water, 62 Iowa L. Rev. 643 (1977). *See also* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1189–92 (1983). In Commonwealth Edison Co. v. Train, 649 F.2d 481, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20901 (7th Cir. 1980), the court dismissed a challenge to EPA's antidegradation requirements on ripeness grounds. One judge, dissenting, would have found the regulations violated the requirements of the Act. Commonwealth Edison Co. v. Train, 649 F.2d 481, 489, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20901 (7th Cir. 1980).

[7]*See* S. Rep. No. 50, 99th Cong., 1st Sess. 4–7 (1985).

[8]One of these conditions is the existence of new information, not available at the time of permit issuance, that would have justified a less stringent effluent limitation. The section provides, however, that this condition does not apply to revisions of waste load allocations unless the effect of the revision is to decrease the amount of pollutants discharged into the concerned waters, "and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with requirements of this Act or for reasons otherwise unrelated to water quality." Clean Water Act § 402(o)(2), 33 U.S.C.A. § 1342(o)(2).

[9]The amendment is somewhat ambiguous as to whether a water-quality-based limitation may be relaxed only if both consistent with the antidegradation policy and enumerated exceptions are satisfied, or whether either is a sufficient basis for backsliding. The Conference Report suggests that they are alternative means for justifying backsliding:

> With respect to water-quality-based permits, in addition to justification based on the limited circumstances just described, the conference substitute also provides that permits developed on the basis of water-quality-based effluent limitations under § 301(b)(1)(C) or § 303(d) or (e), may be renewed, reissued or modified on the basis of subsequently revised waste load allocation formulas, but only in compliance with new § 303(d)(4).

H.R. Conf. Rep. 1004, 99th Cong., 2d Sess. 156 (1986).

[10]H.R. Conf. Rep. 1004, 99th Cong., 2d Sess. 156 (1986).

Section 303(d) of the Act requires that states determine TMDL for all waters that will not achieve water quality standards after application of the 1977 BPT technology-based limits.[1] These TMDL are the total daily[2] amounts of a particular pollutant that sources can discharge without violating standards.[3] The Act provides that these loads are to be established at a level necessary to implement applicable water quality standards "with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality."[4] The adequacy of these TMDL are subject to review and approval by EPA. The slow pace of state promulgation of TMDL prompted a series of citizen suits that have resulted in court-ordered schedules by which states or EPA must promulgate TMDL.[5]

The state, after determining the total maximum load, is free to allocate that total load among dischargers contributing to pollution on a stream segment. The allocation of the allowable load generally is accomplished through issuance of NPDES permits, including water quality standards based limitations when more than one polluter operates on a segment. EPA has provided states with little useful guidance in the development of proper methods of allocation; states are free to allocate as they wish, provided that they determine the total maximum daily loads to protect,

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[Section 13:75]

[1]CWA § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

[2]In Friends of the Earth v. EPA, 446 F.3d 140, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20077 (D.C. Cir. 2006), *cert. denied*, 127 S. Ct. 1121 (2007), the D.C. Circuit held that based on the plain meaning of "daily," EPA's TMDL calculation for waters failing to achieve water quality standards must be based on a calculation of total maximum *daily* loads, rather than seasonal or annual loads. For the opposite holding, see Nat. Res. Def. Council, Inc. v. Muszynski, 268 F. 3d 91 (2d Cir. 2001) (finding that such an interpretation is "absurd," because for some pollutants, "effective regulation may best occur by some other periodic measure than a diurnal one") and Am. Farm Bureau Fed'n v. U.S. E.P.A., 792 F.3d 281 (3d Cir. 2015) (finding that the term "total maximum daily load" is ambiguous).

[3]Section 303(d) actually requires that TMDLs be prepared only for those pollutants that EPA has determined are suitable for these calculations. EPA in 1978 published a notice saying that under appropriate conditions all pollutants are suitable for calculation of TMDLs. 43 Fed. Reg. 60662 (1978). In 2013, a district court held that EPA cannot regulate stormwater under its TMDL authority. VA Dep't of Transp. v. EPA, 43 ELR 20002, NO. 1:12-CV-775 (E.D. Va., Jan. 3, 2013).

[4]CWA § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

[5]CWA § 303(d)(2), 42 U.S.C.A. § 1313(d)(2). If the state fails to submit acceptable loadings, the EPA must establish necessary TMDLs itself. FWPCA § 303(d)(2), 42 U.S.C.A. § 1313(d)(2). States have, in general, been slow to adopt TMDLs, and several courts have ordered EPA to adopt TMDLs where states have failed to develop their own. *See, e.g.*, Scott v. City of Hamond, 741 F.2d 992 (7th Cir. 1984); Alaska Ctr. for the Env't v. Reilly, 762 F. Supp. 1422 (W.D. Wash. 1991); Sierra Club v. Hankinson, 939 F. Supp. 865, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20280 (N.D. Ga. 1996). In Dioxin/Organochlorine Ctr. v. Clarke, 57 F.3d 1517, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21258 (9th Cir. 1995), the court reviewed challenges by both environmentalists and industry to an EPA-imposed TMDL for dioxin on the Columbia River basin. The court upheld the TMDL and gave substantial deference to EPA judgments regarding the effects of dioxin on human health and the environment. The court also held that EPA had the discretion to promulgate a TMDL for dioxin under § 303 prior to promulgation of a specific BPT or BAT technology-based limitation. *But see* Ohio Valley Environmental Coalition, Inc. v. Pruitt, 893 F.3d 225 (4th Cir. 2018) (holding that West Virginia's delay of promulgating TMDLs for certain waters could not be construed as a constructive submission of no TMDLs, thereby triggering EPA's duty to act, because the state had issued some TMDLs and had a credible plan to develop other TMDLs); San Francisco Baykeeper v. Whitman, 287 F.3d 764 (9th Cir. 2002), *opinion withdrawn and superseded by,* 297 F.3d 877 (9th Cir. 2002) (holding that EPA had no duty to establish TMDLs for California despite the state's failure to submit TMDLs for more than 15 years after the initial statutory deadline because it had begun establishing a program in 1994); Thomas v. Jackson, 581 F.3d 658 (8th Cir. 2009) (refusing to require the EPA to include § 303(d) impaired waters where EPA has determined that impairment is due to something other than a pollutant); Sierra Club v. McLerran, No. 11-CV-1759-BJR, 2015 WL 1188522, (W.D. Wash. Mar. 16, 2015) (finding that state's failure to submit a PCB TMDL did not unambiguously indicate its intent to abandon the PCB TMDL).

among other things, recreational and aesthetic purposes[6] and the results protect water quality standards.[7]

The translation of a waste load allocation into a specific numerical permit limitation is the final step in the implementation of water quality standards.[8] This process is difficult, inexact, and controversial. Permit writers must undertake a complex review of the discharger and the stream segment to determine the necessary end-of-pipe limitations that will ensure that water quality standards are not violated. This review may require modeling the flow of the steam to determine low flow conditions and developing appropriate boundaries of a "mixing zone" where the waste is first discharged. If a point source complies with its water quality standards-based permit limitations, it is not liable even if the limits are inadequate to ensure that the water quality standards are attained.[9] Most water quality standards-based permit limitations consist of specific numerical limitations, but, as noted, such limitations are difficult to develop. The Ninth Circuit has had considerable difficulty with the issue of whether permits could contain an enforceable limitation that simply required compliance with water quality standards. In such a case, proof that a permittee's discharge caused a violation of water quality standards would constitute a violation of the NPDES permit. In *Northwest Environmental Advocates v. City of Portland*,[10] the Ninth Circuit originally held that such a generalized requirement was not an enforceable "effluent standard or limitation." On rehearing, however, the same panel reversed its position and held that such a generalized requirement was enforceable.[11] The court relied heavily on *PUD No. 1 of Jefferson County v. Washington Department of Ecology*,[12] which the majority described as holding that water quality standards-based restrictions are not limited to specific numerical lim-

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[6]Friends of Earth, Inc. v. E.P.A., 446 F.3d 140, 144-45, 147-48, 62 Env't Rep. Cas. (BNA) 1161, 36 Envtl. L. Rep. 20077, 53 A.L.R. Fed. 2d 577 (D.C. Cir. 2006).

[7]*See* 40 C.F.R. Pt. 130; *see also* Friends of Pinto Creek v. U.S. E.P.A., 504 F.3d 1007, 1012-16, 65 Env't Rep. Cas. (BNA) 1289 (9th Cir. 2007) (finding that discharger was not entitled to NPDES permit under the Act where water body was already impaired and 303(d) listed, and the discharger failed to produce evidence under 40 C.F.R. § 122.4(i)(1) and (2)). *But see*, *e.g.*, Assateague Coastkeeper v. Maryland Dept. of Env't, 200 Md. App. 665, 714, 28 A.3d 178 (2011), *cert. denied*, 424 Md. 291, 35 A.3d 488 (2012) ("The resolution of the question of how to interpret the phrase 'cause or contribute' to a water quality violation is an issue that involves [agency] expertise, and we give deference to its opinion on this issue. The [agency's] construction of 40 C.F.R. § 122.4(i), as allowing the consideration of pollution offsets in determining whether a discharge 'causes of contributes' to a violation of water quality standards, is reasonable. Under the circumstances, we will not substitute our judgment for that of the agency.").

[8]The process is described in the preamble to the proposal of the current water quality standards regulations. 47 Fed. Reg. 49239 (1982). *See also* Permit Writer's Guide to Water Quality Based Permitting (EPA/440/4-87-005, July 1987); Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001, Mar. 1991). In 1995, EPA issued guidance on water quality issues for the Great Lakes. 60 Fed. Reg. 15366 (Mar. 23, 1995). This guidance addresses a number of issues relating to implementation of water quality standards, including derivation of numerical effluent limits, mixing zones, and the role of antidegradation policies.

[9]*See*, *e.g.*, Oregon Nat. Res. Council v. U.S. Forest Serv., 834 F.2d 842, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20450 (9th Cir. 1987).

[10]Northwest Envtl. Advocates v. City of Portland, 11 F.3d 900, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20238 (9th Cir. 1993), *opinion withdrawn and superseded on reh'g by* 56 F.3d 979, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21250 (9th Cir. 1995).

[11]*See, e.g.,* Northwest Envtl. Advocates v. City of Portland, 56 F.3d 979, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21250 (9th Cir. 1995); *accord* Harpeth River Watershed Ass'n v. City of Franklin, Tenn. No. 3:14-1743, 2016 WL 827584 (M.D. Tenn. March 3, 2016) (rejecting defendant's argument that state programs having a greater scope of coverage than that allowed under federal law are not enforceable as effluent standards under the CWA).

[12]PUD No. 1 of Jefferson Cty. v. Wash. Dep't of Ecology, 511 U.S. 700, 114 S. Ct. 1900, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20945 (1994). In this case, the U.S. Supreme Court upheld Washington State's imposition of minimum stream flow conditions as part of its certification that a hydroelectric plant

itations but could include broader narrative obligations. The panel was split on this issue, and the dissenting judge subsequently published a rather bitter opinion attacking the panel's revised opinion and its characterization of *PUD No. 1*.[13]

In *Arkansas v. Oklahoma*,[14] the Supreme Court confirmed the interstate reach of the obligation to comply with water quality standards. The case involved an EPA-issued NPDES permit to a new sewage treatment plant located in Arkansas. During the permit issuance process, Oklahoma challenged the permit, claiming that the discharge would violate Oklahoma water quality standards. Arkansas claimed that the CWA did not require an Arkansas point source to comply with water quality standards in Oklahoma. During the administrative appeal process, EPA took the position that the permit must include provisions to ensure that the water quality standards of the downstream state are not violated, but held that the permit could be issued since the discharge would not cause "an actual *detectable* violation of Oklahoma's water quality standards."[15] The court of appeals upheld EPA's authority to require compliance with a downstream state's water quality standards, but addressing an issue not argued by the parties, remanded based on its conclusion that the CWA prohibited the discharge of effluent that would reach waters already in violation of existing water quality standards.[16]

The Supreme Court upheld EPA's authority to require NPDES permits to contain conditions necessary to ensure compliance with the "applicable" water quality standards of all affected states. EPA's water quality standards regulations specifically established this requirement,[17] and the Court held that EPA's provision was a reasonable exercise of discretion under the CWA.[18] The Supreme Court, however, rejected the court of appeal's position that no discharge could be added to a stream currently violating water quality standards.[19] The Supreme Court upheld EPA's position that the discharge from Arkansas would violate Oklahoma water quality standards only if the discharge would result in an "actual, detectable or measur-

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would meet state water quality standards.

[13]*See* Northwest Envtl. Advocates v. City of Portland, 74 F.3d 945, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20707 (9th Cir. 1996) (O'Scannlain, J., dissenting from order rejecting suggestion for rehearing en banc); *see also* Upper Chattahoochee Riverkeeper Fund v. City of Atlanta, 986 F. Supp. 1406, 28 Envtl. L. Rep. (Envtl. L. Inst.) 20330 (N.D. Ga. 1997) (deciding on summary judgment that a combined sewer overflow permit prohibition against causing "violation of water quality standards" required that every sample meet all of the numeric criteria). Other courts have declined to decide that issue on summary judgment. *See, e.g.*, McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182, 1203, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20124, 20132 (E.D. Cal. 1988), *judgment vacated*, 47 F.3d 325 (9th Cir. 1995); Culbertson v. Coats Am., Inc., 913 F. Supp. 1572, 1580-81, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20875, 20879 (N.D. Ga. 1995).

[14]Arkansas v. Oklahoma, 503 U.S. 91, 112 S. Ct. 1046, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20552 (1992).

[15]Arkansas v. Oklahoma, 503 U.S. 91, 112 S. Ct. 1046, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20552, 20553 (1992) (citation omitted).

[16]*See, e.g.,* Oklahoma v. EPA, 908 F.2d 595 (10th Cir. 1990).

[17]*See* 40 C.F.R. § 122.44(d).

[18]The Supreme Court implied that only federally approved water quality standards were "applicable." This would mean that a discharger in one state need not comply with another state's unapproved water quality standards. This issue is potentially significant since it establishes real consequences to EPA's failure to approve a state standard. In the past, EPA has argued that disapproval of a state standard has no effect until EPA promulgates replacement water quality standards. *See* Stream Pollution Control Bd. v. Alexander, 11 Env 1564 (S.D. Ind. 1978); 40 C.F.R. § 131.21(c).

[19]*But see* Friends of Pinto Creek v. EPA, 504 F.3d 1007, 37 Envtl. L. Rep. (Envtl. L. Inst.) 20255 (2007) (citing 40 C.F.R. § 122.4 and distinguishing Arkansas v. Oklahoma, 503 U.S. 91, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20552 (1992), the court held that the EPA may not issue a permit to a new point source that is discharging pollution into already impaired water where no compliance schedules were in place).

able" change in water quality. The Supreme Court held that EPA's interpretation of a state's water quality standard was entitled to deference when it was construing federally approved state water quality standards.

The water quality standards implementation process thus involves a combination of complex scientific and policy issues and presents a sharp contrast with the relative simplicity of implementing promulgated technology-based limitations. The permit writer using technology-based effluent guidelines may need to do no more than impose specific numerical limitations applicable throughout the country to all sources within a given industrial category.

§ 13:76 Effluent standards and limitations—Water-quality-based limitations—Water-quality-related effluent limitations

In addition to the requirement that discharges not violate water quality standards, the Act provides a mechanism to impose stringent limitations on sources on a stream segment that fails to attain designated uses. Section 302 authorizes the imposition of these "water quality related effluent limitations" if the water quality in a stream will not attain the national goals of "fishable/swimmable" waters.[1] Before establishing these limitations the Administrator must hold public hearings and perform some form of "cost/benefit" assessment of the limitations.[2] These limitations may not be imposed if dischargers can demonstrate that there is "no reasonable relationship" between the costs and benefits of the limits.[3] For several reasons, including this cost/benefit test and the availability of limitations based on water quality standards, this section has never been used by EPA.[4]

Section 302 was amended in the Water Quality Act of 1987 to limit its applicability to toxic pollutants. However, it remains unlikely that § 302 will be used because water quality standards and discharge permits based thereon are available to achieve the water quality goals of the CWA without consideration of the cost/benefit factors contained in § 302. The legislative history of the 1987 amendments indicates that water quality standards are the primary mechanism for establishing water-quality-based limitations and that § 302 is "supplemental" and not intended to "undercut or in any way affect the development" of water quality standards.[5]

[Section 13:76]

[1]CWA § 302, 33 U.S.C.A. § 1312. Section 302(a) authorizes imposition of "water quality related effluent limitations" if discharges from point sources subject to the BAT limitations will still "interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water."

[2]CWA § 302(b)(1), 33 U.S.C.A. § 1312(b)(1).

[3]CWA § 302(b)(2), 33 U.S.C.A. § 1312(b)(2). At least one court has rejected the argument that the "reasonableness" test in § 302 was relevant in evaluating state water quality standards established under § 303. *See* Homestake Mining v. EPA, 477 F. Supp. 1279 (D.S.D. 1979). The legislative history of the amendments to § 302 expressly states: "The provisions of § 302(b)(2) authorizing the modification of effluent limitations apply only to the effluent limitations established under § 302(a)." S. Rep. No. 50, 99th Cong., 1st Sess. 24 (1986).

[4]*See* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1200–03 (1983).

[5]The Senate Report on the bill from which the revisions to § 302 derive states:

> Ordinarily, State water quality standards established or revised under § 303 designate the uses specified in § 101(a)(2) of the Act, and if implemented through adequate criteria, waste load allocations, and effluent limitations in permits, will protect the level of water quality addressed by § 302(a). The Administrator is to use the authority of § 302(a), however, where compliance with best available technology requirements or the State water quality standards process are not attaining this level of water quality, due to point sources.

§ 13:77 Effluent standards and limitations—Water-quality-based limitations—Toxic effluent standards

Section 307(a)(2) of the Act authorizes the imposition of limitations on the discharge of toxic pollutants more stringent than BAT technology-based limits.[1] Unlike technology-based limitations, these toxic standards are based on the environmental and health effects of the discharge of toxic pollutants. These toxic effluent standards are established as uniform national restrictions and are generally applicable to classes of sources.[2] Although toxic standards are included in NPDES permits, they are also directly enforceable after they have been promulgated by EPA.[3] Since 1972, EPA has promulgated toxic effluent standards for only six pollutants: aldrin/dieldrin, DDT, endrin, toxaphene, benzidine, and PCB.[4] Although the 1977 amendments to the Act simplified procedural requirements for setting these standards, no new § 307(a)(2) standards have been promulgated since 1976.

§ 13:78 Effluent standards and limitations—Water-quality-based limitations—Ocean discharge criteria

Finally, § 403 of the Act provides for the inclusion of water-quality-based limitations on the discharge of pollutants into all marine waters.[1] Section 403 thus forms the basis for including water-quality-based restrictions in the NPDES permits of coastal facilities discharging into marine waters and on offshore facilities, such as oil and gas drilling and production platforms. Pursuant to § 403(c), EPA has promulgated "water discharge criteria" that specify the factors which permit writers must address to ensure that no marine discharge will cause "unreasonable degradation of the marine environment."[2] These criteria generally give permit writers considerable discretion to impose conditions in NPDES permits on marine discharges.[3] Where the permit writer, however, is unable to make a determination

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Section 303 of the Act is the primary mechanism for the development of State water quality standards and effluent limitations based on them. In developing standards under that section, States are authorized to consider the economics of achieving such standards only as allowed under EPA's regulations established pursuant to § 303. Section 302 is not intended to undercut or in any affect the development of water quality standards under § 303 nor the imposition of § 301(b)(1)(C) of the Act. Rather, it is a supplemental provision which directs the Administrator, with the concurrence of the State, to impose effluent limitations which assure the attainment or maintenance of water quality for the protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and recreational activities in and on the water, in situations where the adopted water quality standards do not assure the attainment and maintenance of such uses, including in some instances those waters that are listed under the new § 305(c).

S. Rep. No. 50, 99th Cong., 1st Sess. 24 (1986).

[Section 13:77]

[1]CWA § 307(a)(2), 33 U.S.C.A. § 1317(a)(2).

[2]*See* Envtl. Def. Fund v. EPA, 598 F.2d 62, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20765 (D.C. Cir. 1978).

[3]CWA § 402(k), 33 U.S.C.A. § 1342(k). *Cf.* Inland Steel Co. v. EPA, 574 F.2d 367, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20354 (7th Cir. 1978).

[4]40 C.F.R. § 129.

[Section 13:78]

[1]CWA § 403, 33 U.S.C.A. § 1343. Section 403 provides that no permit for a discharge into the "territorial sea, the waters of the contiguous zone, or the oceans" shall be issued except in compliance with ocean discharge guidelines established under this section.

[2]40 C.F.R. §§ 125.120-.124.

[3]Examples of EPA ocean discharge permits include the 2012 Beaufort Sea and Chukchi Sea Oil and Gas Exploration NPDES General Permits. *See* U.S. EPA, Region 10: the Pacific Northwest, Arctic Oil and Gas Exploration General Permits, http://yosemite.epa.gov/r10/water.nsf/npdes+permits/arcti

whether a discharge will cause "unreasonable degradation,"[4] the regulations specifically require, among other things, that the permit contain certain bioassay-based limitations on the toxicity of the discharge, a monitoring program, and a reopener clause that will authorize the Agency to modify or prohibit the discharge on the basis of new information.[5]

§ 13:79 Effluent standards and limitations—Water-quality-based limitations—Toxic pollutant control strategies

Since adoption of the 1972 amendments to the Federal Water Pollution Control Act, EPA's primary emphasis has been on the promulgation of technology-based limitations for inclusion in NPDES permits.[1] In the Water Quality Act of 1987, Congress, however, mandated a new focus on toxic pollutants under the water quality standards program. A new provision, § 304(l), requires states to identify waters that will not comply with water quality standards and to develop strategies to limit the discharge of toxic pollutants by point sources. EPA has promulgated regulations implementing these requirements that provide new and important mechanisms for controlling toxic pollutants through the water quality standards program.

§ 13:80 Effluent standards and limitations—Water-quality-based limitations—Toxic pollutant control strategies—Section 304(l) individual control strategies and state lists

EPA has, in the past, attempted to focus control efforts on stream segments where toxic discharges are a problem;[1] § 304(l) of the CWA now formalizes this effort. States are under tight deadlines to identify waters where discharges of toxic pollutants are a problem, frequently called "toxic hot spots," and to implement point source controls to eliminate the problem.[2]

Section 304(l) requires states to develop three lists of state waters and one list of point sources. Section 304(l)(1)(A)(i) (A(i) list) requires states to list waters that will not attain or maintain water quality standards due to toxic pollutants. Section 304(l)(1)(A)(ii) (A(ii) list) requires designation of waters that will not attain the wa-

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c-gp. These general permits cover "wastewater discharges from oil and gas exploration on the Beaufort Sea Outer Continental Shelf and Contiguous State Waters and on the Chukchi Sea Outer Continental Shelf." http://yosemite.epa.gov/r10/water.nsf/npdes+permits/arctic-gp.

[4]"Unreasonable degradation of the marine environment" is defined at 40 C.F.R. § 125.121(3). *See also* 40 C.F.R. § 125.122 (determination of unreasonable degradation of the marine environment.); 45 Fed. Reg. 65942, 65945, 65953 (Oct. 3, 1980) ("unreasonable degradation of the marine environment" means: "(1) significant adverse changes in ecosystem diversity, productivity and stability of the biological community within the area of discharge and surrounding biological communities; (2) threats to human health through direct exposure to pollutants or through consumption of exposed aquatic organism; or (3) loss of esthetic, recreational, scientific or economic values which are unreasonable in relation to the benefits derived from the discharge").

[5]40 C.F.R. § 125.123(d). For a detailed discussion of § 403, see § 13:133.

[Section 13:79]

[1]*See generally* Gaba, Regulation of Toxic Pollutants Under the Clean Water Act: NPDES Toxics Control Strategies, 50 J. Air L. & Comm. 761, 787–90 (1985).

[Section 13:80]

[1]*See* Gaba, Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1216–17 (1983).

[2]EPA published guidance entitled "Implementation of Requirements under § 304(l) of the Clean Water Act, as amended" in March 1988. EPA subsequently promulgated an "interpretative" rule that incorporated portions of § 304(l) into its existing NPDES and water quality regulations. 54 Fed. Reg. 246 (1989). On June 2, 1989, EPA promulgated final regulations defining a surface water toxics control program under § 304(l). 54 Fed. Reg. 23868 (June 2, 1989).

ter quality goals of aquatic protection and recreation specified in § 101(a) of the Act. Section 304(l)(1)(B) (B list) requires listing of waters that are not expected to attain water quality standards after application of all technology-based limits, due "entirely or substantially to discharges from point sources of toxic pollutants." Finally, § 304(l)(1)(C) (C list) requires states to list for each segment of water "on such lists" a determination of the specific point sources discharging any toxic pollutants that are believed to be preventing or impairing this water quality.

This mind numbing list of lists is significant. Point sources on "each such segment" are subject to "individual control strategies" (ICS).[3] For each such point source, the state must submit a final or draft NPDES permit that contains limitations on toxic pollutants sufficient to ensure, together with controls on other point and nonpoint sources, achievement of water quality standards.[4] The key element of the ICS regulation is the requirement that all NPDES permits for point sources on the 304(*l*)(1)(C) list contain adequate limitations on toxic pollutants to ensure attainment of water quality standards.[5] Compliance is to be achieved "not later than three years" from the date of establishment of the strategy. The strategies were also due on February 4, 1989.

EPA originally interpreted § 304(l) to require that point sources be listed only if they were on segments listed on the B list. This included waters not meeting water quality standards due "entirely or substantially" from point source discharges of toxic pollutants.[6] Additionally, EPA interpreted the statute to require preparation of ICSs only for point sources on the C list.[7] This meant that the obligation to prepare ICS did not apply to point sources on segments not meeting water quality standards because of a combination of point and nonpoint source discharges.

This position was rejected by the Ninth Circuit in *Natural Resources Defense Council, Inc. v. EPA*.[8] Relying on the plain meaning and purpose of § 304(l), the court held that states were required to list point sources on the C list if they were on segments identified on either the A(i), A(ii), or B lists. The court declined to decide the critical question of whether ICSs need be prepared for point sources on segments identified on any of the three lists. The court remanded the issue to EPA for reconsideration in light of its holding that the C list must include all such point sources.

In response to the court's remand, EPA amended its regulations to require states to identify all point sources on any of the three lists.[9] Additionally, EPA proposed regulations addressing the issue of whether ICSs are required for any of the newly listed point sources.[10] EPA proposed that only point sources originally listed be subject to the ICS requirement or that states be given discretion to determine whether a newly listed point source should be subject to the requirement. EPA considered, but did not propose, requiring all newly listed point sources to have an ICS.

Independent of the ICS regulations, EPA's water quality standards regulations contain provisions for identifying permits that must contain water quality stan-

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[3]Section 304(l)(1)(D), 33 U.S.C.A. § 1314(l)(1)(D). EPA has promulgated a new 40 C.F.R. § 123.46, "Individual control strategies." 54 Fed. Reg. 246, 256 (1989); 54 Fed. Reg. 23868, 23896 (1989).

[4]54 Fed. Reg. 23868, 23896 (1989) (codified at 40 C.F.R. § 123.46(a)).

[5]54 Fed. Reg. 23868, 23896 (1989) (codified at 40 C.F.R. § 123.46).

[6]40 C.F.R. § 130.10(d).

[7]40 C.F.R. § 123.46.

[8]*See*, *e.g.*, Nat. Res. Def. Council, Inc. v. EPA, 915 F.2d 1314, 20 Envtl. L. Rep. (Envtl. L. Inst.) 21372 (9th Cir. 1990).

[9]57 Fed. Reg. 33040 (1992) (codified at 40 C.F.R. § 130.10(d)).

[10]57 Fed. Reg. 33051 (1992).

dards based limitations. NPDES permits must contain limits on any pollutants that "cause, have the reasonable potential to cause, or contribute to an excursion" above water quality standards.[11] In determining whether a discharge may cause such an "excursion," permit writers are to consider existing controls on point and nonpoint sources, the variability of the discharge, sensitivity of species to toxicity testing, and dilution of the effluent in the receiving water.[12] Permit limits must be written to ensure compliance with pollutant-specific criteria, whole effluent criteria, and narrative criteria.

§ 13:81 Effluent standards and limitations—Water-quality-based limitations—Toxic pollutant control strategies—Toxicity-based limitations

Most permit limitations are expressed as numerical limitations on the amounts of a specific pollutant that can be discharged. For several years, EPA has considered the possibility of placing restrictions not only on specific pollutants within a waste stream but also on the toxicity of the waste stream as a whole. Several bioassay techniques, such as the LC50, which measures the pollutant level at which 50% of test organisms are killed, are available to measure the toxicity of wastes to test organisms. Thus, for example, a toxicity-based permit limitation might specify that the discharge not exceed some percent of the LC50 for test organisms.

EPA's existing NPDES permit regulations provide for inclusion of toxicity-based effluent limitations.[1] EPA has also published a "National Policy" on development of water-quality-based permit limitations for toxic pollutants in areas where water quality standards are being violated.[2] In addition to the use of toxicity tests as a specific effluent limitation, EPA has indicated that toxicity testing may be required as a method for monitoring the discharge.[3] EPA specifically requires that NPDES permits contain effluent limits for whole effluent toxicity when necessary to avoid violating a state numeric whole effluent toxicity criterion.[4]

Toxicity-based limitations have a number of advantages over pollutant-by-pollutant numerical restrictions. First, they can provide restrictions on the discharge of a large number of complex toxic pollutants that otherwise might not be measurable. Second, whole effluent toxicity testing, unlike pollutant-by-pollutant limitations, takes into account the chemical interactions of pollutants in the waste stream. Finally, such restrictions are tailored to local conditions since they can employ local receiving waters and local organisms in the test procedures. With the adoption of the new ICS regulations, toxicity-based limitations should become increasingly important.

Toxicity-based permit limitations do, however, create many difficult issues relating to, among other things, measurement and enforceability. In *Natural Resources Defense Council v. EPA*,[5] the court upheld EPA's statutory authority to impose toxicity-based limits, but recognized that technical and procedural issues might arise during permit issuance. EPA also recognizes potential problems with the use

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[11]54 Fed. Reg. 23868, 23895–96 (1989) (codified at 40 C.F.R. § 122.44(d)(1)(i)).

[12]54 Fed. Reg. 23868, 23896 (1989) (codified at 40 C.F.R. § 122.44(d)(1)(ii)).

[Section 13:81]

[1]40 C.F.R. § 129.7.

[2]49 Fed. Reg. 9016 (1984) (National Policy).

[3]49 Fed. Reg. 9016, 9017 (1984).

[4]54 Fed. Reg. 23868, 23896 (1989) (codified at 40 C.F.R. § 122.44(d)(1)(iv)).

[5]Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988).

of "whole effluent toxicity" limits, and the EPA has announced that it will take steps to address numerous issues relating to toxicity limits.[6]

§ 13:82 Effluent standards and limitations—Water-quality-based limitations—Toxic pollutant control strategies—Narrative criteria-based limitations

Perhaps the most interesting and potentially important aspect of EPA's regulations is their reliance on narrative criteria. Narrative toxicity criteria (*e.g.,* "waters should be free from toxic pollutants in toxic amounts") are contained in all state water quality standards, and under EPA's regulations, NPDES permits must contain specific limits to ensure that narrative criteria are not violated.[1]

In the absence of promulgated chemical-specific criteria, the regulations provide that the narrative criteria can be implemented in a number of ways. First, the permit may contain a limit based on a proposed state numeric criterion or an explicit state policy or regulation implementing its narrative criteria, supplemented with other relevant information, including risk assessment and exposure data, EPA criteria documents, and information on the pollutant from the Food and Drug Administration.[2] Second, the permit may contain an effluent limit developed on a case-by-case basis using EPA's national 307(a) water quality criteria. Third, the permit may contain specific limits on "indicator" pollutants so long as certain requirements, including monitoring requirements and reopener clauses, are satisfied.[3]

Through these regulations, EPA has not only authorized but required that each major point source of toxic pollutants be subject to limits on all priority pollutants. Since the regulations rely on narrative criteria as well as specific criteria for toxic pollutants, authority exists to implement these requirements immediately. In *American Paper Institute v. EPA*, the D.C. Circuit confirmed this broad authority.[4] The court upheld EPA regulations, which allow the permit writer to "translate" general narrative criteria into specific numerical effluent limits in NPDES permits.

§ 13:83 Effluent standards and limitations—Water-quality-based limitations—Great Lakes water quality guidance

Section 118(c)(2) of the CWA requires EPA to publish "water quality guidance" for the Great Lakes system that, among other things, specifies numerical limits on pollutants and provides guidance on minimum water quality standards, antidegrada-

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[6]*See* Notice of Stakeholders' Meeting on Whole Effluent Toxicity (WET) Implementation Issues, 61 Fed. Reg. 41149 (1996).

[Section 13:82]

[1]54 Fed. Reg. 23868, 23896 (1989) (codified at 40 C.F.R. § 122.44(d)(v)). In Natural Resources Defense Council, Inc. v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988), the court found that industry challenges to EPA's assertion of authority to implement state narrative criteria through toxicity-based NPDES limits were "unripe."

[2]In Granite City Div. of Nat'l Steel Co. v. Illinois Pollution Control Bd., 613 N.E.2d 719 (Ill. 1993), the Illinois Supreme Court upheld the state narrative criteria in translation mechanisms from claims that they were unconstitutionally vague and were an unconstitutional delegation of rulemaking authority to the Illinois environmental agency.

[3]54 Fed. Reg. 23868, 23896 (1989), codified at 40 C.F.R. § 122.44(d)(vi).

[4]*See*, *e.g.*, Am. Paper Inst. v. EPA, 996 F.2d 346, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20984 (D.C. Cir. 1993).

tion policies, and implementation procedures.[1] In 1995, EPA published its final "water quality guidance" provisions that establish binding obligations on states to implement water quality standards provisions for the Great Lakes.[2] Among other things, the guidance establishes: (1) specific numerical criteria for certain pollutants that are necessary to protect aquatic life, human health, and—for the first time—wildlife uses; (2) mechanisms for site-specific modification of these criteria; (3) a two-tiered mechanism for converting narrative criteria into specific numerical criteria for other pollutants;[3] (4) limitations on use of mixing zones, with special restrictions on their use with pollutants that bioaccumulate; (5) provisions for determining whether it is "reasonably probable" that a discharge will cause an exceedance of criteria;[4] (6) variance procedures for altering water quality standards obligations in individual permits; and (7) more permit detailed antidegradation requirements.[5] These obligations mirror many of the general water quality standards provisions applicable throughout the country. The guidance does, however, modify some otherwise applicable requirements and may be a model for future implementation of the water quality standards program.

§ 13:84 Industrial pretreatment of POTW influents[1]—Basic structure of the pretreatment program

The NPDES permit system is applicable to those facilities that "directly" discharge pollutants into WOTUS. There are, however, a large number of industrial facilities that are not subject to NPDES requirements because they discharge pollutants to POTW, rather than directly into navigable waters.[2] Although Congress did not want to require these "indirect dischargers" to undertake unnecessary treatment of pollutants that would otherwise be removed by the POTW, there was concern that industrial pollutants introduced into the POTW might pass through the POTW without being treated, interfere with the operation of the treatment systems used by POTW, or, in the case of metals, contaminate sewage sludge and limit its subsequent disposal.

Consequently, Congress in § 307 of the CWA established a distinct "pretreatment"

[Section 13:83]

[1]CWA § 118(c)(2), 33 U.S.C.A. § 1268(c)(2). The Great Lakes Critical Programs Act of 1990, Pub. L. No. 101-596, § 101, 104 Stat. 3000, added this provision to the CWA.

[2]60 Fed. Reg. 15366 (1995), codified at 40 C.F.R. Part 132. In 1997, the D.C. Circuit largely upheld the water quality guidance against a range of procedural and substantive attacks. American Iron & Steel Inst. v. EPA, 115 F.3d 979, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21241 (D.C. Cir. 1997). In one particularly interesting part of the opinion, the court invalidated EPA's attempt to require dischargers to perform a "pollutant minimization program" where their required water-quality-based permit limitations were set below detection limits. The court held that EPA could require monitoring of internal waste streams for purposes of ensuring compliance with end-of-pipe limitations. It concluded, however, that EPA was precluded from imposing water-quality-based standards on internal waste streams, noting the Clean Water Act "does not permit this sort of meddling inside a facility." American Iron & Steel Inst. v. EPA, 115 F.3d 979, 996, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21241, 21248 (D.C. Cir. 1997).

[3]The methodology for each tier varies depending on the amount of data available based on the narrative criteria.

[4]Such a finding requires inclusion of water-quality-based effluent limitations in the discharge permit.

[5]Some other major issues addressed include development of TMDLs, the additive effects of pollutants, "net/gross" issues regarding pollutants in intake water, and procedures relating to whole effluent toxicity.

[Section 13:84]

[1]By **Jeffrey Gaba**.

[2]EPA has estimated that there are over 60,000 existing industrial facilities in the 34 primary industries that discharge wastes to POTWs. 46 Fed. Reg. 9405 (1981).

program for regulation of these indirect dischargers. Section 307(b) requires EPA to promulgate "regulations establishing pretreatment standards for introduction of pollutants into [POTW] for those pollutants which are determined not to be susceptible for treatment by such treatment works or which would interfere with the operation of such treatment works . . . . Pretreatment standards . . . shall be established to prevent the discharge of any pollutant through [POTW] which pollutant interferes with, passes through or otherwise is incompatible with such works."[3] Although indirect dischargers may be subject to local permit requirements,[4] there is no national permit program for indirect dischargers. Pretreatment standards are directly applicable to indirect dischargers upon promulgation.[5]

EPA has established a two-part system for implementing the pretreatment program of § 307. First, EPA has promulgated "general pretreatment" regulations that establish a general prohibition on the introduction of pollutants that will interfere with or pass through a POTW.[6] In addition, the general pretreatment regulations contain requirements for administration of the pretreatment program, including requirements on POTW to develop local programs to implement and monitor pretreatment requirements. Second, EPA is promulgating "categorical" pretreatment requirements, on an industry-by-industry basis, that establish specific technology-based numerical limitations on the discharge of pollutants to POTW by existing and new sources.[7]

§ 13:85 Industrial pretreatment of POTW influents—Requirements applicable to the indirect discharger—Categorical standards: Technology-based limits, toxic removal credits, combined wastestream formula

Although § 307(b) requires the promulgation of regulations to prevent discharges that pass through or interfere with POTW operations, the provision is ambiguous as to whether these restrictions are to be uniform national "technology-based" limitations or are to be based on consideration of local environmental factors.[1] In a 1976 consent decree, EPA agreed to adopt a technology-based approach to pretreatment restrictions.[2] Pursuant to the consent decree, EPA has adopted a scheme for developing "categorical" restrictions for classes or categories of industrial sources in which pretreatment limits are developed equivalent to BPT, BAT, and NSPS effluent limitations guidelines.[3] Limitations are established for those pollutants that EPA, on a national basis, has determined would "pass through" a POTW if they were not

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[3]CWA § 307(b)(1), 33 U.S.C.A. § 1317(b)(1).

[4]In County Sanitation Dist. No. 2 of Los Angeles County v. Inland Container Corp., 803 F.2d 1074 (9th Cir. 1986), the Ninth Circuit limited permit authority to the sewer district owning the sewer into which the pollutant is discharged.

[5]CWA § 307(d), 33 U.S.C.A. § 1317(d).

[6]EPA's general pretreatment regulations are found at 40 C.F.R. Part 403.

[7]40 C.F.R. §§ 405-471.

[Section 13:85]

[1]Although the statute is aimed at preventing "interference" and "pass through," there is clear indication that Congress intended that this be done through technology-based limits applicable to classes and categories of facilities. For example, § 307(c) requires promulgation of pretreatment standards for categories of new sources. Section 307(b)(2) requires modification of pretreatment standards to reflect changes in control technology or processes. *See* 43 Fed. Reg. 27736 (1978).

[2]Nat. Res. Def. Council v. Train, No. 78-1803 (D.D.C. 1978). The consent decree has been subject to a series of subsequent modifications.

[3]EPA regulations provide that, upon request, EPA may provide written certification on whether an industrial user falls within a particular subcategory subject to categorical standards. 40 C.F.R. § 403.6(a)(1). In Modine Mfg. Corp. v. Kay, 791 F.2d 267, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20750 (3d

subject to categorical limitations.[4] Like the effluent guidelines, categorical pretreatment standards are based on the economic and technological capacity of the industry as a whole to control the discharge of pollutants.[5]

In 1977, § 307(b) was amended to authorize POTW to grant "removal credits" from categorical standards for toxic pollutants to reflect the level of treatment of those pollutants achieved by the POTW.[6] The amendment has several components. First, it clearly establishes that the combined level of treatment of toxic pollutants by the indirect discharger and the POTW must be equivalent to the technology-based effluent limitation, such as BAT, that would be applicable if the source were a direct discharger. Second, in recognition that there is some incidental removal of toxic pollutants by POTW and to avoid redundant treatment requirements, the amendment authorizes POTW to grant indirect dischargers "removal credits" from applicable pretreatment requirements to the extent that the POTW treats that toxic pollutant. Finally, since most toxic metals discharged to POTW are merely transferred to POTW sludge, the amendment also precludes the grant of the removal credit if it would prevent sludge use or disposal in accordance with sludge management guidelines that Congress, in amendments to § 405, required EPA to promulgate.[7]

EPA regulations implementing the removal credit provisions have gone through several revisions.[8] In the 1981 general pretreatment regulations, EPA provided that removal credits could only be granted by POTW with approved pretreatment programs and established detailed conditions for determining the level of the credit that could be granted.[9] Although the program was upheld from industry challenge in *National Association of Metal Finishers v. EPA*,[10] the Agency subsequently made significant revisions to the program to ease the requirements for obtaining removal

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Cir. 1986), the court held that the court of appeals had jurisdiction under § 509 of the CWA to review the EPA's determination that categorical standards applied to an individual facility.

[4]EPA bases its determination of "pass through" on a comparison of the percentage removal of the pollutant by a POTW with that of a direct discharger. EPA has stated that "[a] pollutant will be deemed to Pass Through the POTW and will thus be categorized as incompatible, where the average treatment provided by POTWs nationwide does not realize the same percentage of removal of the regulated parameter as would be required of direct dischargers with national effluent standards for the pollutant." 45 Fed. Reg. 9416 (1981).

[5]Several provisions applicable to technology-based limitations in the NPDES program have comparable provisions in the general pretreatment regulations. These include an "Upset" provision, 40 C.F.R. § 403.16, "Net/Gross" provisions, 40 C.F.R. § 403.15, and a "Fundamentally Different Factors" variance, 40 C.F.R. § 403.13. The application of the FDF variance to categorical pretreatment limits on toxic pollutants was upheld by the Supreme Court in Chemical Mfrs. Ass'n v. Nat. Res. Def. Council, Inc., 470 U.S. 116, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20230 (1985). The Agency has proposed the addition of a "Bypass" provision to the pretreatment regulations. 51 Fed. Reg. 21456 (1986) (codified at 40 C.F.R. § 403.17).

[6]If in the case of any toxic pollutant . . . introduced by a source into a publicly owned treatment works, the treatment by such works removes all or any part of such toxic pollutant and the discharge from such works does not violate that effluent limitation that would be applicable to such toxic pollutant if it were discharged by such source other than through a publicly owned treatment works, and does not prevent sludge use or disposal by such works in accordance with § 405 of this act, then the pretreatment requirements for the sources actually discharging such toxic pollutant into such publicly owned treatment works may be revised by the owner or operator of such works to reflect the removal of such toxic pollutant by such works. CWA § 307(b)(1), 33 U.S.C.A. § 1317(b)(1).

[7]At that time, EPA had not yet promulgated comprehensive sludge management guidelines under § 405. The failure to promulgate such standards was one basis on which the court in *Nat. Res. Def. Council v. EPA* invalidated EPA's removal credit regulations. Nat. Res. Def. Council, Inc. v. EPA, 790 F.2d 289, 313–14 (3d Cir. 1986). *See* § 13:90.

[8]Removal Credit provisions are found at 40 C.F.R. § 403.7.

[9]46 Fed. Reg. 9404 (1981).

[10]Nat'l Ass'n of Metal Finishers v. EPA, 719 F.2d 624, 13 Envtl. L. Rep. (Envtl. L. Inst.) 21042 (3d

credits.[11] These revisions were all invalidated by the Third Circuit in *Natural Resources Defense Council v. EPA.*[12]

An additional problem with categorical standards arises when one industrial site contains operations from several industrial categories. In such a case, the facility may wish to combine the wastewater from operations subject to different categorical standards or from some operations that are subject to categorical standards and others that have no applicable standards. The combination of wastestreams may allow more cost-efficient treatment at a centralized waste treatment plant.

EPA regulations authorize the combination of such wastestreams prior to treatment and contain a detailed "Combined Wastestream Formula" for calculating applicable final standards based on the relative contribution of the wastes from the separate industrial operations.[13] In arriving at this complex formula, EPA sought to allow use of efficient centralized treatment while preventing the attainment of standards by dilution of regulated wastes by other wastestreams.

Indeed, the regulations also prohibit the increased use of process water, or any other means of dilution, as a partial or complete substitute for adequate treatment to achieve compliance with categorical standards.[14] Mass limitations may be imposed on a facility which attempts to achieve concentration limits by dilution of wastes.[15]

§ 13:86 Industrial pretreatment of POTW influents—Requirements applicable to the indirect discharger—General prohibitions: Interference and pass through

The general pretreatment regulations provide a flat prohibition on the introduction into a POTW of pollutants that will "pass through" or "interfere" with the operation or performance of the POTW.[1] Interference or pass through generally refers to situations where a discharge results in the POTW violating its NPDES permit or prevents the POTW from disposing of sewage sludge in accordance with the requirements of other statutes. Although the categorical standards place specific limitations on discharges by facilities in select industrial categories, these standards alone may not be enough to prevent all interference or pass through at POTW.

Cir. 1983), *rev'd* 470 U.S. 116 (1985). Industry had challenged the removal credit provisions on several grounds, including assertions that EPA could not condition the grant of removal credits on local POTWs having approved pretreatment programs and that the program was simply so complex as to be "unworkable."

[11]49 Fed. Reg. 31212 (1984).

[12]Nat, Res. Def. Council, Inc. v. EPA, 790 F.2d 289 (3d Cir. 1986). Congress has stayed applicability of portions of this opinion. *See* Pub. L. No. 100-4, 101 Stat. 73; § 13:90 and accompanying text. The revisions failed to provide for the equivalency between the level of combined treatment by indirect dischargers and POTWs and the level applicable to direct dischargers. The court also held that removal credits could not be granted prior to the issuance of comprehensive sludge management guidelines under § 405.

[13]40 C.F.R. § 403.6(e).

[14]40 C.F.R. § 403.6(d).

[15]The Water Quality Act of 1987 amended § 307, 33 U.S.C.A. § 1317, to allow a compliance extension of up to two years for facilities that propose to comply with pretreatment requirements through the use of an innovative system. It also added a new § 402(m), 33 U.S.C.A. § 1342(m), that expressly limits EPA's authority to require any additional pretreatment of conventional pollutants by facilities introducing pollutants to POTWs that are violating their NPDES permit due to inadequate design or operation.

[Section 13:86]

[1]In addition, all indirect dischargers are subject to specific prohibitions that they not introduce pollutants that (1) create a fire or explosion hazard at a POTW, (2) cause corrosive structural damage, (3) are solid or viscous in amounts which will cause obstruction of the flow in the POTW resulting in interference, or (4) contain heat in amounts to cause interference. 40 C.F.R. § 403.5(b).

Categorical standards have not been promulgated for all industrial sources, and in individual situations, the categorical standards may be inadequate either because of combinations of pollutants or discharges to the POTW from multiple sources.

The main problem with which EPA has been dealing in establishing this general prohibition is the extent to which an individual discharger must be shown to have caused the interference or pass through. EPA initially promulgated a definition that established a violation if the discharger "contributed to" violation of a permit or sludge use.[2] In response to challenge, EPA revised the definition to provide a violation if the discharger "caused or significantly contributed" to a violation.[3] The definition identified specific situations under which a discharger would significantly contribute to a violation. In *National Association of Metal Finishers v. EPA*, the Third Circuit invalidated the definition of interference.[4] The court concluded that the definition of "significantly contributes" effectively eliminated any requirement that the indirect discharger be a "cause" of the permit violation or sludge use limitation.

In response, EPA has promulgated revised regulations that define "interference" as a discharge that, alone or in conjunction with a discharge or discharges from other sources, disrupts the POTW or sludge processes and the disruption in turn causes a POTW to violate its NPDES permit or prevents the POTW from using its chosen sludge use or practice.[5] "Pass through" is defined as an industrial user discharge that exits the POTW into WOTUS in quantities or concentrations that, alone or in conjunction with other discharges, causes a POTW NPDES permit violation.[6] Thus, the regulations provide that an indirect discharger violates the general prohibition against interference or pass through based on a largely undefined requirement that they not "cause" a violation of POTW permit or sludge requirements.

In *Arkansas Poultry Federation v. EPA*,[7] the Eighth Circuit upheld the revised definitions of "interference" and "pass through" against the challenge that they were inconsistent with the statute and unconstitutionally vague. The court concluded that the definitions properly clarified that industrial dischargers could be held liable only for discharges that cause permit violations at treatment facilities and not for violations caused solely by improper operation of treatment facilities. The court also held that the definitions, when read with other requirements referred to in the regulations, provide sufficient notice of industrial sources' pretreatment obligations to withstand a vagueness challenge.

The regulations provide a certain element of certainty for the industrial user by establishing two new affirmative defenses to a violation of the general prohibition. The defenses require the indirect discharger to establish that "it did not know or have reason to know" that its discharge would violate the standard, and (1) that the discharge was in compliance with an applicable local limit developed by the POTW to prevent interference or pass through or (2) if a local limit has not been developed, that the discharges directly prior to and during the interference or pass through "did not change substantially in nature from the user's prior discharge activity"

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[2]43 Fed. Reg. 27736 (1978).

[3]44 Fed. Reg. 62260 (1979).

[4]Nat'l Ass'n of Metal Finishers v. EPA, 719 F.2d 624, 13 Envtl. L. Rep. (Envtl. L. Inst.) 21042 (3d Cir. 1983), *rev'd* 470 U.S. 116 (1985). The definition of "pass through" was also challenged but EPA voluntarily withdrew the definition conceding that it had not been promulgated in accordance with procedural requirements of the APA.

[5]40 C.F.R. § 403.3(k).

[6]40 C.F.R. § 403.3(p).

[7]*See*, *e.g.*, Ark. Poultry Fed'n v. EPA, 852 F.2d 324, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21384 (8th Cir. 1988).

when the POTW was regularly not experiencing interference or pass through.[8]

§ 13:87 Industrial pretreatment of POTW influents—Requirements applicable to the indirect discharger—Local limits

In addition to categorical limits and the broadly applicable general prohibitions, indirect dischargers may be subject to specific local limits developed by individual POTW. The general pretreatment regulations require certain POTW to develop these local limits to implement the prohibition on interference and pass through.[1] POTW must develop these local limits if they are required to establish approved pretreatment programs or if they have previously experienced interference or pass through and it is likely to recur. EPA has stated that the local limits may be developed on a pollutant-by-pollutant or industry-by-industry basis and included within a municipal ordinance. Additionally, local limits may be developed for a specific facility and included within a municipal permit or contract with that facility.[2] Once established, local limits constitute pretreatment standards for purposes of compliance with the CWA.[3]

§ 13:88 Industrial pretreatment of POTW influents—Requirements applicable to the indirect discharger—Compliance monitoring

The general pretreatment regulations require indirect dischargers to submit several different monitoring reports. Baseline Monitoring Reports (BMR) must be submitted within 180 days of the effective date of categorical standards or a final decision on a category determination.[1] These BMRs are to contain basic information identifying each indirect discharger, the characteristics of the discharge, and the discharger's compliance status.[2] Dischargers must also submit "90-day Compliance Reports" within 90 days of the final compliance deadline for categorical standards. These compliance reports must contain information on the pollutant concentrations and flow rates and indicate compliance status.[3] Finally, after the compliance date for categorical standards, dischargers are required to submit "Periodic Compliance Reports" either in June or December of each year, or more frequently if required by the POTW, that contain information on pollutant concentrations and flows.[4] The regulations specify necessary procedures for conducting analyses to satisfy compliance monitoring requirements.[5]

§ 13:89 Industrial pretreatment of POTW influents—Requirements applicable to POTW—Development of approved pretreatment programs

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[8]40 C.F.R. § 403.5(a)(2).

[Section 13:87]

[1]40 C.F.R. § 403.5(c).

[2]*See* 51 Fed. Reg. 21459 (1986).

[3]40 C.F.R. § 403.5(d).

[Section 13:88]

[1]40 C.F.R. § 403.12(b).

[2]The BMR, for example, must include a list of environmental permits held by the discharger, a description of the discharger's industrial operations, information on flows and amounts of regulated pollutants discharged to the POTW, and a certification of whether the discharger is currently in compliance with applicable categorical standards. 40 C.F.R. § 403.12(b)(1)-(7).

[3]40 C.F.R. § 403.12(d).

[4]40 C.F.R. § 403.12(e).

[5]40 C.F.R. § 403.12(g).

POTW with a total design flow greater than five million gallons per day and that receive wastes from industrial facilities subject to categorical standards or that receive wastes which may interfere or pass through the POTW are required to develop a local pretreatment program.[1] In order to obtain approval, a required pretreatment program must contain a number of elements, including: authority to deny or condition discharges by industrial users to the POTW, adequate monitoring and inspection capability, adequate penalties for violation of the local program, and adequate funding and personnel to implement the program.[2] The regulations provide that POTW must have had an approved program no later than July 1, 1983,[3] and that the approved program be incorporated in the POTW NPDES permit.[4]

§ 13:90 Industrial pretreatment of POTW influents—Requirements applicable to POTW—Removal credit authority

Although they are not required to do so, POTW may apply for authority to grant removal credits to industrial users subject to categorical pretreatment standards.[1] A POTW may obtain authorization to grant such credits if the POTW can demonstrate "consistent" removal of pollutants as defined by the regulation, it has an approved local pretreatment program, the granting of the credits will not cause the POTW to violate sludge management standards, and the grant of credits will not cause the POTW to violate its NPDES permit.[2] Basic elements of the removal credit program, including provisions for calculation of the degree of consistent removal by POTW, were invalidated in *Natural Resources Defense Council, Inc. v. EPA*.[3] The court concluded that EPA's removal credit regulations failed to ensure that there would be equivalence between the level of treatment required of direct dischargers and the combined level of treatment that would be achieved by indirect dischargers and POTW. The court also held that removal credits could not be granted prior to the issuance of comprehensive sludge management guidelines under § 405. Section 406(e) of the Water Quality Act of 1987[4] expressly states "that part of the decision in [*Natural Resources Defense Council, Inc. v. EPA*] which addresses 405(d)" until August 31, 1987, for POTW that had received removal credit authority before February 4, 1987, or that had applied before that date and received approval by August 31, 1987. The amendment prohibits EPA from authorizing any other removal credits until sludge management guidelines have been promulgated and requires EPA to publish those guidelines by August 31, 1987.[5] The Agency failed to meet this deadline, however, and on November 5, 1987, it published a final rule that es-

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[Section 13:89]

[1]40 C.F.R. § 403.8(a). Other POTWs may be required by EPA to develop a pretreatment program if "warranted" to prevent interference or pass through. 40 C.F.R. § 403.8(a). States with approved NPDES programs, however, may elect to assume local responsibilities in lieu of the POTW. 40 C.F.R. § 403.10(e).

[2]40 C.F.R. § 403.8(f). In addition, POTWs required to develop pretreatment programs are also required to develop specific local limits necessary to implement the prohibition on interference and pass through. 40 C.F.R. § 403.5(c). *See* § 13:86.

[3]40 C.F.R. § 403.8(b).

[4]40 C.F.R. § 403.8(c).

[Section 13:90]

[1]40 C.F.R. § 403.7(a)(2). *See* § 13:85.

[2]40 C.F.R. § 403.7(a)(2), (3).

[3]*See*, *e.g.*, Nat, Res. Def. Council, Inc. v. EPA, 790 F.2d 289 (3d Cir. 1986).

[4]Pub. L. No. 100-4, 101 Stat. 73.

[5]The 1987 Act also amended § 405(d) of the CWA, 33 U.S.C.A. § 1345(d), by requiring EPA, by mandated deadlines, to identify toxic pollutants that may be present in sewage sludge in concentra-

sentially codifies the 1981 version of the removal credit regulations, which had been in effect since the decision in *Natural Resources Defense Council, Inc. v. EPA*.[6]

§ 13:91 Industrial pretreatment of POTW influents—Requirements applicable to POTW—Sludge management

The disposal of sewage sludge generated by POTW and other treatment works is a problem of growing importance. Today, over 40% of POTW sludge is disposed of in municipal landfills, over 20% is incinerated, and the remainder is applied to land or, to a limited extent in the Northeast, dumped at offshore ocean disposal sites. Ideally, sludge is a resource that can be used as a fertilizer or soil conditioner.[1] Where this sludge contains toxic pollutants, such as metals, management options are reduced. Sewage sludge is now potentially regulated under a variety of statutes, including the CWA, Resource Conservation and Recovery Act, Clean Air Act (CAA), Toxic Substance Control Act, and Marine Protection, Research and Sanctuaries Act (MPRSA).

Prior to the 1987 amendments, § 405 of the CWA required development of sludge standards for POTW but did not specify how these standards were to be implemented. Limited restrictions applicable to land disposal of sludge containing cadmium, PCBs, or pathogens were promulgated in the RCRA Subtitle D regulations at Part 257.[2] In the 1987 amendments to the CWA, Congress significantly expanded the provisions of § 405 to establish a more extensive program for control of sewage sludge from both municipal and private treatment works and to regulate the final use and disposal of sludge.[3]

Among other things, the statute requires inclusion of conditions on sewage sludge in NPDES permits unless the sludge is separately regulated under another permit. NPDES permits for POTW and industrial facilities that treat domestic wastes will require compliance with sludge management procedures. Indeed, the statute expands the NPDES program by authorizing the issuance of a permit to persons using or disposing of sewage sludge who do not otherwise require an NPDES permit.

Under § 405(d), EPA is required to develop management standards for disposal of sewage sludge. In 1993, EPA implemented sewage sludge regulations.[4] The regulations, as amended, provide general requirements, pollutant limits, and management and operational standards for sludges applied to land or on a surface disposal site or fired in an incinerator. They also include monitoring and recordkeeping requirements.

§ 13:92 Industrial pretreatment of POTW influents—Regulation of hazardous wastes introduced to POTW

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tions that may adversely affect public health or the environment and promulgate regulations specifying "acceptable management practices" for sewage sludge containing toxic pollutants and "establishing numerical limitations on each such pollutant for each such use." The amendments also provide a new § 405(f), 33 U.S.C.A. § 1345(f), that requires the inclusion of sludge management restrictions in a POTW's NPDES permit, unless such restrictions are contained in permits issued under certain other specified programs. EPA is authorized to issue permits solely for the purpose of imposing sludge management restrictions if the POTW is not subject to these other permit requirements.

[6]52 Fed. Reg. 42434 (1987) (codifying court's holding in Nat. Res. Def. Council, Inc. v. U.S.E.P.A., 790 F.2d 289 (3d Cir. 1986) at 40 C.F.R. Part 403).

[Section 13:91]

[1]*See* 54 Fed. Reg. 18720 (1989).

[2]40 C.F.R. Part 257.

[3]Clean Water Act § 405(d); 33 U.S.C.A. § 1345(d) (amended by Pub.L. No. 100-4, § 406, 101 Stat. 71 (1987)).

[4]68 Fed. Reg. 9387 (1993); codified at 40 C.F.R. Part 503.

One of the major loopholes in the regulation of hazardous wastes under RCRA has been the domestic sewage exclusion. This exclusion, established by Congress in § 1004(27) of RCRA, provides that solid or dissolved material in domestic sewage or mixtures of domestic sewage that pass through a sewer to a POTW are not a hazardous waste under RCRA. Thus, industrial wastes discharged to POTW are not treated as hazardous wastes even if they would be hazardous if disposed of by other means.

In the 1984 amendments to RCRA, Congress directed EPA to study the domestic sewage exclusion and revise its regulations to ensure that any hazardous wastes introduced to a sewer system are adequately controlled. EPA has adopted regulations pursuant to § 307(b) of the CWA and § 3018 of RCRA that deal directly with the introduction of hazardous wastes to POTW.

There are a number of elements to these regulations. First, there are specific restrictions on the introduction of ignitable or reactive wastes and limited restrictions on the introduction of petroleum or mineral oil.[1]

Second, the regulations attempt to ensure that POTW NPDES permits contain adequate limitations on toxic pollutants. The regulations now require specified POTW to perform biological toxicity testing of their effluent. This testing can result in more stringent NPDES permit conditions on toxic pollutants or toxicity-based permit limits. More stringent limits will trigger greater obligations on indirect dischargers to ensure that their effluent does not violate the general prohibition on interference and pass through.

Third, there are requirements for industrial users of POTW. In most cases, industrial users must notify a POTW if they introduce more than 15 kilograms of hazardous waste per month. Detailed information must be supplied if they introduce more than 100 kilograms per month. Notification must be submitted, however, only once for each hazardous waste that is discharged. Additionally, the regulations require the POTW with approved pretreatment programs to develop "individual control mechanisms" applicable to "significant industrial users." This will require the POTW to issue discharge permits or their equivalent. The permits must expire in less than five years. The permits must contain, among other things, effluent limits based on the general pretreatment standards, categorical standards, local limits or other state or local laws, and self-monitoring and reporting requirements.

VI. WETLAND PROTECTION*

§ 13:93 History—Introduction

Loss of wetlands acreage in the United States has been a source of national concern since about 1970.[1] Since the nation's settlement, the quantity of wetlands in

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[Section 13:92]

[1]EPA did not, however, place any specific restriction on the introduction of wastes that fail the RCRA toxicity characteristic. The Agency also did not place limits on spent solvents.

*By **Joan Ferretti** and **Donald W. Stever;** updates by **Eliza A. Dolin, Sarah W. Sheive**, and **Donald W. Stever**.

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[1]*See, e.g.*, Council on Environmental Quality, Our Nation's Wetlands: An Interagency Task Force Report (1978) [hereinafter Our Nation's Wetlands]; Exec. Order No. 11990, 42 Fed. Reg. 26961 (1977), *reprinted in* 42 U.S.C.A. § 4321 at 513-14 (1982); Office of Biological Services, U.S. Fish and Wildlife Service, Status and Trends of Wetlands and Deepwater Habitats in the Coterminous United States, 1950s to 1970s (1982).

the United States, excluding Alaska, has dwindled from 220 million acres[2] to approximately 90 million acres in the 1980s:[3] a net average annual loss of 458,000 acres.[4] The Fish and Wildlife Service estimated that as of 1976, 40% of all wetlands previously existing in the United States had been drained, converted, or otherwise lost as wetland habitat.[5] This large-scale, long-term loss of wetland acreage in the United States has resulted from numerous, sometimes conflicting, pressures and attitudes.

Wetlands systematically succumbed to the need for arable farmland, airports, urban and suburban housing, reservoirs, and hydroelectric power. They diminished as a result of pressures for deepwater recreational sites, associated piers, docks, roadways, and other causeways are dredged to create channels and canals for flood control, mosquito control, and transportation. Wetlands also have been altered by demands for forest products, paper, and minerals. They have been altered by discharges of pollution, salt water intrusion, and leaks from oil and gas drilling wells.[6]

Wetlands provide habitat for a wide variety of wildlife, including water fowl and fur bearers. They also provide commercially invaluable nurseries for the fishing industry, as well as sources and sites for recreational fishing. They serve as breeding areas and habitats for numerous other animals, including amphibians, reptiles, and invertebrates, such as shellfish. The high nutrient exchange and energy components of most wetlands, together with the physical buffers they may provide against the winds and waves associated with open waters, ensure that wetlands are

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[2]S. Rep. No. 99-445, at 1–2, (1986), *reprinted in* United States Code Congressional and Administrative News pp. 6113–14.

[3]Office of Technology Assessment, Wetlands: Their Use and Regulation 3 (Mar. 1984) (OTA-0-206) (Summary Report at 6). The vast majority of the remaining wetlands—95%—are located in inland, freshwater areas. Office of Technology Assessment, Wetlands: Their Use and Regulation 3 (Mar. 1984) (OTA-0-206) (Summary Report at 7).

[4]Office of Biological Services, U.S. Fish and Wildlife Service, Status and Trends of Wetlands and Deepwater Habitats in the Conterminous United States 1950s to 1970s, 6 (1982). The General Accounting Office subsequently placed the number at from 300,000 to 500,000 acres per year. General Accounting Office, Wetlands: The Corps of Engineers' Administration of the § 404 Permit Program. More recently, the U.S. Fish and Wildlife Service (Service) determined that the annual wetland loss rate fell to 58,500 acres between 1986 and 1997. U.S. Fish and Wildlife Service, Status and Trends of Wetlands in the Conterminous United States 1986 to 1997, at 9 (2000). And in 2004, the Service reported that, for the first time, there was a net gain of 191,750 wetland acres in the period between 1998 and 2004 (an annual gain of 32,000 acres) due to restoration efforts. U.S. Fish and Wildlife Service, Status and Trends of Wetlands in the Conterminous United States 1998 to 2004, at 15 (2006). The current estimate of the total amount of wetlands in the conterminous United States is 1110.1 million acres, and wetland acreage remained roughly unchanged from 2004 to 2009. U.S. Fish and Wildlife Service, Status and Trends of Wetlands in the Conterminous United States 2004 to 2009, at 16 (2011).

[5]Our Nation's Wetlands, at 1 (citing Lynn A. Greenwalt, Director, U.S. Fish and Wildlife Service, speech to National Wildlife Foundation Annual Conference, Louisville, KY, Mar. 20, 1976, Department of Interior News Release, at 2). *See also* Statement of Robert A. Jantzen, Director, U.S. Fish and Wildlife Service, before the House Committee on Merchant Marine & Fisheries, Subcommittee on Fisheries & Wildlife Conservation and the Environment, Nov. 20, 1981 (concerning wetlands losses) [hereinafter cited as Jantzen]. Mr. Jantzen estimated that 82 million acres remain from an original 127 million acres and that some localized losses are proportionately higher. For example, California has less than 450,000 acres remaining out of an original 3.5 million acres. In contrast, Alaska is estimated to have approximately 200 million acres of wetlands. U.S. Fish and Wildlife Service, Wetlands of the United States, Current Status and Recent Trends, at 28 (1984).

[6]*See generally* S. Shaw & C. Fredine, Wetlands of the United States, in U.S. Fish & Wildlife Circular 39 5-13, 26, 28 (1956); Statement of Robert A. Jantzen, Director, U.S. Fish and Wildlife Service, before the House Comm. on Merchant Marine & Fisheries, Subcomm. on Fisheries & Wildlife Conservation and the Environment, 9–20 Nov. 20, 1981; Council on Environmental Quality, Our Nation's Wetlands: An Interagency Task Force Report, 31–47 (1978). *See also* J. Teal & M. Teal, Life and Death of the Salt Marsh (1969).

optimal breeding habitats.

Wetlands are essential in the production of detritus, the organic materials that decay to provide the basic elements in the aquatic or estuarine food chains. They also serve in the production of oxygen, carbon dioxide, nitrogen, and methane, which assist in maintaining the biosphere, including the ozone layer, and are valuable sources of timber, particularly southern bottomland hardwood forests and of wetland plant crops, including various rices, hays, and cranberries.

Wetlands serve as overbank and backwater storage areas, which moderate flooding severities along riverine systems. They serve to reduce erosion and to trap silt before it reaches and clouds other water bodies. They also trap pollutants (such as fertilizer and pesticide residues) in surface water runoff from farming operations, before they reach and contaminate lakes, streams, and rivers. Wetlands have also been used to treat municipal sewage.

Wetlands act as groundwater recharge zones in some places where the water table is high. They serve to moderate the physical effects of waves and storms on shorelines, and to moderate climate.[7]

There have been a number of state and federal approaches to regulating wetlands.[8] The primary federal mechanism for regulating harmful impacts on wetlands values is § 404 of the Federal Water Pollution Control Act.[9]

The regulatory apparatus necessary for wetlands regulation under the Act, however, has been slow in development. There has been a reluctance on the part of regulatory agencies to include wetlands within the jurisdictional scope of the Act. There has also been a reluctance to include within the scope of the Act numerous types of activities that particularly affect wetlands. A perception also persists on the part of the public that citizen remedies under the Act are limited with regard to certain activities in wetlands.

The reasons for these hesitancies are many. They arise from the internal structure of the Act, which on its face is limited to the discharge of pollutants into "navigable waters,"[10] from the relationship between the EPA and the Corps, which, as a result of an unusual legislative compromise, jointly administer and enforce the Act's

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[7] *See, e.g.*, Greeson, Clark & Clark, Wetlands Functions and Values: The State of Our Understanding, Proceedings of a Symposium, American Water Resources Association, Lake Buena Vista, Fla. (1979); Council on Environmental Quality, Our Nation's Wetlands: An Interagency Task Force Report, 19–29 (1978); *see also* 33 C.F.R. § 230.4(1); 40 C.F.R. § 230; Note, Putting Wetlands to Work, 3 Nat'l Sci. Found. Mosaic 8 (1977); Valuing the Southern Bottomland Hardwoods, Nature Conservancy News 25, 26 (1981).

[8] The federal government has programs for the acquisition and preservation of lands, including wetlands, programs regulating activities on federal lands, programs regulating discharges of pollutants into waters, including wetlands, programs involving federal aid for construction on or adjacent to wetlands, and special coastal zone management requirements. *See generally* J.K. Sailor, List of Federal Laws Applying to Wetlands, *rev'd* July 10, 1979; Council on Environmental Quality, Our Nation's Wetlands: An Interagency Task Force Report, 61–63 (1978). The requirements of (NEPA), 42 U.S.C.A. § 4321, and the Fish and Wildlife Coordination Act, 16 U.S.C.A. § 2901, also affect activities in some wetlands.

State wetlands laws utilize diverse definitional and regulatory devices. New York, for example, distinguishes tidal and freshwater wetlands and wetlands larger and smaller than 12.4 acres in size. N.Y. Envtl. Conserv. Law Articles 24, 25. To date, only two states (Michigan and New Jersey) have been delegated responsibility for the regulation of discharges of dredged or fill materials into wetlands pursuant to 33 U.S.C.A. § 1344. *See* 33 U.S.C.A. § 1344(i) and 40 C.F.R. Part 233 (state program regulations). *See also* Greenwalt, A Federal Agency Perspective, The Nature Conservancy News 18 (1981) (description of joint federal and private effort to preserve wetlands).

[9] 33 U.S.C.A. §§ 1251 *et seq.* The Act was initially codified in 1972 as the Federal Water Pollution Control Act Amendments. In 1977, it was amended and entitled the Clean Water Act. Further amendments occurred in 1978 and 1981.

[10] 33 U.S.C.A. § 1311 (a).

dredge and fill program,[11] and from a perception that wetlands regulation crosses the line from traditional notions of federal regulation of navigation into the realm of land-use regulation. In recent years, however, greater attention has been directed to establishing policies and procedures to control the loss of wetlands.[12]

§ 13:94 History—The nature of the regulated system

A wetland is a transition zone between two ecotypes: dry land and open water. As such, it takes on some of the characteristics of each, in addition to its own unique characteristics. It also performs some of the functions commonly attributed to each. In fact, at various points in time a wetland may be more like the land or the open water than a wetland. Some wetlands change cyclically on a moisture gradient as a result of tidal action, rainfall, or other regular, predictable climatic fluctuations. These are called seasonal or intermittent wetlands, even though they are actually wetlands the whole year round.[1] Other wetlands change in a unidirectional mode, through a continuous process of creation or destruction. Natural processes involved in creating or destroying wetlands include erosion, siltation, growth and succession of vegetation, and migration of streamflows or barrier inlands. Catastrophic events like storms or floods can trigger creation or destruction of wetlands by altering stream courses and breaching barriers or dikes. Obviously, such natural actions can be augmented or retarded by the actions of humans and other animals.[2]

Because of their dynamic qualities and diverse functions, wetlands have been defined in many ways. Definitions are typically tailored to, and focus on, the wetland characteristic of interest to the person writing the definition. The most comprehensive definition is an ecological one, which would describe wetlands in terms of the populations and communities of plants and animals that interact within the wetland's unique physical parameters. In wetlands, moisture is a primary limiting factor for living things. It significantly affects species distribution. Therefore, it affects all biological interactions.

Other definitions are more limited in scope because they delimit the workable concept appropriate for the author's purpose.[3]

For purposes of the CWA, EPA and the Corps define wetlands as:

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[11]33 U.S.C.A. § 1344(a), (b), (c), (n), (s). *See, e.g.*, G. Power, The Fox in the Chicken Coop: The Regulatory Program of the U.S. Army Corps of Engineers, 63 Va. L. Rev. 503 (1977).

[12]*See, e.g.,* Press Release, White House Fact Sheet: President Announces Wetlands Initiative on Earth Day (April 22, 2004) (announcing a policy to move beyond "no net loss" to have an annual increase in wetlands); 73 Fed. Reg. 19594 (April 10, 2008); National Wetlands Policy Forum, Protecting America's Wetlands: An Action Agenda (1988); Remarks of President G.H.W. Bush, Sixth Int'l Waterfowl Symposium (June 8, 1989), *reprinted in* 25 Weekly Comp. Pres. Doc. 860 (June 12, 1989); Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210 (Mar. 12, 1990); North American Wetlands Conservation Act, Pub. L. No. 101-233, 103 Stat. 1968 (1989).

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[1]Some wetlands dry out completely for some period of time each year. The "vernal pools" that occur on the mesa of San Diego County, California, are an example. The name literally means spring pools. *See, e.g.*, United States v. Eastgate Miramar Assoc., Civ. No. 80-0756-E(M) (C.D. Cal. 1980).

[2]*See, e.g.*, E. Odum, Fundamentals of Ecology 35 (3d ed. 1971) (discussion of the concept of man as a "mighty geological agent").

[3]The U.S. Fish and Wildlife Service describes wetlands, in general terms, as:

> Land where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. The single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil.

L. Cowardin, v. Carter, F. Golet & E. LaRoe, Classification of Wetland and Deepwater Habitats of the

> [T]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[4]

The definition is premised on a complicated interaction scheme involving three dominant observable or quantifiable factors: soil, vegetation, and hydrological regime.[5] This definition is distinguishable from the ecological definition because it is designed not to facilitate an understanding of the system, but rather to provide a practical means of delimiting it for regulatory purposes.

Despite the practical need for limiting regulatory definitions, such definitions must be premised on a realistic understanding of the system. Otherwise, the regulation will be inappropriately over- or under-inclusive and incapable of achieving the goals of the statute. The Clean Water Act definition is generally consistent with the basic ecological premise that the moisture gradient controls and limits the composition of wetland communities. It is consistent with the premise that wetlands are complex, relatively stable biological systems.[6]

By its very nature, a wetland community is not static.[7] Because it is composed of living things which change, grow, and senesce with time, and because those living things interact in complex, interdependent webs, wetland systems are dynamic. A system characterized by constant change has no *status quo*.[8]

The concept of constant change is important for wetlands regulation. Rather than stopping change, effective regulation must seek to allow the natural system room to change at its own pace. The focus should be on developing a decision-making capacity that evaluates the effects of proposed human activities on the natural cycle and selects those that do not exceed the system's own restoring forces.

United States, Office of Biological Services, U.S. Fish and Wildlife Service 3 (Dec. 1979).

[4]33 C.F.R. § 328.3(b); 40 C.F.R. § 232.2(r).

[5]*See, e.g.*, Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 918 n.35, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942, 20952 n.35 (5th Cir. 1983).

[6]It is an often cited adage in ecological literature that complexity increases stability and efficiency. Stability is a dynamic concept. Therefore, the dynamic nature and potential stability of wetlands are key concepts for purposes of designing appropriate and effective regulatory devices. *See generally* W. Keeton, Biological Science 670–71 (2d ed. 1972); R. Ricklefs, Ecology (1973).

[7]The community is an association of interacting populations. A population is an association of interacting organisms of the same type in a certain location.

[8]A biological community may be an equilibrium or nonequilibrium system. A nonequilibrium system may be approaching equilibrium, moving away from equilibrium, or simply fluctuating in response to environmental inputs. An equilibrium system is one in which the rate of change in numbers of its component parts at a given point in time is zero. However, because biological systems do not usually occur in a totally constant environment, perturbations to the system occur. For example, a northern rocky intertidal zone may experience severe ice scouring every several years, which selectively destroys snails, algae, and other members of the community that live on the rock surface. If the system has restoring forces or feedback mechanisms that allow it to recover from such perturbations, it is said to be stable. The more complex the web of interactions, the higher the likelihood of feedback mechanisms, the more stable the community is likely to be.

Such stability can sometimes be determined by artificially disturbing the system. If the time scale recovery is fast enough, the recovery can be measured. An unstable community is one that lacks sufficient feedback mechanisms. When disturbed, it will depart from equilibrium and may either approach another equilibrium or fluctuate subject to further environmental disturbances.

Presently, there is a great need for replicable studies on the degree to which severely disturbed wetlands are restorable. *See, e.g.*, United States v. Eastgate Miramar Assocs., Civ. No. 80-0756-E(M) (C.D. Cal. 1980) (consent decree provided that defendant would fund an experimental field study on restorability of vernal pools after severe disturbance); National Research Council, Compensating for Wetland Losses under the Clean Water Act 40 (2008) (recognizing that there are very few long-term studies of the ecological performance of restored and created wetlands).

§ 13:95 History—The Clean Water Act's regulatory choices in historical perspective

In 1972, Congress enacted the Federal Water Pollution Control Act with the objective of restoring and maintaining the chemical physical and biological integrity of the nation's waters.[1] Section 301(a) of the Act prohibits the discharge of any pollutant into navigable waters unless it is made in compliance with specified provisions of the Act including, among others, §§ 402 and 404.[2]

At the heart of this program are two separate permitting systems for discharges of pollutants. Effluent dischargers are subject principally to technology-based effluent limitations and water quality standards under the NPDES permitting program. Elimination of pollutants from an effluent stream involves use of increasingly efficient technologies.[3] Discharges of dredged or fill materials are regulated under requiring the § 404 program that is the assessment of degradation of the receiving waters.[4]

The § 404 program incorporates the water quality standards for discharges of dredged and fill materials.[5] The permitting decision process is imbued with considerations of the existing quality of the receiving water.[6]

The Act's approach to regulating discharges of pollutants to wetlands theoretically rejects numerous other regulatory devices that could have advanced the Act's overall objective. For example, the Act is neither a safe drinking water statute[7] nor an express watershed protection statute. It is not a preservationist statute in the nature of parks or wilderness areas nor is it an endangered species habitat protector.[8] It is not a facilities siting statute[9] nor expressly a "wetlands protection statute."[10] Nevertheless, the Act's stated objective, its legislative history, and smaller provisions tucked within the overall scheme have made it clear that the system facially limited to discharges of pollutants into navigable waters is really imbued with elements from all of the above.

For example, the legislative history makes it clear that wetlands, which are not mentioned on the face of the Act, are part and parcel of the plan to control pollution at its source.[11] The effects of dredged and fill discharges on drinking water supplies, fisheries, wildlife areas, and shellfish beds are permissibly considered under

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[1]33 U.S.C.A. § 1251.

[2]CWA § 301(a), 33 U.S.C.A. § 1311(a); CWA §§ 402, 404, 33 U.S.C.A. §§ 1342, 1344.

[3]*See* 33 U.S.C.A. §§ 1311(b), 1342. The Act created a two phased program for applying effluent limits. The first applied "best practicable technology." The second is based on "best available technology economically achievable."

[4]*See* 33 U.S.C.A. §§ 1343(c), 1344(b).

[5]*See* CWA §§ 403(b), 404(b), 33 U.S.C.A. §§ 1343(b), 1344(b).

[6]Section 404(b)(1) guidelines are codified at 40 C.F.R. Part 230; key definitions are in 40 C.F.R. Part 232.

[7]*See* Safe Drinking Water Act, 42 U.S.C.A. §§ 300f to 300j-26.

[8]*See* Endangered Species Act, 16 U.S.C.A. § 1531.

[9]*See e.g.*, 42 U.S.C.A. § 4321 (alternatives analysis required by NEPA).

[10]44 Fed. Reg. 54222, 54226 (1979).

[11]2 Environmental Policy Division, Congressional Research Service; A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1495 (Comm. Print. 1978). *See also* United States v. Byrd, 609 F.2d 1204, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20757 (7th Cir. 1979); Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983); United States v. Pozsgai, 999 F.2d 719, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (3d Cir. 1993) (CWA § 502(6), which defines "pollutant" as certain materials "discharged into water," applies to materials discharged into wetlands.).

§ 404(c).[12] The availability of alternative siting options is an input for decision makers pursuant to § 404(b) and its implementing regulations.[13]

Because of the Act's facial limitations, a thick administrative and judicial gloss developed with significant consequences for effective wetlands regulation under the Act.

§ 13:96 Jurisdiction of § 404—Waters of the United States

The regulatory programs of the CWA apply to discharges into the navigable waters. Section 502(7) of the Act defines navigable waters as all "waters of the United States" including the territorial seas.[1] The term "wetland" is not used on the face of the Act. Instead, it is incorporated into the regulators' definition of "waters of the United States."[2]

Inclusion of wetlands within the scope of the Act was not automatic. Until July 1983, the Corps' regulations implementing § 404[3] limited the scope of the program to those waters that had traditionally been regulated under § 10 of the Rivers and Harbors Act of 1899 (RHA).[4] The Corps regulated only waters that were navigable in fact, had been historically navigable, or would be susceptible to navigation with reasonable improvement.[5] Although some salt water wetlands were "historically navigable," most wetlands, including almost all fresh water wetlands, were beyond the scope of the definition.[6]

At the same time, EPA had regulations on the books that defined "navigable waters" for purposes of § 402 (all other pollutant discharges) more broadly than the Corps.[7]

In *Natural Resources Defense Council, Inc. v. Calloway*, the District Court for the District of Columbia invalidated the Corps' definition.[8] The court held that Congress had not intended to restrict the scope of § 404 to the RHA limits, but instead had

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[12]At 33 U.S.C.A. § 1344(c), the CWA provides:

> The Administrator is authorized to prohibit the specification . . . of any defined area as a disposal site . . . , whenever he determines, after notice and opportunity for public hearings, that the discharge of such materials . . . will have an unacceptable adverse effect on *municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreation areas.* (emphasis added).

[13]In the preamble to the final § 404(b)(1) guidelines, EPA stated:

> Section 403(c) already requires that alternatives be considered, and provides the basic legal bases for our requirement. While the statutory provision leaves the Agency some discretion to decide *how* alternatives are to be considered, we believe that the policies and goals of the Act, as well as the other authorities cited in the Preamble to the Proposed Guidelines, would be best served by the approach we have taken.

45 Fed. Reg. 85336, 85339 (1980) (emphasis in original). *See also* 45 Fed. Reg. 85348; 33 C.F.R. § 230.0(a).

[Section 13:96]

[1]33 U.S.C.A. § 1362(7).

[2]*E.g.*, 40 C.F.R. § 232.2(q), (r).

[3]33 U.S.C.A. § 1344.

[4]39 Fed. Reg. 6113 (1974).

[5]39 Fed. Reg. 6113 (1974).

[6]*See, e.g.*, United States v. Holland, 373 F. Supp. 665, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20710 (M.D. Fla. 1974) (areas inundated by tidal action 50 to 100 times a year are "navigable"); United States v. Ashland Oil & Transp. Co., 364 F. Supp. 349, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20185 (W.D. Ky. 1973), *aff'd on other grounds* 504 F.2d 1317, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20784 (6th Cir. 1974).

[7]38 Fed. Reg. 13529 (1983); 40 C.F.R. § 122.21. EPA did not deem this list exhaustive. 2 Decisions of the Administrator and Decisions of the General Counsel, 319, 322 (OGC Decision No. 53, Dec. 17, 1976).

[8]Nat. Res. Def. Council, Inc. v. Calloway, 392 F. Supp. 685, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20285 (D.D.C. 1975).

intended to exert jurisdiction over the nation's waters to the maximum extent permissible under the Commerce Clause of the Constitution.[9]

On May 6, 1975, the Corps issued proposed regulations designed to cure the deficiencies found by the court in *Calloway*.[10] The Corps proposal offered four alternatives utilizing two different definitions of navigable waters. Neither definition mentioned wetlands directly. Instead, both proposed definitions that enumerated the types of water bodies that could be included under the Act. They delimited the actual extent of jurisdiction by reference to a specified high water mark or to an "aquatic" (alternatives 1 and 3) or "salt water" (alternatives 2 and 4) vegetation line.[11]

After digesting over 4,500 comments in response to its request for public comment,[12] the Corps issued interim final regulations on July 25, 1978.[13] These regulations contained a new definition of navigable waters, which included wetlands. They defined navigable waters as:

> [W]aters of the United States including the territorial seas with respect to the disposal of fill material and excluding the territorial seas with respect to the disposal of dredged material and shall include the following waters:
>
> (a) Coastal waters that are navigable . . . ;
>
> (b) All *coastal wetlands, mudflats, swamps*, and similar areas that are contiguous or adjacent to other navigable waters. *"Coastal wetlands"* includes marshes and shallows and means those areas periodically inundated by saline or brackish waters and that are normally characterized by the prevalence of salt or brackish water vegetation capable of growth and reproduction; . . .
>
> (i) *Freshwater wetlands* including marshes, shallows, swamps, and similar areas that are contiguous or adjacent to other navigable waters and that support freshwater vegetation. "Freshwater Wetlands" means those areas that are periodically inundated and that are normally characterized by the prevalence of vegetation that requires saturated soil conditions for growth and reproduction; and
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> (ii) Those other waters which the district engineer determines necessitated regulation for the protection of water quality as expressed in the guidelines (40 C.F.R. 230). For example, in the case of intermittent rivers, streams, tributaries, and

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[9]*See also* 1 Environmental Policy Division, Congressional Research Service; A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1495 at 32 (Conference Report); 1 Environmental Policy Division, Congressional Research Service; A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1495 at 818 (House Report); 1 Environmental Policy Division, Congressional Research Service; A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1495 at 178 (remarks of Sen. Muskie). Subsequent cases continue to affirm Congress's intent that the term "waters of the United States" reaches to the fullest extent permissible under the Commerce Clause of the Constitution. *See, e.g.*, United States v. Ashland Oil & Transp. Co., 504 F.2d 1317, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20784 (5th Cir. 1979); Leslie Salt Co. v. Froehlke, 578 F.2d 742, 754-55, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20480, 20486 (9th Cir. 1978); California v. EPA, 511 F.2d 963, 964, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20213 (9th Cir. 1975), rev'd 426 U.S. 200 (1976); Puerto Rico v. Alexander, 438 F. Supp. 90, 95, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20751, 20753 (D.D.C. 1977); Wyoming v. Hoffman, 437 F. Supp. 114, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20001 (D. Wyo. 1977); United States v. Byrd, 609 F.2d 1204, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20757 (7th Cir. 1979); *see also* United States v. Riverside Bayview Homes, 474 U.S. 121, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20086 (1985); McClellan Ecological Seepage Situation (MESS) v. Weinberger, 707 F. Supp. 1182, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20124 (E.D. Cal. 1988), *judgment vacated*, 47 F.3d 325 (9th Cir. 1995); United States v. Pozsgai, 999 F.2d 719, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (3d Cir. 1993); Utah v. Marsh, 740 F.2d 799, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20683 (10th Cir. 1984); Texas Mun. Power Agency v. Administrator, 836 F.2d 1482, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20538 (5th Cir. 1988).

[10]40 Fed. Reg. 19766 (1975).

[11]40 Fed. Reg. 19766, 19770–76 (1975).

[12]40 Fed. Reg. 31320 (1975).

[13]40 Fed. Reg. 31320, 31322 (1975); 33 C.F.R. § 209.120 (as amended, 41 Fed. Reg. 55524 (1976)).

perched wetlands that are not contiguous or adjacent to navigable waters identified in paragraphs (a)–(h), a decision or jurisdiction shall be made by the district engineer.[14]

For the first time, the definition of navigable waters under the Act referenced and included wetlands. Coastal and freshwater wetlands were clearly included when they were adjacent to or contiguous with other waters of the United States. In addition, the express provision for inclusion of perched or nonadjacent wetlands opened the door for more intensive scrutiny of the multiple roles served by wetlands vis-à-vis water quality.[15]

Late in September 1975, EPA issued environmental guidelines for dredge and fill discharges pursuant to § 404(b).[16] These guidelines incorporated by reference the Corps' then extant definition of navigable waters.[17] In 1977, the Corps issued new regulations that made certain changes in the 1975 definition and which eliminated the distinction between coastal and freshwater wetlands.[18] On June 7, 1979, EPA issued revised regulations to implement the § 402 permitting program and specifying the requirements for state § 404 programs.[19] These contained a new definition of navigable waters, which also included wetlands. In the May 1980 Consolidated Permit Regulations and the December 1980 § 404(b)(1) guidelines, a more refined EPA definition of navigable waters appeared.[20] One and a half years later, in July 1981, the Corps adopted EPA's wording in its own definition of WOTUS.[21] Both agencies presently define navigable waters as:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

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[14]40 Fed. Reg. 31324 (1975). For a discussion of the wetlands definition, see § 13:97.

[15]*See generally* § 13:95; *see also* United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985), 16 Envtl. L. Rep. (Envtl. L. Inst.) 20086 (1985) (isolated wetlands are within the scope of the CWA's jurisdiction); United States v. Akers, 651 F. Supp. 320, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20702 (E.D. Cal. 1987) (wetlands created by manmade inundation covered by § 404); United States v. Fabian, 522 F. Supp. 2d 1078, 37 Envtl. L. Rep. (Envtl. L. Inst.) 20083 (N.D. Ind. 2007) (CWA governs isolated wetlands when the lands show characteristics of wetland soil and vegetation). But see discussion regarding Rapanos v. United States, 547 U.S. 715, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20116 (2006), later in this section.

[16]40 Fed. Reg. 41291 (1975); 40 C.F.R. Part 230 (1975). *See* § 13:108. (discussion of Guidelines).

[17]40 Fed. Reg. 41291 (1975); 40 C.F.R. Part 230 (1975). *See* § 13:108. (discussion of Guidelines).

[18]42 Fed. Reg. 37125 (1977).

[19]44 Fed. Reg. 32854 (1979).

[20]Consolidated Permit Regulations, 45 Fed. Reg. 33290 (1980); Guidelines, 45 Fed. Reg. 85336, 85346; 40 C.F.R. § 230. On April 1, 1983, the EPA's Consolidated Permit Regulations were "deconsolidated." 48 Fed. Reg. 14146 (1983). On June 6, 1988, EPA published a final rule essentially recodifying existing § 404 program definitions. 53 Fed. Reg. 20764, 20773 (1988) (codified at 40 C.F.R. § 232.2).

[21]47 Fed. Reg. 31744, 31810 (1982).

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.[22]

EPA and the Corps currently define wetlands as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[23]

In the 1988 preamble to its revised definitions,[24] EPA adopted as its own a discussion contained in the Corps' 1986 regulatory preamble,[25] which provides examples of "waters of the United States" that are within the regulatory program.[26]

Despite the inclusion of wetlands within the scope of the § 404 program by July 1975, some wetlands did not become regulatable entities until July 19, 1977, five years after the Act's passage.[27] When it produced the new definition of "navigable waters," the Corps designated the various water body types as phase I, II, or III. Dates were assigned on which each group would be "phased in" for regulatory

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[22]33 C.F.R. § 328.3(a); 40 C.F.R. § 232.2. The implausibility of having two different regulatory definitions for the same statutory term was not squarely addressed until June 5, 1979, when Attorney General Civiletti opined that the administrator of EPA has the ultimate administrative authority to determine "waters of the United States" for all purposes under the Act. 43 Op. Atty. Gen. 15 (1979). *See also* Crawford v. EPA, No. 76-M-1148 (D. Col. 1979) (Matsch, J., ruling from the bench).

In 1977, the Act was amended without revision or modification of the statutory definition of "navigable waters." The legislative history contains numerous references to wetlands. *See, e.g.*, 3 Environmental Policy Division, Congressional Research Service; A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1495 at 417, 484, 494, 523 (Comm. Print 1978) (statements of Representative Dingell and Senators Stafford, Randolph, and Baker). Therefore, one can conclude that Congress endorsed the *Calloway* court's view of intended jurisdiction.

[23]40 C.F.R. § 232.2; 33 C.F.R. § 328.3(b).

[24]53 Fed. Reg. 20764, 20765 (1988).

[25]51 Fed. Reg. 41206, 41217 (1986).

[26]"Waters of the United States" typically include the following waters:

- Which are or would be used as habitat by birds protected by Migratory Bird Treaties; or
- Which are or would be used as habitat by other migratory birds which cross State lines; or
- Which are or would be used as habitat for endangered species; or
- Used to irrigate crops sold in interstate commerce.
- For clarification it should be noted that we generally do not consider the following waters to be "waters of the United States." However, EPA reserves the right on a case-by-case basis to determine that a particular water body within these categories of waters is a water of the United States. Pursuant to agreements with EPA, the permitting authority also has the right to determine on a case-by-case basis if any of these waters are "waters of the United States."
- Non-tidal drainage and irrigation ditches excavated on dry land.
- Artificially irrigated areas which would revert to upland if the irrigation ceased.
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States.

53 Fed. Reg. 20764, 20765 (1988).

[27]42 Fed. Reg. 37122 (1977).

purposes.[28] Activities that occurred prior to the phase in date were "grandfathered" for purposes of subsequent § 404 permitting and enforcement.[29]

On July 25, 1975, the regulations regarding discharges of fill materials became immediately effective for coastal waters and their adjacent wetlands, as well as for those inland waters already under Corps jurisdiction and their adjacent wetlands. On July 1, 1976, discharges of dredged and fill materials into all Phase I waters became regulated, in addition to discharges into primary tributaries, their adjacent wetlands, and lakes. Discharges into all other waters, including all other wetlands, became regulated after July 1, 1977.[30] The terms Phase I, II, and III waters technically became obsolete for all new discharges after July 1, 1977.

As noted above, the federal courts have consistently held that Congress intended that the term "waters of the United States" reach to the fullest extent possible under the Commerce Clause. In *Hoffman Homes, Inc. v. EPA*,[31] for example, EPA assumed jurisdiction over an isolated, intrastate wetlands area of less than one acre on a claim that migratory birds could potentially use the area on an occasional basis. The wetlands had no connection to other aquatic ecosystems. The court held that, since millions of people throughout North America spend more than a billion dollars per year on hunting, trapping, and observing migratory birds, activities affecting any wetlands potentially used by such birds also affect interstate commerce.

The court went on to hold, however, that EPA must offer evidence that a wetland truly has the potential to be used by migratory birds before assuming CWA jurisdiction over it. EPA had presented no testimony that birds had been seen at the site, or that the site was similar to other sites used by migratory birds. There was, in fact, substantial evidence that the wetlands in question were unsuitable for migratory birds. Stating that "migratory birds are better judges of what is suitable for their welfare than are we," the court vacated the administrative penalty assessed against the defendant for having filled the wetlands.

However, in recent years, the Supreme Court has scrutinized the phrase "waters of the United States" to establish limitations. In *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers,*[32] the Supreme Court held that the Corps incorrectly interpreted the CWA as permitting it to have jurisdiction over intrastate waters based on the presence of migratory birds. The Court decision prohibits federal agencies from claiming jurisdiction over non-navigable intrastate waters that are not adjacent to a navigable waterway. As a result of the decision, many states have begun to evaluate and institute protections for isolated bodies of water.[33] In addition, the Department of Justice has begun urging federal courts to adopt a narrow interpretation of the decision by arguing for broad interpretation of the term "adjacent." The Department of Justice has argued that wetlands that are "hydrologically connected" to navigable waters should remain under federal

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[28]42 Fed. Reg. 37122, 37125–28 (1977).

[29]42 Fed. Reg. 37122, 37125 (1977).

[30]42 Fed. Reg. 37122, 37128-29 (1977).

[31]Hoffman Homes, Inc. v. EPA, 999 F.2d 256, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21139 (7th Cir. 1993).

[32]Solid Waste Agency of Northern Cook Cty. (SWANCC) v. U.S. Army Corps of Eng'rs, 531 U.S. 159, 121 S. Ct. 675, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (2001).

[33]There were 26 states that defined wetlands to include areas that since the *SWANCC* decision are outside the jurisdiction of the Corps. However, only 15 of these states regulated dredging and filling in isolated wetlands; and of these 15 states, most had exemptions from the permitting requirements based on such criteria as size of the wetland, type of wetland, and/or activity performed on the wetland (such as agriculture).

jurisdiction.[34]

In *United States v. Riverside Bayview Homes*,[35] the Supreme Court upheld the Corps' jurisdiction over wetlands adjacent to WOTUS. The Supreme Court concluded that the Corps has jurisdiction over all adjacent wetlands, even those without a significant hydrological connection to the adjacent waters.

In *Rapanos v. United States*,[36] a plurality of the Supreme Court held that the Corps did not have jurisdiction under § 404 to require property owners to acquire permits before dredging and filling certain wetlands. To determine whether § 404 extends to certain wetlands, Justice Scalia, writing for the plurality, proposed a two-prong test. Under Scalia's test, wetlands are governed by § 404 if the court finds that (1) the adjacent channel contains a "water of the United States," and (2) "the wetland has a continuous surface connection with that water, making it difficult to determine where the 'water' ends and the 'wetland' begins."

Justice Kennedy, in his concurrence, explicitly rejected Scalia's test as inconsistent with the purpose of the CWA and instead proposed a "significant nexus" test. Under Kennedy's test, "[w]etlands possess the requisite nexus . . . if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.' " However, there is no jurisdiction over the land if its "effects on water quality are speculative or insubstantial."

The dissent, emphasizing the ecological and hydrological nexus between the wetlands and "navigable waters," opined that *United States v. Riverside Bayview*[37] should control the outcome and that § 404 governs the wetlands at issue because the wetlands are tributaries of navigable waters.

The EPA and the Corps issued a joint guidance on the scope of the CWA in June 2007 and issued a revised guidance in December 2008. The agencies' position is that, in a case with no majority opinion, the controlling legal principle can be derived from principles adopted by five or more justices. Thus, a water body falls within § 404 jurisdiction if it satisfies the standard of either Scalia's two-prong test or Kennedy's significant nexus test.[38] However, most courts that have considered the issue since *Rapanos* either considered both tests[39] or considered solely Kennedy's "significant nexus" test.[40]

On April 21, 2014, the EPA and the Corps jointly issued a proposed rule to clarify

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[34]The Department of Justice has filed amicus briefs arguing that the *SWANCC* decision does not bar other bases for federal jurisdiction over non-navigable intrastate waters. *See* FD& P Enters., Inc. v. Army Corps of Eng'rs, No. 99-3500 (D.N.J. May 30, 2001); Rice v. Harken Exploration Co., 250 F.3d 264, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20599 (5th Cir. 2001); and San Francisco Baykeeper v. Cargill Salt Div., 263 F.3d 963 (9th Cir. 2001).

[35]United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 106 S. Ct. 455, 88 L. Ed. 2d 419, 23 Env't Rep. Cas. (BNA) 1561, 16 Envtl. L. Rep. 20086 (1985).

[36]Rapanos v. United States, 547 U.S. 715, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20116 (2006).

[37]United States v. Riverside Bayview Homes, 474 U.S. 121, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20086 (1985). *See also* § 13:96, note 15.

[38]Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States, http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008_12_3_wetlands_CWA_Jurisdiction_Following_Rapanos120208.pdf.

[39]*See, e.g.,* United States v. Gerke Excavating, Inc., 464 F.3d 723, 63 Env't Rep. Cas. (BNA) 1351, 36 Envtl. L. Rep. 20200 (7th Cir. 2006); Envtl. Prot. Info. Ctr. v. Pacific Lumber Co., 469 F. Supp. 2d 803, 64 Env't Rep. Cas. (BNA) 1880 (N.D. Cal. 2007); United States v. Pozsgai, No. 88-6545 (E.D. Pa. Mar. 8, 2007).

[40]*See, e.g.,* United States v. Johnson, 467 F.3d 56, 36 Envtl. L. Rep. 20218, 162 O.G.R. 1289 (1st Cir. 2006); Simsbury-Avon Preservation Soc., LLC v. Metacon Gun Club, Inc., 472 F. Supp. 2d 219, 64 Env't Rep. Cas. (BNA) 2081 (D. Conn. 2007), *aff'd on other grounds*, 575 F.3d 199, 69 Env't Rep. Cas. (BNA) 1187 (2d Cir. 2009); United States v. Cundiff, 480 F. Supp. 2d 940, 65 Env't Rep. Cas. (BNA)

jurisdiction over streams and wetlands under the CWA.[41] And, in June 2015, EPA published the final Clean Water Rule.[42] Later that year, the U.S. Court of Appeals for the Sixth Circuit issued a nationwide stay of the rule, leaving the existing regulatory system and definitions in place.[43] After issuing the stay, the Sixth Circuit ruled that it had jurisdiction under the CWA to directly review challenges to the proposed Clean Water Rule.[44] The U.S. Supreme Court reversed and remanded, holding that challenges to the Clean Water Rule must be brought in the federal district courts.[45]

§ 13:97 Jurisdiction of § 404—Application of the wetlands definition—Spatial

The first step in the regulatory process for a potential permit applicant is to ascertain precisely which areas are wetlands within the scope of the Act. Actual boundaries must be established. Under certain circumstances, maps indicating wetlands defined for other purposes may offer guidance, such as the U.S. Fish and

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1346 (W.D. Ky. 2007), *aff'd*, 555 F.3d 200, 68 Env't Rep. Cas. (BNA) 1289 (6th Cir. 2009); and United States v. Bailey, 516 F. Supp. 2d 998 (D. Minn. 2007), *aff'd*, 571 F.3d 791, 69 Env't Rep. Cas. (BNA) 1135 (8th Cir. 2009); N. Cal. River Watch v. City of Healdsburg, 496 F.3d 993, 64 Env't Rep. Cas. (BNA) 2097 (9th Cir. 2007); Precon Dev. Corp. v. U.S. Army Corps of Eng'rs, 603 F. App'x 149, 80 ERC 1468 (4th Cir. Mar. 10, 2014); United States v. Robertson, No. CR 15-07-H-DWM, 2015 WL 7720480 (D. Mont. Nov. 30, 2015).

[41]Definition of "Waters of the United States" under the Clean Water Act, 79 Fed. Reg. 76,22188 (April 21, 2014) (to be codified at 40 C.F.R. § 110, 112, 116), http://www2.epa.gov/sites/production/files/2014-04/documents/fr-2014-07142.pdf.

[42]Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37054 (June 29, 2015) (to be codified 33 C.F.R. Pt. 328, 40 C.F.R. Pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, 401).

[43]In re EPA and Department of Defense Final Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37054 (June 29, 2015), 803 F.3d 804 (6th Cir. Oct. 9, 2015) (finding that the petitions demonstrated a substantial possibility of success on the merits). The final rule defines "waters of the United States" as

> All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters of which were subject to ebb and flow of the tide; (2) All interstate waters, including interstate wetlands; (3) the territorial seas; (4) All impoundments of waters otherwise identified as waters of the United States under this section; (5) All tributaries as defined in paragraph (c)(3) . . . (6) All waters adjacent to a water identified in (a)(1)-(5) of this section including wetlands, ponds, lakes, oxbows, impoundments, and similar waters[.]

80 Fed. Reg. 37054, 37104-105.

The definition also includes Prairie Potholes, Carolina and Delmarva Bays, Pocosins, Western Vernal Pools, and Texas Coastal Prairie Wetlands where such waters are determined on a case-specific basis to have a significant nexus to a water identified in (1) through (3) above. *Id.* at 37105. Moreover, under the final rule "waters of the United States" means

> [a]ll waters located within the one hundred-year floodplain of a water identified in (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section.

Id.

The final rule clarifies that where waters are adjacent to any waters identified in section (a)(6) of the rule, then the case-specific, significant nexus analysis is not required. *Id.*

[44]In re U.S. Dept. of Defense, U.S. E.P.A. Final Rule: Clean Water Rule: Definition of Waters of U.S., 817 F.3d 261, 81 Env't. Rep. Cas. (BNA) 2165 (6th Cir. 2016), cert. granted, 137 S. Ct. 811, 196 L. Ed. 2d 595 (2017) and rev'd and remanded, 138 S. Ct. 617, 199 L. Ed. 2d 501, 85 Env't. Rep. Cas. (BNA) 2155, 2018 A.M.C. 29 (2018).

[45]National Ass'n of Mfrs. v. Department of Defense, 138 S. Ct. 617, 199 L. Ed. 2d 501, 85 Env't. Rep. Cas. (BNA) 2155, 2018 A.M.C. 29 (2018).

Wildlife National Wetlands Inventory[1] and most states have programs that offer maps of wetland areas.[2] However, because the maps are not designed to reflect wetlands for CWA purposes, their designations are not determinative.

Delineation of the spatial perimeters of a wetland generally involves a field survey, based initially on the identification of wetland indicator plant species.[3] These are species "typically adapted for life in saturated soil conditions." The field survey first seeks to ascertain the presence or absence of true indicator species and by random sampling, using any of a variety of statistical techniques, (e.g., transects) seeks to ascertain whether the indicator species are the "prevalent" species. Where an area is characterized by a prevalence of species that must live in saturated soil conditions the analysis ends there. Such species are called "obligate hydrophytes." If, however, the area is characterized not by species that require saturated soil conditions, but which are, nevertheless "typically adapted" for such life, the analysis goes further. In such cases, the applicability of the CWA is determined by assessing the three elements contained in the wetlands definition: vegetation, soils, and hydrology.[4] Analysis of soil characteristics and hydrology (surface and groundwater movement) ensures that the presence of facultative hydrophytes does not yield a false wetland determination.

In *Avoyelles Sportsmen's League v. Alexander*,[5] the Fifth Circuit Court of Appeals upheld EPA's use of the definition's three-part test to determine whether certain bottomland hardwood forests in Louisiana were wetlands regulated by the CWA. There, the Corps had performed the first field survey. Relying solely on the presence of obligate hydrophytes, without an assessment of soil characteristics or inundation patterns, the Corps determined that a small portion of the tract contained regulated wetlands. EPA subsequently reassessed the same tract and, applying an interdisciplinary approach, determined that nearly all of the tract was a regulated wetland. The court rejected the Corps' earlier approach, ruling that the term "typically adapted for life in saturated soil conditions" was not limited in scope to vegetation that required constant inundation for survival, and that the agencies could, consistent with the regulatory definition, rely on soil characteristics and inundation patterns to confirm the dimensions of a wetland.[6]

§ 13:98 Jurisdiction of § 404—Application of the wetlands definition—Temporal

Wetlands have some characteristics of dry land and some of open water. They often change over time, cyclically (as on an annual wet-dry seasonal cycle), or in an

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[Section 13:97]

[1]*See also* L. Cowardin, V. Carter, F. Volet & E. La Roe, Classification of Wetlands and Deepwater Habitats of the United States, U.S. Fish and Wildlife Services, Biological Service Program (FWS/OBS-79131, December, 1979).

[2]*See, e.g.,* N.Y. Envtl. Conserv. Law §§ 24-0101 to 24-0107 (Freshwater Wetlands Act).

[3]U.S. Army Corps of Engineers, Regional Supplements to Corps Delineation Manual, http://www.usace.army.mil/missions/civilworks/regulatoryprogramandpermits/reg_supp.aspx.

[4]33 C.F.R. § 328.3(b); 40 C.F.R. § 232.2.

[5]Avoyelles Sportsmen's League, Inc. v. Alexander, 511 F. Supp. 278, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20321 (W.D. La. 1981), *aff'd in part on other grounds sub nom.* Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983).

[6]Avoyelles Sportsmen's League v. Alexander, 473 F. Supp. 525, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20315 (W.D. La. 1979). As a result of the controversy engendered by this case, Attorney General Civiletti opined in 1979 that EPA had the ultimate administrative authority to determine CWA jurisdiction over waters of the United States for all purposes under the CWA. 43 Op. Atty. Gen. 15 (1979).

unidimensional mode resulting over time in the creation or destruction of a wetland.[1] For CWA purposes, the question is *when* is an area a regulated wetland.

In the extreme, cyclic (or intermittent) wetlands may have all the characteristics of a wetland in the wet season and none in the dry season. Wetlands that dry out completely in certain seasons are not uncommon. If their predictable cyclic pattern includes a season with a prevalence of wetland vegetation, they are subject to the Act's jurisdiction the whole year long. This applies even if the field survey or the discharge occurs in the dry season. There are two bases for this approach. First, the Act directs that pollution be controlled at its source.[2] Tributaries to larger water bodies and areas that serve as watersheds serve these purposes even when dry. Consequently, discharges there have implications for water quality. For this reason, discharges into ordinarily dry arroyos, which run with water only during short periods of the year, require permits.[3] Similarly, spills of toxic substances into ordinarily dry areas were subject to the (then) § 311 reporting requirements.[4] Second, certain classes of discharges, such as discharges of dredged or fill materials, have the effect of irrevocably changing the characteristics of a water body. Such changes remove whole classes of waters from the category of WOTUS, preventing them from serving any of the water resource or water quality functions that the Act seeks to protect.[5] Therefore, discharges are regulated even if they occur in the dry season.

One of the most extreme cases to date involved unpermitted discharges of fill materials into vernal (spring) pools on the mesas of San Diego, California.[6] These pools are small (some only a few yards in diameter), and they dry out completely for all but a few weeks each spring. During those weeks, however, the pools provide habitat for aquatic life and are characterized by a prevalence of vegetation "typically adapted for life in saturated soil conditions." Discharges during the dry season, however, would have destroyed the wetlands' functions served in the wet season and would be prohibited absent a § 404 permit.

Noncyclic changes in wetlands occur catastrophically or gradually and can either create new wetlands or destroy others. Catastrophic changes include, for example, breaching of dikes or barriers during storms, which give rise to new wetlands, or digging of drainage ditches or blocking of streams, which destroy wetlands. Gradual changes include, for example, those caused by siltation, erosion, successional changes in vegetation, and small scale changes in stream flows or directions. For CWA purposes, the question is *when* any of these entities are regulated wetlands.

For wetlands that have already been irrevocably changed to dry or fast land, the Agency's approach is straightforward. If a water body was converted to dry land before 1972, it is no longer a regulated water body.[7] If it was converted to dry land *legally* after 1972, it is not a regulated water body. If, however, any of these water

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[Section 13:98]

[1]*See* § 13:95.

[2]*See, e.g.*, United States v. Byrd, 609 F.2d 1204, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20757 (7th Cir. 1979).

[3]United States v. Phelps Dodge Corp., 391 F. Supp. 1181, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20308 (D. Ariz. 1975).

[4]United States v. Texas Pipe Line Co., 611 F.2d 345, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20184 (10th Cir. 1979).

[5]*See generally* 33 U.S.C.A. § 1251.

[6]United States v. Eastgate Miramar Assoc., Civ. No. 800756-E(M) (S.D. Cal. 1980) (consent decree in civil enforcement action acknowledged that vernal pools are wetlands regulated under the CWA).

[7]Wetlands are distinguishable from traditionally navigable "waters" in this regard. *See, e.g.*, Kaiser-Aetna v. United States, 444 U.S. 164, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20042 (1979). The Court

bodies become re-inundated and characterized by a prevalence of vegetation typically adapted for life in saturated soil conditions, they resume the stature of a regulated entity and are fully subject to the CWA. In *USI Properties Corp. v. EPA*, for example, EPA sought to assert CWA jurisdiction over certain former wetlands in Puerto Rico.[8] For several decades prior to 1972, these areas had been subject to continuous pumping, as a result of which they were rendered dry, and their characteristic vegetation dramatically changed. In the late 1970s, however, pumping ceased and waters reinvaded the land. The characteristic vegetation changed, becoming predominantly wetlands vegetation. The court ruled that the government was likely to succeed on the merits of its claim that CWA jurisdiction was properly asserted, even though a simple flick of the switch could have started the pumps at any time.

Wetlands subject to CWA jurisdiction can also be created from dry land, either by the intentional acts of men or incidents thereto, or by acts of nature. These include rerouting streams, beaver dams, and washouts of piles and dikes. In such cases the questions are whether the elements of a CWA wetland have come into existence (i.e., requisite vegetation, soils, hydrology), and whether it is predictable that the new wetland is more than a passing phenomenon.[9]

§ 13:99 Jurisdiction of § 404—Application of the wetlands definition—The wetlands manual

Prior to 1989, each of the four federal agencies with wetland-related duties—the Corps, EPA, the Fish and Wildlife Service, and the Soil Conservation Service—employed its own procedures and criteria for identifying and delineating wetlands. Although the agencies' definitions of wetlands were conceptually the same, relying on the basic elements of hydrology, vegetation, and soils, their varied technical approaches to wetlands identification led to inconsistent determinations of wetland boundaries both within each agency and between agencies.

Finally, in 1989, without benefit of notice-and-comment procedures, the four agencies adopted the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" (Manual). Although the manual incorporated the traditional elements of hydrology, vegetation and soils, its relative emphasis on the presence of mapped hydric soil areas, which include tracts that were never wetland or are drained or dry, as a fundamental element of wetlands identification and delineation led a number of Manual users to conclude that the presence of hydraulic conditions (e.g., saturated soil), was no longer a determinative factor in wetlands identification. Under this interpretation of the Manual, millions of drained former wetlands became subject to federal regulation.

In response to vigorous criticism of the Manual, primarily by farmers, developers, and the oil and gas industry, the four agencies proposed significant revisions to the Manual.[1] The revisions clarify the relationship between hydric soils and hydrology

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held that waters that had been navigable-in-fact remained subject to the navigation servitude, even though they had been removed from navigation. The Court ruled that traditional concepts of navigation were so historic and deep-seated that all were deemed to have notice. This has not been deemed to be the case for wetlands which, as shown in § 13:97, did not come within the regulatory scope of the CWA until 1975 at the earliest.

[8]USI Properties Corp. v. E.P.A., 517 F. Supp. 1235, 16 Env't. Rep. Cas. (BNA) 1408, 11 Envtl. L. Rep. 20971 (D.P.R. 1981).

[9]Corps' regulations provide for emergency repairs of dikes, dams, and other barriers. 33 C.F.R. § 323.4(a)(2). *See also* EPA's regulation at 40 C.F.R. § 232.3(c)(2).

[Section 13:99]

[1]56 Fed. Reg. 40446 (Aug. 14, 1991). Although the agencies contend that the Manual is a techni-

in wetlands identification by establishing wetland hydrology as a mandatory independent technical criteria for wetland determination.

The revisions also proposed certain other changes to the Manual, which had been the subject of intense internal debate within the George H. W. Bush Administration. These included a new definition of the wetland hydrology criterion that would require an area to be inundated for 15 or more consecutive days, or saturated from surface or groundwater to the surface for 21 or more consecutive days during the growing season in most years. Under the then-existing Manual, only seven days of saturation or inundation were required during the growing season to qualify an area as a wetland under the hydrology criteria.

Another controversial element of the proposal concerned the weight to be given under the hydrophytic vegetation criterion to facultative neutral plants, which are equally likely to occur in wetlands or nonwetlands. The agencies proposed the "prevalence index" approach, which assigns relative values to five types of indicator species, including facultative neutral species, measures each as a percentage of the total community, and multiplies the percentages by the assigned value. The agencies had also asked for comment, however, on a more easily executed, but possibly less reliable method: the Facultative Neutral test. Under the Facultative Neutral test, an area would qualify as a wetland for purposes of the hydrophytic vegetation criterion if, after discounting all dominant facultative plants, the number of dominant obligate wetland and facultative wetland species (those frequently or usually associated with wetlands) exceeded the number of dominant facultative upland and obligate upland species (those more likely to be found, or almost exclusively found, in nonwetland areas).

In August 1991, the Corps returned to using its 1987 Corps of Engineers Wetlands Delineation Manual (1987 Manual).[2] The Energy and Water Development Appropriations Act of 1993[3] requires the Corps to continue using the 1987 Manual "until a final wetlands delineation manual is adopted." In order to avoid inconsistent wetland delineation determinations between the Corps and EPA, EPA agreed to also use the 1987 Manual in delineating wetlands.[4] The Corps has developed regional supplements on water delineation.[5]

§ 13:100 Section 404 permit program and administration

Section 404 provides that the Secretary of the Army (by and through the Corps) may issue permits for the discharge of dredged and fill materials into "navigable waters."[1] Corps' regulations provide procedures for permit application and processing as well as for interagency coordination and enforcement.[2] The substantive criteria for permit evaluation are established by EPA in consultation with the

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cal guidance that is not subject to notice-and-comment rulemaking requirements, the proposal states that portions of the final manual may be promulgated as a final rule and published in the Code of Federal Regulations.

[2]Waterways Experiment Station Technical Report Y-87-1, Jan. 1987. *See* 58 Fed. Reg. 4995 (Jan. 19, 1993).

[3]Pub. L. No. 102-337, 106 Stat. 1315 (1992).

[4]58 Fed. Reg. 4995 (Jan. 19, 1993).

[5]U.S. Army Corps of Engineers, Regional Supplements to Corps Delineation Manual, http://www.usace.army.mil/missions/civilworks/regulatoryprogramandpermits/reg_supp.aspx.

[Section 13:100]

[1]33 U.S.C.A. § 1344(a).

[2]*See generally* 33 C.F.R. §§ 323 to 330.

Corps.[3]

§ 13:101 Section 404 permit program and administration—Dredged and fill materials

The terms *dredged materials* and *fill materials* are not defined in the CWA. They are defined by EPA and the Corps in their implementing regulations.

"Dredged material" is defined as material that is excavated or dredged from WOTUS.[1] Along with excavated slurries and muds traditionally viewed as "dredged" materials, the term has also been construed to include vegetal matter uprooted from a wetland[2] and could include crushed seashells.[3] In many cases, the material in question is also being used for "fill." In such cases, it is immaterial for the threshold regulatory question whether the material is also "dredged." However, dredged materials are subject to special testing to determine suitability for discharge into water.[4] Therefore, the distinction does have some import in practice.

The term "fill material" has been defined differently in the EPA and Corps regulations. Until 2002, the Corps' definition employed what came to be known as the "primary purpose test." Thus, the Corps defined fill material as:

> [A]ny material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of waterbody. The term does not include any pollutant discharged into the water primarily to dispose of waste, as that activity is regulated under Section 402 of the Clean Water Act.[5]

EPA, however, rejected the primary purpose test as unworkable, in part because it was dependent on the subjective motivations of the discharger and, therefore, had no bearing on the environmental consequences of the discharge. Thus, EPA defines fill material as any "pollutant" whose discharge has the *effect* of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody.[6] The Corps adopted this definition in 2002.[7]

Until 2002, the choice of definition dictated which agency issued the permits. EPA was authorized to issue permits under its § 402 authority for all discharges of pollutants, except discharges of dredged or fill material. Thus, if an activity was not a discharge of "fill," under the Corps' definition, the prospective discharger was required to seek a permit from EPA (or an implementing state) rather than the Corps, even if the activity is identical to another where the discharger has expressed a "primary purpose" to fill, thereby invoking the Corps' jurisdiction. The result was akin to forum shopping, review of identical activities under different standards (i.e., § 402 technology based effluent limitations and § 404 water-quality-based guide-

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[3] *See* § 13:108. EPA also provides regulatory guidance letters. *See* Laws, Regulations, Treaties: Policy and Technical Guidance Documents, http://water.epa.gov/lawsregs/lawsguidance/cwa/wetlands/.

[Section 13:101]

[1] 33 C.F.R. § 323.2(c); 40 C.F.R. § 232.2.

[2] Avoyelles Sportsmen's League v. Alexander, 473 F. Supp. 525, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20315 (W.D. La. 1979), *aff'd in part, rev'd in part*, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983).

[3] *See* United States v. Lambert, 695 F.2d 536, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20436 (11th Cir. 1983).

[4] *See generally* 40 C.F.R. § 230.

[5] *See* 42 Fed. Reg. 37130 (1977).

[6] 40 C.F.R. § 232.2.

[7] 33 C.F.R. § 323.2(e); Final Revisions to the Clean Water Act Regulatory Definitions of "Fill Material" and "Discharge of Fill Material," 67 Fed. Reg. 31129 (May 9, 2002).

lines),[8] and public confusion.

EPA and the Corps entered into a Memorandum of Agreement (MOA) in 1986 in which they tried to come to terms with their long-standing definitional difference, which centers on a different view of where jurisdiction lies for regulation of discharges of solid waste into water bodies. Under the MOA, the agencies decided that ultimate resolution of the issue should be tied to the EPA study of the matter required by the Hazardous and Solid Waste Amendments of 1984. The interim arrangement contemplated by the MOA had EPA using § 309 to enforce the CWA in relation to most solid or semisolid waste discharges and drew a distinction between homogeneous and heterogeneous wastes for permitting purposes, the former generally being subject to § 402 and the latter to § 404.[9] This issue was resolved in 2002 when EPA and the Corps adopted a definition of "fill material" that dispenses with the primary purpose test.[10] The term "fill material" includes, among other things, earth, ash, shells, and vegetal debris moved with discers and graders for the purpose of leveling.[11]

EPA and the Corps reconciled their differing regulations and issued a final rule to amend the definition of "fill material" in 2002.[12] According to the amended definition and as summarized above, "fill material" is material that "has the effect of: (i) Replacing any portion of a WOTUS with dry land; or (ii) Changing the bottom elevation of any portion of a WOTUS."[13] The rule provides examples of fill material[14] and explicitly excludes trash.[15]

In *Coeur Alaska v. Southeast Alaskan Conservation Council*, the Supreme Court concluded that the CWA gives authority to the Corps rather than to EPA to issue a permit for the discharge of slurry that meets the agencies' regulatory definition of fill.[16] The Court noted that Section 402 gives the EPA authority to issue "permit[s] for the discharge of any pollutant," with one important exception: the EPA may not issue permits for fill material that falls under the Corps' Section 404 permitting authority. Thus, the Court concluded "[t]he Act is best understood to provide that if the Corps has authority to issue a permit for a discharge under § 404, then the EPA lacks authority to do so under § 402."[17]

§ 13:102 Section 404 permit program and administration—Discharges of dredged materials and fill materials

The term "discharge of dredged materials" is defined in the Corps' regulations. The Corps' definition has three components. First, it defines "discharge of dredge material" as "any addition of dredged material into, including redeposit of dredged

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[8]*See* § 13:95; § 13:108.

[9]*See* 53 Fed. Reg. 20764 (1988) (explaining the MOA); West Virginia Coal Ass'n v. Reilly, 932 F.2d 964, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20092 (4th Cir. 1991) (applying the MOA to support EPA's authority over placement of fill and water treatment ponds in streams for disposal of surface coal mining waste).

[10]*See* 67 Fed. Reg. 31129 (May 9, 2002).

[11]*See, e.g.*, § 13:93.

[12]67 Fed. Reg. 31129 (May 9, 2002).

[13]33 C.F.R. § 323.2(e)(1); 40 C.F.R. § 232.2.

[14]33 C.F.R. § 323.2(e)(2); 40 C.F.R. § 232.2.

[15]33 C.F.R. § 323.2(e)(3); 40 C.F.R. § 232.2.

[16]Coeur Alaska, Inc. v. Southeast Alaska Conservation Council, 557 U.S. 261, 129 S. Ct. 2458, 174 L. Ed. 2d 193, 68 Env't Rep. Cas. (BNA) 1513 (2009).

[17]Coeur Alaska, Inc. v. Southeast Alaska Conservation Council, 557 U.S. 261, 274, 129 S. Ct. 2458, 174 L. Ed. 2d 193, 68 Env't Rep. Cas. (BNA) 1513 (2009).

material other than incidential fallback within, the waters of the United States."[1] The term specifically includes "runoff or overflow, associated with a dredging operation, from a contained land or water disposal area" and [a]ny addition, including redeposit other than incidental fallback, of dredged material, including excavated material, into waters of the United States which is incidental to any activity, including mechanized landclearing, ditching, channelization, or other excavation."

Second, the Corps's definition clarifies that the term "discharge of dredged material" does not include:

1) "Discharges of pollutants into waters of the United States resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill)." Such discharges are subject to permitting requirements under CWA § 402;
2) "Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chainsawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material"; and
3) "Incidental fallback." The term "incidental fallback" is discussed in detail below.[2]

Finally, the Corps' definition clarifies that § 404 authorization is not required for, among other things, discharges, "such as those associated with normal farming, silviculture, and ranching activities [that] are not are not prohibited by or otherwise subject to regulation under section 404."[3]

The term "discharge of fill material" is defined by the Corps as the "addition of fill material into waters of the United States," and the term generally includes, among other things, "[p]lacement of fill that is necessary for the construction of any structure or infrastructure in a water of the United States."[4] The term "discharge of fill material" does not include "plowing, cultivating, seeding and harvesting for the production of food, fiber, and forest products."[5] EPA's corresponding definition of "discharge of fill material" clarifies when the placement of pilings in WOTUS constitutes a discharge requiring a § 404 permit (e.g., the "[p]lacement of pilings for linear projects, such as bridges, elevated walkways, and powerline structures, generally does not have the effect of a discharge of fill material.").[6]

The regulatory definition underscores that CWA regulatory jurisdiction extends only to point source discharges of pollutants, including dredged or fill materials. Surface runoff does not constitute a discharge of dredged or fill material even if it is silt laden and would have the effect of changing the bottom elevation of the receiving water body. However, if the runoff is channeled through a ditch, fissure, pipe, or other "point source" conduit, it could constitute a regulated discharge. This concept has taken on significance, mostly in Midwestern farming areas, as a result of certain

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[Section 13:102]

[1]33 C.F.R. § 323.2(d)(1). EPA regulations now contain a virtually identical definition. *See* 40 C.F.R. § 232.2.

[2]33 C.F.R. § 323.2(d)(2). EPA regulations now contain a virtually identical definition. *See* 40 C.F.R. § 232.2.

[3]33 C.F.R. § 323.2(d)(3). EPA regulations now contain a virtually identical definition. *See* 40 C.F.R. § 232.2.

[4]33 C.F.R. § 323.2(f). EPA regulations contain a virtually identical definition, except that the EPA version omits the final sentence of the Corps' definition. 40 C.F.R. § 232.2.

[5]33 C.F.R. § 323.2(f). 40 C.F.R. § 232.2.

[6]33 C.F.R. § 323.3.

stream-straightening or channelization practices in which scoured (dredged) material is carried downstream by the confined water body.[7] These practices sometimes cause flooding downstream. No court has ruled on whether such scour, by itself, is a discharge of dredged or fill material.

Other point sources for the discharge of dredged or fill materials include the following: dredging equipment, pipes, ditches, bulldozers, dump and garbage trucks, backhoes, graders, rakers, discers, and other earth-moving or leveling equipment.[8] Mere removal of vegetation, without more, does not constitute a point source discharge.[9]

In 1993, EPA and the Corps issued a final rule that provides that any addition or redeposition of dredged material associated with any activity, including mechanized landclearing, ditching, channelization, and other excavation, that destroys or degrades WOTUS requires a § 404 permit.[10] "Destroy" is defined as engaging in an activity that "alters [an] area in such a way that it would no longer be a waters of the United States." It is noted in the rule that the "destruction" of WOTUS does not eliminate CWA jurisdiction. "Degrade" is defined as engaging in an activity that "has more than a de minimis (i.e., inconsequential) effect on [an] area by causing an identifiable individual or cumulative adverse effect on any aquatic function." The individual conducting the mechanized land clearing, ditching, channelization, or other excavation activity bears the burden of demonstrating that the activity will not destroy or degrade WOTUS.[11]

Pursuant to a final rule issued on May 10, 1999, EPA and the Corps must evaluate, on a case-by-case basis, whether a particular redeposit of dredged material requires a § 404 permit.[12] Specifically, the final rule indicates that redeposits associated with mechanized landclearing, redeposits at various distances from point of removal, and redeposits of bottom sediments onto adjacent waterways would require a permit.[13]

Between 1986 and 1993, the Corps defined the discharge of dredged material as "any addition of dredged material into the waters of the United States" while expressly excluding "de minimis, incidental soil movement occurring during normal

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[7] *E.g.*, Charitan River, Missouri, U.S. EPA Region VII.

[8] *See generally* 33 U.S.C.A. § 1362.

[9] *See* § 13:93.

[10] 58 Fed. Reg. 45008 (Aug. 25, 1993). But see the discussion of the courts' treatment of this rule later in this section at note 11.

[11] United States v. Deaton, 209 F.3d 331, 30 Envtl. L. Rep. (Envtl. L. Inst.) 20508 (4th Cir. 2000) (holding that sidecasting, which involves deposit of dredged or excavated material from a wetland back into that same wetland, constitutes discharge of a pollutant that violates the CWA when conducted without a permit); Greenfield Mills, Inc. v. O'Bannon, 189 F. Supp. 2d 893, 912 (N.D. Ind. 2002), *aff'd in part, rev'd in part and remanded by* 361 F.3d 934, 34 Envtl. L. Rep. (Envtl. L. Inst.) 20022 (7th Cir. 2004) (finding that discharge and movement of soil incident to dam maintenance does not amount to the addition of a pollutant).

[12] 64 Fed. Reg. 25119 (1999). By issuing this final rule, EPA and the Corps sought to conform their regulations with the rulings issued by the District of Columbia District and Circuit courts that had invalidated the Tulloch Rule. Under the final rule, the definition of the term "discharge of dredged material" was modified to explicitly exclude "incidental fallback."

[13] EPA and the Corps have redefined the term "discharge of dredged material" by establishing a presumption that the use of heavy mechanized equipment and conducting certain activities (e.g., mechanized landclearing, ditching, channelization) will lead to more than incidental fallback and thus result in a discharge of dredged material that would be subject to § 404 permit requirements. A developer may rebut this presumption by showing that the activity was designed and conducted so as to result only in incidental fallback. 66 Fed. Reg. 4550 (Jan. 17, 2001).

dredging operations," or incidental fallback.[14] In 1993, however, the Corps promulgated a new rule that eliminated the de minimis exception (known as the Tulloch Rule or Tulloch I).[15] This rule defined the discharge of dredged material as "any addition of dredged material into, including redeposit of dredged material within, the waters of the United States."[16]

The D.C. Circuit has addressed whether incidental fallback triggers CWA jurisdiction in a series of decisions. In response to industry challenges, the district court for the District of Columbia invalidated the Tulloch Rule.[17] The Court of Appeals affirmed,[18] agreeing with plaintiffs and the district court that "the straightforward statutory term 'addition' cannot reasonably be said to encompass the situation in which material is removed from the waters of the United States and a small portion of it happens to fall back."[19] The Court of Appeals was careful, however, to make clear that it was not prohibiting the regulation of any redeposit, but only incidental fallback.

In 2001, the Corps and EPA promulgated a rule that defined "incidental fallback" as "the redeposit of small volumes of dredged material that is incidental to excavation activity in waters of the United States when such material falls back to substantially the same place as the initial removal" (known as the Tulloch II rule). The rule provides that incidental fallback may include, for example, "soil that is disturbed when dirt is shoveled and the back-spill that comes off a bucket when such small volume of soil or dirt falls into substantially the same place from which it was initially removed."

In *National Association of Home Builders v. U.S. Army Corps of Engineers*, the district court for the District of Columbia issued an order enjoining the Corps and EPA from enforcing and applying the Tulloch II rule.[20] The court concluded that the rule was contrary to the CWA on its face because the rule defined incidental fallback partly in terms of the volume of material. The court stated that the difference between incidental fallback and redeposit is better understood in terms of two other factors: (1) the time the material is held before being dropped to earth; and (2) the distance between the place where the material is collected and the place where it is dropped. The *NAHB* decision reinstated the text of the 1999 rule,[21] which prohibited the regulation of "incidental fallback" without defining that term.

In 2008, the Corps and EPA promulgated a final rule that amended the definition of "discharge of dredged material" in Section 404 to be consistent with the court's

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[14]51 Fed. Reg. 41,232 (1986).

[15]*See* American Min. Congress v. U.S. Army Corps of Eng'rs, 951 F. Supp. 267, 269, 43 Env't Rep. Cas. (BNA) 2057, 27 Envtl. L. Rep. 20589 (D.D.C. 1997), *judgment aff'd*, 145 F.3d 1399, 46 Env't. Rep. Cas. (BNA) 1769, 1999 A.M.C. 908, 28 Envtl. L. Rep. 21318, 141 O.G.R. 198 (D.C. Cir. 1998) (explaining the Tulloch Rule).

[16]American Min. Congress v. U.S. Army Corps of Eng'rs, 951 F. Supp. 267, 269, 43 Env't Rep. Cas. (BNA) 2057, 27 Envtl. L. Rep. 20589 (D.D.C. 1997), *judgment aff'd*, 145 F.3d 1399, 46 Env't Rep. Cas. (BNA) 1769, 1999 A.M.C. 908, 28 Envtl. L. Rep. 21318, 141 O.G.R. 198 (D.C. Cir. 1998).

[17]American Min. Congress v. U.S. Army Corps of Eng'rs, 951 F. Supp. 267, 43 Env't Rep. Cas. (BNA) 2057, 27 Envtl. L. Rep. 20589 (D.D.C. 1997), *judgment aff'd*, 145 F.3d 1399, 46 Env't Rep. Cas. (BNA) 1769, 1999 A.M.C. 908, 28 Envtl. L. Rep. 21318, 141 O.G.R. 198 (D.C. Cir. 1998) (Harris, J.).

[18]Nat'l Min. Ass'n v. U.S. Army Corps of Eng'rs, 145 F.3d 1399, 46 Env't Rep. Cas. (BNA) 1769, 1999 A.M.C. 908, 28 Envtl. L. Rep. 21318, 141 O.G.R. 198 (D.C. Cir. 1998).

[19]Nat'l Min. Ass'n v. U.S. Army Corps of Eng'rs, 145 F.3d 1399, 1404, 46 Env't Rep. Cas. (BNA) 1769, 1999 A.M.C. 908, 28 Envtl. L. Rep. 21318, 141 O.G.R. 198 (D.C. Cir. 1998).

[20]Nat'l Ass'n of Home Builders v. U.S. Army Corps of Eng'rs, 64 Env't Rep. Cas. (BNA) 2050, 2007 WL 259944 (D.D.C. 2007).

[21]*See* Georgetown University Hosp. v. Bowen, 821 F.2d 750, 757, 18 Soc. Sec. Rep. Serv. 136 (D.C. Cir. 1987), *judgment aff'd*, 488 U.S. 204, 109 S. Ct. 468, 102 L. Ed. 2d 493, 23 Soc. Sec. Rep. Serv. 511 (1988) ("the effect of invalidating an agency rule is to 'reinstat[e] the rules previously in force' ").

order.[22] Until the EPA and Corps address the definition of discharge, the 1999 rule will control.

In addition, the Corps and EPA decide whether a particular redeposit is jurisdictional on a case-by-case basis.[23] The Corps and EPA have clarified that the redeposit's associated with the following actions are subject to CWA jurisdiction: "mechanized land clearing, redeposit at various distances from the point of removal (e.g., side casting), and removal of dirt and gravel from a streambed and its subsequent redeposit in the waterway after segregation of minerals."[24]

§ 13:103 Section 404 permit program and administration—Interagency dynamics

Despite the CWA design that the Corps be the permitting authority for § 404 permits,[1] the Act requires that the Corps coordinate permit review with EPA and other federal agencies.[2] Memoranda of Understanding set out the procedures for interagency consultation and dispute resolution.

The Act also provides that EPA may, under certain circumstances, prohibit an area for specification as a discharge site for dredged or fill materials.[3] EPA may exercise this authority in advance of any permit application for a specific site and may also exercise it *after* the Corps has actually issued a § 404 permit for a specific site.[4] Thus, EPA retains an effective veto power over Corps permits when, in EPA's view, the discharge will have an unacceptable adverse impact on "municipal water supplies, shellfish beds and fishery areas . . . , wildlife, or recreation areas."[5] However, EPA has rarely exercised this authority.[6]

In 1992, EPA and the Department of the Army entered into a MOA setting forth procedures for resolving disputes over § 404 policy and administrative issues. In addition, the MOA limits EPA's authority to challenge specific individual permit decisions to those cases in which EPA believes the project, taking into account mitigation measures, will involve substantial and unacceptable impacts on "aquatic

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[22]73 Fed. Reg. 79641 (Dec. 30, 2008).

[23]64 Fed. Reg. 25120 (May 10, 1999).

[24]Nat'l Min. Ass'n v. U.S. Army Corps of Eng'rs, 145 F.3d 1399, 1407, 46 Env't Rep. Cas. (BNA) 1769, 1999 A.M.C. 908, 28 Envtl. L. Rep. 21318, 141 O.G.R. 198 (D.C. Cir. 1998); *see also* Am. Min. Congress v. U.S. Army Corps of Eng'rs, 120 F. Supp. 2d 23, 51 Env't Rep. Cas. (BNA) 1773 (D.D.C. 2000).

[Section 13:103]

[1]33 U.S.C.A. § 1344(a). Section 404 also provides for state administration of the § 404 permit program with regard to nontraditionally navigable waters. 33 U.S.C.A. §§ 1344(g) to (l). To date, only two states—Michigan and New Jersey—have assumed this responsibility. 40 C.F.R. §§ 233.70, 233.71.

[2]33 U.S.C.A. § 1344(q).

[3]33 U.S.C.A. § 1344(c).

[4]33 U.S.C.A. § 1344(c).

[5]As EPA may exercise veto power over Corps permits, the Corps may exercise veto power over the actions of other federal agencies. In Monongahela Power Co. v. Marsh, 809 F.2d 41, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20422 (D.C. Cir. 1987), *cert. denied*, 484 U.S. 816 (1987), the court held that a Corps permit was required to discharge fill material into navigable waters during construction of a hydroelectric power facility, even though the project had previously been licensed by the Federal Power Commission (now the Federal Energy Regulatory Commission).

[6]*See, e.g.*, Final Determination of the Administrator concerning North Miami Landfill site pursuant to § 404(c) of the Clean Water Act (January 19, 1981); Recommendation of the Regional Administrator (Region I) concerning the Sweeden's Swamp Site in Attleboro, Massachusetts, pursuant to § 404(c) of the Clean Water Act (March 1986), 50 Fed. Reg. 8383 (1985); *see also* Bersani v. Deland, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20001 (N.D.N.Y. 1987); Newport Galleria Group v. Deland, 618 F. Supp. 1179, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20033 (D.D.C. 1985).

resources of national importance."[7]

In 2008, the Corps and EPA finalized regulations standardizing compensatory mitigation for impacts to wetlands under the CWA § 404.[8]

§ 13:104 Section 404 permit program and administration—General permits and exemptions

Recognizing that certain discharge activities are *de minimis* or of limited environmental impact, § 404 exempts certain discharge activities from CWA permit requirements and provides for the establishment of general permits by rulemaking for certain types of activities.[1]

§ 13:105 Section 404 permit program and administration—General permits and exemptions—Exemptions—Normal farming and silvicultural activities

Section 404(f) provides, *inter alia*, that "normal" agriculture and silvicultural activities are exempt from CWA permitting requirements, unless they will have the effect of converting a WOTUS to a new use. In *Avoyelles Sportsmen's League v. Alexander*, the court determined that the term "normal" encompassed only ongoing, extant farming or silvicultural activities and did not include the preparatory activities necessary to put an area to agricultural use for the first time.[1] Largely as a result of the controversy generated by this case, Attorney General Civiletti opined in 1979 that EPA, not the Corps, has the ultimate administrative authority to determine which activities are exempt under § 404(f) because the exemptions apply to all activities requiring permits under the CWA, including discharges of pollutants governed by § 402.[2] Corps and EPA regulations provide further guidance on the nature of activities exempt under § 404(f).[3]

EPA proposed to "clarify" the agricultural and silvicultural exemption in a regulatory proposal issued in 1984.[4] It did not promulgate most of the clarifying language, however, concluding that the regulated community seemed to understand the scope of the exemption.[5] It did promulgate an amendment to an exemplary note in Part 232, stating clearly that a "conversion of Section 404 wetland to a non-wetland is a change in use of an area of waters of the U.S.," and therefore deprives the converter of the exemption.[6]

Aside from *Avoyelles*, those courts that have been called upon to construe § 404(f) have tended to construe it narrowly and have placed the burden on the person seeking refuge under the subsection to demonstrate its applicability to the activity at

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[7]Clean Water Act § 404(q); Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army (Aug. 11, 1992).

[8]*See* 40 C.F.R. §§ 230.91 to 230.98.

[Section 13:104]

[1]33 U.S.C.A. § 1344(f), (e).

[Section 13:105]

[1]*See* § 13:93; *see also* 33 C.F.R. §§ 232.3, 323.4.

[2]43 Op. Atty. Gen. 15 (1979).

[3]*See* 33 C.F.R. § 323.4(a); 40 C.F.R § 232.3.

[4]49 Fed. Reg. 39012 (proposed Oct. 2, 1984).

[5]*See* 53 Fed. Reg. 20764, 20765 (1988).

[6]40 C.F.R. § 232.3(b) note.

issue.[7]

§ 13:106 Section 404 permit program and administration—General permits and exemptions—Exemptions—Other exemptions and recapture

Other exempt activities include maintenance and emergency replacement of recently damaged aquatic structures,[1] construction or maintenance of farm or stock ponds or maintenance of drainage ditches,[2] construction at a construction site of temporary sedimentation basins that do not involve the discharge of fill material into WOTUS,[3] and activities subject to a state permit in a delegated state.[4]

Section 404(f)(2) also contains an important exception to the enumerated § 404(f)(1) permitting exemptions. The so-called "recapture provision" states that, not withstanding an applicable permitting exemption, a CWA permit is required for discharges of dredged or fill material that bring "an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced."[5]

§ 13:107 Section 404 permit program and administration—General permits and exemptions—General permits and nationwide permits

Section 404(e) provides that the Corps may establish general permits on a nationwide or regional basis for certain classes of discharge activities. Establishment of these permits is subject to formal notice-and-comment provisions. In all cases, the Corps retains the discretion to require an individual permit, and predischarge notice to the Corps of intent to discharge is required in certain cases.[1]

Despite the fact that the Act's express grant of authority to issue general permits is limited to certain classes of *activities*, the Corps has seen fit to implement a wide range of nationwide permits addressing classes of *water bodies.* As a result of citizen challenge in *National Wildlife Federation v. Marsh*,[2] the nationwide permits were revised in 1985 and made more limited in scope. Nevertheless, nationwide

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[7]United States v. Larkins, 657 F. Supp. 76, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20783 (W.D. Ky. 1987), *aff'd*, 852 F.2d 189, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21416 (6th Cir. 1988), *cert. denied sub nom.* Larkins v. United States, 489 U.S. 1016 (1989); *cf.* United States v. Cumberland Farms of Conn., Inc., 647 F. Supp. 1166, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20301 (D. Mass. 1986), *aff'd on other grounds*, 826 F.2d 1151, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21270 (1st Cir. 1987), *cert. denied*, 484 U.S. 1061 (1988); United States v. Brace, 41 F.3d 117, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20343 (3d Cir. 1994), *cert. denied*, 115 S. Ct. 2610 (1995).

[Section 13:106]

[1]40 C.F.R. § 232.3(c)(2).

[2]40 C.F.R. § 232.3(c)(3).

[3]40 C.F.R. § 232.3(c)(4).

[4]40 C.F.R. § 232.3(c)(5).

[5]33 U.S.C. § 1344(f)(2). *See e.g.,* Borden Ranch Partnership v. U.S. Army Corps of Engineers, 261 F.3d 810, 52 Env't. Rep. Cas. (BNA) 2025, 32 Envtl. L. Rep. 20011 (9th Cir. 2001), judgment aff'd, 537 U.S. 99, 123 S. Ct. 599, 154 L. Ed. 2d 508, 55 Env't. Rep. Cas. (BNA) 1417 (2002).

[Section 13:107]

[1]*See generally* 33 C.F.R. § 330. Predischarge notice is required for discharges causing the loss or substantial adverse modification of greater than one-third acre and less than three acres of certain nontidal waters. 61 Fed. Reg. 65874 (Dec. 13, 1996). A Corps decision to allow an activity to proceed pursuant to a general permit is not ripe for judicial review unless there are no other regulatory obstacles to the commencement of the activity. New Hanover Twp. v. U.S. Army Corps of Eng'rs, 992 F.2d 470, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20836 (3d Cir. 1993).

[2]National Wildlife Fed'n v. Marsh, Civ. No. 82-3632 (D.D.C. Feb. 10, 1984).

permits for discharges into certain classes of waters continue to exist, even absent any express statutory authority for their establishment.[3]

Nationwide Permits (NWPs) can be issued for a period of no more than five years and cannot be extended.[4] Accordingly, the Corps reissues NWPs at least every five years for activities that the Corps has determined "are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment."[5] On January 6, 2017, the Corps reissued 50 existing NWPs authorizing a variety of activities, such as aids to navigation, utility line crossings, erosion control activities, road crossings, stream and wetland restoration activities, residential developments, mining activities, commercial shellfish aquaculture activities, and agricultural activities. The Corps also issued two new NWPs authorizing the removal of low-head dams and the construction and maintenance of living shorelines.[6] On January 13, 2021, the Corps reissued and modified 12 of the existing NWPs that the Corps issued in 2017, such as NWP 12 for oil and natural gas pipeline activities. The Corps also issued four new NWPs, including NWP 57 for electric utility line and telecommunications activities.[7] There are currently 57 active NWPs.

The Corps also issues regulatory guidance letters that are available on the Corps website.[8]

§ 13:108 Section 404 permit program and administration—Substantive criteria for § 404 permit issuance

The substantive evaluation of applications for § 404 is based on the § 404(b)(1) Guidelines (Guidelines).[1] EPA developed and promulgated the Guidelines, in conjunction and consultation with the Corps. First issued by EPA in interim final form on September 5, 1975, they were revised after public notice and comment and issued in final form on December 24, 1980.[2] The Guidelines mandate four restric-

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[3]*See* CWA §§ 403(b), 404(b); 33 U.S.C.A. §§ 1343(b), 1344(b). Two nationwide permits, the "headwaters" permit and the "unasserted jurisdiction" permit, were discussed in the context of specific set of facts in United States v. Cumberland Farms of Conn., Inc., 826 F.2d 1151, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21270 (1st Cir. 1987).

[4]33 U.S.C.A. § 1344(e)(2).

[5]33 U.S.C.A. § 1344(e)(1).

[6]U.S. Army Corps of Engineers, Issuance and Reissuance of Nationwide Permits, 82 Fed. Reg. 1860 (January 6, 2017).

[7]U.S. Army Corps of Engineers, Reissuance and Modification of Nationwide Permits, 86 Fed. Reg. 2744 (January 13, 2021). "The 16 permits being finalized in this rule include permits proposed partly in response to E.O. 13783, Promoting Energy Independence and Economic Growth, and E.O. 13921, Promoting American Seafood Competitiveness and Economic Growth. The Corps is also reissuing NWPs 12 and 48 partly to address issues raised in two federal district court decisions: U.S. District Court for the District of Montana Great Falls Division's decision in Northern Plains Resource Council, et al., v. U.S. Army Corps of Engineers, et al., (Case No. CV 19-44-GF-BMM) and the U.S. District Court, Western District of Washington at Seattle's decision in the Coalition to Protect Puget Sound Habitat v. U.S. Army Corps of Engineers et al. (Case No. C16-0950RSL) and Center for Food Safety v. U.S. Army Corps of Engineers et al. (Case No. C17-1209RSL))." Id. at 2744, 2747.

[8]U.S. Army Corps of Engineers, Regulatory Guidance Letters, http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx.

[Section 13:108]

[1]33 U.S.C.A. § 1344(b). The settlement agreement entered in *Nat'l Wildlife Fed'n v. Marsh* indicates that the Guidelines are binding on the permitting authority. Civ. No. 82-3632, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20261 (D.D.C. Feb. 10, 1984).

[2]40 Fed. Reg. 41292 (1975); 40 C.F.R. Part 230.

tions on discharges.[3] Thus, proposals may be permitted only if there is no practicable alternative,[4] if there will be no significant adverse impacts,[5] if all reasonable mitigation is employed,[6] and if no other statutory violations will occur.[7]

The heart of the analysis under the Guidelines is the evaluation of alternatives. To apply the Guidelines, the permitting authority analyzes three aspects of a discharge activity: the source and composition of the material to be discharged, the nature of the discharge activity, and the characteristics of the receiving water.[8] The Corps and EPA issued a field memorandum recognizing that the appropriate level of analysis may vary depending on the nature of the project.[9] The Guidelines "envision a correlation between the scope of the evaluation and the potential extent of adverse impacts." As such, the level of analysis required "will vary to reflect the seriousness of the potential for adverse impacts on the aquatic ecosystems posed by the specific dredged or fill material."[10]

To issue a permit, the Corps must determine there is not a "less environmentally damaging practical alternative" to the discharge. The first Guidelines restriction on discharges is that discharges of dredged or fill materials shall not be permitted if there exists a practicable alternative that would have "less adverse impact" on the aquatic ecosystem and that does not have other adverse environmental consequences.[11] "What is practicable depends on cost, technical and logistical factors . . . , [the Agency's] intent is to consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project."[12] Further, "to be practicable, an alternative must be capable of achieving the basic purpose of the proposed activity."[13]

The Guidelines establish a rebuttable presumption that practicable alternatives do exist, if the proposed discharge is for a non-water-dependent activity in a wetland or other "special aquatic site."[14] The burden is on the applicant to "clearly demonstrate" that practicable alternatives do not exist.[15]

Although it considered establishing an irrebuttable presumption against discharge in such areas for such purposes, EPA concluded that the rebuttable presumption would avoid the "unreasonable hardships" on applicants that an irrebuttable presumption would have posed.[16]

In *National Audubon Society v. Hartz Mountain Development Corp.*, the court

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[3]40 C.F.R. § 230.10(a)-(d).

[4]40 C.F.R. § 230.10(a).

[5]40 C.F.R. § 230.10(c).

[6]40 C.F.R. § 230.10(d).

[7]40 C.F.R. § 230.10(b).

[8]40 C.F.R. §§ 230.6(a), 230.11.

[9]Memorandum to the Field, Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements, http://www.usace.army.mil/Portals/2/docs/civilworks/mous/flexible.pdf.

[10]40 C.F.R. § 230.10(a); *see also* Greater Yellowstone Coalition v. Flowers, 359 F.3d 1257, 58 Env't. Rep. Cas. (BNA) 1008, 34 Envtl. L. Rep. 20019 (10th Cir. 2004).

[11]40 C.F.R. § 230.10(a).

[12]45 Fed. Reg. 85339 (1980).

[13]45 Fed. Reg. 85339 (1980); *see also* Conservation Law Found. v. FHA, 827 F. Supp. 871, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20039 (D.R.I. 1993), *aff'd*, 24 F.3d 1465, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21196 (1st Cir. 1994).

[14]40 C.F.R. § 230.3(g) to (l).

[15]40 C.F.R. § 230.10(a)(3); *see also* 40 C.F.R. §§ 230.40-.45; Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 58 Env't Rep. Cas. (BNA) 1008, 34 Envtl. L. Rep. 20019 (10th Cir. 2004).

[16]45 Fed. Reg. 85338-85339 (1980).

reviewed the Corps' application of the Guidelines' criteria.[17] There, citizens' groups challenged the Corps' issuance of a § 404 permit for a large development project in the New Jersey meadowlands. The meadowlands are WOTUS under the CWA.[18] The plaintiffs asserted, *inter alia*, that defendant Hartz Mountain had failed to satisfy the Guidelines burden of clearly demonstrating a lack of practicable alternatives to its proposed project.[19] The parties agreed that the project was not water-dependent[20] and that the rebuttable presumption applied to the proposal.[21]

The court concluded that Hartz Mountain had clearly demonstrated a lack of practicable alternatives,[22] emphasizing Hartz Mountain's need for a unified parcel of land in proximity to Manhattan large enough to accommodate its proposed multiuse project at a single "core" location.[23]

In determining whether an alternative is available, and therefore practicable, the Corps may consider sites not owned by the permit applicant. Specifically, 40 C.F.R. § 230.10(a)(2) provides that "an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered" if it is otherwise a practicable alternative.

In *Bersani v. Robichaud*,[24] another case involving application of the "practicable alternatives" Guidelines to a non-water-dependent project, developers challenged an EPA decision to veto the Corps' approval of a permit to build a shopping mall on certain wetlands in Massachusetts known as Sweeden's Swamp. The veto was based on a finding by EPA that an alternative site had been available to the developer at the time it entered the market to search for a site for the mall. Despite the fact that the alternative site was arguably no longer available by the time the plaintiffs applied for a permit, EPA found that the applicants had not overcome the Guidelines' presumption that practicable alternatives to developing the wetlands property were available.

The Second Circuit upheld EPA's veto, holding that the Agency's so-called "market entry" theory, under which EPA considered the availability of alternative sites at the time the developer entered the market for the site instead of at the time it applied for a permit, was consistent with both the regulatory language and past practice,[25] and was not an unreasonable interpretation of the Guidelines.[26] The court concluded that any other interpretation would thwart the purpose of the regula-

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[17]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724 (D.N.J. Oct. 24, 1983). In this unreported decision, the court reviewed the Corps' issuance of a § 404 permit with analysis of the substantive provisions of the EPA Guidelines as applied by the Corps. The court found that issuance of the permit was reasonable. *See* Compton & Hackett, District Court Upholds Corps' Interpretation of EPA's Dredge and Fill, Envtl. Forum, Feb. 1984, at 24); *see also* 1902 Atlantic Ltd. v. Hudson, 574 F. Supp. 1381 (D.C. Va. 1983).

[18]EPA's regulation, 40 C.F.R. § 125.63, requires the applicant to secure a determination from the state agency responsible for wasteland allocations to this effect. *See* § 13:31.

[19]Plaintiff's Memorandum of Points and Authorities in Support of Plaintiff's Motion for Preliminary Injunction at 2, Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724 (D.N.J. Oct. 24, 1983); *see also* Plaintiff's Exhibit G at 2.

[20]40 C.F.R. § 230.10(a)(3).

[21]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 49, 52, 53, 55, 56, 57, 85, 86 (D.N.J. Oct. 24, 1983).

[22]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 91 (D.N.J. Oct. 24, 1983).

[23]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 88, 89 (D.N.J. Oct. 24, 1983).

[24]Bersani v. Robichaud, 850 F.2d 36, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20874 (2d Cir. 1988), *cert. denied sub nom.* Bersani v. EPA, 489 U.S. 1089 (1989).

[25]Bersani v. Robichaud, 850 F.2d 36, 44–45, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20874 (2d Cir. 1988),

tions, which it found was "to create an incentive for developers to avoid choosing wetlands when they could choose an alternative upland site."[27]

When evaluating alternatives, the Corps has a duty to consider the purpose of the project.[28]

If an alternative is unreasonably expensive, it is not a reasonable alternative. The Corps intends to "consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project."[29] A project's purpose must be sufficiently defined to allow the Corps to analyze alternatives.[30] But an applicant cannot define the purpose of a project so narrowly as to foreclose all alternatives.[31]

The second Guidelines restriction provides that a discharge permit may not be issued if the proposed activity would, individually or collectively, cause or contribute to significant degradation of the nation's waters.[32] The term "significant" is described in the Preamble. Section 230.10(c) provides that discharges are not permitted if they will have significantly adverse effects on various aquatic resources. In this context, "significant" and "significantly" mean more than "trivial," that is, significant in a conceptual rather than a statistical sense. Not all effects which are statistically significant in the laboratory are significantly adverse in the field.[33]

The Guidelines provide that "[f]indings of significant degradation shall be based upon appropriate factual determinations, evaluations, and tests."[34] Compliance with the restriction may be determined by procedures "appropriate" to the circumstances of the proposal.[35]

Evaluating significant degradation in practice involves the sometimes quantitative comparison of "before" and "after." In *Hartz Mountain*, for example, the Corps derived a numerical score for the pre-project wetland values on the site and another for the wetland values predicted for the site after completion of the entire project including all mitigation and enhancement efforts.[36] The Corps compared the two scores and determined that the "degradation" was not "significant."[37]

In *Hartz Mountain*, the wetlands at issue were the severely degraded Hackensack

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cert. denied sub nom. Bersani v. EPA, 489 U.S. 1089 (1989).

[26]Bersani v. Robichaud, 850 F.2d 36, 45–46, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20874 (2d Cir. 1988), *cert. denied sub nom.* Bersani v. EPA, 489 U.S. 1089 (1989).

[27]Bersani v. Robichaud, 850 F.2d 36, 44, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20874 (2d Cir. 1988), *cert. denied sub nom.* Bersani v. EPA, 489 U.S. 1089 (1989).

[28]Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 58 Env't Rep. Cas. (BNA) 1008, 34 Envtl. L. Rep. 20019 (10th Cir. 2004).

[29]Guidelines Preamble, "Regulation versus Guidelines," 45 Federal Register 85336 (December 24, 1980).

[30]Sierra Club v. Flowers, 423 F. Supp. 2d 1273, 62 Env't Rep. Cas. (BNA) 1265 (S.D. Fla. 2006), order supplemented, 495 F. Supp. 2d 1188, 65 Env't Rep. Cas. (BNA) 2082 (S.D. Fla. 2007), *vacated*, 526 F.3d 1353, 66 Env't Rep. Cas. (BNA) 1904 (11th Cir. 2008).

[31]Nat'l Wildlife Federation v. Whistler, 27 F.3d 1341, 1346, 39 Env't Rep. Cas. (BNA) 1090, 24 Envtl. L. Rep. 21609 (8th Cir. 1994).

[32]40 C.F.R. § 230.10(c).

[33]45 Fed. Reg. 85336, 85343 to 85344 (1980).

[34]40 C.F.R. § 230.10(c).

[35]40 C.F.R. § 230.10(c).

[36]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 58, 59, 61–67 (D.N.J. Oct. 24, 1983).

[37]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 66–67 (D.N.J. Oct. 24, 1983). In *Hartz Mountain*, the Corps applied with modifications the methodology set forth in Reppert, Wetlands Values, Concepts and Methods for Wetlands Evaluation (1979). Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 58 (D.N.J. Oct. 24, 1983).

meadowlands in northern New Jersey. The Corps' evaluation of the pre-project values was based on a consensus reached by a team of experts.[38] Each expert evaluated the wetlands present functional abilities in terms of 11 factors, including wildlife habitat, pollution control, sediment trapping, and aesthetics.[39] The record showed that the wetlands were highly stressed and many of the "present" values selected were low.[40] Consequently, the Corps found no "significant degradation."[41]

The Guidelines require consideration of the significant degradation attributable to the individual effects of the proposed activity and also to the cumulative effects on the aquatic ecosystem of other "known and/or probable" activities.[42] "Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill materials."[43] In evaluating the significance of cumulative impacts, the permitting authority must assess "the probable impacts of other activities [on] the ecosystems of concern."[44]

The third important Guidelines restriction provides that a § 404 permit may not be issued unless "appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem."[45] "Aquatic ecosystem" means "waters of the United States, including wetlands, that serve as habitat for interrelated and interacting communities and populations of plants and animals."[46] EPA and the Corps in 1990 entered into a MOA to clarify the policies and procedures that they will use to determine the appropriate type and level of mitigation necessary.[47] The three general types of mitigation are avoidance, minimization, and compensatory mitigation.[48] "The term 'minimize' indicate[s] that all reasonable reduction in impact be obtained. As indicated by the 'appropriate and

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[38]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 58 (D.N.J. Oct. 24, 1983).

[39]Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 84 (D.N.J. Oct. 24, 1983).

[40]*See* Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp., 14 Envtl. L. Rep. (Envtl. L. Inst.) 20724, 58–67 (D.N.J. Oct. 24, 1983) (discussion of the Corps' "present" value methodology).

[41]For a discussion of the appropriateness of this approach, see Ferretti, Restoring the Nation's Wetlands, 1 Pace Envtl. L. Rev. 105 (1983).

[42]40 C.F.R. §§ 230.1, 230.11(a), (b), (c), (e), (g).

[43]40 C.F.R. § 230.11(g).

[44]40 C.F.R. § 230.1(c).

[45]40 C.F.R. § 230.10(d). Subpart H, 40 C.F.R. §§ 230.70 to 230.77, lists some of the actions that may be undertaken to minimize the adverse effects of discharges of dredged or fill material. These sections involve the location of the discharge, controlling the material after discharge, the method of dispersion, the choice of technology, the effect on plant and animal populations, and the effects on human use. For example, 40 C.F.R. § 230.70(a) to (c) provides:

> The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by: (a) Locating and confining the discharge to minimize smothering of organisms; (b) Designing the discharge to avoid a disruption of periodic water inundation patterns; (c) Selecting a disposal site that has been used previously for dredged material discharge;

and 40 C.F.R. § 230.75(a) to (c) provides:

> Minimization of adverse effects on populations of plants and animals can be achieved by: (a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals; (b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals; (c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species.

[46]40 C.F.R. § 230.3(c).

[47]Memorandum of Agreement between the Corps and the EPA, The Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines (Feb. 6, 1990), http://water.epa.gov/lawsregs/guidance/wetlands/mitigate.cfm. In that memorandum, the Corps and EPA clarify that the Guidelines are intended to maintain the integrity of the WOTUS, including wetlands.

[48]EPA, Memorandum of Agreement: The Determinations of Mitigation under the Clean Water Act

practicable' provision, steps which would be unreasonably costly or would be infeasible or which would accomplish only inconsequential reductions in impact need not be taken."[49]

The final Guidelines restriction on discharge is designed to ensure that discharges under § 404 do not violate certain other federal or state statutes, such as those involving sanctuaries, endangered species, coastal zones, and discharges of toxics.[50]

In *Environmental Defense v. U.S. Army Corps of Engineers*,[51] the U.S. District Court for the District of Columbia addressed the three Guidelines restrictions described above. The case concerned a permit issued by the Corps for a flood control project on the Mississippi River. The Corps relied on a number of environmental studies to support the project plan, including two Revised Environmental Impact Statements (REIS) and a subsequent Record of Decision (ROD). A citizen group challenged the permit in part on grounds that the Corps' REIS and ROD provided insufficient support for the Corps' conclusion that the plan would fully mitigate impacts to fisheries' habitat. The court agreed, adding that the Corps' fish mitigation model appeared to be an exercise in "result-oriented decision-making." The court held that the Corps' scientifically unsound analysis was in violation of National Environmental Policy Act and that the Corps' fish mitigation proposal was arbitrary and capricious in violation of the Administrative Procedures Act and the CWA. It enjoined the Corps from proceeding with the project and ordered the Corps to deconstruct the portion of the project that was already built.

§ 13:109 Section 404 permit program and administration—Permit decision-making issues

Although the Corps is required to base its § 404 decisions on the Guidelines, its regulatory approach has been to include the Guidelines evaluation within the framework of its "public interest review" standard developed initially to implement the Rivers and Harbors Act permit program, although compliance with the Guidelines is the primary criterion.[1] In *Fox Bay Partners v. U.S. Corps of Engineers*,[2] the court determined that the Corps may look not only at the direct impact of the

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Section 404(b)(1) Guidelines (Feb. 6, 1990), http://water.epa.gov/lawsregs/guidance/wetlands/mitigate.cfm.

[49]45 Reg. 85344 (1980).

[50]The statutory violation provision specifies at 40 C.F.R. § 230.10(b)(1) to (4):

> (b) No discharge of dredged or fill material shall be permitted if it: (1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard; (2) Violates any applicable toxic effluent standard or prohibition under § 307 of the Act; (3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1983, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply in lieu of this subparagraph; (4) Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

[51]Envtl. Def. v. U.S. Army Corps of Eng'rs, 515 F. Supp. 2d 69 (DDC 2007), *appeal dismissed* 2008 WL 4562202 (D.C. Cir. Sep. 22, 2008), and *appeal dismissed*, 2008 WL 4561439 (D.C. Cir., Oct. 10, 2008).

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[1]*See* 33 C.F.R. § 320.4; 33 C.F.R. § 323.6. The public interest will not authorize issuance of a permit the denial of which would be a consequence of application of the Guidelines, but a permit authorizable under the Guidelines may nevertheless be denied on the basis of public interest factors.

[2]Fox Bay Partners v. U.S. Corps of Eng'rs, 831 F. Supp. 605, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20671 (N.D. Ill. 1993) (Corps' review of a permit application for a marina and associated facilities included consideration of the oversaturation of boat traffic that project would cause).

discharges but at the entire impact of a proposed project when considering whether to grant a CWA § 404 permit.

In addition, the Corps must comply with the National Environmental Policy Act,[3] obtain a water quality certification, under § 401 of the Act, from the affected state,[4] and must, in areas covered by a coastal zone management plan, secure a consistency determination from the appropriate agency before issuing a final § 404 permit.

The Corps has made a number of interpretive policy judgments that affect its permit process. It has taken a restrictive view of the scope of its obligation under NEPA and has generally been successful in looking only at the impacts of the specific activity for which a permit has been sought, rather than the broader impacts of the larger project of which the permit activity is a part.[5] The Corps also does not typically question the purpose and need for private activities for which permits are sought in its NEPA analysis. A proposal to codify that position was opposed by EPA in 1984.[6]

The Corps has historically been willing to accept mitigation efforts by permit applicants as a trade-off for wetland areas damaged or destroyed by permitted activities. In other words, the Corps was willing to grant a permit to fill a wetland area if the permit applicant was able to create habitat of equal or greater value elsewhere. In one of its rare § 404(c) vetoes, EPA vetoed a permit in May 1986 that had been issued by the Corps for construction of a shopping mall in Attleboro, Massachusetts.[7] When EPA does invoke its authority under § 404(c), it is generally after the Corps has made a decision to issue a permit.[8] However, EPA has used its authority under § 404(c) to proactively assess and initiate proceedings that would restrict the discharge of mining wastes into WOTUS.[9]

In vetoing the Attleboro permit, the Agency stated that it encouraged mitigation

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[3]The Corps' NEPA regulations are published at 33 C.F.R. Part 230.

[4]At least one state, Wisconsin, has utilized its § 401 authority to effectively nullify certain types of nationwide permits. *See* 33 C.F.R. § 330.5 (notes).

[5]*See, e.g.*, Wetlands Action Network v. U.S. Army Corps of Eng'rs, 222 F.3d 1105, 51 Env't Rep. Cas. (BNA) 1106, 47 Fed. R. Serv. 3d 1417, 31 Envtl. L. Rep. 20051 (9th Cir. 2000), *abrogated on other grounds by* Wilderness Soc'y v. U.S. Forest Service, 630 F.3d 1173, 72 Env't Rep. Cas. (BNA) 1629, 78 Fed. R. Serv. 3d 680 (9th Cir. 2011) (stating that it was proper for the Corps to consider only the environmental impact of a project on federally delineated wetlands and not consider the impact on upland areas); Save Our Wetlands v. Sands, 711 F.2d 634, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20851 (5th Cir. 1983); Save the Bay v. Corps of Eng'rs, 610 F.2d 322, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20185 (5th Cir. 1980); Winnebago Tribe of Neb. v. Ray, 621 F.2d 269, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20243 (8th Cir. 1980). *But cf.* Sierra Club v. Sec'y of Transp., 779 F.2d 776, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20487 (1st Cir. 1985); Colorado River Indians v. Marsh, 605 F. Supp. 1425 (C.D. Col. 1985). For a full explanation of the Corps' view, not shared by EPA, see 49 Fed. Reg. 1387 (1984). On a related front, one court has held that the Corps improperly required an applicant to include a fully developed 44 acre plot in its application for permission to fill a contiguous, partially developed 13.5 acre parcel on the grounds that the two parcels were clearly not the "same project" within the meaning of 33 C.F.R. § 325.1(d)(2) since they were developed separately. Russo Dev. Corp. v. Thomas, 735 F. Supp. 631, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20290 (D.N.J. 1989).

[6]*See* 46 Fed. Reg. 18027 (1981) (discussing Corps initial policy regarding alternatives); 49 Fed. Reg. 1397 (1984) (proposal); 50 Fed. Reg. 12629 (1985) (EPA opposition).

[7]The veto was upheld in Bersani v. Deland, 18 Envtl. L. Rep. (Envtl. L. Inst. 20001 (N.D.N.Y. 1987); *see also* Bersani v. Deland, 640 F. Supp. 716 (D. Mass. 1986) *and* Galleria Group v. Deland, 618 F. Supp. 1179 (D.D.C. 1985) (each dealing with procedural aspects).

[8]*See e.g.* Mingo Logan Coal Co. v. U.S. E.P.A., 714 F.3d 608, 76 Env't. Rep. Cas. (BNA) 1213 (D.C. Cir. 2013) (holding that EPA did not exceed its authority under CWA § 404(c) when it invalidated an existing U.S. Army Corps of Engineer permit authorizing a mining company to discharge fill material from its mountaintop coal mine into two nearby streams).

[9]U.S. EPA, *An Assessment of Potential Mining Impacts of Salmon Ecosytems of Bristol Bay, Alaska* (2014), *available at* https://www.epa.gov/sites/production/files/2014-07/documents/pebble_pd_071714_final.pdf. However, in Pebble Limited Partnership v. EPA, the district court held that EPA's de-

"for unavoidable losses of wetlands where the project did not cause or contribute to significant degradation of waters of the United States," leaving the door open for mitigation where, for example, poor-quality wetlands were impacted.

In 2008, EPA exerted its § 404(c) authority by vetoing the proposed Tazoo Backwater Area Pumps Project in Issaquena County, Mississippi along the Mississippi River's South Delta. EPA determined that the "construction and operation of the proposed project and two alternative proposals offered by the Corps. . . would dramatically alter the timing, and reduce the spatial extent, depth, frequency, and duration of time project area wetlands flood," which would in turn "significantly degrade the critical ecological functions provided by at least 28,400 to 67,000 acres of wetlands in the Yazoo Backwater Area, including those functions that support wildlife and fisheries resources."[10]

However, in 2020, EPA revisited the issue upon the release of a Draft Supplemental Environmental Impact Statement (DSEIS) for that same project. In a letter addressing the DSEIS, EPA determined that the Corps revisions to the proposed project were not subject to EPA's 2008 Final Determination that vetoed the project. EPA did not revoke the veto, but merely stated that the decision was inapplicable to the new plans outlined in the 2020 DSEIS.[11] Environmental groups have challenged EPA's decision not to oppose the DSEIS, as they believe EPA fully revoked the project plans in 2008, alleging that the EPA's 2020 decision was arbitrary, capricious, an abuse of discretion, and not in accordance with law.[12] The outcome of the pending litigation may better define the scope of § 404(c) veto authority in the context of revised project proposals.

The *Attleboro Mall* matter also was a forum for EPA to announce its views on another issue relating to Corps permitting practices. The Guidelines provide that a project that is not water dependent may not receive a § 404 permit unless there is a showing by the applicant that there are no upland alternatives available to meet its objective.[13] The Corps had been willing to assume the nonexistence of upland alternatives where the application involved a private development and the developer did not own upland areas suitable for the activity. In the *Attleboro Mall* decision, EPA made it clear that the regulatory presumption that upland alternatives exist is not rebutted merely by virtue of the fact that the applicant owns no such areas—it is the activity, rather than a specific applicant's undertaking of the activity, that is the focus of the inquiry.[14]

On November 15, 1989, EPA and the Corps entered into a long-awaited MOA on

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cision to initiate § 404(c) proceedings did not constitute "final agency action" subject to judicial review. 155 F. Supp. 3d 1000 (D. Alaska 2014), *aff'd*, 604 Fed. Appx. 623 (9th Cir. 2015).

[10]U.S. EPA, Final Determination Of The U.S. Environmental Protection Agency's Assistant Administrator For Water Pursuant To Section 404(c) Of The Clean Water Act Concerning The Proposed Yazoo Backwater Area Pumps Project, Issaquena County, Mississippi 72 (Aug. 31, 2008), *available at https://www.epa.gov/sites/default/files/2015-05/documents/yazoo-final-determination_signed_8-31-08.pdf*.

[11]Mary S. Walker, EPA Region 4 Regional Administrator, Letter to Corps Commander, Vickburg District Col. Robert A. Hilliard (Nov. 30, 2020), available at https://legacy-assets.eenews.net/open_files/assets/2020/12/02/document_gw_05.pdf.

[12]*See* Compl. for Declaratory and Injunctive Relief at ¶ 14, American Rivers et al. v. U.S. Army Corps and U.S. Fish and Widllife, (No. 1:21-cv-01029-DLF) (Apr. 21, 2021); *see also* Compl. for Declaratory and Injunctive Relief at ¶ 16, American Rivers et al. v. EPA and Andrew Wheeler, (No. 1:21-cv-00097) (Jan. 12, 2021).

[13]40 C.F.R. § 230.10(a)(3).

[14]*See also* Bersani v. Robichaud, 850 F.2d 36, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20874 (2d Cir. 1988), *cert. denied sub nom.* Bersani v. EPA, 489 U.S. 1089 (1989) (applicant must show no practicable alternatives existed at time it entered market for site as well as at time it applied for permit).

the subject of mitigation.[15] For the first time, the agencies explicitly stated their commitment to "no net loss" of wetlands[16] and mandated the use of "sequencing" in evaluating mitigation requirements applicable to any given project.[17]

Sequencing—the approach successfully advocated by EPA in the *Attleboro Mall* case—involves the sequential application of the requirements that impacts be avoided, unavoidable impacts be minimized, and remaining unmitigated impacts be compensated.[18] Although the MOA allows for some exceptions to sequencing,[19] the agencies took a firm stand on the basic requirements that: (1) no discharge will be permitted if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental impacts; (2) compensatory mitigation may not be used as a method to reduce environmental impacts; and (3) appropriate and practicable compensatory mitigation will be required for those unavoidable adverse impacts remaining after all appropriate and practicable minimization has been accomplished.

The MOA also formally announces several other important policies, among them presumptions in favor of on-site over off-site compensatory mitigation, in-kind over out-of-kind mitigation, and wetlands restoration over wetlands creation.[20] The MOA also expresses tentative approval of the concepts of mitigation banking (the creation or restoration of wetlands in advance of their use as credit for development)[21] and mitigation monitoring (to be imposed as a permit condition and used as an aid in enforcement of mitigation conditions).[22]

Finally, and perhaps most significantly, the MOA provides that "[i]n the absence of more definitive information on the functions and values of specific wetlands sites, a minimum of 1 to 1 acreage replacement may be used as a reasonable surrogate for no net loss of functions and values."[23] Although there is some qualifying language to the effect that this ratio may not be appropriate and practicable in every case,[24] and that the replacement requirements may be greater or lesser depending on the

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[15]Due to considerable opposition from the regulated community, the effective date of the MOA was delayed several times pending the completion of essentially cosmetic revisions. The final version was published at 55 Fed. Reg. 9210 (Mar. 12, 1990). For a fairly detailed discussion of the genesis and significance of the MOA by the Assistant to the General Counsel, Department of the Army, see "The Army-EPA Mitigation Agreement: No Retreat from Wetlands Protection," 20 Envtl. L. Rep. (Envtl. L. Inst.) News & Analysis 10337.

[16]The Domestic Policy Council's Inter-Agency Task Force on Wetlands has been formally tasked by the President to develop proposals and recommendations for attaining the goal of no net loss, and EPA and the Corps are careful to state in the MOA—somewhat disingenuously, perhaps—that neither the § 404 program nor the MOA establishes a no-net-loss policy for the nation's wetlands. *See* 55 Fed. Reg. at 9210.

[17]55 Fed. Reg. at 9211 to 9212.

[18]Adoption of the sequencing approach constitutes a rejection of the trade-off or "buy-down" method used by some Corps districts pursuant to which permits were issued for projects despite the existence of a less damaging alternative.

[19]*See* 55 Fed. Reg. at 9212 ("[i]t may be appropriate to deviate from the sequence when EPA and the Corps agree the proposed discharge is necessary to avoid environmental harm . . . or . . . agree that the proposed discharge can reasonably be expected to result in environmental gain or insignificant environmental losses").

[20]55 Fed. Reg. at 9212.

[21]55 Fed. Reg. at 9212.

[22]55 Fed. Reg. at 9213.

[23]55 Fed. Reg. at 9213.

[24]The final version of the MOA includes the following hotly contested footnote, which was added after certain government and private interests expressed concern that the MOA would require one-for-one acreage replacement in areas of the country that have a high proportion of wetlands, such as Alaska:

There are certain areas where, due to hydrological conditions, the technology for restoration or creation of

functional value of the impacted area and the likelihood of success associated with the mitigation proposal,[25] the MOA nevertheless announces an explicit commitment to, and establishes a specific method for, implementing a goal of no net loss of wetlands.

In 2008, the EPA finalized regulations governing methods of mitigation that were explored in the MOA.[26] To satisfy permit mitigation requirements, the new regulations allow for "mitigation banking" (restoring, establishing, or enhancing aquatic resources in advance in exchange for credit that can be applied toward future projects), on-site and off-site "permittee-responsible mitigation" (restoring, establishing, or enhancing aquatic resources to mitigate a permittee's responsibility with regard to a specific project), and "in-lieu fee" mitigation (restoring, establishing, or enhancing aquatic resources through funds paid to a government or nonprofit natural resources management entity).[27]

§ 13:110 Procedural matters[1]

The Corps regulatory program is administered within the Civil Works division, and initial permit decisions are the province of the District Engineer. Permits are ordinarily processed by a permitting unit, and enforcement managed by an enforcement unit within a regulatory functions branch. Although the Corps maintains staff biologists and other professionals in its district offices, the number and expertise of these employees varies from district to district. In addition, many districts cooperate closely with technical personnel from the EPA regional office, from the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service, and, occasionally, from other agencies.[2] Since § 404 permits are federal licensing activities and state certification is, therefore, required under § 401 of the Act, state and tribal environmental agencies are always included in the process and can prohibit issuance of a permit that is inconsistent with a state or tribal environmental regulation, such as a coastal zone management regulation.

The Corps permit processing is done by means of informal rulemaking that

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wetlands may not be available at present, or may otherwise be impracticable. In addition, avoidance, minimization and compensatory mitigation may not be practicable where there is a high proportion of land which is wetlands.

55 Fed. Reg. 9213, n.7. Although this language may fairly be viewed as a mere reminder that the Guidelines require mitigation only when it is "appropriate and practicable," the ultimate significance of these statements, as with the rest of the policies enunciated in the MOA, will depend on the manner in which they are implemented in particular cases. A challenge to the MOA based on EPA's and the Corps' failure to follow notice-and-comment rulemaking procedures in issuing it was rejected as not ripe in Municipality of Anchorage v. Reilly, 32 Env't Rep. Cas. (BNA) 1199, 21 Envtl. L. Rep. 20119, 1990 WL 260246 (D. Alaska 1990), *on reconsideration*, 32 Env't Rep. Cas. (BNA) 2007, 1991 WL 12801 (D. Alaska 1991) and *judgment aff'd*, 980 F.2d 1320, 37 Env't Rep. Cas. (BNA) 1017, 23 Envtl. L. Rep. 20302 (9th Cir. 1992).

[25]55 Fed. Reg. at 9213.

[26]*See* 73 Fed. Reg. 19594 (Apr. 10, 2008); 40 C.F.R. §§ 230.91 to 230.98.

[27]*See* Nat'l Mitigation Banking Ass'n v. U.S. Army Corps of Eng'rs, 2007 WL 495245, No. 06-cv-2820 (N.D. Ill. Feb. 14, 2007) (upholding in-lieu mitigation fees); Sierra Club, Inc. v. St. Johns River Water Management District, 81 Env't. Rep. Cas. (BNA) 2065, 2015 WL 6814566 (M.D. Fla. 2015) (holding that Sierra Club stated a claim for relief and had standing where it alleged that the owner of mitigation bank proposed to develop land that was designated for preservation).

[Section 13:110]

[1]The following sections were written by **Donald W. Stever**.

[2]EPA, as discussed heretofore, has a significant direct role in § 404. The other two agencies are brought into the process primarily via the Fish and Wildlife Coordination Act and the National Environmental Policy Act. The Corps regulations require these agencies to be included in the administrative process and provides them with the power to force decisions to higher levels within the Army. *See generally* 33 C.F.R. §§ 320.3, 325.2, 325.4, 325.8.

combines a notice-and-comment process with informal, legislative-type hearings.[3] The informal process has been upheld as consistent with the language of the Act and the legislative history of § 404.[4]

Since the Corps is not exempt from compliance with the National Environmental Policy Act,[5] its permitting process must make room for preparation of an EIS or a negative declaration.[6] The Corps maintains NEPA compliance regulation codified at 33 C.F.R. Part 230 and Appendix B. Much of the litigation under the National Environmental Policy Act has involved Corps permit decisions.

Where the "discharge" involves dredged material being dumped into the ocean, the provisions of the Marine Protection Research and Sanctuaries Act affect the Corps proceedings.[7]

§ 13:111 Enforcement—Penalties and actions

Section 404 is a fairly self-contained regulatory program within the framework of the Act. As such, enforcement is not exclusively pursuant to § 309 of the Act, but rather stems both from § 309, which provides authority for EPA to enforce the § 404 program directly, and from § 404(s), a separate grant of enforcement authority to the Corps, although the two provisions contain similar civil penalties.[1] Civil penalties are calculated pursuant to a judicial "civil penalty policy" found in § 404(s)(4),[2] which sets forth general considerations for calculating penalties.

In 1989, the Corps and EPA entered into an Enforcement Memorandum of Agreement allocating responsibility for enforcing § 404 between the agencies.[3] Pursuant to the MOA, the Corps will conduct most initial field investigations. Once the violation is investigated, the lead enforcement agency will complete the enforcement action. The EPA will act as lead enforcement agency when a violation involves repeat violators, flagrant violations, when EPA requests a case, and where the Corps recommends that EPA take the case.[4] The Corps will act as lead enforcement agency in all other enforcement actions.[5]

Section 404 initially contained separate criminal penalty provisions that were different from those contained in § 309 in several respects. The separate sections were repealed in 1987, and subsequently § 404-related crimes are lumped in with other

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[3]*See generally* 33 C.F.R. § 325.3 and Part 327.

[4]Buttrey v. United States, 690 F.2d 1170, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20085 (5th Cir. 1982). *See also* AJA Assocs. v. U.S. Army Corps of Eng'rs, 817 F.2d 1070, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20657 (3d Cir. 1987) (holding that a hearing is not mandatory in the absence of a request for one).

[5]Section 511(c)(1) exempts § 402 permits and certain other actions by EPA, but makes no mention of the Corps.

[6]In NEPA parlance, a negative declaration involves a "finding of no significant impact" (FONSI).

[7]*See* § 13:132.

[Section 13:111]

[1]Civil penalties are $25,000 per day. *See* CWA § 404(s)(4), 33 U.S.C.A. § 1344(s)(4); CWA § 309(c)(1), (d), 33 U.S.C.A. § 1319(c)(1), (d).

[2]33 U.S.C.A. § 1344(s)(4), amended by Pub. L. No. 100-4, § 313(d), 101 Stat. 45–46 (1987).

[3]Memorandum of Agreement between the Department of the Army and the EPA Concerning Federal Enforcement of the Section 404 Program of the CWA (1989), http://www.usace.army.mil/Portals/2/docs/civilworks/mous/enfmoa.pdf.

[4]Memorandum of Agreement between the Department of the Army and the EPA Concerning Federal Enforcement of the Section 404 Program of the CWA (1989), http://www.usace.army.mil/Portals/2/docs/civilworks/mous/enfmoa.pdf.

[5]Memorandum of Agreement between the Department of the Army and the EPA Concerning Federal Enforcement of the Section 404 Program of the CWA (1989), http://www.usace.army.mil/Portals/2/docs/civilworks/mous/enfmoa.pdf.

CWA crimes under § 309(c).[6]

Injunctive or civil penalty relief is available on application by either the Corps or EPA[7] and is discretionary.[8] Although it has generally been assumed that the citizen suit provision of the CWA, § 505, affords private plaintiffs an opportunity for direct enforcement of § 404,[9] the statutory language of § 505 does not clearly provide such a right. *California v. Sierra Club*,[10] which held that there is no implied private right of action for citizens to enforce §§ 9 or 10 of the Rivers and Harbors Act, and *Middlesex County v. National Sea Clammers Association*,[11] in which the Supreme Court refused to imply private enforcement rights not specifically provided under the CWA, are not helpful to a claim that § 505 impliedly encompasses citizen suits to enforce § 404. Nevertheless, the court in *National Wildlife Federation v. Hanson*[12] found such a right, ruling that a citizen challenge to a Corps determination not to regulate wetlands was properly brought under § 505(a)(2) because the Corps[13] has a nondiscretionary duty to regulate dredged or fill material and to make reasoned determinations concerning its jurisdiction.[14] Indigent citizen plaintiffs may proceed in forma pauperis under the CWA.[15] The Water Quality Act of 1987 added administrative penalties to § 404 through the addition of § 309(g)(1). The new provision authorizes either EPA or the Corps to levy an administrative penalty upon a finding that a permit holder has violated a "limitation" or "condition" contained in a § 404 permit. EPA's § 404 penalty authority is limited to violations of state-issued permits, while the Corps authority includes only violations of federally issued permits. The penalty scheme is identical to the one employed for violations of

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[6]The fact that criminal liability is thereby predicated on the agency-derived definitions of "wetlands" and "navigable waters" does not represent an unconstitutional delegation of congressional power. United States v. Mills, 817 F. Supp. 1546, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21096 (N.D. Fla. 1993), *aff'd*, 36 F.3d 1052, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20278 (11th Cir. 1994), *cert. denied*, 115 S. Ct. 1966 (1995).

[7]*See* CWA §§ 309(b), 404(s)(3), 33 U.S.C.A. §§ 1319(b), 1344(s)(3).

[8]*See* United States v. Malibu Beach, Inc., 711 F. Supp. 1301, 29 Env 1920 (D.N.J. 1989); Harmon Cove Condominium Ass'n v. Marsh, 815 F.2d 949, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20747 (3d Cir. 1987).

[9]*See* Want, Federal Wetlands Law: The Cases and the Problems, 8 Harv. Envtl. L. Rev. 1, 24 (1984).

[10]California v. Sierra Club, 451 U.S. 287, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20357 (1981).

[11]Middlesex County v. Nat'l Sea Clammers Ass'n, 453 U.S. 1, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20684 (1981).

[12]Nat'l Wildlife Fed'n v. Hanson, 859 F.2d 313, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21509 (4th Cir. 1988).

[13]The Fourth Circuit also rejected the government's argument that § 505 authorizes suits only against EPA, not the Corps, finding that both the Corps and EPA are responsible for the administration of § 404 and further upheld the lower court's award of attorney's fees to the plaintiff. Nat'l Wildlife Fed'n v. Hanson, 859 F.2d 313, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21509 (4th Cir. 1988). *Contra* Alliance to Save the Mattaponi v. U.S. Army Corps of Eng'rs, 515 F. Supp. 2d 1 (2007) (rejecting citizen groups' argument that § 505 authorizes suit against the Corps in absence of an express statutory provision to that effect); Preserve Endangered Areas of Cobb's History, Inc. v. U.S. Army Corps of Eng'rs, 87 F.3d 1242, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21449 (11th Cir. 1996) (same); Cascade Conservation League v. M.A. Segale, Inc., 921 F. Supp. 69226, 26 Envtl. L. Rep. 21164 (W.D. Wash. 1996) (same).

[14]*But see* Golden Gate Audubon Soc'y, Inc. v. U.S. Army Corps of Eng'rs, 717 F. Supp. 1417, 28 ERC 1007, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21, 401 (N.D. Cal. 1988) (court lacks jurisdiction under § 505(a)(2) to review Corps' decision not to exercise jurisdiction over filling of wetlands area, but does have jurisdiction under APA to determine if Corps abused its discretion). *See also* Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983); Walther v. United States, 2015 WL 9700347 (D. Alaska 2015) (declining to follow *Hanson* and finding the court lacked subject-matter jurisdiction in a citizen suit against the Corps).

[15]Tannenbaum v. United States, 1993 WL 243399, No. 93 C 3595 (N.D. Ill. 6–30–93).

NPDES permits, including applicability of statutory penalty policy factors.[16] The Conference Report states that the two agencies are to work out the program interface in an interagency agreement.[17] Civil liability in the event of noncompliance with the statute is strict.[18] Defendants are responsible whether or not they were aware of the requirements of the law.[19] Reliance on a contractor or other person to secure necessary permits is not a defense, and both an owner and a contractor may be liable for the latter's placement of fill in a wetland area without a permit.[20]

The Supreme Court decided in *Tull v. United States*[21] that a jury trial must be afforded to defendants as to the question of their liability in CWA cases in which a claim for civil penalties is made.

Section 309(c) imposes criminal liability on any "responsible corporate officer" whose conduct satisfies the requisite scienter requirements. The government has occasionally sought to impose personal civil liability on individual officers or shareholders, although some courts have been reluctant to go behind the corporate shell.[22]

§ 13:112 Enforcement—Defenses

Defendants have tended to raise one of several defenses to § 404 enforcement actions. The most frequently raised defenses are that either the area involved or the actions of the defendant are not within § 404 jurisdiction.[1] Frequently the Corps will make a formal "jurisdictional determination" that is embodied in a loosely compiled

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[16]*See* § 13:121.

[17]H.R. Rep. No. 1004, 99th Cong., 2d Sess. 139 (1986).

[18]*See* In re Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010, 148 F. Supp. 3d 563, 81 Env't. Rep. Cas. (BNA) 2205, 2015 A.M.C. 2921 (E.D. La. 2015) (noting the purpose of the penalty is to place the financial burden for achieving and maintaining clean water on the polluting party and thus "liability for a civil penalty is strict, arising irrespective of knowledge, intent, or fault").

[19]*See* United States v. Board of Trustees, Fla. Cmty. Coll., 531 F. Supp. 267, 274, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20391, 20393 (S.D. Fla. 1981); United States v. Bradshaw, 541 F. Supp. 880, 883, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20629, 20630 (D. Md. 1981).

[20]United States v. Board of Trustees, Fla. Cmty. Coll., 531 F. Supp. 267, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20391 (S.D. Fla. 1981).

[21]Tull v. United States, 481 U.S. 412, 107 S. Ct. 831, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20667 (1987).

[22]*See, e.g.*, United States v. Marks Dev. Corp., No. 79-2323-Civ-SMA (S.D. Fla. Jan. 15, 1982), *aff'd sub nom.* United States v. Context-Marks Corp., 729 F.2d 1294 (11th Cir.1984). *But see* United States v. Iverson, 162 F.3d 1015, 29 Envtl. L. Rep. (Envtl. L. Inst.) 20367 (9th Cir. 1998) (affirming the conviction of a corporate officer who personally discharged wastewater and ordered employees to illegally discharge wastewater on the ground that under the CWA conviction of a "responsible corporate officer" is possible if the officer has authority to exercise control over the corporation's activity that is causing the discharges; it does not require that the officer in fact exercise authority over the corporation's activity that caused the discharges, or that the corporation expressly vest a duty in the officer to oversee the activity).

[Section 13:112]

[1]With respect to area jurisdiction, see, e.g., Hoffman Homes, Inc. v. Administrator, U.S. E.P.A., 961 F.2d 1310, 34 Env't Rep. Cas. (BNA) 1865, 22 Envtl. L. Rep. 21148 (7th Cir. 1992), *reh'g granted, order vacated*, 975 F.2d 1554, 35 Env't Rep. Cas. (BNA) 1328, 22 Envtl. L. Rep. 21547 (7th Cir. 1992), *on reh'g*, 999 F.2d 256, 36 Env't Rep. Cas. (BNA) 2098, 23 Envtl. L. Rep. 21139 (7th Cir. 1993); Weiszmann v. District Eng'r, 526 F.2d 1302, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20219 (5th Cir. 1976) (§ 10, RHA case); United States v. Holland, 373 F. Supp. 665, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20710 (M.D. Fla. 1974); Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20710 (5th Cir. 1983) (counterclaim). As to activity jurisdiction, see Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20710 (5th Cir. 1983) (claim that cutting trees and windrowing them not a discharge of fill material rejected); United States v. Carter, Nos. 81-0981, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20682 (S.D. Fla. 1982) (farming and silviculture exemption); United States v. Lambert, 695 F.2d 536, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20436 (11th Cir.

administrative record. Landowners have ordinarily sought *de novo* jurisdictional review by federal district courts when the issue is raised either in defense of a government or citizen enforcement action[2] or in an action for declaratory judgment brought by the landowner to contest jurisdiction.[3] The government has resisted such attempts, arguing that the Corps should be able to compile a wetlands determination, which is then subject to review on the record. The government's position has met with a mixed judicial reception.[4] Until recently there was a circuit split regarding whether a jurisdictional determination by the Army Corps is a final agency action subject to judicial review.[5] The Supreme Court in an 8-0 opinion recently upheld the Eighth Circuit's determination that a jurisdictional determination is a final agency action subject to judicial review.[6]

Defendants have also claimed estoppel on the grounds that Corps officials indicated that no permit was needed, though this has been mostly unsuccessful.[7] Rarely, however, are defenses to liability successful. The principal issue litigated in wetland enforcement cases has been the remedy.

A very effective device utilized by the Corps is its refusal to process any permit applications involving related work until an outstanding violation of the law has

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1983) (incidental discharge); United States v. M.C.C. of Florida, Inc., 772 F.2d 1501, 23 Env't Rep. Cas. (BNA) 1318, 3 Fed. R. Serv. 3d 49, 15 Envtl. L. Rep. 21091 (11th Cir. 1985), *cert. granted, judgment vacated*, 481 U.S. 1034, 107 S. Ct. 1968, 95 L. Ed. 2d 809, 25 Env't Rep. Cas. (BNA) 1984 (1987) (unsuccessful claim that "dredging by tugboat propeller," whereby tugs dug up bottom sediments and moved them onto adjacent sea grass beds, not a discharge).

[2]*See* United States v. Akers, 651 F. Supp. 320, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20702 (E.D. Cal. 1987).

[3]*See* Leslie Salt Co. v. United States, 660 F. Supp. 183, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21006 (N.D. Cal. 1987).

[4]*Compare* Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983) (review of COE wetlands determination on the administrative record) *and* Hoffman Group, Inc. v. U.S.E.P.A., 29 Env't Rep. Cas. (BNA) 1180, 20 Envtl. L. Rep. 20002 (N.D. Ill. 1989), *judgment aff'd*, 902 F.2d 567, 31 Env't Rep. Cas. (BNA) 1409, 20 Envtl. L. Rep. 20884 (7th Cir. 1990) (framing issue in terms of whether preenforcement review is available, held court may not review property owner's challenge to § 404 administrative compliance order) *with* United States v. Akers, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20243 (E.D. Cal. 1985), *aff'd*, 785 F.2d 814, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20538 (9th Cir. 1986) (neither review on the record nor *de novo* trial appropriate, but COE to provide landowner with discovery into its methodology) *and* Leslie Salt Co. v. United States, 660 F. Supp. 183, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (N.D. Cal. 1987) (holding that a trial *de novo* is available on the jurisdictional issue when it is raised in a declaratory judgment proceeding or in defense of an enforcement action—apparently decided in ignorance of *Akers*, since the decision is not mentioned).

[5]*Compare* Hawkes Co., Inc. v. U.S. Army Corps of Engineers, 782 F.3d 994, 999-1000, 80 Env't. Rep. Cas. (BNA) 1265 (8th Cir. 2015), cert. granted, 136 S. Ct. 615, 193 L. Ed. 2d 495 (2015) and aff'd, 136 S. Ct. 1807, 195 L. Ed. 2d 77, 82 Env't. Rep. Cas. (BNA) 1465 (2016) (finding that a jurisdictional determination is a the consummation of the Army Corps' decision-making process, and as such is a final agency action subject to judicial review) *with* Belle Co., L.L.C. v. U.S. Army Corps of Engineers, 761 F.3d 383, 394, 78 Env't. Rep. Cas. (BNA) 1933 (5th Cir. 2014), cert. denied, 135 S. Ct. 1548, 191 L. Ed. 2d 636 (2015) (finding that because a jurisdictional determination does not determine rights or obligations, it is not a final agency action and thereby is not subject to judicial review). The Supreme Court ultimately decided whether a jurisdictional determination is a final agency action subject to judicial review. U.S. Army Corps of Engineers v. Hawkes Co., Inc., 136 S. Ct. 1807, 195 L. Ed. 2d 77, 82 Env't. Rep. Cas. (BNA) 1465 (2016).

[6]U.S. Army Corps of Engineers v. Hawkes Co., Inc., 136 S. Ct. 1807, 195 L. Ed. 2d 77, 82 Env't. Rep. Cas. (BNA) 1465 (2016).

[7]*See generally* Want, Federal Wetlands Law: The Cases and the Problems, 8 Harv. Envtl. L. Rev. 1, 37–41 (1984); *see also* United States v. Lewis, 355 F. Supp. 1132, 3 Envtl. L. Rep. (Envtl. L. Inst.) 20500 (S.D. Ga. 1973) (§ 10 case); United States v. Tull, 615 F. Supp. 610, 20 Env't Rep. Cas. (BNA) 2198 (E.D. Va. 1983), *decision aff'd*, 769 F.2d 182, 24 Env't Rep. Cas. (BNA) 1495, 15 Envtl. L. Rep. 21061 (4th Cir. 1985), *judgment rev'd*, 481 U.S. 412, 17 Envtl. L. Rep. 20667 (1987).

been remedied.[8] Thus, a marina developer who has placed unauthorized fill in a regulated area, whose project also involves dredging permits, may face significant delays in processing the dredging application unless the fill problem is remedied quickly.

Enforcement actions under the CWA are subject to the five year statute of limitations in 28 U.S.C.A. § 2462. The statute of limitations, however, does not begin to run until the enforcing party discovers, or through the use of reasonable diligence should have discovered, the violation, so this defense will rarely be successful.[9]

§ 13:113 Enforcement—Remedial issues and restoration plans

Once fill or dredged material has been discharged in violation of § 404, and the government initiates an enforcement action,[1] the primary issue becomes the nature of the remedy. The government ordinarily seeks a civil penalty and either restoration of the affected area, or mitigation, or both.[2] Most enforcement cases are settled, with the defendant paying a penalty and undertaking an agreed restoration plan, after which she seeks an after-the-fact permit to legitimize material the government has allowed to remain in place.[3] The restoration remedy is derived from the injunctive authority of the Act.[4]

The former Fifth Circuit[5] developed an elaborate series of guidelines for establishing the remedy in § 10 and § 404 cases, which it first elaborated in two companion

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[8]*See* 33 C.F.R. § 326.3. The Federal Circuit Court has held that the Corps' denial of a § 404 permit does not constitute a regulatory taking when the affected property is part of larger parcel of property that may be developed without a permit. *See* Forest Prop. Inc. v. United States, 177 F.3d 1360, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21174 (Fed. Cir. 1999) (finding that the plaintiff had no investment-backed expectation in developing the wetland and that the total parcel did not suffer a substantial loss in economic value). *But see* Lost Tree Village Corp. v. United States, 707 F.3d 1286, 76 Env't. Rep. Cas. (BNA) 1078 (Fed. Cir. 2013) (finding that for the purposes of Fifth Amendment takings analysis, "relevant parcel" included wetlands plat only, not developed plats).

[9]*See*, *e.g.*, United States v. Windward Props., Inc., 821 F. Supp. 690, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21182 (N.D. Ga. 1993).

[Section 13:113]

[1]The Corps usually attempts to resolve violations administratively through the issuance of a "cease-and-desist order" and a negotiated remedy. If these efforts fail, or if the violation is considered sufficiently serious to warrant a penalty, the Corps will refer it to the Justice Department for judicial enforcement. *See* 33 C.F.R. § 326.1.

[2]The Tenth Circuit held that the applicable statute of limitations for civil penalties does not apply to government claims for equitable relief. *See* United States v. Telluride Co., 146 F.3d 1241, 28 Envtl. L. Rep. (Envtl. L. Inst.) 21334 (10th Cir. 1998). Specifically, the court stated that the statute of limitations applied only to penalties or fines. The court found that a restorative injunction that sought only to restore damaged wetlands to the status quo, or to create new wetlands for those that could not be restored, did not penalize the defendant and thus was not subject to the statute of limitations. *See* United States v. Telluride Co., 146 F.3d 1241, 1246, 28 Envtl. L. Rep. (Envtl. L. Inst.) 21334, 21337 (10th Cir. 1998). *See also* United States v. Hallmark Construction Co., 14 F. Supp. 2d 1069, 29 Envtl. L. Rep. (Envtl. L. Inst.) 20168 (N.D. Ill. 1998); United States v. Banks, 115 F.3d 916, 28 Envtl. L. Rep. (Envtl. L. Inst.) 20060 (11th Cir. 1997).

[3]*See* 33 C.F.R. § 326.3(c) (Corps rules respecting after-the-fact permits). EPA's issuance of a compliance order detailing the nature of a violation and specifying a time for compliance with the CWA does not obviate the requirement that the recipient of the order obtain a § 404 permit. Orange Env't, Inc. v. County of Orange, 811 F. Supp. 926, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20746 (S.D.N.Y. 1993), *aff'd*, 2 F.3d 1235 (2d Cir. 1993).

[4]*See* United States v. Carter, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20682 (S.D. Fla. 1982).

[5]In 1981, the Fifth Circuit was broken into the Fifth and Eleventh Circuits. The former Fifth Circuit law is the law of both new circuits. Bonner v. City of Pritchard, 661 F.2d 1206 (11th Cir. 1981).

cases, *United States v. Sexton Cove Estates*[6] and *United States v. Joseph G. Moretti, Inc.*[7] Under the Fifth Circuit scheme, a restoration order must: (1) confer maximum environmental benefits; (2) be achievable as a practical matter; and (3) bear an equitable relationship to the degree and kind of wrong it intends to remedy.[8] The Fifth Circuit test has been followed by several district courts outside of the Fifth Circuit,[9] and has been approximated in the Seventh[10] and Ninth[11] Circuits. Although the Fifth Circuit approach has not been addressed elsewhere, the government generally tries all of its wetland cases in a similar manner and appears to have acquiesced in the Fifth Circuit's approach.[12]

In practice, the Fifth Circuit scheme requires the government to tender a restoration plan as part of its case in chief.[13] The defendant is permitted to proffer her own competing plan or simply examine the government on its plan. The district judge may either accept the government's plan or reject it in favor of the defendant's plan or reject both plans and require the parties to submit alternative plans.[14]

Although the government contends otherwise, it has been held that where the district court determines that on-site restoration is not feasible, mitigation is an appropriate remedy.[15] Mitigation is a difficult issue in settlement of wetland cases, since equivalency is difficult to establish. The government has sometimes permitted defendants to restore other areas where the site has been irrevocably altered (such as one covered by structures owned by innocent third parties) and has accepted donations of land that would otherwise be developable, or required construction of marsh land in areas where no marsh previously existed.

Whether or not § 404 civil actions must under the Seventh Amendment provide a right to a jury trial has been litigated in several cases. The courts that have considered the issue have concluded that the restoration remedy is of equitable

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[6]United States v. Sexton Cove Estates, 526 F.2d 1293, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20216 (5th Cir. 1976).

[7]United States v. Joseph G. Moretti, Inc., 526 F.2d 1306, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20221 (5th Cir. 1976).

[8]*See, e.g.*, United States v. Weisman, 489 F. Supp. 1331, 1341, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20698, 20703 (M.D. Fla. 1980).

[9]*See, e.g.*, United States v. Bradshaw, 541 F. Supp. 884, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20630 (D. Md. 1982); United States v. Hanna, 1983 U.S. Dist. LEXIS 17314, 19 Env't Rep. Cas. (BNA) 1068 (D.S.C. 1983).

[10]United States v. Huebner, 752 F.2d 1235, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20083 (7th Cir. 1985), *cert. denied*, 474 U.S. 817 (1985).

[11]United States v. Sunset Cove, Inc., 514 F.2d 1089, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20407 (9th Cir. 1975) (§ 10 case).

[12]*But see* United States v. Cumberland Farms of Ct. Inc., 826 F.2d 1151, n. 8, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21270 (1st Cir. 1987) (the United States did not object to the three-part test in the district court, but argued for a less onerous burden to the court of appeals, which considered the government bound by its position in the trial court).

[13]*See* United States v. Board of Trustees of Fla. Keys Cmty. Coll., 531 F. Supp. 267, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20391 (S.D. Fla. 1981). It has sometimes been proposed that a separate hearing be held on restoration. *See* Want, Federal Wetlands Law: The Cases and the Problems, 8 Harv. Envtl. L. Rev. 1, 50 (1984).

[14]United States v. M.C.C. of Florida, Inc., 772 F.2d 1501, 23 Env't Rep. Cas. (BNA) 1318, 15 Envtl. L. Rep. 21091 (11th Cir. 1985), *cert. granted, judgment vacated*, 481 U.S. 1034, (1987).

[15]United States v. M.C.C. of Florida, Inc., 772 F.2d 1501, 15 Envtl. L. Rep. 21091 (11th Cir. 1985), *cert. granted, judgment vacated*, 481 U.S. 1034 (1987). *See also* United States v. Trustees of Fla. Keys Cmty. Coll., 531 F. Supp. 267, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20391 (S.D. Fla. 1981) (concluding that restoration of the site would be too expensive and infeasible, and ordering the defendant to provide an alternate beneficial environmental area comparable to the one destroyed).

origin, and thus a jury trial as a matter of right is unavailable.[16]

§ 13:114 Judicial review of § 404 actions

Permit decisions are reviewable in the district courts, as are formal jurisdictional determinations made by the Corps under the 33 C.F.R. Part 329 procedures for making such determinations.[1] Although there is no barrier to the taking of testimony in such cases, the courts have generally been reluctant to hold *de novo* trials, although several cases in which permits have been challenged by environmental groups have involved extensive expert testimony.[2] Most reviewing courts, however, limit review to the Corps' administrative record, or permit only limited testimony.[3] The difference may involve the prevalence of NEPA claims in cases in which citizens are challenging permits.[4]

Dissatisfied permit applicants raising claims that the Corps has deprived them of their property within the meaning of the Fifth Amendment takings clause[5] in the district court will usually have to respond to government motions to dismiss for lack of jurisdiction. The government has argued, with mixed success, that takings claims must be raised exclusively in the Claims Court by reason of the exclusivity of that remedy under the Tucker Act.[6] With few exceptions, those district courts that have taken jurisdiction over wetland taking claims have done so where the plaintiff was seeking injunctive relief, rather than damages,[7] apparently rejecting arguments proffered by the government that the equitable remedy should not be available

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[16]United States v. M.C.C. of Florida, Inc., 772 F.2d 1501, 1506, 15 Envtl. L. Rep. 21091, 21093 (11th Cir. 1985), *cert. granted, judgment vacated*, 481 U.S. 1034 (1987); United States v. Tull, 769 F.2d 182, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21061 (4th Cir. 1985), *rev'd sub nom.* Tull v. United States, 481 U.S. 412 17 Envtl. L. Rep. (Envtl L. Inst.) 20667 (1987).

[Section 13:114]

[1]Section 509 of the Act confers district court jurisdiction "through the back door," by not including Corps decisions among those actions that are reviewable in the courts of appeals.

[2]*See, e.g.*, Sierra Club v. Sigler, 695 F.2d 957, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20210 (5th Cir. 1983); Action for Rational Transit v. West Side Highway Project, 536 F. Supp. 1225, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20519 (S.D. N.Y. 1982) (and subsequent sequels, culminating in Sierra Club v. U.S. Army Corps of Eng'rs, 772 F.2d 1043, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20998 (2d Cir. 1985) (affirming permanent injunction)).

[3]*See, e.g.*, Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20942 (5th Cir. 1983) (wetlands determination should be reviewed on the administrative record); Buttrey v. United States, 690 F.2d 1170, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20085 (5th Cir. 1982) (challenge to permit denial on the record). *But see* United States v. Akers, 651 F. Supp. 320, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20702 (E.D. Cal. 1987) *and* Leslie Salt Co. v. United States, 660 F. Supp. 183, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21006 (N.D. Cal. 1987) (both dealing with wetland jurisdictional determinations and rejecting government arguments that review is limited to the record compiled by the Corps informally).

[4]*See* Want, Federal Wetlands Law: The Cases and the Problems, 8 Harv. L. Rev. 1, 28 (1984).

[5]U.S. Const. amend. V.

[6]*Compare* American Dredging Co. v. Dutchyshyn, 480 F. Supp. 957 (E.D. Pa. 1979) (dismissing taking claim on jurisdictional grounds) *with* Russo Dev. Corp. v. Thomas, 735 F. Supp. 631, 20 Envtl. L. Rep. (Envtl. L. Inst) 20290 (D.N.J. 1989) (retaining jurisdiction over takings claim), Smithwick v. Alexander, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20343 (E.D.N.C.), *aff'd*, 673 F.2d 1317, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20790 (4th Cir. 1981), *and* 1902 Atlantic Ltd. v. Hudson, 574 F. Supp. 1381, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20023 (E.D. Va. 1983) (both deciding taking claims on the merits).

[7]The exception is significant, however. In Kaiser Aetna v. United States, 444 U.S. 164, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20042 (1979), the Supreme Court upheld a lower court decision based on a complaint that alleged a monetary taking. The jurisdictional issue was, however, apparently never raised.

where there is an available remedy at law in the Claims Court.[8] Since most § 404 applicants are either authorized to fill at least a portion of the area, have other areas of the tract that are not subject to § 404 jurisdiction, or can make other uses of the area, takings claims have more often than not failed the test laid down by the Supreme Court in *Penn Central Transportation Co. v. City of New York*.[9]

In *Sackett v. EPA*, the Supreme Court analyzed whether EPA § 309 compliance orders are judicially reviewable.[10] The EPA has the authority to issue compliance orders for any violation of §§ 402 or 404 of the CWA. EPA asserted that these compliance orders are not subject to judicial review and that the EPA's determination cannot be challenged until it actually brings an enforcement action. The Supreme Court disagreed and held that compliance orders are judicially reviewable.

§ 13:115 State and Tribal program delegation

Sections 404(g) and 404(h) contemplate delegation to states and eligible federally recognized tribes of the § 404 permit program, except in relation to federal traditional "navigable waters."[1] EPA's Part 233 regulations, which lay the ground rules for state delegation of § 404 authority, were significantly revised in 1988.[2] The revision was motivated in part by the fact that in the 16 years since enactment of

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[8]One reason litigants may prefer the district courts is that the Federal Circuit has not been a terribly hospitable forum for wetland takings claims. *See, e.g.*, Deltona Corp. v. United States, 657 F.2d 1184, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20905 (Ct. Cl. 1981); Jentgen v. United States, 657 F.2d 1210, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20910 (Ct. Cl. 1981). *But see* Florida Rock Indus., Inc. v. United States, 45 Cl. Ct. 21, 49 ERC 1292 (1999) on remand from 18 F.3d 1560 (Fed. Cir. 1994); Loveladies Harbor, Inc. v. United States, 21 Cl. Ct. 153, 20 Envtl. L. Rep. (Envtl. L. Inst.) 21207 (1990); Laney v. United States, 661 F.2d 145, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20910 (Ct. Cl. 1981).

[9]Penn Cent. Transp. Co. v. City of N.Y., 438 U.S. 104, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20528 (1978). *See, e.g.*, Smithwick v. Alexander, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20343 (E.D.N.C.), *aff'd*, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20790 (4th Cir. 1981) (plaintiff's property had not been rendered valueless for all reasonable uses, including uses in its natural state). *Cf.* 1902 Atlantic, Ltd. v. Hudson, 574 F. Supp. 1381, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20023 (E.D. Va. 1983) (taking found where area, an old borrow pit, was only marginally a technical wetland, of no environmental significance, and where essentially no use could be made of it unless filled). Subsequent Supreme Court decisions have elaborated on the regulatory takings principles enunciated in *Penn Central*. *See, e.g.*, Keystone Bituminous Coal Ass'n v. DeBenedictus, 480 U.S. 470 (1987); First English Evangelical Lutheran Church v. City of Los Angeles, 482 U.S. 304 (1987). For more recent decisions finding that a taking had occurred and that the plaintiff was entitled to compensation, see Loveladies Harbor, Inc. v. United States, 28 F.3d 1171, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21072 (Fed. Cir. 1994); Formanek v. United States, 26 Cl. Ct. 332, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20893 (1992). *Cf.* Dolan v. City of Tigard, 512 U.S. 374, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21083 (1994) (addressing the required degree of connection between exactions imposed by a city and the projected impacts of a proposed development); Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 22 Envtl. L. Rep. (Envtl. L. Inst.) 21104 (1992) (addressing takings issue with regard to state regulation); Nollan v. Cal. Coastal Comm'n, 483 U.S. 825, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20918 (1987) (same).

[10]Sackett v. E.P.A., 132 S. Ct. 1367, 566 U.S. 120, 42 ELR 20064 (2012).

[Section 13:115]

[1]*See* § 404(g), which excludes from state authority waters which are presently used, or are susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce shoreward to their ordinary high water mark, including all waters which are subject to the ebb and flow of the tide shoreward to their mean high water mark, or mean higher high water mark on the west coast, including wetlands adjacent thereto. Essentially, tidewaters and tidal wetlands are not subject to state delegation. A large number of inland waters also are not subject to delegation, because of the breadth of the Supreme Court's historic construction of the key terms of the navigability language. See discussion at § 13:96, of caselaw under the Rivers and Harbors Act of 1899.

[2]53 Fed. Reg. 20764 (1988). In 1993, EPA promulgated regulations allowing Native American tribes to be treated identically to states for purposes of § 404 of the Act. 58 Fed. Reg. 8172 (Feb. 11, 1993).

the Act, only one state (Michigan) had received delegated authority to operate the § 404 program within its borders.[3]

The delegation regulatory scheme is generally straightforward, with the critical delegation documents being a MOA between EPA's regional office and the state and a similar MOA between the state and the Corps. Several elements of the delegation scheme are worthy of note. Partial delegations are not provided for. The states need not assume responsibility for general permits issued under the Corps regulations, and they may choose whether to issue their own general permits.[4] The procedures for applying for and processing permits are otherwise basically identical to those followed by the Corps.

It is significant that EPA and the Corps retain the ability to act on individual permits. EPA may require a state to modify or deny a permit if, following review, EPA determines that the proposed permit either is the subject of an interstate dispute or would not meet the requirements of § 404 or the § 404(b)(1) guidelines.[5]

Environmental organizations are generally critical of delegation of the § 404 program,[6] since delegation makes several other federal statutes, such as the National Environmental Policy Act of 1969 and the Fish and Wildlife Coordination Act, inapplicable.[7]

VII. JUDICIAL REVIEW

§ 13:116 Judicial Review of EPA actions

Judicial review of EPA actions is governed by § 509(b) of the Act. The Act is facially simple, but as will be discussed below, it does not demark jurisdiction for review of a number of EPA actions as clearly as it might have.

The following actions are reviewable only in the U.S. Court of Appeals for the judicial circuit in which the petitioner "resides or transacts business which is directly affected by such action":[1]

1. Promulgation of NSPS under § 306;[2]
2. Issuing or denying an NPDES permit;[3]

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[3]Michigan has since been joined by New Jersey (1993) and Florida (2020) in receiving delegated authority for the § 404 program. Other states and tribes have explored and continued to evaluate the § 404 assumption process. For example, the Fond du La Band of Lake Superior Chippeawa analyzed the 404 assumption process and unique tribal issues, including the complexities of enforcement against non-tribal members. For more information on state and tribal efforts to assume the § 404 program, *see* EPA's U.S. Interactive Map of State and Tribal Assumption under CWA Section 404, *available at* https://www.epa.gov/cwa404g/us-interactive-map-state-and-tribal-assumption-under-cwa-section-404 (last visited on August 16, 2021).

[4]40 C.F.R. § 233.21. Existing general permits are grandfathered; states may elect to enforce them or leave enforcement up to the Corps.

[5]40 C.F.R. § 233.50. Interstate effects are governed by § 233.31. EPA review of classes of state permits is subject to waiver in the MOA negotiated with the state.

[6]For an example of an environmental organization's challenge to EPA's approval of revisions to Michigan's delegated wetlands program, see Nat'l Wildlife Fed'n v. Adamkus, 936 F. Supp. 435 (W.D. Mich. 1996).

[7]These statutes are tied to federal actions, and delegation of permit authority to a state eliminates the "federal action" component of the regulatory activity.

[Section 13:116]

[1]The last seven words of the quoted material were added by the Water Quality Act of 1987, in order to curb the forum-shopping practices of certain industrial petitioners. Pub. L. No. 100-4, § 505(a), 101 Stat. 75.

[2]CWA § 509(b)(1)(A), 33 U.S.C.A. § 1369(b)(1)(A).

[3]CWA § 509(b)(1)(F), 33 U.S.C.A. § 1369(b)(1)(F). Vetoing a state permit would constitute denial

3. Making a determination with respect to a state or tribal program's qualification for NPDES delegation under § 402(b);[4]
4. "[A]pproving or promulgating any effluent limitation or other limitation under §§ 301, 302, or 306";[5]
5. Promulgating an effluent standard, prohibition, or pretreatment standard under § 307.[6]

Petitions for review must be filed within 120 days of the challenged "determination, approval, promulgation, issuance or denial," unless the grounds for the challenge arose after the 120th day.[7] Under federal practice, petitions to review agency action are limited to the agency's administrative record. Section 509(c) provides a limited basis for remand to EPA to reopen the record in cases where a permit decision or any other decision involving opportunity for an adjudicatory hearing is being challenged, and the party seeking the remand is able to convince the court that the new evidence is material and that there were "reasonable grounds" for the failure to present the information to EPA during its prior administrative proceeding.

The venue provision, allowing challenges to be mounted in any circuit court where the petitioner resides or transacts business, on occasion produced spirited "races to the courthouse"[8] among litigants of differing persuasions seeking to secure review of generally applicable CWA regulations in what they each perceived as a forum friendly to their point of view. Congress added a venue-selection provision to the statute in 1987, § 509(b)(3), to address this problem. This provision supplants 28 U.S.C.A. § 2112(a)[9] with a lottery-selection process where more than one court of appeals has received a petition to review an EPA action within 30 days of the filing of the first petition challenging the action.

A significant provision of the statute, § 509(b)(2), prohibits a litigant in a civil or criminal enforcement action from challenging an EPA action as to which judicial review was available under § 509(b)(1).

A large number of CWA actions do not fall within the ambit of § 509(b). Such ac-

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of a permit.

[4]CWA § 509(b)(1)(D), 33 U.S.C.A. § 1369(b)(1)(D).

[5]CWA § 509(b)(1)(E), 33 U.S.C.A. § 1369(b)(1)(E). This provision has been construed broadly to include review of such matters as standard permit conditions and management practices, in addition to single-number effluent limitations.

[6]CWA § 509(b)(1)(C), 33 U.S.C.A. § 1369(b)(1)(C). CWA § 509(b)(1)(B), 33 U.S.C.A. § 1369(b)(1)(B), provides review of EPA action "in making any determination pursuant to section 306(b)(1)(C)." The referenced section is nonexistent, and in fact never was a part of the statute. It was a part of § 306 as reported by the Senate in S-2770. *See* A Legislative History of the Water Pollution Control Act Amendments of 1972, Serial No. 93-1, Vol. 2, p. 1626. The subsection provided for formal determinations to be made by EPA with respect to the applicability of NSPSs to individual sources. It apparently was deleted in conference.

[7]CWA § 509(b)(1), 33 U.S.C.A. § 1369(b)(1). At least one court has found that Congress did not provide a statute of limitations for bringing a challenge based on new grounds (grounds arising after the 120th day). Chevron U.S.A. Inc. v. EPA, 908 F.2d 468, 20 Envtl. L. Rep. (Envtl. L. Inst.) 21090 (9th Cir. 1990) (discussing the relative merits of borrowing the limitations period provided in § 509(b)(1) or an analogous state law limitations period but declining to decide the issue on the grounds that under either standard the challenge was time-barred).

[8]A recent example is the litigation over the EPA's Clean Water Rule where over 27 states challenged the rule in federal court. *See e.g.*, In re E.P.A., 803 F.3d 804, 81 Env't. Rep. Cas. (BNA) 1389, 2015 A.M.C. 2409 (6th Cir. 2015) (finding that the petitions demonstrated a substantial possibility of success on the merits).

[9]28 U.S.C.A. § 2112(a) provides that in such a race the court in which a petition is first timely filed has venue. In order to eliminate arguments over precisely when a rule is "promulgated" (i.e., on signing, on submission to the Federal Register, or upon publication), EPA generally specifies a date and time certain in its regulations as to when they become "effective."

tions are reviewable by U.S. district courts.[10]

The standard of review is not set by § 509 and is therefore governed by the Administrative Procedure Act (APA).[11] The statute contains a provision allowing for an award of attorney's fees or costs to a prevailing party or substantially prevailing party in a challenge to EPA action under the Act.[12]

§ 13:117 Supreme Court, the Clean Water Act, and the Constitution

An issue of primary significance is the jurisdictional scope of the CWA. Namely, (i) what constitutes "waters of the United States" under the Act and (ii) what are the constitutional limitations on the federal government's CWA jurisdiction under the Commerce Clause. The Supreme Court has waded into the issue on more than one occasion—in *Riverside Bayview*, *SWANCC*, and most recently *Rapanos*[1]—and in 2015 EPA issued the Clean Water Rule, which has since been stayed by the Sixth Circuit.[2]

EPA and the Corps repealed the Clean Water Rule and, on April 21, 2020, the EPA and the Corps finalized the "Navigable Waters Protection Rule" to define "waters of the United States," which became effective on June 22, 2020.[3] The Navigable Waters Protection Rule was challenged by states, tribes, and environmental groups in federal district courts in several jurisdictions. Litigation is ongoing.[4] On June 9, 2021, the EPA and the Corps announced their intent to revise the definition of "waters of the United States" yet again.[5] The EPA and the Corps are actively working on revising the definition of the "waters of the United States," but, as of the date of this publication, have yet to issue a proposed rule. Additional discussion of EPA's jurisdiction under the Act is located in Section 13:32 (Jurisdictional scope—Waters of the United States) and Section 13:96 (Jurisdiction of § 404—Waters of the United States). It will be important to follow the litigation surrounding the Naviga-

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[10] *See, e.g.*, Mfg. Chemists Ass'n v. Costle, 455 F. Supp. 968, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20667 (W.D. La. 1978) (challenge to hazardous substance list promulgated under § 311); *see* Costle v. Pacific Legal Found., 445 U.S. 198, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20225 (1980). Review in such cases is governed by § 706 of the APA, 5 U.S.C.A. § 706.

[11] 5 U.S.C.A. § 706. Essentially, the standard for reviewing informal rulemaking is the "arbitrary and capricious" standard, and for review of actions following a formal hearing the "substantial evidence" standard. *See, e.g.,* Seacoast Anti-Pollution League v. Costle, 572 F. 2d 872, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20207 (1st Cir. 1978).

[12] CWA § 509(b)(3), 33 U.S.C.A. § 1369(b)(3).

[Section 13:117]

[1] United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 106 S. Ct. 455, 88 L. Ed. 2d 419, 23 Env't. Rep. Cas. (BNA) 1561, 16 Envtl. L. Rep. 20086, 20089 (1985); Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159, 121 S. Ct. 675, 148 L. Ed. 2d 576, 51 Env't. Rep. Cas. (BNA) 1833, 31 Envtl. L. Rep. 20382 (2001); Rapanos v. U.S., 547 U.S. 715, 126 S. Ct. 2208, 165 L. Ed. 2d 159, 62 Env't. Rep. Cas. (BNA) 1481, 36 Envtl. L. Rep. 20116 (2006).

[2] In re E.P.A., 803 F.3d 804, 81 Env't. Rep. Cas. (BNA) 1389, 2015 A.M.C. 2409 (6th Cir. 2015) (finding that the petitions demonstrated a substantial possibility of success on the merits).

[3] *See* The Navigable Waters Protection Rule: Definition of "Waters of the United States," 85 Fed. Reg. 22,250 (Apr. 21, 2020). In pertinent part, the Navigable Waters Protection Rule revised the definition of WOTUS to specifically exclude, among other elements, groundwater, ephemeral water features, diffuse stormwater runoff, ditches that are not traditional navigable waters, prior converted upland, artificial lakes and ponds, water-filled depressions incidental to mining or construction, stormwater control features, groundwater recharge, and waste treatment systems. *See* Id. at 22,251–52.

[4] See, e.g., State of Colorado v. U.S. Environmental Protection Agency, et al., No. 20-cv-1461 (filed May 22, 2020, D.Col.); Conservation Law Foundation v. U.S. Environmental Protection Agency, et al., No. 20-cv-10820 (filed Apr. 29, 2020, D.Mass.); Navajo Nation v. Andrew Wheeler, et al., No. 20-cv-00602 (filed June 22, 2020, D.N.M.).

[5] See New Release, EPA, Army Announce Intent to Revise Definition of WOTUS (June 9, 2021), available at https://www.epa.gov/newsreleases/epa-army-announce-intent-revise-definition-wotus.

ble Waters Protection Rule and the agencies efforts to propose a new rule to see how courts and the agencies continue to interpret the jurisdictional scope of the Act.

§ 13:118 Judicial Review of State actions

Judicial review of actions taken by state regulators in states possessing delegated NPDES and other CWA authority is governed solely by state law. Some states provide an elaborate administrative appellate process, others provide for direct appeals from agency decisions to one or another level of state court. Nothing in the Act dictates either the procedures for [either/or] the standard of state judicial review.

State actions taken with respect to federal facilities may, however, be reviewed in federal court[1] on application of the United States.

VIII. ENFORCEMENT

§ 13:119 Federal enforcement—In general

The Act's enforcement scheme is, except for wetland and oil pollution matters,[1] contained within §§ 308 and 309 of the statute. The enforcement approach adopted by Congress in Pub. L. No. 92-500 was much more of a straightforward "federal" enforcement approach than had been taken in the CAA, enacted two years earlier, and reflects the overall greater degree of federal control inherent in the water program.

EPA's enforcement of the Act has generally reflected the Agency's programmatic goals, although it is not an unfair assessment to say that the Act's enforcement has never been an Agency priority. Enforcement during the early years of the program focused on ensuring that all point sources were brought within the NPDES permit program.[2] Beginning in 1976, the enforcement focus shifted to industrial point sources that had not achieved BPT or would clearly not achieve it within the time established in the permit. Compliance with the phase 2 permit requirements (BCT and BAT) coincided with a significant decline in the Agency's enforcement resources[3] and assumption of the NPDES program by a majority of the states.[4]

Municipal noncompliance has always presented a problem to EPA. State agencies are reluctant to sue their own municipalities to secure compliance, a malady that no less affects EPA regional administrators. Municipalities present a practical enforce-

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[Section 13:118]

[1]United States v. Puerto Rico, 721 F.2d 832, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20003 (1st Cir. 1983). Enforcement actions brought against federal facilities by states are subject to removal to federal courts. *See* CWA § 313(a), 33 U.S.C.A. § 1323(a). Federal facilities are generally not exempt from paying civil penalties assessed under state law. 42 U.S.C.A. § 6961.

[Section 13:119]

[1]Section 404, 33 U.S.C.A. § 1344, contains its own enforcement scheme. Oil pollution is prohibited, and CWA § 311, 33 U.S.C.A. § 1321, contains its own penalty scheme.

[2]Remarkably, unpermitted sources of water pollution have continued to be found and identified during the years following the enactment of the statute.

[3]The Reagan Administration's priorities did not include basic pollution control enforcement, and the effects of the Gramm-Rudman-Hollings legislation imposing mandatory budget cuts in the years subsequent to 1984 exacerbated the Agency's enforcement woes. In addition, the Agency's internal priorities began to shift to hazardous waste and Superfund matters beginning in 1979, in response to perceived public demands.

[4]State program assumption carried with it primacy over enforcement. Although EPA retains the right to independently enforce the terms of state-issued permits, it is reluctant to do so except in the face of egregious inaction on the state's part. In one of the few instances when the agency sought to "overfile" a state, it received stern words from a reluctant federal judge. *See* United States v. Cargill, Inc., 508 F. Supp. 734, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20649 (D. Del. 1981).

ment problem as well. They cannot be shut down. Moreover, after years of dependence on a significant level of federal grant funding, which in the 1980s began to dry up, states and often-impoverished municipalities have been able to mount politically potent arguments for compliance deferments on financial grounds.[5]

Neither EPA nor the states mounted a substantial enforcement drive against permit holders for exceedances of permit limits during the first 23 years of the program. Such enforcement is easy to mount, since the requirement of self-monitoring contained in all NPDES permits effectively has the discharger proving the enforcement case for the government; the DMRs are admissions against interest. These facts led two public interest organizations, Trial Lawyers for Public Justice and the NRDC, to initiate a highly successful campaign of citizen suits early in 1984, focusing on permit violations. This initiative was quickly adopted by other citizen groups and has become a ubiquitous private enforcement effort.

Congress substantially overhauled the enforcement provisions of the Act in the 1987 reauthorization act, Pub. L. No. 100-4. The principal thrusts of the amendments were to align the criminal sanctions with those in the Resource Conservation and Recovery Act (RCRA), and to provide additional enforcement flexibility through allowing administrative penalty assessments.

§ 13:120 Federal enforcement—Inspections, monitoring, and entry

Section 308 of the Act contains the authority for the requirement of DMRs and other monitoring and recordkeeping requirements imposed upon dischargers,[1] authority for prescribing sampling and analytical methods,[2] and authority for EPA employees and "authorized representatives" to enter "upon, or through, any premises in which any effluent source is located or in which any records required to be maintained . . . are located" in order to inspect and copy records, inspect monitoring equipment, or sample effluents "which the owner or operator of such source is required to sample."[3] A 1987 amendment to § 308(b) makes it clear that EPA contractors are "authorized representatives," overruling a judicial decision under

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[5]The tension between Title II and Title III enforcement has always been uncomfortable for EPA. Until 1980, when Congress finally recognized at least a limited nexus between the availability of grant funds and the ability of municipalities to meet their costly CWA obligations, the government's official position had been that the unavailability of grant funding to a municipality was not a defense to meeting the Title III deadlines. The political weakness of that position is perhaps best understood in terms of numbers. EPA brought fewer than 20 serious enforcement actions against municipalities between 1972 and 1980. By the mid-1980s, however, EPA had become somewhat more aggressive, particularly in seeking civil penalties. For example, the Puerto Rico Aqueduct and Sewer Authority was levied a $32 million penalty for violation of a consent decree in United States v. P.R.A.S.A, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20893 (D.P.R. May 4, 1987). During the Obama Administration, municipal discharges became a national enforcement initiative, and in the 2000s many major cities entered consent decrees with the federal government to address chronic noncompliance. *See* https://www.epa.gov/enforcement/national-enforcement-initiative-keeping-raw-sewage-and-contaminated-stormwater-out-our.

Section 309(e) of the Act, 33 U.S.C.A. § 1319(e), has not significantly alleviated the problem of municipal enforcement. That provision requires EPA to join the state in any enforcement action brought against a municipality within the state and makes the state liable for "the payment of any judgment, or any expenses incurred as a result of complying with any judgment, to the extent that the laws of that State prevent the municipality from raising revenues needed to comply with such judgment." This provision is useful only if the state has statutes placing debt ceilings on municipalities or prohibits bonding for sewer improvements, or has some other legislative barrier. These are rare.

[Section 13:120]

[1]*See* CWA §§ 308(a)(1), 308(a)(2), 33 U.S.C.A. §§ 1318(a)(1), 1318(a)(2).

[2]CWA § 308(a)(2)(A)(iv), 33 U.S.C.A. § 1318(a)(2)(A)(iv).

[3]CWA § 308(a)(2)(B), 33 U.S.C.A. § 1318(a)(2)(B). As with other federal agencies, EPA is required to secure a judicial warrant to enter premises for which no consent has been given, under the doctrine of Marshall v. Barlows, Inc., 436 U.S. 307, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20434 (1978). The language

the prior law, and provides criminal penalties for divulging confidential information without legal authorization.[4]

Records, reports, and other information generated pursuant to the Act's requirements are accessible by the public unless they satisfy the statutory test for confidential treatment,[5] and even this limited confidentiality is not available for data that is considered "effluent data."[6]

States may request authority to perform inspection, monitoring, and entry with respect to point sources within the state (except for federal facilities),[7] provided their procedures are approved by EPA.[8]

§ 13:121 Federal enforcement—Federal civil enforcement

Congress did not initially provide EPA with administrative penalty authority in the Act.[1] The Agency was limited to issuing an order requiring compliance,[2] which it had to ask a federal judge to enforce or seek judicial enforcement directly.

Administrative penalty authority was provided in 1987 with the addition of § 309(g) to the Act.[3] The administrative penalty scheme is similar to the one adopted for RCRA in the 1984 amendments to that statute and is labyrinthine. There are different procedures and judicial review depending upon whether the violation alleged is per violation ("Class I" penalties) or per day ("Class II" penalties).[4]

The public has a right to comment on proposed penalties, which are also subject to a "penalty policy" that specifies factors to be considered in determining penalty

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of the statute also limits EPA's authority. It does not appear to have the authority to enter nonregulated premises for the purpose of getting to regulated premises and does not appear to have the authority to enter a property in order to take a sample from an effluent stream that is not subject to a sampling obligation contained in a permit.

[4]Pub. L. No. 100-4, § 310, 101 Stat. 41 (1987).

[5]*See* CWA § 308(b)(2), 33 U.S.C.A. § 1318(b)(2). Only trade secret-related information is protected.

[6]"Effluent data" is defined by § 308(b)(1) of the Act, 33 U.S.C.A. § 1318(b)(1), as data "related to any applicable effluent limitations, toxic, pretreatment, or new source performance standards."

[7]Congress took the opposite tack in RCRA, specifically allowing states to monitor and enter federal facilities. *See* RCRA § 3007, 42 U.S.C.A. § 6927.

[8]*See* CWA § 308(c), 33 U.S.C.A. § 1318(c).

[Section 13:121]

[1]Such authority was included in the 1970 CAA only in connection with the automobile engine and fuel program. When the CAA was amended in 1977, limited administrative penalty authority was included for stationary sources in § 208 of the Act. No such authority was provided in the CWA of 1977. Nearly every other federal environmental statute contains administrative penalty authority.

[2]The statute contained two types of delayed compliance orders, which are currently only of historical significance. Section 309(a)(5)(B) provided for an administrative extension of the July 1, 1977, compliance deadline to April 1, 1979, to dischargers whose facilities were under construction by the 1977 deadline date. Section 309(a)(6) allowed EPA to extend until July 1, 1983, the 1977 compliance deadline for industrial dischargers whose means of compliance was connection to a POTW that had not been completed by the 1977 deadline.

[3]The administrative penalty scheme also applies to § 404, with penalties leviable either by EPA or the Corps, following a finding of violation by the Corps. (EPA and the Corps are expected to adopt an interagency agreement to implement the enforcement scheme.) Penalty levies may range up to $10,000 per Class I violation (not to exceed $25,000 and up to $10,000 per day for Class II violations (not to exceed $125,000).

[4]CWA § 309(g)(2), 33 U.S.C.A. § 1319(g)(2), amended by Pub. L. No. 100-4, § 314, 101 Stat. 46 (1987). Informal hearings are afforded for Class I penalties and adjudicatory hearings for Class II penalties. *See* 52 Fed. Reg. 30671 (1987) for EPA's Interim Final Class II penalty procedures (codified as amendments to 40 C.F.R. Part 22). Appeals from Class I penalty assessments are to a federal district court (either in the District of Columbia or the district where the violation occurred), and appeals from Class II assessments are to a U.S. court of appeals (either the D.C. Circuit or the circuit wherein the violation occurred).

amounts, and commenters may essentially force a negotiated penalty to a hearing.[5] Commenters, as well as the violator, may seek judicial review,[6] a matter of importance to active citizen groups since a final administrative penalty may cut off their rights to file a citizen suit.[7]

The 1987 reauthorization also increased the maximum judicially levied civil penalty from $10,000 per day to $25,000 per day.[8] In addition, a technical amendment ended the government's pre-1987 practice of charging multiple offenses for a single operational upset that caused a violation of more than one permit term.[9]

In states with NPDES authority, EPA retains the authority to enforce the state-issued permits directly or it may choose to notify the discharger and the state and defer enforcement for 30 days.[10] EPA also retains the authority to enforce pretreatment requirements, but § 309(f) requires it to enforce primarily against the municipal POTW owner into whose facility the offending discharge is introduced, with the pretreater joined as a mandatory party to the action.

Although there is lower court authority to the contrary, the better view of § 309(a) is that enforcement is discretionary, in spite of the statute's use of the usually mandatory "shall" in describing EPA's response to a finding of noncompliance.[11] Enforcement has nearly always been viewed as a matter of discretion on the part of law enforcement authorities, and even when the statute uses words like "shall," the better view is that enforcement is discretionary unless Congress has inserted a

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[5]*See* CWA §§ 309(g)(3), 309(g)(4), 33 U.S.C.A. §§ 1319(g)(3), 1319(g)(4). Penalty policy factors include the "gravity of the violation," the violator's ability to pay and prior compliance history, the degree of culpability, the economic savings that resulted from the period of violation, and "other matters as justice may require." The factors are similar to those used by EPA and the Department of Justice in the CWA Civil Penalty Policy adopted by the agencies in 1986. For a discussion of how EPA's Environmental Appeals Board calculates the economic benefit derived from a violation, see In re B.J. Carney Indus., Inc., CWA Appeal No. 96-2 (EPA Envtl. Appeals Bd. June 9, 1997) (remanding for recalculation of penalty).

[6]CWA § 309(g)(8), 33 U.S.C.A. § 1319(g)(8).

[7]*See* CWA § 309(g)(6), 33 U.S.C.A. § 1319(g)(6). Citizens who commence their actions prior to commencement of EPA's penalty action, or whose notice precedes that date and who file their lawsuits within 120 days, are not barred. *See* CWA § 309(g)(6)(B), 33 U.S.C.A. § 1319(g)(6)(B). A similar bar applies to civil penalty levies under § 311(b) (relating to oil and hazardous substance spills). The bifurcated appeal process could, hypothetically, produce bizarre consequences. For example, a multiple claim penalty assessment, including both per-violation and per-day violations, might be appealed by the violator as to a per-day assessment and by a commenter as to a per-violation assessment, with the result being two different courts reviewing the same EPA action.

[8]CWA § 309(d), 33 U.S.C.A. § 1319(d). States need not replicate these amounts as a precondition to NPDES delegation. *See* Pub. L. No. 100-4, § 313(b), 101 Stat. 45 (1987).

[9]CWA § 309(c)(5), 33 U.S.C.A. § 1319(c)(5). Though part of the *criminal* sanction subsection, it is difficult to fathom this section not applying equally to civil violations.

[10]*See* CWA § 309(a)(1), 33 U.S.C.A. § 1319(a)(1). The alternate 30-day notice provision is curious. It seems to be derived from the CAA enforcement scheme, which provides a mandatory 30-day notice requirement as a prerequisite to federal enforcement. Congress appears to have had second thoughts in the Act, and left state notification to EPA's discretion.

[11]*Compare* Zemansky v. EPA, No. A81-274-Civil (D. Alaska 3–4–82) (unpublished) (holding EPA must either issue an order or institute a judicial enforcement action once it has found a discharger to be in violation of a permit limit); South Carolina Wildlife Fed'n v. Alexander, 457 F. Supp. 118, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20757 (D.S.C. 1978) (duty mandatory); *and* Illinois v. Hoffman, 425 F. Supp. 71 (S.D. Ill. 1977) (duty mandatory) *with* Caldwell v. Gurley Refining Co., 533 F. Supp. 252, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20759 (E.D. Ark. 1982), *aff'd on other grounds*, 755 F.2d 645, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20316 (8th Cir. 1985) (dismissing EPA from mandamus citizen suit on ground enforcement discretionary); Sierra Club v. Train, 557 F.2d 485, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20670 (5th Cir. 1977) (enforcement discretionary); *and* Zemansky v. EPA, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20862 (D. Alaska 1986) (reconsidering 1982 opinion and reversing judgment).

sanction for failure to act.[12] The Supreme Court's decision in *Weinberger v. Romero-Barcelo*,[13] moreover, reaffirmed the availability of enforcement discretion under the Act.[14]

The Act's penalty scheme is straightforward. Federal courts may order injunctive relief and may levy civil penalties for violations of the Act's requirements, NPDES permit "conditions or limitations" violations, state-issued § 404 permit term violations,[15] or violations of an order issued under § 309(a).[16]

In *Tull v. United States*,[17] the Supreme Court decided that the Act's enforcement cases involving civil penalties are subject to the Seventh Amendment right to jury trial.

Defendants in CWA enforcement actions, and occasionally citizen plaintiffs in § 505 actions, have sought to substitute environmentally beneficial projects or trust fund donations for penalties. Such alternative relief, termed "credit projects" by EPA, is addressed in the government's CWA civil penalty policy in a way that discourages them.[18] Congress seems to have tried to encourage EPA to do more along these lines with language in the Conference Report of the Water Quality Act of 1987.[19]

§ 13:122 Federal enforcement—Criminal enforcement

The Act's criminal violations were, until 1987, limited to "willful" and "negligent" violations of §§ 301, 302, 306, 307, and 308, permit conditions and limitations, and state § 404 permit conditions and limitations, along with "knowingly" making "any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained" under the Act and falsifying, tampering with, or "knowingly render[ing] inaccurate any monitoring device or method required to be maintained."[1] In addition, the above were only misdemeanors

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[12]*See, e.g.*, Sierra Club v. Train, 557 F.2d 485, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20670 (5th Cir. 1977).

[13]Weinberger v. Romero-Barcelo, 456 U.S. 305, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20538 (1981).

[14]*Weinberger* involved the issue of judicial discretion to allow an unpermitted source to remain operating while EPA processes its application for a permit in the face of § 301(a), which appeared unequivocally to require immediate cessation of any unlawful discharge. The source in this case was the U.S. Navy, whose ordinance was found to be a pollutant requiring a permit, something which had never occurred to EPA. The plaintiffs sought an immediate halt to the Navy's use of its Puerto Rico gunnery range, citing § 301(a). The Court, rejecting the plain language of the statute, stated broadly that Congress had not spoken clearly enough to deprive the federal courts of their discretion in fashioning equitable remedies.

[15]Violations of federally issued § 404 permits are subject to the separate enforcement scheme under § 404, 33 U.S.C.A. § 1344.

[16]CWA § 309(d), 33 U.S.C.A. § 1319(d). Substantive violations are those of §§ 301, 302, 306, 318, and 405 of the Act.

[17]Tull v. United States, 481 U.S. 412, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20667 (1987).

[18]The penalty policy requires that a "substantial" up-front penalty be paid, and that "credit projects" may only be in mitigation of the amount of a penalty, not a substitution for a penalty. The Department of Justice testified before the House Merchant Marine and Fisheries Committee during November 1987, claiming that such remedies would violate the Miscellaneous Fees Act and/or the Anti-deficiency Act, though its arguments for either proposition do not withstand scrutiny. *See* Stever, Environmental Penalties and Environmental Trusts—Constraints on New Sources of Funding for Environmental Preservation, 17 Envtl. L. Rep. (Envtl. L. Inst.) 10356 (1987).

[19]*See* H.R. Rep. No. 99-1004, at 139 (1986).

[Section 13:122]

[1]In proving that a defendant "knowingly" falsified, tampered with, or rendered inaccurate any monitoring device or method required to be maintained under the Act, the government must only show

under the federal sentencing scheme.[2] Thus, federal law enforcement personnel were less than enthusiastic about investigating CWA offenses.[3] Although there are a number of Title 18 felony offenses available to prosecutors to deal with the "lying and concealing" type offenses,[4] substantive violations were by many felt to be inadequately punishable.

The criminal enforcement provisions of the Act were substantially modified and upgraded by the Water Quality Act of 1987. Violations of §§ 318 and 405 were added to the list of criminal offenses, as were violations of Corps-issued § 404 permits and pretreatment permit violations.[5] In addition, a new crime was created—either negligently or knowingly introducing a "pollutant" or "hazardous substance" into a sewer system where either the discharger knew or "reasonably should have known" it could cause personal injury or property damage, or, except where authorized, the substance causes the local POTW to violate any effluent limitation or condition in its NPDES permit.[6]

The 1987 amendments also doubled the criminal penalties, moving knowing violations into the felony range,[7] and set the false statements and monitoring offense apart from the other substantive offenses.[8] The Second, Eighth, and Ninth Circuits have held that in a prosecution for a "knowing" violation under § 309(c)(2)(A), the government is required to prove that individual defendants knew the nature of their acts and performed them intentionally, but need not prove that such defendants knew that their acts violated the Act, any particular provision of the law, or a regulatory permit.[9] The Second Circuit has applied the same interpretation of "knowledge" to a prosecution for knowingly falsifying or tampering with discharge

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that the defendant knew that he committed the prohibited act, not that the defendant knew that he violated the Act. United States v. Hopkins, 53 F.3d 533, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21178 (2d Cir. 1995), *cert. denied*, 516 U.S. 1072, 116 S. Ct. 773 (1996); United States v. Sinskey, 119 F.3d 712, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21468 (8th Cir. 1997).

[2]*See* CWA § 309(c), 33 U.S.C.A. § 1319(c).

[3]For example, FBI special agents receive less credit for time spent on misdemeanors than for time spent on felonies.

[4]*E.g.*, 18 U.S.C.A. § 1001.

[5]CWA §§ 309(c)(1)(A), 309(c)(2)(A), 33 U.S.C.A. §§ 1319(c)(1)(A), 1319(c)(2)(A).

[6]CWA §§ 309(c)(1)(B), 309(c)(2)(B), 33 U.S.C.A. §§ 1319(c)(1)(B), 1319(c)(2)(B). The term "hazardous substance" is defined very broadly by § 309(c)(7) to encompass the same range of substances covered by the definition of the term in § 101 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C.A. § 9601. This provision seems to have been intended to close the loophole created by the "domestic sewage exemption" in EPA's RCRA regulations. For a discussion of this, see D. Stever, Law of Chemical Regulation and Hazardous Waste, ch. 5.

[7]Negligent violations are punishable by fines of between $2,500 and $25,000 per day and incarceration of up to a year, with doubling for repeat offenses. Knowing violations carry fines of between $5,000 and $50,000 per day and up to a year incarceration, with doubling for repeat offenses. A thorough understanding of the potential for fines or incarceration for CWA violations, however, requires resort to the Sentencing guidelines promulgated pursuant to the Sentencing Reform Act of 1984, 18 U.S.C.A. §§ 3551 to 3559. The guidelines are preemptive of the statutory penalties and provide an elaborate penalty matrix for sentence disposition. *See* Stever, Environmental Penalties and Environmental Trusts—Constraints on New Sources of Funding for Environmental Preservation, 17 Envtl. L. Rep. (Envtl. L. Inst.) 10356, 10366 (1987). In one unusual case, the court imposed severe restrictions on the defendant's marine contracting operation when he violated probation following convictions under the Act and Rivers and Harbors Act. United States v. Holland, 874 F.2d 1470, 29 Env't Rep. Cas. (BNA) 2041 (11th Cir. 1989). For more recent cases applying the guidelines in CWA cases, *see* United States v. Ellen, 961 F.2d 462, 35 Env't Rep. Cas. (BNA) 1165, 22 Envtl. L. Rep. 21282 (4th Cir. 1992), as amended, (Apr. 27, 1992), and United States v. Goldfaden, 959 F.2d 1324, 35 Env't Rep. Cas. (BNA) 1177, 22 Envtl. L. Rep. 21069 (5th Cir. 1992).

[8]CWA § 309(c)(4), 33 U.S.C.A. § 1319(c)(4). Penalties are fines of up to $10,000 and imprisonment of up to two years, with doubling for repeat offenses.

[9]United States v. Cooper, 173 F.3d 1192, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21044 (9th Cir. 1999);

monitoring methods under § 309(c)(4).[10] Section 309(c)(6) specifically makes a "responsible corporate officer" criminally liable for the acts of the corporation by which the individual is employed. The statute does not indicate whether one can be criminally liable for corporate actions without actual knowledge or complicity.[11]

A final addition of the Water Quality Act of 1987 is the "knowing endangerment" provision in § 309(c)(3), which is a virtual clone of the one that has been in RCRA since 1976. The provision is complex and contains its own standards of proof and definitions.

Persons[12] found guilty of criminal violations of the Act (whether by plea or after trial) are automatically "listed" on the government contract debarment list.[13] Once listed, one may not escape the list until the conditions giving rise to the violation have been eliminated.[14] EPA takes the position that if one is found guilty of discharging without a permit, the violation is not corrected until a permit is issued.[15]

§ 13:123 State enforcement

There are widely varying state enforcement programs. All provide for judicial injunctive relief and civil and criminal penalties at least as stringent as those in § 309. Many states have given the agency enforcing the water pollution law extensive administrative penalty authority. Practitioners dealing with delegated states must become familiar with the procedural nuances of their state as well as the substantive state water pollution law.[1]

Note that because there are currently no tribes with EPA-approved NPDES programs, it follows that no tribes have tribal enforcement programs approved by EPA that are at least as stringent as those in § 309. That said, tribes have the inherent authority to pass and enforce laws within their tribal territory.[2] Until a tribe is federally approved to implement a CWA permitting program, "if a tribe

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United States v. Hopkins, 53 F.3d 533, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21178 (2d Cir. 1995), *cert. denied*, 116 S. Ct. 773 (1996); United States v. Weitzenhoff, 35 F.3d 1275, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21504 (9th Cir. 1994), *cert. denied sub nom.* Mariani v. United States, 115 S. Ct. 939 (1995); United States v. Sinskey, 119 F.3d 712, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21468 (8th Cir. 1997).

[10]United States v. Hopkins, 53 F.3d 533, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21178 (2d Cir. 1995), *cert. denied*, 116 S. Ct. 773 (1996).

[11]United States v. Hong, 242 F.3d 528, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20509 (4th Cir. 2001) (affirming the conviction of the owner of a wastewater treatment facility for violations of the facility's NPDES permit, even though he did not formally serve as an officer of the company, because he controlled the facility's finances and played a substantial role in the facility's operations).

[12]Federal employees working within the scope of their employment can be criminally liable "persons" under the Act. United States v. Curtis, 988 F.2d 946, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20685 (9th Cir. 1993), *cert. denied*, 510 U.S. 862 (1993).

[13]CWA § 508, 33 U.S.C.A. § 1368.

[14]*See* 40 C.F.R. Part 15 (EPA's debarment regulations). The Agency also has discretion to list a noncriminal violator. 40 C.F.R. Part 15.

[15]That event may happen many months after a plea is entered and all fines have been paid.

[Section 13:123]

[1]State laws in the area of water pollution generally must not conflict with either federal statutory or judge-made maritime law. *See* Askew v. American Waterways Operations, Inc., 411 U.S. 325, 337-41, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20362, 20366-68 (1973); *see also* In re Ballard Shipping Co. v. Beach Shellfish, 32 F.3d 623, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20140 (1st Cir. 1994) (holding that whether substantive state legislation is preempted by maritime law depends on a balancing of the state and federal interests in any given case).

[2]*See, e.g.,* Montana v. United States, 450 U.S. 544, 565-66, 101 S. Ct. 1245, 67 L. Ed. 2d 493 (1981); Robert Erickson, Protecting Tribal Waters: The Clean Water Act Takes over Where Tribal Sovereignty Leaves Off, 15 TUL. ENVTL. L.J. 425 (2002) (discussing tribal enforcement authority and the role of the federal government in enforcing tribal interests under the Clean Water Act).

chooses to establish any regulations or enforcement measures to enforce [water quality] standards, it must to do so under tribal law pursuant to the tribe's inherent authority as a sovereign government."[3]

§ 13:124 Citizen suits—History and overview

The citizen suit provision, § 505, was a part of the original 1972 Act. It was patterned on the earlier CAA citizen suit provision, with the significant addition of specific authority for civil penalty levies not included in the CAA provision.[1] Though hailed by citizens' groups as a significant grant of grassroots enforcement power, the first 10 years of the Act saw § 505 used primarily as a vehicle for compelling EPA to act when it had failed to promulgate regulations that the plaintiff believed the Agency had a mandatory duty to adopt.[2] This pattern was in part the product of EPA's slowness in bringing the program up to speed and uncertainties produced by the 1977 amendments. It may also have had to do with a perception that the government's pre-1980 enforcement efforts were adequate.

Whatever the reasons, few citizen suits seeking direct enforcement of the Act were filed against dischargers until 1982. At that point, however, a veritable explosion of citizen suits occurred, fueled by a widespread perception within the environmental activist community that EPA's commitment to water and air pollution enforcement was less than vigorous,[3] the belief that state enforcement programs were either woefully underfunded or suffered from the same sorts of political inertia that had plagued them prior to passage of the Act, and the availably of an award of attorneys fees to successful plaintiffs.

A number of issues raised by the language of § 505 thus lay unexposed until the lawsuits of the early and mid-1980s aired many of those issues, which are discussed below. In the one decision involving a constitutional challenge to CWA citizen suits, *Chesapeake Bay Found. v. Bethlehem Steel Corp.*,[4] § 505 was held not to be in contravention of the separation of powers doctrine.

§ 13:125 Citizen suits—Jurisdiction and prerequisites

Section 505 authorizes any "citizen"[1] to commence a citizen suit "on his own

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[3]EPA, Strategy for Reviewing Tribal Eligibility Applications to Administer EPA Regulatory Programs, Attachment E, p.26 (January 23, 2008), *available at* https://www.epa.gov/sites/default/files/2015-10/documents/strategy-for-reviewing-applications-for-tas_0.pdf (last visited August 20, 2021).

[Section 13:124]

[1]S. Rep. No. 92-414, at 79 (1971).

[2]*See, e.g.*, Nat. Res. Def. Council, Inc. v. Train, 561 F.2d 904, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20547 (D.C. Cir. 1977) (toxic pollutants); Nat. Res. Def. Council, Inc. v. Train, 396 F. Supp. 1393, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20401 (D.D.C. 1975) (§ 208 planning).

[3]EPA's budget for water and air pollution enforcement was cut significantly during the first Reagan administration, and EPA's enforcement program was reorganized in a way that critics claimed deemphasized enforcement. Few, if any, air pollution enforcement actions have been mounted by citizen groups, primarily because the CAA regulatory scheme does not produce easily provable cases of violation.

[4]Chesapeake Bay Found. v. Bethlehem Steel Corp., 652 F. Supp. 620, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20623 (D. Md. 1987).

[Section 13:125]

[1]Whether the phrase "citizen" encompasses a state as plaintiff has been addressed by several courts, with disparate results. Three courts have held that a state is a "citizen" for § 505 purposes. *See* Massachusetts v. U.S. Veterans Admin., 541 F.2d 119, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20666 (1st Cir. 1976); Illinois v. Outboard Marine Corp., 619 F.2d 623, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20323 (7th Cir. 1980), *vacated* and *remanded on other grounds*, 453 U.S. 917 (1981); Nat'l Wildlife Fed'n v.

behalf"[2] against any other "person"[3] who is "alleged to be in violation of (A) an effluent standard or limitation under this Act[4] or (B) an order issued by the administrator or a state with respect to such standard or limitation."[5] In addition, a suit may be brought against EPA to compel the performance of a nondiscretionary act.[6] The Eleventh Circuit has held that such a suit may not be brought against the Corps, which is authorized to regulate the discharge of dredged or fill material into WOTUS, including wetlands, because § 505(a)(2) does not clearly and unambiguously waive the Corps' sovereign immunity.[7]

Ruckelshaus, 99 F.R.D. 558, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20845 (D.N.J. 1983). Two courts have held otherwise. *See* United States v. City of Hopewell, 508 F. Supp. 526, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20474 (E.D. Va. 1980); California v. Department of the Navy, 24 Env 1177 (N.D. Cal. 1986). The Supreme Court settled the issue in 1992 in U.S. Dept. of Energy v. Ohio, 503 U.S. 607, 112 S. Ct. 1627, 22 Envtl. L. Inst. (Envtl. L. Rep.) 20804 (1992). A state is a "citizen" under the CWA.

[2]This phrase was inserted to preclude class actions. *See* S. Rep. No. 92-414, at 91 (1971); Brown v. Ruckelshaus, 364 F. Supp. 258, 3 Envtl. L. Rep. (Envtl. L. Inst.) 20834 (C.D. Cal. 1973). *But see* New York City v. Ruckelshaus, 358 F. Supp. 669, 3 Envtl. L. Rep. (Envtl. L. Inst.) 20410 (D.D.C. 1973), *aff'd*, 494 F.2d 1033 (D.C. Cir. 1974), *aff'd* 420 U.S. 35 (1975).

[3]Section 505(a)(1)(i) provides that the term "person" includes the United States, and the courts have not been hesitant to allow citizen suits against federal facilities. *See, e.g.*, Sierra Club v. Department of the Interior, 728 F. Supp. 1513, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20650 (D. Colo. 1990), *aff'd*, 931 F.2d 1421, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21195 (10th Cir. 1991), *vacated* and *remanded*, Lujan v. Sierra Club, 504 U.S. 902 (1992). See § 13:144.

[4]Section 505(f) defines this phrase as

> (1) . . . an unlawful act under subsection (a) of section 301 . . .; (2) an effluent limitation or other limitation under § 301 or 302 . . .; (3) standard or performance under § 306 . . .; (4) prohibition, effluent standard or pretreatment standard under § 307 . . .; (5) certification under § 401, or . . .; (6) a permit or condition thereof issued under § 402 . . . which is in effect (including a requirement applicable by reason of § 313) . . . .

Discharges that contribute to violations of state water quality standards are subject to citizen suits. *See* Montgomery Envtl. Coal. v. Fri, 366 F. Supp. 261, 4 Envtl. L. Rep. (Envtl. L. Inst.) 20182 (D.D.C. 1973). *But see* O'Leary v. Moyer's Landfill, Inc., 523 F. Supp. 2d 642 (E.D. Pa. 1981). Indeed, § 505(a) has been held to confer jurisdiction for citizen suits to enforce water quality standards that are stated as conditions of an NPDES permit, even if those standards have not been expressed as effluent standards. Northwest Envtl. Advocates v. City of Portland, 56 F.3d 979, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21250 (9th Cir. 1995), *reh'g and suggestion for reh'g en banc denied*, 74 F.3d 945, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20707 (9th Cir.1996), *cert. denied*, 116 S. Ct. 2550 (1996). CWA § 505(a) does not authorize citizen suits challenging the contents of a permit application. *See* Mississippi River Revival v. Administrator, 107 F. Supp. 2d 1008 (D. Minn. 2000). Although citizen suits seeking compliance with § 404 have been brought and adjudicated on the merits, there are linguistic and structural problems with the notion that a § 505 citizen suit may be brought to enforce a § 404 permit requirement. *See* § 13:93.

[5]CWA § 505(a)(1), 33 U.S.C.A. § 1365(a)(1). The court construed these provisions liberally in Hudson River Fishermen's Ass'n v. Cty. of Westchester, 686 F. Supp. 1044, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21451 (S.D.N.Y. 1988), holding that discharges from a drainage pipe leading from a county landfill are subject to citizen suits where plaintiffs can show that the pipe is the *type* of point source regulated under the Act. However, the Sixth Circuit in Askins v. Ohio Dept. of Agriculture, 809 F.3d 868, 874-75, 46 Envtl. L. Rep. (Envtl. L. Inst.) 20010 (6th Cir. 2016), held that there is no private cause of action under the CWA against regulators for violating procedural requirements, finding that the CWA did not permit a citizen suit for the agency's violation of the notification requirement in 33 U.S.C.A. § 1342(i)(2).

[6]CWA § 505(a)(2), 33 U.S.C.A. § 1365(a)(2).

[7]Preserve Endangered Areas of Cobb's History, Inc. v. U.S. Army Corps of Eng'rs, 87 F.3d 1242, 1249 (11th Cir. 1996). The court acknowledged that its holding disagrees with Nat'l Wildlife Fed'n v. Hanson, 859 F.2d 313, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21509 (4th Cir. 1988), which upheld the validity of a § 505(a)(2) suit against the Corps. Preserve Endangered Areas of Cobb's History, Inc. v. U.S. Army Corps of Eng'rs, 87 F.3d 1242, 1249 n.5 (11th Cir. 1996). In addition, the Eleventh Circuit held that § 505 does not apply to a suit alleging that EPA failed to overrule a Corps permit decision. The court concluded that the Act does not permit such a suit, because EPA's power under § 404(c) to veto a Corps decision is discretionary. Preserve Endangered Areas of Cobb's History, Inc. v. U.S. Army Corps of Eng'rs, 87 F.3d 1242, 1249 n.5, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21449 (11th Cir. 1996). *See also*

Section 505 citizen suits may be brought in the U.S. district courts[8] without regard to jurisdictional amounts or diversity,[9] although the term "citizen" is defined so as not to preclude the requirement that a plaintiff demonstrate the existence of standing to sue, requiring the plaintiff to demonstrate the existence of an interest that is or may be "adversely affected."[10]

§ 13:126 Citizen suits—Jurisdiction and prerequisites—Standing

Organizational plaintiffs do not have a sufficient degree of interest to sue in their own right.[1] Thus, under the Act, citizen suits must be brought by individuals who satisfy the statutory "adverse interest" test and the constitutional "injury in fact" test,[2] or organizations suing as representatives of their members who satisfy these tests.[3] They must also make a showing that the violations are "redressable."[4]

The degree of "injury" required to be alleged has been litigated in a number of cases. The Second Circuit introduced a refinement of the general standing requirement applicable to CWA citizen suits in *Sierra Club v. SCM Corp*.[5] The court required an organization to provide a "concrete indication" that one or more of its members used the water body that was being polluted or would otherwise somehow

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Menominee Indian Tribe of Wisconsin v. U.S. Environmental Protection Agency, 360 F. Supp. 3d 847, 858 (E.D. Wis. 2018), aff'd, 947 F.3d 1065 (7th Cir. 2020) (holding Section 1365(a)(2) only contemplates the waiver of sovereign immunity as to suits against the Administrator of the EPA—it does not clearly and unambiguously waive immunity for suits against the Corps).

[8]Venue is mandatory in the judicial district where the source is located. CWA § 505(c)(1), 33 U.S.C.A. § 1365(c)(1). One federal court has held that a citizen suit to enforce a failure of EPA to perform a nondiscretionary duty under § 505(a)(2), 33 U.S.C.A. § 1365(a)(2), is not subject to any statute of limitations. Nat. Res. Def. Council, Inc. v. Fox, 909 F. Supp. 153, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20732 (S.D.N.Y. 1995).

[9]Nat. Res. Def. Council, Inc. v. Fox, 909 F. Supp. 153, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20732 (S.D.N.Y. 1995).

[10]CWA § 505(g), 33 U.S.C.A. § 1365(g), defines "citizen" as "a person having an interest which is or may be adversely affected." See discussion of this point in Chesapeake Bay Found. v. Bethlehem Steel Corp., 608 F. Supp. 440, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20875 (D. Md. 1985).

[Section 13:126]

[1]*See, e.g.*, Sierra Club v. Morton, 405 U.S. 727, 2 Envtl. L. Rep. (Envtl. L. Inst.) 20192 (1972).

[2]Sierra Club v. Morton, 405 U.S. 727, 2 Envtl. L. Rep. (Envtl. L. Inst.) 20192 (1972); *see also* Town of Abita Springs v. U.S. Army Corps of Engineers, 153 F. Supp. 3d 894, 82 Env't. Rep. Cas. (BNA) 1055 (E.D. La. 2015) (a municipality may not simply assert the injuries of its citizens, but must sue to protect its own proprietary interests); National Wildlife Federation v. U.S. Army Corps of Engineers, 82 Env't. Rep. Cas. (BNA) 1540, 2016 WL 1048767 (D.D.C. 2016) ("[T]he conservation groups have put forth at least one member who stated a substantive injury-in-fact.").

[3]Conservation Law Foundation, Inc. v. Jackson, 964 F. Supp. 2d 152, 77 Env't. Rep. Cas. (BNA) 1664 (D. Mass. 2013) (finding that an environmental organization had standing on behalf of its members to assert claim against EPA under the CWA where organization asserted its members used the area for swimming, fishing, and boating); *see also* Friends of Mariposa Creek v. Mariposa Public Utilities District, 82 Env't. Rep. Cas. (BNA) 1633, 2016 WL 1587228 (E.D. Cal. 2016), motion to certify appeal denied, 2016 WL 3746535 (E.D. Cal. 2016) (conservation group satisfies standing requirements if one member of the group has standing).

[4]*See* Student Pub. Interest Research Group v. AT & T Bell Labs., 617 F. Supp. 1190, 1200-02, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051, 21055-21056 (D.N.J. 1985); *see also* National Ass'n of Home Builders v. E.P.A., 786 F.3d 34, 80 Env't. Rep. Cas. (BNA) 1757 (D.C. Cir. 2015). The courts have generally required only a general public benefit or deterrence effect. Student Public Interest Research Group of New Jersey, Inc. v. Hercules, Inc., 23 Env't Rep. Cas. (BNA) 2081, 1986 WL 6380 (D.N.J. 1986); *cf.* Gonzales v. Gorsuch, 688 F.2d 1263, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20072 (9th Cir. 1982), *and* In re Wheeling-Pittsburgh Steel Corp., 1989 U.S. Dist. LEXIS 17415, 29 Env 1495 (Bankr. W.D. Pa. 1989) (citizen suit is not subject to automatic stay provision of 11 U.S.C.A. § 362 where suit relates to violations occurring after bankruptcy petition and debtor is likely to go through reorganization).

[5]Sierra Club v. SCM Corp., 747 F.2d 99, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20890 (2d Cir. 1984).

be affected by its pollution. Monetary harm or property or health impacts, however, need not be alleged or proven.[6] However, the Third Circuit has held that an association member's knowledge that effluent limits have been exceeded and lessened the enjoyment of recreational water bodies does not, by itself, demonstrate injury or threat of injury.[7] The Third Circuit has further concluded that a defendant discharger's failure to comply with monitoring and reporting requirements would not provide an independent basis for standing where the underlying exceedances caused no harm.[8]

The Supreme Court addressed the issue of citizen standing in *Friends of the Earth v. Laidlaw Environmental Service*.[9] In *Laidlaw*, the Fourth Circuit had held that environmental groups lacked standing to bring suit against a corporation whose NPDES violations continued at the time the suit was filed because any penalties paid would benefit the U.S. Treasury and would not directly benefit the environmental groups. The Court rejected this argument, noting that civil penalties provide a form of redress to the citizen plaintiffs because they may encourage defendants to discontinue current violations and may deter future ones. In addition, the Court stated that claims do not automatically become moot once the company has come into substantial compliance with its permit requirements. Rather, the company has the burden of persuading the court that the challenged conduct cannot reasonably be expected to recur.

Although the courts have required plaintiffs to provide a factual predicate for allegations for injury, that requirement has not hampered plaintiffs, and it has usually been satisfied by affidavits filed in response to interrogatories, without a requirement that specific personal harm be alleged or that specific names of members be identified.[10]

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[6]*See* Friends of the Earth v. Conrail, 768 F.2d 57, 60-61, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20674, 20676 (2d Cir. 1985); Student Pub. Interest Research Group v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (D.N.J. 1985) (aesthetic impact sufficient).

[7]*See, e.g.*, Public Interest Research Group of N.J., Inc. v. Magnesium Elektron, Inc., 123 F.3d 111, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21340 (3d Cir. 1997). *But see* PennEnvironment v. PPG Industries, Inc., 23 F. Supp. 3d 553 (W.D. Pa. 2014) (finding that plaintiffs alleged sufficient injury to satisfy the standing requirements where they not only alleged knowledge, but also submitted evidence that the pollution would affect the members' recreational activities).

[8]Public Interest Research Group of N.J., Inc. v. Magnesium Elektron, Inc., 123 F.3d 111, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21340 (3d Cir. 1997).

[9]Friends of the Earth v. Laidlaw Envtl. Serv., 528 U.S. 167, 120 S. Ct. 693 (2000). *See also* Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 179 F.3d 107 (4th Cir. 1999) (holding that citizens claiming that a facility had violated its NPDES permit would need to establish injury in fact by submitting tests and studies showing that the waters they used were polluted and that the pollutants could be traced to the alleged violator's facility), *rev'd en banc and rev'd*, 204 F.3d 149, 30 Envtl. L. Rep. (Envtl. L. Inst.) 20369 (4th Cir. 1999) (finding that the trial court had created an evidentiary barrier to standing that the Constitution did not require and that Congress did not embrace).

[10]*See* Piney Run Preservation Ass'n v. Cty. Comm'rs of Carroll County, Md., 50 F. Supp. 2d 443, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21424 (D. Md. 1999) (holding that citizens may bring suit for violations involving a pollutant that is not listed on the alleged polluter's NPDES permit); Nat. Res. Def. Council, Inc. v. Outboard Marine Corp., 692 F. Supp. 801, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20279 (N.D. Ill. 1988); Student Pub. Interest Research Grp. v. Tenneco Polymers, Inc., 602 F. Supp. 1394, 1397, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20309, 20311 (D.N.J. 1985); *see also* Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 611 F. Supp. 1542, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20663 (E.D. Va. 1985), *aff'd*, 791 F.2d 304, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20636 (4th Cir. 1986), *rev'd in part*, 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987). *Cf.* Proffitt v. Lower Bucks Cty. Joint Mun. Auth., 877 F.2d 57 (Table), 29 ERC 1696 (3d Cir. 1989) (plaintiffs failed at trial to prove facts establishing standing); Pub. Interest Research Grp. of N.J., Inc. v. Magnesium Elektron, Inc., 123 F.3d 111, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21340 (3d Cir. 1997) (vacating judgment and permanent injunction because plaintiff association failed to allege sufficient facts to establish standing).

§ 13:127 Citizen suits—Jurisdiction and prerequisites—Notice to the government and the government enforcement bar

Section 505(b) precludes commencement of a citizen suit against a discharger prior to 60 days after the plaintiff has given written notice of the alleged violation to EPA,[1] the state in which the violation occurs, and the alleged violator. An amendment to the statute in 1987 added a requirement that the United States be served with the complaint when it is filed. The statute also bars a suit if EPA or the affected state "is diligently prosecuting a civil or criminal action in a court of the United States of a State to require compliance with" the standard or limitation sought to be enforced,[2] and, as discussed below, a 1987 amendment to § 309 provides that citizen suits may be barred by certain types of administrative orders. Citizens may intervene as a matter of right in any pending government enforcement action, however,[3] and they have a right to comment on, can force hearings with respect to, and appeal administrative penalty assessments.[4]

The 60-day notice requirement is jurisdictional,[5] and thus failure to provide the requisite notice is fatal to any proposed citizen suit.[6] Moreover, the 60-day notice must provide the defendant with a reasonable indication of when the alleged violations occurred.[7] The time period alleged in the 60-day notice does not, however, prevent a plaintiff from filing a complaint based on subsequently discovered monitoring, reporting, or recordkeeping claims of the same parameter, outfall, and time period not specifically mentioned in the 60-day notice.[8] Nor is a plaintiff prevented from filing a complaint based on discharges from a separate outfall not specifically

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[1]CWA § 505(b)(1)(A), 33 U.S.C.A. § 1365(b)(1)(A). EPA's citizen suit notice requirements are set forth at 40 C.F.R. Part 135. To satisfy those requirements, notice must contain, at a minimum, "some reasonably specific indication" of the time period in which the alleged violations occurred, though specific dates need not be included. *See, e.g.*, Hudson Riverkeeper Fund, Inc. v. Putnam Hosp. Ctr., Inc., 891 F. Supp. 152, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21583 (S.D.N.Y. 1995).

[2]CWA § 505(b)(1)(B), 33 U.S.C.A. § 1365(b)(1)(B). A mandamus-type action may be brought against EPA within less than 60 days following notice if the suit seeks to compel action under §§ 306 or 307. *See* Jones v. City of Lakeland, 224 F.3d 518 (6th Cir. 2000) (holding that a state agency's 10-year administrative enforcement action does not rise to the level of a federal or state court action nor is it "diligent prosecution").

[3]CWA § 505(b)(1)(B), 33 U.S.C.A. § 1365(b)(1)(B).

[4]CWA §§ 309(g)(4), 309(g)(8), 33 U.S.C.A. §§ 1319(g)(4), 1319(g)(8), amended by Pub. L. No. 100-4, § 314, 101 Stat. 46-48 (1987).

[5]*See* Middlesex Cty. Sewerage Auth. v. Nat'l Sea Clammers Ass'n, 453 U.S. 1, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20684 (1981).

[6]*See* City of Highland Park v. Train, 519 F.2d 681, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20408 (7th Cir. 1975), *cert. denied*, 424 U.S. 927 (1976). *But cf.* Susquehanna Valley Alliance v. Three Mile Island Nuclear Reactor, 619 F.2d 231, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20235 (3d Cir. 1980), *cert. denied*, 449 U.S. 1096 (1981); Hempstead Cty. & Nev. Cty. Project v. EPA, 700 F.2d 459, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20385 (8th Cir. 1983). Occasionally, defendants have argued that a notice covering a pattern of violations is valid only to support a suit to redress those violations specifically listed, and will not support a suit addressing continuing violations. Such an argument was rejected in Chesapeake Bay Found. v. Bethlehem Steel Corp., 608 F. Supp. 400, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20785 (D. Md. 1985).

[7]Hudson Riverkeeper Fund, Inc. v. Putnam Hosp. Ctr., Inc., 891 F. Supp. 152, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21583 (S.D.N.Y. 1995) (dismissing plaintiff's citizen suit based on its failure to "indicate any time-frame during which the alleged violations occurred").

[8]*See, e.g.*, Pub. Interest Research Grp. of N.J., Inc. v. Hercules, Inc., 50 F.3d 1239, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20684 (3d Cir. 1995). *But see* Little v. Louisville Gas and Elec. Co., 33 F. Supp. 3d 791, 79 Env't. Rep. Cas. (BNA) 1807 (W.D. Ky. 2014), order aff'd in part, 805 F.3d 695, 81 Env't. Rep. Cas. (BNA) 1565, 92 Fed. R. Serv. 3d 1551 (6th Cir. 2015) (rejecting *Hercules* and following the rule in the Sixth Circuit, "which requires plaintiff to strictly comply with all notice requirements").

identified in the notice, when the alleged polluter, upon receiving notice with respect to one offending outfall, simply redirects the stream of contaminated wastewater to another outfall.[9] Just what sort of government enforcement action will bar a citizen suit has been the subject of significant controversy. The issue most frequently raised by defendants has been whether a federal or state *administrative* enforcement action will preclude a citizen suit. The issue has been dealt with in two different ways, both of which ultimately lead, however, to the same result.

The Second Circuit, in *Friends of the Earth v. Consolidated Rail Corp.*,[10] taking a literal reading of the statute, held that under no circumstances could an administrative enforcement proceeding bar a citizen suit.[11] The Ninth Circuit has adopted the Second Circuit's position.[12] The Third Circuit did not take such a clean approach, deciding that whether administrative action will bar a citizen suit must be decided on a case-by-case basis, considering whether the administrative action is equivalent to a lawsuit in court.[13] The First Circuit appears to have concluded that state administrative action does constitute a bar, even where it takes the form of an administrative consent order that does not impose monetary penalties.[14] Federal district courts in circuits other than the Second and Third have generally followed one or the other of these approaches, but few have barred a citizen suit because of administrative enforcement.[15] The issue was addressed and resolved by Congress to some extent in 1987 with the enactment of § 309(g), which authorizes administrative penalties. A final § 309(g) order in a proceeding that was begun either before a citizen suit was filed, or after the expiration of 120 days following issuance of a citizen suit notice by the plaintiff, bars a citizen suit.[16] By implication, any other administrative order would appear not to be a bar to a subsequent citizen suit.

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[9]*See, e.g.*, Atlantic States Legal Found, Inc. v. Stroh Die Casting Co., 116 F.3d 814, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21087 (7th Cir. 1997), *cert. denied*, 522 U.S. 981, 118 S. Ct. 442 (1997).

[10]Friends of the Earth v. Consolidated Rail Corp., 768 F.2d 57, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20674 (2d Cir. 1985).

[11]The Second Circuit subsequently held, in Atlantic States Legal Found. v. Eastman Kodak Co., 933 F.2d 124, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21047 (2d Cir. 1991), that a consent decree between the state and the violator precludes an environmental group from prosecuting its action, even though the citizen suit preceded the decree, on the theory that there was no likelihood of recurrence of the violations.

[12]Sierra Club v. Chevron U.S.A., Inc., 834 F.2d 1517, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20237 (9th Cir. 1987).

[13]Baughman v. Bradford Coal Co., 592 F.2d 215, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20147 (3d Cir. 1979), *cert. denied*, 441 U.S. 961 (1979); *cf.* SPIRG v. Fritzche, Dodge & Olcott, Inc., 759 F.2d 1131, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20427 (3d Cir. 1985) (holding that EPA's administrative proceedings flunk the *Baughman* test because EPA possesses no authority to impose civil penalties, and its administrative proceedings do not afford the procedural safeguards found in court proceedings).

[14]*See* North & S. Rivers Watershed Ass'n, Inc. v. Town of Scituate, 949 F.2d 552, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20437 (1st Cir. 1991).

[15]*See, e.g.*, Md. Waste Coal. v. S.C.M. Corp., 616 F. Supp. 1474, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20158 (D. Md. 1985) (following *Conrail*); Sierra Club v. Simkins Indus., 617 F. Supp. 1120, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (D. Md. 1985) (following *Baughman*); Sierra Club v. Kerr-McGee Corp., 1985 U.S. Dist. LEXIS 14468, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20083 (W.D. La. 1985).

[16]CWA § 309(g)(6), 33 U.S.C.A. § 1319(g)(6). For cases interpreting these provisions, see, e.g., Citizens for a Better Env't-Cal. v. Union Oil Co. of Cal., 83 F.3d 1111, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21152 (9th Cir. 1996) (defendant's payment to regional NPDES permitting authority to avoid an enforcement action was not a "penalty" and therefore did not trigger the § 309(g)(6)(A)(iii) bar to citizen suits), *cert. denied*, 519 U.S. 1101, 117 S. Ct. 789 (1997); Orange Env't, Inc. v. Cty. of Orange, 923 F. Supp. 529, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21383 (S.D.N.Y. 1996) (defendant's compliance with an EPA order requiring off-site remediation of wetlands rendered landfill in compliance with Act so as to bar citizen suit claims for injunctive relief, even though on-site wetlands that had been filled had not been restored), *aff'd* 2 F.3d 1235 (2d Cir. 1993); Arkansas Wildlife Fed'n v. Bekaert Corp., 791 F. Supp. 769, 22 Envtl. L. Rep. (Envtl. L. Inst.) 21438 (W.D. Ark. 1992) (citizen suit is barred only where the

Just when a federal or state enforcement action is *commenced*, for the purpose of determining whether a citizen suit is barred, has also been an issue. Although judicial attention to the issue is limited, the courts addressing it have unanimously concluded that the term relates to the actual filing dates of the respective actions and have refused to bar citizen suits that have beat the government to the courthouse by a few days[17] or even a few hours.[18] In such a circumstance, however, a defendant is likely to raise the abstention doctrine as an alternate ground for delaying action on the citizen suit. In such cases, the analysis used to determine whether to proceed is the so-called *Colorado River* doctrine.[19]

§ 13:128 Citizen suits—Jurisdiction and prerequisites—The "Gwaltney Bar"

In *Hamker v. Diamond Shamrock Chem. Co.*,[1] the Fifth Circuit held that the phrase "to be in violation" contained in § 505(a)(1) was jurisdictionally limiting and thus barred any citizen suit seeking to address violations that were not ongoing at the time the suit was filed. In other words, if the violator cured the problem, or ceased the discharge, or if the suit sought only penalties for past violations, it could not be brought.

Hamker was either expressly rejected or ignored in most federal district courts outside of the Fifth Circuit that addressed the issue.[2] Of the other courts of appeals, the First Circuit agreed with *Hamker*,[3] and the Fourth Circuit disagreed, holding in

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federal government is in fact seeking to impose penalties, not where the government has merely issued a compliance order); Conn. Coastal Fishermen's Ass'n v. Remington Arms, 777 F. Supp. 173, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20483 (D. Conn. 1991) (citizen suit barred where a state agency conducting enforcement proceedings has authority to assess civil penalties, even if none are imposed), *aff'd in part & rev'd in part on other grounds*, 989 F.2d 1305, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20699 (2d Cir. 1993); N.Y. Coastal Fishermen's Ass'n v. Dep't of Sanitation, 772 F. Supp. 162, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20183 (S.D.N.Y. 1991); Atl. States Legal Found. Inc. v. Tyson Foods, Inc., 682 F. Supp. 1186, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20924 (N.D. Ala. 1988).

[17]*See, e.g.*, Connecticut Fund for the Env't v. Upjohn Co., 660 F. Supp. 1397, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21137 (D. Conn. 1987).

[18]*See, e.g.*, Chesapeake Bay Found. v. American Recovery Co., 769 F.2d 207, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20056 (4th Cir. 1985).

[19]See analysis in Connecticut Fund for the Env't v. Upjohn Co., 660 F. Supp. 1397, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21137 (D. Conn. 1987).

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[1]*See, e.g.*, Hamker v. Diamond Shamrock Chem. Co., 756 F.2d 392, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20385 (5th Cir. 1985); *see also* Sierra Club v. Shell Oil Co., 817 F.2d 1169, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20767 (5th Cir. 1987).

[2]*See, e.g.*, Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 611 F. Supp. 1542, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20663 (E.D. Va. 1985), *aff'd*, 791 F.2d 304, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20636 (4th Cir. 1986), *vacated sub nom.* Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987); Conn. Fund for the Env't v. Job Plating Co., 623 F. Supp. 207, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20596 (D. Conn. 1985); SPIRG v. Georgia-Pacific Corp., 615 F. Supp. 1419, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20039 (D.N.J. 1985); SPIRG v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (D.N.J. 1985); Sierra Club v. Simkins Indus., 617 F. Supp. 1120, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (D. Md. 1985); Ohio Valley Environmental Coalition, Inc. v. Hernshaw Partners, LLC, 984 F. Supp. 2d 589 (S.D. W. Va. 2013). The only reported decisions outside of the Fifth Circuit following *Hamker* are Pawtuxet Cove Marina, Inc. v. Ciba-Geigy Corp., 22 Env 1999 (D.R.I. 1985) and Wilson v. Amoco Corp., 33 F. Supp. 2d 969 (D. Wyo. 1998).

[3]Pawtuxet Cove Marina, Inc. v. Ciba-Geigy Corp., 807 F.2d 1089, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20374 (1st Cir. 1986) (holding no cause of action for violations of permit subsequently terminated); *see also* Sierra Club v. Shell Oil Co., 817 F.2d 1169, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20767 (5th Cir. 1987) (following *Hamker*).

Chesapeake Bay Found. v. Gwaltney of Smithfield[4] that the phrase "is in violation" in § 505 encompasses the situation where a discharger has committed a violation that has not been redressed.

The difference between *Hamker* and the courts refusing to follow it is in part due to a difference in the role seen for citizen suits in the Act. The Fifth Circuit in *Hamker* viewed citizen suits as merely ancillary to government enforcement and as a vehicle to stop ongoing pollution. Courts declining to follow it have tended to view the citizen suit provision as more central to the Act's scheme[5] or have delved deeply into the legislative history of the Act to find language supporting the view that citizen suits can address past conduct.[6]

The Supreme Court addressed the issue in the appeal of the Fourth Circuit's *Gwaltney* decision. In *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found.*,[7] the Supreme Court adopted the Fifth Circuit's view on the question of citizen suits based exclusively on past violations, concluding that such suits would be inconsistent with the syntax and structure of the Act's enforcement scheme. The Supreme Court's reasoning on this point is convincing.[8]

The Supreme Court agreed with the First Circuit, however, on a second issue, holding that section "505 confers jurisdiction over citizen suits when the citizen-plaintiffs make a good faith allegation of continuous or intermittent violations."[9] In so ruling, the Supreme Court was persuaded by arguments made in a friend of the court brief by the federal government, which argued that "Congress's use of the phrase 'alleged to be in violation' reflects a conscious sensitivity to the practical difficulties of detecting and proving chronic episodic violations of environmental standards."[10]

In response to arguments that this ruling would give citizen litigants a license to avoid the past violations bar by making unsupported allegations, the Supreme Court indicated that either Rule 11[11] of the Federal Rules of Civil Procedure and the

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[4]Chesapeake Bay Found. v. Gwaltney of Smithfield, 791 F.2d 304, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20636 (4th Cir. 1986), *vacated*, 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987).

[5]*See* SPIRG v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (E.D. Va. 1985).

[6]*See* Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 611 F. Supp. 1542, 15, 22 Env't Rep. Cas. (BNA) 2121, 15 Envtl. L. Rep. 20663 (E.D. Va. 1985), *judgment aff'd*, 791 F.2d 304, 24 Env't Rep. Cas. (BNA) 1417, 16 Envtl. L. Rep. 20636 (4th Cir. 1986) (rejected by, Sierra Club v. Shell Oil Co., 817 F.2d 1169, 25 Env't Rep. Cas. (BNA) 2061, 17 Envtl. L. Rep. 20767 (5th Cir. 1987)) and *judgment vacated*, 484 U.S. 49, 18 Envtl. L. Rep. 20142 (1987) (viewing statutory language as ambiguous and relying on a statement made by Senator Muskie in the Senate floor debate, 118 Cong. Rec. 33700 (1972)).

[7]Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987).

[8]On this issue, the decision was unanimous.

[9]Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., 484 U.S. 49, 64, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987). Three justices—Scalia, Stevens, and O'Connor—disagreed with this conclusion, though upon a close reading of both the majority and concurring opinions, it is far from clear that their disagreement is truly one of substance.

[10]Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., 484 U.S. 49, 64, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987) (quoting Brief for United States as *Amicus Curiae* at 18). Interpreting *Gwaltney*, the court in Pub. Interest Research Grp. of N.J. v. Carter-Wallace, Inc., 684 F. Supp. 115, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21064 (D.N.J. 1988), held that a citizen suit may seek penalties for precomplaint violations of an expired permit on the basis of permit conditions that have been carried over to the current permit and are presently in force.

[11]Rule 11 requires, inter alia, that pleadings be based on a good faith belief, formed after reasonable inquiry, that they are "well-grounded in fact."

standing requirements of *United States v. SCRAP*[12] provide defendants with adequate protection against such suits. In the wake of *Gwaltney*, however, courts have held that the burden of coming forward with evidence to show the plaintiff's allegation is false rests on the defendant at the summary judgment stage.[13]

On appeal from the district court after the Supreme Court's remand of *Gwaltney*, the Fourth Circuit held that an action for penalties based on past violations of a particular NPDES permit parameter will only lie if there was an ongoing violation of that specific parameter at the time the action was commenced.[14]

§ 13:129 Citizen suits—Jurisdiction and prerequisites—Statute of limitations

The practical effect of the *Gwaltney* decision, discussed above, would be to bar citizen suits in which no prospective injunctive relief is sought, essentially prohibiting actions for penalties for wholly past violations. The same result could be obtained, at least to limit the number of permit violations for which penalties are assessable, by application of a statute of limitations to past violations.

Whether any statute of limitations applies to § 505, and if so what statute, is a matter on which reasonable minds have differed. The federal courts in New Jersey have generally concluded that there is no statute of limitations applicable to § 505.[1] Federal courts in other states have tended to apply the five-year statute of limitations of 28 U.S.C.A. § 2462.[2] Although defendants have attempted to claim applicability of shorter state statutes of limitation, the arguments have uniformly

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[12]United States v. SCRAP, 412 U.S. 669, 3 Envtl. L. Rep. (Envtl. L. Inst.) 20536 (1973).

[13]Alt. States Legal Found., Inc. v. Stroh Die Casting Co., 116 F.3d 814, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21087 (7th Cir. 1997), *cert. denied*, 522 U.S. 981, 118 S. Ct. 442 (1997); Carr v. Alta Verde Indus., Inc., 931 F.2d 1055, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21005 (5th Cir. 1991).

[14]Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 890 F.2d 690, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20341 (4th Cir. 1989). *Gwaltney* did not resolve all of the issues associated with the citizen suit bar. With regard to mootness, which generally becomes an issue when the defendant has completed upgrades during the pendency of the suit, *compare* Atl. States Legal Found. v. Tyson Foods, Inc., 897 F.2d 1128, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20788 (11th Cir. 1990) (mootness doctrine applies only to claims for injunctive relief and does not affect claims to recover damages for justiciable violations) *and* Atl. States Legal Found., Inc. v. Stroh Die Casting Co., 116 F.3d 814, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21087 (7th Cir. 1997), *cert. denied*, 522 U.S. 981, 118 S. Ct. 442 (1997) (case does not become moot even though violation is cured while suit is pending because civil penalties are recoverable for any time period in which defendant is found to be in violation) *with* Atl. States Legal Found., Inc. v. Eastman Kodak Co., 933 F.2d 124, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21047 (2d Cir. 1991) (drawing no distinction between mootness of claims for injunctive relief versus claims for monetary relief). For other post-*Gwaltney* decisions, see North & S. Rivers Watershed Ass'n, Inc. v. Town of Scituate, 949 F.2d 552, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20437 (1st Cir. 1992) (bar extends to actions seeking injunctive relief as well as those seeking civil penalties); Nat'l Res. Def. Council, Inc. v. Gould, Inc., 733 F. Supp. 8, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20815 (D. Mass. 1990) (penalty determination will be linked to proof that defendant committed post-complaint violations); Student Pub. Interest Research Group of N.J. v. Monsanto Co., 727 F. Supp. 876, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20768 (D.N.J. 1989), *aff'd without opinion*, 891 F.2d 283 (3d Cir. 1989) (plaintiff may only recover penalties for violations occurring between filing of notice letter and filing of complaint).

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[1]*See* SPIRG v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (D.N.J. 1985). *But see* Public Interest Research Group v. Powell Duffryn Terminals, 913 F.2d 64, 20 Envtl. L. Rep. (Envtl. L. Inst.) 21216 (3d Cir. 1990), *cert. denied*, 498 U.S. 1109 (1991).

[2]*See* Atl. States Legal Found. v. Tyson Foods, Inc., 897 F.2d 1128, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20788 (11th Cir. 1990); Sierra Club v. Chevron U.S.A., Inc., 834 F.2d 1517, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20237 (9th Cir. 1987); Sierra Club v. Union Oil Co., 16 Envtl. L. Rep. (Envtl. L. Inst.) 20005 (N.D. Cal. 1985), *rev'd on other grounds*, 813 F.2d 1480, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20547 (9th Cir. 1987); Conn. Fund for the Env't v. Job Plating Co., 623 F. Supp. 207, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20596 (D. Conn. 1985); Sierra Club v. Simkins Indus., Inc., 617 F. Supp. 1120, 15 Envtl. L.

been rejected on the grounds that a uniform period of limitation is more consistent with the Act's scheme.[3]

§ 13:130 Citizen suits—Defenses going to the merits

Citizen suit defendants have tended to proffer two "standard" defenses in CWA citizen suits, the "upset" defense and the "analytical methods" defense. They are a product of the nature of citizen suits brought by environmental groups in the early 1980s. The plaintiffs have almost uniformly sought relief from violations of NPDES permit limitations, which are sought to be proved by the DMRs filed with EPA and the state water pollution agency in accordance with EPA's NPDES permit regulations. If a citizen can prove his case using the defendant's own DMRs as admissions, the litigation is cheap and efficient and can essentially be resolved by summary judgment.

The "upset" defense is predicated on 40 C.F.R. § 122.41(n), which allows permittees to raise upset as an affirmative defense to an enforcement action, provided certain conditions are adhered to at the time of the occurrence.[1] An upset is an exceedance caused by exceptional circumstances beyond the reasonable control of the discharger. If the discharger's permit contains an upset provision, it can raise upset as a defense to the citizen suit just as it would in a government enforcement action. The burden of proof is, however, on the defendant to establish that its permit violation was caused by an upset.[2]

There are several significant limitations on the use of this defense.[3] First, the defense is expressly limited to violations of technology-based limitations in NPDES permits. The upset defense was established by EPA in response to several cases that held that holding permittees to a standard of 100% compliance with technology-based limitations would require them to perform better than available technology was capable of achieving.[4] The upset defense is not available for violation of limita-

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Rep. (Envtl. L. Inst.) 21012 (D. Md. 1985), *aff'd*, 847 F.2d 1109, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21053 (4th Cir. 1988); Chesapeake Bay Found. v. Bethlehem Steel Corp., 608 F. Supp. 400, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20785 (D. Md. 1985); Friends of the Earth v. Facet Enters., Inc., 618 F. Supp. 532, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20106 (W.D.N.Y. 1984).

[3]*See* SPIRG v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (E.D. Va. 1985).

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[1]These include prompt notification of the permit issuer and prompt correction of the problem or shutdown if necessary.

[2]40 C.F.R. § 122.41(n)(4). The Fifth Circuit, in American Petroleum Inst. v. EPA, 661 F.2d 340, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20076 (5th Cir. 1981), upheld EPA's upset regulation, including the placement of the burden of proof on the discharger. *See also* SPIRG v. P.D. Oil & Chem. Storage Inc., 627 F. Supp. 1074, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20517 (D.N.J. 1986).

[3]The one district court that accepted the upset defense was reversed on all points by the Ninth Circuit in Sierra Club v. Union Oil Co., 813 F.2d 1480, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20547 (9th Cir. 1987), *rev'g* 16 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (N.D. Cal. 1985). In Union Oil Co. v. Sierra Club, 108 S. Ct. 1102 (1988), the Supreme Court vacated and remanded that decision for reconsideration in light of Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., 484 U.S. 49, 18 Envtl. L Rep. (Envtl. L. Inst.) 20142 (1987), but in Sierra Club v. Union Oil Co., 853 F.2d 667, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21299 (9th Cir. 1988), the Ninth Circuit reinstated its original decision with minor modifications. On remand, the district court granted summary judgment to the plaintiffs. 19 Envtl. L. Rep. (Envtl. L. Inst.) 20362 (N.D. Cal. 1988).

[4]*See* Marathon Oil Co. 564 F.2d 1253 (9th Cir. 1977); FMC Corp. v. Train, 539 F.2d 973, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (4th Cir. 1976). *But cf.* Corn Refiners Ass'n v. Costle, 594 F.2d 1223, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20233 (8th Cir. 1979); Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20284 (D.C. Cir. 1978).

tions based on water quality standards.[5] Second, most enforcement actions involve a pattern of violation of NPDES permit conditions; in the face of a large number of violations it is difficult for a defendant to establish that violations were the result of "exceptional" circumstances.[6] Third, there are strict reporting requirements at the time of the permit exceedance that must be satisfied as a prerequisite for assertion of the upset defense.[7] Finally, the upset defense must have been included in the defendant's NPDES permit.[8] There has been a requirement for inclusion of upset provisions in federally issued permits since July 1980. However, states are free, under the provisions of § 510 and EPA regulations, to establish more stringent requirements that do not authorize the upset defense.[9]

Still, the upset defense can be raised successfully. In *P.I.R.G. of N.J., Inc. v. Hercules, Inc.*,[10] the defendant raised the upset defense when electrical failures combined with excessively high rainfall caused violations of its NPDES permit. The defendant had notified the appropriate authorities of the permit violations. The state regulators had accepted the defense that the permit violations had been caused by upsets and had declined to assess penalties for them. The court concurred with the state regulators' conclusion and granted the defendant summary judgment.

The "analytical methods defense" goes to the heart of the theory of the "cheap" citizen suit. Defendants have argued, in large part unsuccessfully, that they should

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[5]*See, e.g.*, Sierra Club v. Union Oil Co., 813 F.2d 1480, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20547 (9th Cir. 1987), *vacated*, 485 U.S. 931 (1988), *modified and reinstated*, 853 F.2d 667 (9th Cir. 1988); SPIRG v. P.D. Oil & Chem. Storage Inc., 627 F. Supp. 1074, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20517 (D.N.J. 1986); Atl. States Legal Found. v. Al Tech Specialty Steel Corp., 635 F. Supp. 284, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20125 (N.D.N.Y. 1986). *But see* United States v. STABL, Inc., 800 F.3d 476, 80 Env't. Rep. Cas. (BNA) 2205, 92 Fed. R. Serv. 3d 797 (8th Cir. 2015).

In 1982, EPA proposed to extend the upset defense to violations of water-quality-based effluent limitations if the discharger could prove that instream water quality criteria were not exceeded during the upset. 47 Fed. Reg. 52079 (1982). Soon after, the Agency withdrew the proposal, claiming that any such defense was illusory since a permittee would almost never be able to prove that an upset did not cause violations of instream water quality criteria. 49 Fed. Reg. 38038 (1984). In Nat. Res. Def. Council v. EPA, 859 F.2d 156, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20016 (D.C. Cir. 1988), the D.C. Circuit rejected industry arguments that the upset defense must be extended to violations of water-quality-based effluent limitations. The court held, however, that EPA's explanation for withdrawing the *proposed* change to the upset regulations was inadequate and remanded the issue to EPA.

[6]*See* SPIRG v. Jersey Cent. Power & Light Co., 642 F. Supp. 103, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20350 (D.N.J. 1986); SPIRG v. Georgia-Pacific Corp., 615 F. Supp. 1419, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20039 (D.N.J. 1985).

[7]40 C.F.R. § 122.41(n)(3). These include prompt notification of the permit issuer and prompt correction of the problem or shutdown if necessary.

[8]*See* SPIRG v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (D.N.J. 1985); SPIRG v. P.D. Oil & Chem. Storage Inc., 627 F. Supp. 1074, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20517 (D.N.J. 1986). *But cf.* Conn. Fund for the Env't v. Upjohn Co., 660 F. Supp. 1397, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21137 (D. Conn. 1987) (opining in dictum that absence of upset defense in state regulations not necessarily fatal to the defense).

[9]Section 510, 33 U.S.C.A. § 1370 authorizes states to establish water pollution control requirements, including effluent limitations, that are more stringent than required by the Act. The court in SPIRG v. P.D. Oil & Chem. Storage Inc., 627 F. Supp. 1074, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20517 (D.N.J. 1986), citing 40 C.F.R. § 123.25(a)(12), implied that EPA regulations require states to include the upset defense in state-issued permits. The introductory paragraph of that section provides, however, that "[s]tates are not precluded from omitting or modifying any provision to impose more stringent requirements." 40 C.F.R. § 123.25(a). In Sierra Club v. Port Townsend Paper Corp., 1988 WL 160580, 28 Env't Rep. Cas. (BNA) 1676, 19 Envtl. L. Rep. 20532 (W.D. Wash. 1988), the court held that the defendant could raise the upset defense provided for in its permit even though the state did not include the defense in its permit program.

[10]Pub. Interest Research Grp. of N.J., Inc. v. Hercules, Inc., 830 F. Supp. 1525, 36 Env't Rep. Cas. (BNA) 1833, 24 Envtl. L. Rep. 20270 (D.N.J. 1993), *aff'd in part, rev'd in part*, 50 F.3d 1239, 40 Env't Rep. Cas. (BNA) 1385, 25 Envtl. L. Rep. 20684 (3d Cir. 1995) (rejected by, Stephens v. Koch Foods, LLC, 667 F. Supp. 2d 768, 71 Env't Rep. Cas. (BNA) 1072 (E.D. Tenn. 2009)).

be able to challenge the accuracy of their own DMRs that are proffered by the plaintiff as its evidence of violation of the permit. The courts that have addressed this defense have almost uniformly held that the DMRs can be relied upon and that dischargers are bound by them, regardless of their accuracy.[11]

Several defendants have argued that their violations are *de minimis* or were authorized by administrative waivers or forbearance by the governmental enforcement authorities. These arguments have uniformly been rejected as inconsistent with Congress's intent in including the citizen suit provision.[12] In addition, defendants have occasionally argued that good faith attempts at compliance should exculpate them from liability. Such attempts have largely been unsuccessful, though good faith may well be a useful argument when it comes to mitigating the penalty.[13]

Aside from these recurrent defenses that are peculiar to citizen suits, the citizen suit defendants raise the usual defenses involving construction of permit terms.[14]

Quite clearly, citizen enforcement of permit terms that are vaguer than single-number effluent limitations is a horse of a different color.[15] Some water-quality-related limitations, for example, could require a showing of actual violation of some ambient standard that could not be proved by documents generated by the defendant. The cost of such litigation makes much of it unlikely to occur.

§ 13:131 Citizen suits—Available relief

The forms of relief available in the context of a citizen suit are injunctive relief to

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[11]*See* Nat. Res. Def. Council v. Outboard Marine Corp., 702 F. Supp. 690, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20731 (N.D. Ill. 1988); SPIRG v. Georgia-Pacific Corp., 615 F. Supp. 1419, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20039 (D.N.J. 1985); Conn. Fund for the Env't v. Job Plating Co., 623 F. Supp. 207, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20596 (D. Conn. 1985); Sierra Club v. Simkins Indus., Inc., 617 F. Supp. 1120, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (D. Md. 1985), *aff'd*, 847 F.2d 1109, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21053 (4th Cir. 1988). *But see* Friends of the Earth v. Facet Enters., Inc., 618 F. Supp. 532, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20106 (W.D.N.Y. 1984) (denying plaintiff's motion for summary judgment because "defendant offered a multitude of justifications for the alleged violations, along with convincing arguments why many of the alleged violations should not actually constitute violations" (e.g., typographical mistakes in the DMRs)); Pub. Interest Research Group of N.J., Inc. v. Elf Atochem N. Am., Inc., 817 F. Supp. 1164, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21225 (D.N.J. 1993) (denying in part plaintiffs' motion for summary judgment because defendant proffered valid defense of laboratory error for alleged violations of discharge limits).

[12]Proffitt v. Rohm & Haas, 850 F.2d 1007, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21165 (3d Cir. 1988); Sierra Club v. Union Oil Co. of Cal., 813 F.2d 1480, 25 Env't Rep. Cas. (BNA) 1801, 17 Envtl. L. Rep. 20547 (9th Cir. 1987), *cert. granted, judgment vacated*, 485 U.S. 931, 108 S. Ct. 1102, 99 L. Ed. 2d 264, 27 Env't Rep. Cas. (BNA) 1280 (1988). The most detailed analysis is by Judge Stern in SPIRG v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (D.N.J. 1985). *See also* SPIRG v. Anchor Thread Co., 1984 U.S. Dist. LEXIS 23153, 22 Env't Rep. Cas. (BNA) 1150, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20964 (D.N.J. 1984) ("if private citizen plaintiffs were estopped from maintaining a suit because of waivers or inaction by government officials, the effectiveness of § 505 . . . would be drastically curtailed and its purpose defeated").

[13]*See, e.g.*, Student Pub. Interest Research Grp. of N.J. v. AT & T Bell Labs., 617 F. Supp. 1190, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (D.N.J. 1985); *see also* Pub. Interest Research Grp. of N.J. v. Ferro Merch. Equip. Corp., 680 F. Supp. 692, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21368 (D.N.J. 1987).

[14]*See, e.g.*, Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 611 F. Supp. 1542, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20663 (E.D. Va. 1985) (argument over whether "monthly average" effluent limitation violation constitutes a single day of violation or 30 days of violation—the court adopting the latter), *aff'd*, 791 F.2d 304, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20636 (4th Cir. 1986), *vacated*, 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987).

[15]To illustrate the length to which some citizen suit defendants will go to defend the case where either the permit contained ambiguities or the regulatory history was less than clear, see Conn. Fund for the Env't v. Upjohn Co., 660 F. Supp. 1397, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21137 (D. Conn 1987) (where the court rejected arguments made by Upjohn that numbers contained in an abatement order issued to address permit violations were not enforceable as effluent limitations).

"enforce such effluent standard or limitation, or such an order"[1] and "appropriate civil penalties under § 309(d)."[2] A prevailing plaintiff may also be entitled to costs and reasonable attorney's fees.[3]

Section 505(e) purports to preserve other existing common-law and statutory causes of action available to plaintiffs. This provision was construed narrowly by the Supreme Court in *Milwaukee v. Illinois*[4] and *Middlesex County v. National Sea Clammers Association*,[5] in which the Court held that the clause was insufficient to support either the existence of a cause of action under so-called "federal common law" or, in the latter case, an implied private federal right of action for damages for economic injury caused by pollution. Pendent *state common law* claims, however, may be raised,[6] although the Supreme Court held in *International Paper Co. v. Ouellette*[7] that in interstate pollution situations the law of the source state must be applied.

In practice, most citizen suit plaintiffs have sought to compel the defendant to install equipment or institute operating procedures that will prevent or minimize future exceedances of permit limits and secure penalties or payments in lieu of penalties for past violations, along with attorney fees.

Most citizen suits filed since 1982 have been settled, with the defendants agreeing to make payments in lieu of penalties to environmental trust funds and similar devices that put the defendant's resources into the injured stream or the environment generally rather than into the federal treasury.[8] Of those that have not been settled, Judge Merhige's lengthy opinion in *Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd.*,[9] imposing a $1,285,322 civil penalty, is instructive in the judge's application of the factors used by EPA in its Civil Penalty Policy to construct the

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[Section 13:131]

[1]The reference to "order" means, in practical terms, an NPDES permit, which is an "order" under the APA. It could also mean, of course, an administrative enforcement order issued under § 309.

[2]CWA § 505(a)(2), 33 U.S.C.A. § 1365(a)(2). See Nat. Res. Def. Council, Inc. v. Texaco Ref. & Mktg., Inc., 906 F.2d 934, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20949 (3d Cir. 1990), for a discussion of the role of traditional equitable principles, particularly the standard for establishing irreparable harm, in a citizen suit seeking permanent injunctive relief. The civil penalty aspect of an CWA citizen suit does not become moot if the defendant reaches a settlement with the local regulating authorities. Atl. States Legal Found., Inc. v. Pan Am Tanning Corp., 993 F.2d 1017, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20865 (2d Cir. 1993).

[3]CWA § 505(d), 33 U.S.C.A. § 1365(d). Although the statute says nothing about prevailing as a prerequisite to recovery, the Supreme Court's construction in Ruckelshaus v. Sierra Club, 463 U.S. 680, 13 Envtl. L. Rep. 20664 (1983), of an identical provision in the CAA requiring the fee applicant to be "prevailing or substantially prevailing" is doubtless controlling on the issue. In Pub. Interest Research Grp. of N.J. v. Struthers-Dunn, Inc., 1988 U.S. Dist. LEXIS 17182, 28 Env't Rep. Cas. (BNA) 1218, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21398 (D.N.J. 1988), the court found that Rule 68 of the Federal Rules of Civil Procedure, which declares that a prevailing party may be required to pay the opposing party's court costs when the amount of the judgment is less than that offered in settlement, is not applicable to citizen suits under the Act.

[4]Milwaukee v. Illinois, 451 U.S. 304, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20406 (1981).

[5]Middlesex Cty. v. Nat'l Sea Clammers Ass'n, 453 U.S. 1, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20684 (1981).

[6]*See, e.g.*, Lake Mich. Fed'n v. U.S. Army Corps of Eng'rs, 742 F. Supp. 441 (N.D. Ill. 1990) (conveyance of lakebed property by state to private nonprofit educational institution for expansion of campus violated state public trust doctrine).

[7]Int'l Paper v. Ouellette, 479 U.S. 481, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20327 (1987).

[8]Nonnegotiated penalties are deposited into the U.S. Treasury as "miscellaneous fees." *See* 31 U.S.C.A. § 3302; S. Rep. No. 92-414, at 79 (1971).

[9]Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 611 F. Supp. 1542, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20663 (E.D. Va. 1985), *aff'd*, 791 F.2d 304 (4th Cir. 1986), *vacated*, 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987).

penalty.[10]

An amendment to § 505 in 1987 added § 505(c), which requires the parties proposing to settle a citizen suit to serve the proposed consent decree on EPA and the Attorney General and imposes a 45-day minimum waiting period prior to entry, during which time the U.S. government may appear and comment on or oppose the proposed settlement.

The government argued successfully in at least one action prior to the 1987 amendments that it is not bound by the results of a citizen suit to which it was not a party.[11] The amendments would seem to make this position less easy for the government to maintain.

A rarely used subsection, § 505(h), authorizes the governor of a state to sue EPA without prior notice:

> where there is an alleged failure of the Administrator to enforce an effluent standard or limitation . . . the violation of which is occurring in another State and is causing an adverse effect on the public health or welfare of his State, or is causing a violation of any water quality requirement in his State.

The curious thing about this provision is that it appears to authorize a mandamus-type of suit to compel EPA to undertake enforcement, an activity the government has historically argued is discretionary.[12]

IX. OCEAN DISCHARGES AND OCEAN DUMPING

§ 13:132 Overview[1]

The discharge of pollutants into the ocean is regulated under several domestic statutes[2] and is subject to a multilateral international agreement, the London

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[10]Judge Merhige calculated the permit exceedances at between $250 and $1,000 per day for violations at Gwaltney's biological treatment facility and between $1,000 and $4,000 per day for violations at its chlorination facility. These amounts were added to an add-on for "delay," and about $55,000 representing *Gwaltney*'s "economic benefit of noncompliance." *See* Chesapeake Bay Found. v. Gwaltney of Smithfield, Ltd., 611 F. Supp. 1542, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20663 (E.D. Va. 1985). The maximum possible civil penalty, given the number of parameter exceedances, would have been $6,606,000. *See also* Pub. Interest Research Grp. of N.J. v. Top Notch Metal Finishing Co., 29 Env 1023 (D.N.J. 1988) ($100,000 plus a potential additional $740,000 contempt penalty, contingent on audit of assets); United States v. Citgo Petroleum Corporation, 82 Env't. Rep. Cas. (BNA) 1010, 2015 WL 9692957 (W.D. La. 2015) (applying the CWA penalty factors to assess a total penalty of $81 million, which included a $4,300 enhancement per barrel discharged for gross negligence).

[11]*See* United States v. Atlas Powder Co., 1987 U.S. Dist. LEXIS 15141, 26 Env't Rep. Cas. (BNA) 1391 (E.D. Pa. Mar. 3, 1987).

[12]*See* Sierra Club v. Train, 557 F.2d 485, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20670 (5th Cir. 1977). The provision is obviously designed to provide a remedy short of an original action in the Supreme Court in the case of an interstate dispute, such as was the case in Illinois v. Milwaukee, 406 U.S. 91, 2 Envtl. L. Rep. (Envtl. L. Inst.) 20201 (1972).

[Section 13:132]

[1]For a general discussion of coastal and ocean regulation, see Chapter 23.

[2]In addition to the statutes discussed herein, ocean pollution is indirectly or directly addressed by the Deepwater Port Act, 33 U.S.C.A. §§ 1501-24, the Fishery Conservation and Management Act, 16 U.S.C.A. §§ 1801-83, the Fishery Coastal Zone Management Act, 16 U.S.C.A. §§ 1451-64, the Ports & Waterways Safety Act, 46 U.S.C.A. § 391a, and the Act to Prevent Pollution from Ships, 33 U.S.C.A. §§ 1901-12. The Coast Guard regulates garbage management onboard certain types of U.S. ships, including recreational vessels and fixed and floating platforms, pursuant to the Act to Prevent Pollution from Ships, 33 U.S.C.A. § 1901, and § 311(j)(1)(C) of the Act. *See* 33 C.F.R. Part 151 and 46 C.F.R. Part 25. Congress enacted further ocean dumping legislation late in 1988. Pub. L. No. 100-688, 102 Stat. 4139 (1988). The Ocean Dumping Ban Act of 1988 (amending the MPRSA, 33 U.S.C.A. §§ 1401-45) levies fees for permits for ocean dumping of sewage sludge and industrial waste and prohibits such

Dumping Convention,[3] that is binding on the United States. The principal domestic regulatory authority which implements the London Dumping Convention is Title I of the MPRSA.[4] In addition, point source discharges to the ocean are subject to special permit standards established under § 403 of the Act,[5] and marine sanitation devices are regulated under § 312 of the Act.[6]

Each of the statutes provides different jurisdictional and substantive coverage. The discussion that follows focuses on the statutory provisions, with reference to the London Dumping Convention as appropriate.

§ 13:133 Ocean discharges from point sources: Section 403 of the Act—Statutory provisions[1]

Section 403 was included as part of the original 1972 amendments pursuant to a jurisdictional arrangement between the Senate Committees of Public Works and Commerce.[2] The statute is designed as a limitation on NPDES permits issued to point source dischargers whose outfalls are in the territorial sea,[3] the contiguous zone,[4] or oceans.[5] Although one court, in dictum, opined that the CWA "applies only to the ocean within three miles from shore,"[6] the plain language of §§ 403 and 502(9) and (10) contradict the assertion. Jurisdiction extends to the limit of the 200

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dumping altogether after 1991; the Shore Protection Act of 1988, 33 U.S.C.A. §§ 2601-23, prohibits the transportation of municipal or commercial waste in U.S. coastal waters without a permit and regulates the handling of such waste by transporters; and the United States Public Vessel Medical Waste Anti-Dumping Act of 1988, 33 U.S.C.A. §§ 2501-04, prohibits U.S. vessels from dumping medical waste into the oceans. The Plastic Pollution Control Act, Pub. L. No. 100-556, 102 Stat. 2779 (1988), directs EPA to promulgate within 24 months regulations requiring that plastic ring carrier devices capable of becoming entangled with fish or wildlife be made of naturally degradable material. The legislative history indicates that Congress was particularly concerned with the effects of plastic ring carriers on the marine environment. *See* United States Code Congressional and Administrative News p. 3632.

[3]Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Aug. 30, 1975, 26 U.S.T. 2403, T.I.A.S. No. 8165, Envtl. L. Rep. (Envtl. L. Inst.) Statutes 40329 (1988). *See* § 13:135.

[4]33 U.S.C.A. §§ 1401-21.

[5]33 U.S.C.A. § 1343.

[6]33 U.S.C.A. § 1322.

[Section 13:133]

[1]*See also* § 13:78.

[2]*See* S. Rep. No. 414, 92d Cong., 1st Sess. 74 (1971).

[3]The term "territorial seas" is defined by § 502(8) as "the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles." In December 1988, President Reagan, by executive order, adopted a 12-mile limit for the territorial sea. The Act defines the term for regulatory purposes.

[4]"Contiguous Zone" is defined by § 502(9) as "the entire zone established or to be established by the United States under Article 24 of the Convention of the Territorial Sea and the Contiguous Zone." This was 12 miles under the 1958 treaty, to which the United States is a signatory. The 1982 Law of the Sea convention amended the contiguous zone to allow extension to a maximum of 24 miles from the baseline, developed by a complex calculation. Although the United States has refused to sign the 1982 convention because of objections to its deep seabed mining provisions, it recognizes the extension to 24 miles as customary law, but has not adopted a 24-mile limit itself. The contiguous zone has, moreover, become almost a nonzone in light of the general acceptance of the "exclusive economic zone," which exceeds 200 miles from the baseline or to the edge of the continental shelf, whichever is farther.

[5]Presumably, the United States could exercise jurisdiction over foreign dischargers up to the limit of its 200-mile economic zone and over U.S. nationals on the high seas. As a practical matter, only floating point source dischargers not covered by the MPRSA are of significance in this regard.

[6]Chevron U.S.A., Inc. v. Hammond, 726 F.2d 483, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20305 (9th Cir. 1983) (see this section note 2 and accompanying text).

mile economic zone claimed by the United States.

Following the publication of guidelines by EPA,[7] oceanic NPDES permits must be issued or denied, and contain limitations predicated on, the guidelines. Ocean discharge permits issued before promulgation of the guidelines were premised on determinations by EPA that their issuance was in the "public interest."[8]

EPA's guidelines are required to be based on the criteria set forth in § 403(c). The criteria, which are also applicable to discharges of dredged or fill material,[9] include both water quality and economic considerations.[10] An interesting provision, § 403(c)(2), which has no parallel anywhere else in the Act, prohibits issuance of a permit "where insufficient information exists . . . to make a reasonable judgment on any of the guidelines."[11]

Certain point source discharges that are arguably subject to § 403 regulation are subject to specific variances or waivers in other parts of the statute, or are prohibited by other provisions of the statute and thus arguably are taken out of the scope of § 403. These include ocean discharges by publicly owned treatment facilities, subject to § 301(h); conventional discharges, subject to § 301(g); and heat, subject to § 316.[12] Oil discharges are absolutely prohibited by § 311.

The relationship of § 403 to the rest of the Act is not made clear either by the text of the statute or in the legislative history. In *Pacific Legal Foundation v. Quarles*,[13] the court dealt with an argument that § 403 should be read to supersede § 301(a) to the extent that it provides a more specific, albeit less stringent, degree of control under some circumstances than the technology-based requirements of § 301. The argument was rejected, and the court stated that both limitations apply equally, thus in effect giving precedence to the more stringent of the provisions as applied.[14]

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[7]EPA issued its ocean discharge guidelines on October 3, 1980. *See* 45 Fed. Reg. 65953 (1980).

[8]CWA § 403(a), 33 U.S.C.A. § 1343(a).

[9]*See* CWA § 404(b), 33 U.S.C.A. § 1344(b).

[10]CWA §§ 403(c)(1)(A)-(G), 33 U.S.C.A. §§ 1343(c)(1)(A)-(G), provides:

(c) Guidelines for determining degradation of waters

(1) The Administrator shall, within one hundred and eighty days after October 18, 1972 (and from time to time thereafter), promulgate guidelines for determining the degradation of the waters of the territorial seas, the contiguous zone, and the oceans, which shall include:

(A) the effect of disposal of pollutants on human health or welfare, including but not limited to plankton, fish, shellfish, wildlife, shorelines, and beaches;

(B) the effect of disposal of pollutants on marine life including the transfer, concentration, and dispersal of pollutants or their by-products through biological, physical, and chemical processes; changes in marine ecosystem diversity, productivity, and stability; and species and community population changes;

(C) the effect of disposal, of pollutants on esthetic, recreation, and economic values;

(D) the persistence and permanence of the effects of disposal of pollutants;

(E) the effect of the disposal of varying rates, of particular volumes and concentrations of pollutants;

(F) other possible locations and methods of disposal or recycling of pollutants including land-based alternatives; and

(G) the effect on alternate uses of the oceans, such as mineral exploitation and scientific study.

[11]EPA's regulations, discussed below, are somewhat equivocal on this issue.

[12]EPA so treats them. *See* 40 C.F.R. § 125.122(b).

[13]Pac. Legal Found. v. Quarles, 440 F. Supp. 316, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20653 (C.D. Cal. 1977), *aff'd sub nom.* Kilroy v. Quarles, 614 F.2d 225, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20271 (9th Cir. 1979), *cert. denied*, 449 U.S. 825 (1980).

[14]Pac. Legal Found. v. Quarles, 440 F. Supp. 316, 322–26, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20653 (C.D. Cal. 1977).

§ 13:134 Ocean discharges from point sources: Section 403 of the Act—EPA's regulations[1]

EPA promulgated ocean discharge guidelines in 1980.[2] They are codified as subpart M of 40 C.F.R. Part 125. The guidelines establish the standard for permit denial to be "unreasonable degradation of the marine environment."[3] The Agency defines this to include "significant adverse changes in ecosystem diversity, productivity and stability of the biological community within the area of discharge and surrounding biological communities," threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms, or loss of aesthetic, recreational, scientific, or economic values that is unreasonable in relation to the benefit derived from the discharge.[4]

The enforcement mechanism is the NPDES permit. Ocean discharger NPDES permits are scrutinized with reference to 10 factors EPA deems relevant to the "unreasonable degradation" criterion.[5] The factors deal with the properties of the pollutant involved; the nature, significance, and vulnerability of affected biological communities; human recreational, aesthetic, and health implications of the discharge; impacts on the fishing industry; any requirements of an applicable coastal zone management plan; and marine water quality criteria developed under § 304(a)(1).

Permit applicants may accordingly be required to submit detailed chemical analyses, bioassay results, and dilution, dispersion, and plume modeling,[6] as well as background biological data on the receiving water.[7] The regulations also suggest that the permit writer may require information on possible process modifications that could reduce the quantity of pollutants discharged and alternatives to the discharge, including land-based disposal or dumping at an ocean dump site approved under the MPRSA program.[8]

Although § 403(c)(2) would appear to require denial of an ocean discharge NPDES permit where material information on any statutory factor was lacking, EPA has softened the impact of the provision somewhat in its regulations. Section 125.123(c) of 40 C.F.R. allows a permit to be issued in the face of data gaps if the permit writer concludes that: (1) the discharge will not cause "irreparable harm" during the period in which monitoring to secure the needed data is accomplished; (2) there are no reasonable alternatives; and (3) the discharge will be in compliance with the mandatory permit conditions imposed on all ocean dischargers by § 125.122(d).[9]

Mandatory permit conditions include implementation of a monitoring program that adequately assesses the impacts of the discharge, a provision providing for revocation at any time the permitting authority determines that an unreasonable degradation is occurring, and several conditions cross-referenced to the MPRSA

[Section 13:134]

[1] *See also* § 13:78.

[2] 45 Fed. Reg. 65953 (1980).

[3] 40 C.F.R. § 125.122(a).

[4] 40 C.F.R. § 125.121(e).

[5] 40 C.F.R. §§ 125.122(a)(1)-(10).

[6] 40 C.F.R. §§ 125.124(a)-(c).

[7] 40 C.F.R. § 125.124(e).

[8] 40 C.F.R. §§ 125.124(d), (e).

[9] In such a case, the permit must contain bioassay-based effluent limitations, special monitoring requirements, and a reopener clause authorizing the modification or prohibition of the discharge on the basis of new information. *See* 40 C.F.R. § 125.123(d).

regulations.[10]

EPA's regulations are not as clear as they might be on the status of thermal discharges, § 301(h) variance holders, § 301(g) variance holders, and dischargers whose discharges do not violate state water quality standards. Section 125.122(b) states that such discharges "shall be presumed not to cause unreasonable degradation . . . for any specific pollutants or conditions specified in the variance or the standard." Although the one relevant court decision points to any such presumption being rebuttable, in the sense that more stringent § 403 requirements should apply,[11] EPA does not state that the presumption is rebuttable. Moreover, except in the case of § 301(h), which specifically deals with ocean discharges, there is little logic supporting EPA's effective exemption of the other variance provisions from the § 403 criteria.

§ 13:135 Ocean dumping—Overview—The London Dumping Convention

The dumping of waste into the ocean from vessels or airplanes is governed by two sources of law, the MPRSA, discussed below, and the Convention on the Dumping of Wastes at Sea.[1] The MPRSA was initially enacted three weeks before the signing of the convention, which is also known as the London Dumping Convention, and was subsequently amended to conform to the requirements of the convention following its ratification on August 3, 1973.[2]

The parties to the London Dumping Convention agreed to "take effective measures individually, according to their scientific, technical and economic capabilities, and collectively, to prevent marine pollution caused by dumping and [to] harmonize their policies in this regard."[3] The convention binds the parties to prohibit the dumping of materials listed in Annex I to the London Dumping Convention,[4] unless they are "rapidly rendered harmless by physical, chemical or biological processes in the sea."[5] The dumping of wastes listed in Annex II, and other wastes, is allowed only if pursuant to a government-issued permit.[6]

The London Dumping Convention specifies a number of factors to be considered in granting permits in Annex III. These include the characteristics of the waste,

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[10]These require that the discharge will: (A) following dilution as measured at the boundary of the mixing zone, not exceed the limiting permissible concentration for the liquid and suspended particulate phases of the waste material as described in §§ 227.27(a)(2)-(3), § 227.27(b), and § 227.27(c) of the Ocean Dumping Criteria; and (B) not exceed the limiting permissible concentration for the solid phase of the waste material or cause an accumulation of toxic materials in the human food chain as described in §§ 227.27(b) and (d) of the Ocean Dumping Criteria.

[11]*See, e.g.*, Pacific Legal Found. v. Quarles 440 F. Supp. 316, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20653 (C.D. Cal. 1977).

[Section 13:135]

[1]Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2403, T.I.A.S. No. 8165.

[2]The London Dumping Convention went into force on August 30, 1975. *See* S. Rep. No. 726, 93d Cong., 2d Sess. 1 (1974); H.R. Rep. No. 568, 93d Cong., 1st Sess. 6 (1973) (commenting on Pub. L. No. 93-254).

[3]Art. II, 26 U.S.T. 2403, 2407.

[4]Annex I lists organohalogen compounds, mercury and mercuric compounds, cadmium and cadmium compounds, persistent plastics, oils taken on for the purpose of dumping (except that these wastes may be contained in other dumped wastes in trace amounts), high-level radioactive waste or matter defined by the International Atomic Energy Agency as such, and chemical and biological warfare materials. 26 U.S.T. 2403, 2465.

[5]Annex I, No. 8, 26 U.S.T. 2403, 2465.

[6]Annex II wastes include various metals, some toxic substances, acids and alkalis, bulky, obstacle-creating wastes, and lower-level radioactive wastes. 26 U.S.T. 2403, 2466.

characteristics of the site, method of disposal, effect on marine organisms, other uses of the sea, and the availability of alternative methods of dumping, specifically including land-based disposal. Finally, it contains a consultative mechanism for resolving questions of interpretation or application.

§ 13:136 Ocean dumping—Jurisdiction and coverage of the MPRSA

The MPRSA was enacted in 1972[1] and has been amended several times.[2] Its stated purpose is to regulate the transportation of "material," as defined, for the purpose of dumping the material into "ocean waters" by any U.S. vessels, aircraft, or agencies, and, if the material originates in the United States,[3] by any person, and to regulate the "dumping" of material transported from outside the United States by any person in the territorial sea or the contiguous zone.[4]

"Ocean waters" are defined as the waters "of the open sea lying seaward of the base line from which the territorial sea is measured, as provided by the Convention on the Territorial Sea and the Contiguous Zone."[5] Essentially, the intention is to control U.S.-origin waste destined for dumping anywhere within U.S. waters or on the high seas and to regulate non-U.S.-origin dumping within the territorial sea and the contiguous zone.[6] The scheme for control is designed to comply with the obligations of Article VI of the London Dumping Convention,[7] which requires contracting parties to regulate the dumping of matter loaded in their territories or transported by their flag flying or registered conveyances in marine waters outside of their internal waters.[8]

"Material" is broadly defined by § 3(c) of the MPRSA to encompass just about any variety of waste,[9] except for vessel wastes that are regulated under § 312 of the Act,

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[Section 13:136]

[1]Pub. L. No. 92-532, 86 Stat. 1052 (1972) (codified at 33 U.S.C.A. § 1401).

[2]The most significant amendment to MPRSA was the Ocean Dumping Ban Act, Pub. L. No. 100-688, 102 Stat. 3213 (1988), which prohibited the ocean dumping of sewage sludge and industrial waste.

[3]"United States" is defined by § 3(d) to include Puerto Rico, the Trust Territory of the Pacific Islands, and "the territories and possessions of the United States."

[4]MPRSA § 2(c), 33 U.S.C.A. § 1401(c).

[5]15 U.S.T. 1606, T.I.A.S. 5639.

[6]These terms are defined later in this section. An interesting anomaly is presented by § 106(f) of the MPRSA, 33 U.S.C.A. § 1416(f), which was added in 1980 by Pub. L. No. 96-572. This provision states that the "dumping of dredged material in Long Island Sound from any Federal project (or pursuant to Federal authorization) or from a dredging project by a non-federal applicant exceeding 25,000 cubic yards shall comply with the" § 102(a) criteria pertaining to effects. Pub. L. No. 96-572, § 4, 94 Stat. 3345 (1980). It exempts from Long Island Sound the preemptive effect of § 106(d), presumably authorizing more stringent state regulation.

The United States historically claimed as territorial waters much of Long Island Sound. In 1985, the Supreme Court decided United States v. Maine, 469 U.S. 504 (1985), in which it rejected the U.S. claim, adjudicating most of Long Island Sound to be inland waters. Under the MPRSA's jurisdictional scheme, the Long Island Sound is thus not an MPRSA water. Unless § 106(f) is construed to impliedly amend the Rivers and Harbors Act of 1899 and § 404 of the Act, its viability is suspect. *But see* Town of Huntington v. Marsh, 859 F.2d 1134, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20192 (2d Cir. 1988) (Ocean Dumping Act review requirements apply to Corps designation of Long Island Sound dredged material dump site as well as to permit applications).

[7]1972 Convention on the Prevention of Marine Pollution By Dumping Of Wastes And Other Matter, 26 U.S.T. 2403, T.I.A.S. 8165.

[8]Under the Convention, dumping in the internal waters of another state would be subject to regulation by that state.

[9][M]atter of any kind or description, including, but not limited to, dredged material, solid waste,

and oil to the extent it is not intentionally dumped.[10] Material is "dumped" if it is disposed of from a vessel, aircraft, or other conveyance and not subject to one of the statutory exceptions.[11]

§ 13:137 Ocean dumping—Regulatory scheme in general

The MPRSA regulates ocean dumping by means of prohibitions and a permit program and by providing a mechanism for designation of ocean dumping sites to be used by permittees. The scheme follows the regulatory program mandated by the London Dumping Convention. The MPRSA permit program is separate and distinct from the NPDES permit program administered by EPA under the Act. As is discussed below, it is procedurally as well as substantively different.

Transportation of "material" from the United States, or by a U.S. agency or carrier for dumping into the ocean, is prohibited unless the entity has a permit issued by either the Corps (for dredged material) or by EPA (for all other material).[1] Dumping of material within the area extending 12 miles seaward of the baseline[2] by any person, including foreign nationals, is prohibited without a permit issued under § 102 of the Act by EPA.

Certain materials may not be permitted at all. Section 102(a) prohibits the issuance of permits for radiological, chemical, and biological warfare agents, and "high-level radioactive waste."[3] Fish wastes are only required to have permits for dumping if the dumping occurs in harbors or other enclosed areas, or at specific sites prohibited by EPA.[4]

§ 13:138 Ocean dumping—The permit program—Overview

Permitting authority under the MPRSA is bifurcated between the Corps and EPA

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incinerator residue, garbage, sewage, sewage sludge, munitions, radiological, chemical, and biological warfare agents, radioactive materials, chemicals, biological and laboratory waste, wreck or discarded equipment, rock, sand, excavation debris, and industrial, municipal, agricultural, and other waste; . . . ." MPRSA § 3(c), 33 U.S.C.A. § 1402(c).

Section 4 of Pub. L. No. 95-153 banned the dumping of sewage sludge after December 31, 1981. U.S. District Judge Abraham Sofaer ruled in City of New York v. EPA, 543 F. Supp. 1084, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21003 (S.D.N.Y. 1981) that the statute did not mean what it apparently said and enjoined EPA from denying any permit for sludge dumping that was not subjected to a full balancing of the § 102(a) factors. *Accord* Nat. Res. Def. Council, Inc. v. EPA, 656 F.2d 768, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20487 (D.C. Cir. 1981).

[10]Unintentional transportational oil spills are regulated by § 311 of the Act and under a number of international agreements.

[11]Section 3(f) specifically excludes from the definition disposition from a point source regulated under the Act or the Refuse Act (§ 13 of the Rivers and Harbors Act of 1899), disposition regulated under the Atomic Energy Act (42 U.S.C.A. § 4011), and routine discharges from motors on vessels. It also excludes dumping the purpose of which is to create artificial structures where such activity is otherwise regulated, or the dumping of oyster shells or "other materials" for the purpose of fishery harvesting or management regulated under or pursuant to a state or federal law or program.

[Section 13:137]

[1]MPRSA §§ 101(a), 102, 103, 33 U.S.C.A. §§ 1411(a), 1412, 1413.

[2]The baseline essentially follows the low water line along the coast and extends across the mouths of juridical bays, which are determined in the United States through application of the principles of Article 7 of the 1958 Convention on the Territorial Sea and the Contiguous Zone. *See* Westerman, The Juridical Bay (1986).

[3]The first term is undefined. The latter is defined by § 2(j) as "the aqueous waste resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated waste from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuels, or irradiated fuel from nuclear power plants." As defined, the term apparently does not prohibit dumping of waste from weapons manufacturing.

[4]MPRSA § 102(d), 33 U.S.C.A. § 1412(d).

primarily as a consequence of Congress's belief that management of dredged spoil would be better left to the Corps, where it had traditionally resided.[1] The Corps issues permits for the ocean dumping of dredged materials pursuant to § 103, in tandem with its regulation of dredging under § 10 of the Rivers and Harbors Act of 1899, and EPA has permitting authority over all other wastes. In addition, EPA is authorized to designate recommended dumping sites and times and to limit or prohibit dumping at specific sites in order to protect "critical areas."[2]

In evaluating disposal projects, EPA is required to apply criteria developed by it[3] that consider eight statutory factors, which deal generally with the need for the dumping, its effects, alternatives to the dumping, and alternative uses of the ocean areas.[4] It is also required by § 102(a) to predicate its criteria on any more stringent "standards and criteria binding upon the United States under the Convention, including its Annexes." EPA's criteria are published at 40 C.F.R. Part 227. The Agency applies these criteria in determining, on a case-by-case basis, whether particular dumping proposals "will unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities."[5]

The Corps, in considering permit applications for dumping "dredged material,"[6] is required to consider only those EPA-promulgated criteria that relate to the effects of the dumping,[7] although the legal standard for permit issuance is identical with that imposed under § 102 for EPA-issued permits. The Corps' implementing regulations, however, require application of all of the EPA criteria.[8] In addition, the Corps must consider the effect of the project on "navigation, economic and industrial develop-

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[Section 13:138]

[1]*See* H.R. Rep. No. 568, 93d Cong., 1st Sess. 6 (1973). Similar logic lay behind placement of the § 404 dredge and fill program in the hands of the Corps.

[2]MPRSA § 102(c), 33 U.S.C.A. § 1412(c). The statute does not define the term "critical areas."

[3]The Agency is required to consult with federal, state, and local officials and the public and must, of course, promulgate the criteria in accordance with the federal APA. It has a specific obligation to consult with the Corps with respect to any criteria that affect the Corps' civil works program.

[4]MPRSA §§ 102(a)(A)-(H), 33 U.S.C.A. §§ 1412(a)(A) to (H). The factors are: (A) the need for the proposed dumping; (B) the effect of the dumping on human health and welfare, including "economic, esthetic and recreational values"; (C) the effect on fisheries resources, plankton, fish, shellfish, wildlife, shorelines, and beaches; (D) the effect on marine ecosystems, "particularly with respect to (i) The transfer, concentration, and dispersion of such material and its byproducts through biological, physical, and chemical processes, (ii) potential changes in marine ecosystem diversity, productivity, and stability, and (iii) species and community population dynamics"; (E) persistence and permanence of effects; (F) effect of dumping particular volumes and concentrations; (G) availability and public interest considerations affecting alternatives, including land based alternatives; and (G) the effect of the dumping on "alternate uses of oceans."

[5]MPRSA § 102(a), 33 U.S.C.A. § 1412(a).

[6]Section 2(i) defines this term as "any material excavated from the navigable waters of the United States." The reference to "navigable waters," which is not itself defined, is thus to constitutional navigable waters and, hence, relates to spoil from projects regulated under the Rivers and Harbors Act of 1899. Dredged spoil from projects undertaken in waters that are not "navigable" in the commerce clause sense would arguably be subject to EPA permitting under § 102.

The Corps is not required to go through the motions of giving itself a permit where the dredging is part of a federal project. Section 103(e) authorizes the application of the substantive criteria to such projects by regulation rather than by permit.

[7]MPRSA § 103(b), 33 U.S.C.A. § 1413(b). The Corps is required to apply only the criteria contained in subparts A, C, D, E, and G, and part of subpart B of EPA's implementing criteria, contained in 40 C.F.R. § 227. *See* Nat'l Wildlife Fed'n v. Costle, 629 F.2d 118, 128-31, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20742, 20748-49 (D.C. Cir. 1980).

[8]33 C.F.R. § 324.4(b).

ment, and foreign and domestic commerce of the United States,"[9] and is required to make its own assessment of "other possible methods of disposal" and appropriate locations for the dumping.[10]

The Corps is required, "to the extent feasible" to direct its permittees to dumping sites designated by EPA under § 102(c) of the statute.[11] The statute is silent as to EPA's obligation vis-à-vis designated sites. EPA's regulations, however, require applicants either to dump into already-designated sites or satisfy the Agency's site designation criteria.[12]

EPA is not authorized to issue a permit for dumping that will "violate applicable water quality standards."[13] This limitation implicates state standards where dumping is into the territorial seas[14] and EPA's marine water quality criteria beyond that point.[15] A similar explicit statutory prohibition is absent from § 103.[16]

Adherence by the Corps to EPA's criteria is intended to be ensured by a veto power given to EPA by § 103(c).[17] The Corps must submit all proposed permit decisions to the relevant EPA Regional Administrator for a determination that the criteria are satisfied. In the event the response is negative, or if the Corps wants to allow dumping in an area designated critical by EPA, the Corps may not issue the permit unless EPA agrees to waive application of the criteria or critical area designation upon a determination by the Corps that "there is no economically feasible method or site available."[18] Waiver must be granted under such circumstances unless EPA concludes that the dumping will "result in an unacceptably adverse impact on municipal water supplies, shellfish beds, wildlife, fisheries (including spawning and breeding areas), or recreational activities."[19] Coordination between EPA and the Corps following a certification by the district engineer that there is no viable alternative method or site occurs at the Washington, D.C., level[20] for each agency.

EPA issues five types of permits: general permits,[21] "special permits,"[22] emergency

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[9]MPRSA § 103(b), 33 U.S.C.A. § 1413(b).

[10]MPRSA § 103(b), 33 U.S.C.A. § 1413(b). Why Congress chose to relieve the Corps of the obligation to apply EPA's guidelines on alternate disposal methods in favor of an independent determination is a mystery.

[11]MPRSA § 103(b), 33 U.S.C.A. § 1413(b). *See* § 13:141 (designation process).

[12]40 C.F.R. § 221.1(f).

[13]MPRSA § 102(a), 33 U.S.C.A. § 1412(a).

[14]*See* Sec'y of the Interior v. California, 464 U.S. 312, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20129 (1984) (limiting state regulatory jurisdiction to three miles).

[15]*See* 40 C.F.R. § 227.31.

[16]If one reads the water quality standard language of § 102(a) as establishing a separate "criteria," then § 103(b)'s requirement that the Corps apply all effects-related § 102(a) criteria brings the prohibition into the Corps program indirectly. Since, however, the structure of § 102(a) lists the factors on which the "criteria" are to be based in numbered paragraphs, the water quality standards language not being one of those can not readily be called one of the "criteria" following normal statutory construction principles. EPA could, however, simply include the water quality standards language in its promulgated effects criteria, and it appears to have taken this route in 40 C.F.R. § 227.18(c), where it includes "applicable water quality standards" as a factor to be considered in determining the impacts on esthetic, recreational, and economic values (the § 102(a)(B) criterion).

[17]*See* 33 C.F.R. § 324.4(c) (Corps procedures); 40 C.F.R. Part 225 (EPA procedures).

[18]MPRSA § 103(d), 33 U.S.C.A. § 1413(d).

[19]EPA is required to act within 30 days of the Corps' certification of necessity. MPRSA § 103(d), 33 U.S.C.A. § 1413(d).

[20]*See* 33 C.F.R. § 324.4(c)-(e).

[21]These are authorized by § 104(c). To date, EPA has promulgated general permits for burial of human remains at sea, transport of target vessels by the Navy, and federal government transportation of vessels intended for disposal by sinking. *See* 40 C.F.R. Part 229.

permits,[23] research permits,[24] and permits for incineration of wastes at sea.[25] Prior to April 23, 1978, it also issued "interim permits."[26]

§ 13:139 Ocean dumping—The permit program—Permit procedures

The Corps operates its ocean dumping program as an integrated part of its dredge and fill program and applies uniform procedures to § 404, ocean dumping, and Rivers and Harbors Act permitting.[1] The Corps issues permits following informal rulemaking procedures. It is required, however, to comply with NEPA with respect to its regulatory activities,[2] which also apparently applies to EPA,[3] although the Agency generally has prevailed in its claim asserted in connection with other programs that it does not have to comply with NEPA since its activities are its "functional equivalent."[4]

EPA's application and processing regulations are published at 40 C.F.R. Parts 221 and 222. EPA's regulations provide for an initial informal hearing.[5] Nevertheless, any "interested person who participated in" an informal hearing has a right to request an adjudicatory hearing on the application.[6] A party must appeal an adverse decision to the Administrator before exhausting the administrative appellate

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[22]40 C.F.R. § 220.3(b). These are for nonrecurring dumping and are good for three years.

[23]40 C.F.R. § 220.3(c). Emergency permits authorize the dumping of constituents that are normally prohibited, 40 C.F.R. § 227.6, under circumstances where the emergency poses an unacceptable risk to public health and where there is no other feasible solution. This type of permit may require consultation under the applicable Convention provision.

[24]40 C.F.R. § 220.3(e). The regulations specify particular restrictions and limit the types of constituents that can be dumped.

[25]40 C.F.R. § 220.3(f). This provision became important in the middle of 1984 when Waste Management, Inc. began to seek permits to dispose of hazardous waste by incineration on one of its incinerator ships. EPA determined that the MPRSA rather than RCRA was the appropriate regulatory statute for such activity. The regulation states:

> Permits for incineration of wastes at sea will be issued only as research permits or interim permits until specific criteria to regulate this type of disposal are promulgated, except in those cases where studies on the waste, the incineration method and vessel, and the site have been conducted, and the site has been designated for incineration at sea in accordance with the procedures of [40 CFR] § 228.4(b).

EPA's jurisdiction over incinerator ships is derived from § 2(f)'s definition of "dumping" as meaning a "disposition of material." Since any incineration of waste necessarily produces particulate matter that falls back to earth, that matter is "material" that is "disposited" from the vessel. Regulating incinerator vessels under the MPRSA thus involves as indirect a jurisdictional nexus as one can imagine.

The Agency deferred all action on incineration permits on May 22, 1984, and on research permits on June 4, 1986, pending its completion of rulemaking that would specifically address the substantive issues presented by at-sea incineration. *See* Waste Mgmt., Inc. v. EPA, 26 Env 1489 (D.D.C. 1987).

[26]40 C.F.R. § 220.3(d). These were designed to allow dumping to continue before EPA had completed development of its regulatory program.

[Section 13:139]

[1]*See* 33 C.F.R. Part 325.

[2]*See* Sierra Club v. Marsh, 769 F.2d 868, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20911 (1st Cir. 1985) (discussing scope of obligation); Town of Huntington v. Marsh, 859 F.2d 1134, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20192 (2d Cir. 1988) (Corps must apply NEPA criteria to designation of dumping site in Long Island Sound and may not defer analysis of types, quantities, and cumulative effects of waste to be dumped until review of permit applications). For a discussion of NEPA law generally, see Ch. 10.

[3]*See* Manatee Cty. v. Gorsuch, 554 F. Supp. 778, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20180 (M.D. Fla. 1982) (discussing EPA's NEPA obligations in designating dumping sites under § 102(c)).

[4]EPA's CWA actions are largely exempt from NEPA by § 504 of the Act.

[5]40 C.F.R. §§ 222.4 to 222.7.

[6]40 C.F.R. § 222.10.

scheme.[7]

§ 13:140 Ocean dumping—The permit program—Permit conditions and regulatory criteria

Section 104 establishes the statutory ground rules for the form and conditions of ocean dumping permits. Section 104(a) sets forth the minimum contents of any permit. Section 104(b) authorizes the permitting agencies to impose processing fees.[1] Section 104(d) imposes on the agencies an obligation to periodically review permits and to reopen them in the event problems are found.[2] The section also contains several provisions pertaining to public access to information, permit posting and other ministerial matters, provision for required records and reports,[3] and an elaborate mechanism for evaluating nuclear waste,[4] which contains a legislative veto provision that is undoubtedly unconstitutional.[5]

The key regulatory requirements are EPA's ocean dumping criteria, which are found at 40 C.F.R. Parts 227 and 228.[6] The structure of the criteria, which were discussed at length by Judge Sofaer in *City of New York v. EPA*,[7] establish a hierarchy of consideration of the various statutory criteria.

If the material satisfies the environmental impact criteria set forth in subpart B of Part 227[8] (i.e., EPA determines as a threshold matter that it will not unreasonably degrade or endanger the environment), then the permit will be issued unless the Agency determines, based on its application of the statutory factors, that: (1) there is no need for the dumping and alternate disposal means are available in accordance with criteria set forth in subpart C; (2) there are unacceptable adverse effects on aesthetic, recreational, or economic values as determined with reference to subpart D; or (3) there are unacceptable adverse effects on other uses of the ocean (primarily fishing, shoreline uses, and navigation) determined under subpart E, of Part 227.

If the material does not satisfy the environmental impact criteria, then the regulations require that the permit be denied.[9] Certain materials are *per se* prohibited. These include high-level radioactive wastes as defined; radiological, chemical, or

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[7]40 C.F.R. § 222.12.

[Section 13:140]

[1]*See* 40 C.F.R. § 221.5 for EPA's fee schedule. The Corps' fee schedule is published at 33 C.F.R. § 325.1(f). Doing business with the Corps is less costly from the fee standpoint, but the Corps' NEPA obligation imposes environmental assessment costs on applicants that more than make up the difference.

[2]EPA's implementing regulations are published at 40 C.F.R. Part 223. They provide hearing and other procedures applied to modification and revocation of permits, along with posting and other provisions as to form.

[3]EPA's reporting and recordkeeping regulations are published at 40 C.F.R. Part 224.

[4]MPRSA § 104(i), 33 U.S.C.A. § 1404(i).

[5]*See generally*, I.N.S. v. Chadha, 462 U.S. 919, 955, 103 S. Ct. 2764, 77 L. Ed. 2d 317, 13 Envtl. L. Rep. 20663 (1983).

[6]The Part 228 criteria relate to management of disposal sites, as opposed to disposal.

[7]City of New York v. EPA, 543 F. Supp. 1084, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21003 (S.D.N.Y. 1981). The case involves only sewage sludge and industrial waste.

[8]*See* 40 C.F.R. § 227.4 (general criteria); 40 C.F.R. § 227.5 (prohibited materials); 40 C.F.R. § 227.6 (constituents prohibited as other than trace contaminants); 40 C.F.R. § 227.7 (limits established for specific wastes or waste constituents); 40 C.F.R. § 227.8 (limitations on disposal rates for toxic wastes); 40 C.F.R. § 227.9 (limitations on quantities of waste materials); 40 C.F.R. § 2278.10 (hazards to fishing, shorelines, navigation, and beaches); 40 C.F.R. § 227.11 (containerized wastes); 40 C.F.R. § 227.12 (insoluble wastes); and 40 C.F.R. § 227.13 (dredged materials).

[9]40 C.F.R. § 227.3. EPA could, however, issue an interim permit under certain circumstances,

biological warfare agents; materials of unknown properties; and material likely to produce flotsam.[10] Several organic compounds and metals fall within a category that are prohibited unless found in trace amounts only, unless bioassays demonstrate that they do not cause adverse effects or bioaccumulate.[11] Other compounds are subject to specific limitations as a precondition to being dumped. These include benzene and related compounds, low-level radioactive materials, living organisms (viral, microbial, and higher forms), highly acidic or alkaline wastes, and oxygen consuming wastes.[12]

Wastes that are toxic are regulated by means of the concept of "limiting permissible concentration" (LPC). This concept allows a mixing zone and then applies alternative standards outside of the zone. The alternative standards are either that the concentrations outside of the mixing zone do not exceed those permitted by any applicable marine water quality standards or, in the absence of such standards, that the concentrations "will not exceed a toxicity threshold defined as 0.01 of a concentration shown to be acutely toxic to appropriate sensitive marine organisms in a bioassay carried out in accordance with approved EPA procedures."[13]

Many ocean dumpers, particularly those disposing of dredged spoil, hope that their material does not fail the bioassay test. Evidence of any toxicity will usually result in at least the imposition of a requirement that the material be covered after dumping with clean capping material. For the discharger, finding adequate amounts of capping material within a reasonable distance from the disposal site at the time it is needed can be an exceedingly difficult problem, one that has caused deferral of many dredging projects.

The location of the site where the material may be dumped is also of importance to many ocean dumpers, since transportation costs can be very high. Thus, EPA's designation of dump sites under § 102(c) of the Act is of great significance not only to the ocean environment but to the regulated entities.

§ 13:141 Ocean dumping—Site designation

Section 102(c) authorizes EPA to designate acceptable and unacceptable dumping areas in the ocean and to impose management standards on the sites designated to accept the dumping of wastes. Site designation must employ all of the § 102(a) criteria applicable to permitting, as well as a special criterion, § 102(a)(I), which requires EPA, "wherever feasible" to recommend dump sites beyond the continental shelf.

EPA initially designated a large number of preexisting dump sites as acceptable on an interim basis.[1] That practice was upheld in *National Wildlife Federation v.*

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when such permits were authorized. *See* 40 C.F.R. §§ 220.3(d), 227.3, 227.23-.26.

[10]40 C.F.R. § 227.5.

[11]40 C.F.R. § 227.6. Compounds subject to this presumption include organohalogens, mercury and mercury compounds, cadmium and cadmium compounds, oil (to the extent regulated under the Act), and "known carcinogens, mutagens, or teratogens, or materials suspected to be . . . [such] by responsible scientific opinion."

[12]40 C.F.R. § 227.7.

[13]40 C.F.R. § 227.27(a). The regulation allows for establishment of a different LPC supported by "reasonable scientific evidence" on a constituent by constituent basis. The regulations define the relevant terms, such as appropriate sensitive marine organisms, and establish the parameters for the mixing zone. *See* 40 C.F.R. §§ 227.27(b)-.32.

[Section 13:141]

[1]42 Fed. Reg. 2462 (1977).

Costle,[2] with the court holding that EPA could rely on historical usage as a predicate for approving sites for use pending completion of study and application of the criteria.[3] The Agency's practice continues to be designating historic sites for interim use, and designating fully studied, acceptable sites meeting the criteria set forth in Part 228 for "continuing use."[4]

Prior to designating a site for continuing use, EPA applies its guidelines for ocean disposal site baseline or trend assessment surveys[5] and is required to comply with the National Environmental Policy Act.[6] Its procedures and selection and management criteria are contained in Part 228 of its regulations. Its general bias is to avoid fishing grounds and shellfish areas, areas of heavy navigation, and areas remote from beach and shoreline impact.[7]

§ 13:142 Ocean dumping—Enforcement

Since EPA does not maintain a fleet of vessels, the MPRSA looks to the Coast Guard as the primary means of field enforcement.[1] Regulatory enforcement is vested jointly in EPA and the Corps with respect to their respective programs.

The statute authorizes EPA to levy administrative penalties of up to $50,000 per violation[2] and imposes criminal fines in like amount or a prison term of up to one year for knowing violations.[3] Each day of a continuing violation is considered a separate violation. *In rem* proceedings are available to execute either civil or criminal levies.[4] Finally, the statute contains a citizen suit provision that authorizes injunctive actions against alleged violators.[5] Unlike the citizen suit statutes in the CAA and the Act, this one does not appear to authorize mandamus actions against EPA and contains an unambiguous bar to a citizen action if EPA has initiated administrative enforcement.[6]

X. OIL POLLUTION

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[2]Nat'l Wildlife Fed'n v. Costle, 629 F.2d 118, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20742 (D.C. Cir. 1980).

[3]*But see* Manatee Cty. v. Gorsuch, 554 F. Supp. 778, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20180 (M.D. Fla. 1982) (refusing to apply *National Wildlife* rationale to designation of a site not historically used and designated by EPA without knowledge solely on the strength of a recommendation of the Corps).

[4]Interim use sites are listed, together with applicable limitations, in 40 C.F.R. § 228.12(a). Continuing use sites are listed in 40 C.F.R. § 228.12(b). *See, e.g.*, 53 Fed. Reg. 36455 (1988) (designating four dredged materials disposal sites offshore of Puerto Rico).

[5]40 C.F.R. § 228.13.

[6]*See* Manatee County v. Gorsuch, 554 F. Supp. 778, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20180 (M.D. Fla. 1982); Town of Huntington v. Marsh, 859 F.2d 1134, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20192 (2d Cir. 1988).

[7]40 C.F.R. § 228.5.

[Section 13:142]

[1]MPRSA § 107(a), 33 U.S.C.A. § 1417(a).

[2]MPRSA § 105(a), 33 U.S.C.A. § 1415(a). Emergency dumping "to safeguard life at sea" is not considered a violation even if not permitted, although failure to notify EPA of the fact could constitute a violation of a duty to report. *See* MPRSA § 105(h), 33 U.S.C.A. § 1415(h).

[3]MPRSA § 105(b), 33 U.S.C.A. § 1415(b).

[4]MPRSA § 105(e), 33 U.S.C.A. § 1415(e).

[5]MPRSA § 105(g), 33 U.S.C.A. § 1415(g). *See* Town of Huntington v. Marsh, 859 F.2d 1134, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20192 (2d Cir. 1988) (discussing standard for injunction prohibiting Corps issuance of dumping permits).

[6]The air and water citizen suit sections bar actions where the government is pursuing judicial enforcement and are silent on the issue of administrative enforcement.

§ 13:143 In general

Section 311 of the Federal Water Pollution Control Act, added by the extensive 1972 amendments, gave EPA authority to respond to oil spills in or near surface waters. This modest response program became the model for a huge effort to clean up abandoned hazardous waste dumps, as well as spills of toxic chemicals and petroleum, and petroleum products onshore and in the waters of the United States. The largest and best-known component of this expanded program is Superfund, the abandoned hazardous waste site cleanup program. The entire response program is discussed in Chapter 14.

Partially the result of the *Exxon Valdez* oil spill in March 1989 and partially the result of over 15 years of congressional negotiations, the Oil Pollution Act of 1990[1] was signed into law on August 18, 1990, after a unanimous vote in both houses. The Act establishes and enhances: a comprehensive federal liability scheme; a single federal fund called the Oil Spill Liability Trust Fund to pay for response and monitoring costs; federal authority to order removal action or conduct such action itself; standards and reviews for licensing tank personnel; tightened tank equipment standards; spill prevention control and countermeasure plan requirements for onshore facilities, offshore facilities, and vessels; criminal penalties for violation of the Act; and civil penalties for spills of oil and other hazardous substances. The Act also condones participation of the United States in an international oil liability and compensation scheme. The oil spill cleanup program is discussed in § 14:84.

XI. MISCELLANEOUS CLEAN WATER ACT PROVISIONS

§ 13:144 Federal facilities

The Act contains a federal facilities compliance provision similar to those contained in the other federal environmental laws. Section 313 provides that each agency, department, or instrumentality of the executive or judicial branches having jurisdiction over any property or facility, or engaged in any activity "resulting, or which may result in the discharge or runoff of pollutants, and each officer, agent or employee thereof in the performance of his official duties," is subject to, and must comply with, "all Federal, State, interstate and local requirements, administrative authority, and process and sanctions[1] respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity, including the payment of reasonable service charges."[2]

Although federal entities are subject to state court enforcement, there is an absolute right to remove any such suit to federal court pursuant to 28 U.S.C.A. § 1441, federal personnel and agents are not personally liable for civil penalties, and federal entities are liable for civil penalties only if levied by a court. Moreover, EPA has the power to limit to some extent the degree of state control over federal facili-

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[Section 13:143]

[1]Pub. L. No. 101-380, § 1002, 104 Stat. 484 (1990). *See* Russell Randle, "The Oil Pollution Act of 1990: Its Provisions, Intent, and Likely Effects," 21 Envtl. L. Rep. (Envtl. L. Inst.) 10119 (Mar. 1991); *see generally* Russell Randle, The Oil Pollution Deskbook (2d ed. 2012).

[Section 13:144]

[1]The statute was amended significantly in 1977 by §§ 60 and 61 of Pub. L. No. 95-217 in response to a series of earlier court decisions that construed the original language narrowly. *See, e.g.*, Minnesota v. Hoffman, 543 F.2d 1198, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20066 (8th Cir. 1976). The 1977 amendments made it clear that federal facilities would have to secure state permits and could be subject to state enforcement.

[2]CWA § 313(a), 33 U.S.C.A. § 1323(a).

ties by limiting federal delegation authority under § 402.[3] Finally, the president has the power to exempt specific government sources and classes of military equipment for limited times upon a finding that such exemption is in the "paramount interest of the United States."[4]

What is not clear from the statutory language or the legislative history is the meaning of the term "sanctions." Whether federal entities may be responsible for the payment of criminal fines or whether federal employees may be incarcerated for criminal violations of state laws is doubtful. Given the courts' reluctance to afford expansive construction to the statute in the past,[5] and the specific reference to civil penalties in the statute, it is likely that attempts to seek criminal penalties against federal employees for acts undertaken in their official capacities will not be successful.

The Department of Justice has argued for some time that federal facilities are not subject to civil penalties under the Act and particularly civil penalties imposed pursuant to a § 505 citizen suit. The lower courts had generally taken a different view,[6] but the issue was decided by the Supreme Court in 1992 in favor of the federal government in *U.S. Department of Energy v. Ohio*.[7] The Supreme Court found that Congress had not waived the federal government's sovereign immunity from liability for civil fines imposed by a state for past violations of the CWA or a delegated state program in either the federal facilities or citizen suit provisions of the Act.

With regard to the imposition of such "punitive," retroactive penalties under the citizen suit provision, the majority reasoned that the incorporation of the civil penalties section into the citizen suit provision carries with it the former's definition of the term "person"; since that term does not include the United States, no waiver of immunity could be found.[8] On the issue of whether punitive penalties are authorized by the federal facilities provision of the Act, the Supreme Court found that "the very fact . . . that the text speaks of sanctions in the context of enforcing 'process' . . . is a good reason to infer that Congress was using 'sanction' in its coercive sense, to the exclusion of punitive fines."[9]

The majority dismissed Ohio's argument that the phrase "civil penalties arising under federal law" provided a grounds for imposing punitive fines on federal agen-

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[3]*See* EPA v. California ex rel. State Water Res. Control Bd., 426 U.S. 200, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20563 (1976), *superseded by statute as stated in* DeKalb County, Georgia v. United States, 108 Fed. Cl. 681 (Fed. Cl. 2013). *See also* § 13:121 n.10 and accompanying text (limitation of state enforcement powers).

[4]This authority has rarely been used. The exemption is available where its basis is lack of an appropriation only if the appropriation has been specifically sought and refused.

[5]*See* EPA v. California ex rel. State Water Res. Bd., 426 U.S. 200, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20563 (1976) *superseded by statute as stated in* DeKalb County, Georgia v. United States, 108 Fed. Cl. 681 (Fed. Cl. 2013); Minnesota v. Hoffman, 543 F.2d 1198, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20066 (8th Cir. 1976).

[6]*See* Sierra Club v. Dep't of the Interior, 728 F. Supp. 1513, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20650 (D. Colo. 1990), *aff'd*, 931 F.2d 1421, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21195 (10th Cir. 1991). This decision was vacated and remanded by the Supreme Court in 1992 for further consideration in light of the decision in U.S. Dep't of Energy v. Ohio, 503 U.S. 607, Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992). *See also* California v. Dep't of the Navy, 845 F.2d 222, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20863 (9th Cir. 1988).

[7]U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992) (also addressing the same issue under RCRA). The U.S. Dep't of Energy conceded that the Act authorizes the imposition of "coercive" fines, such as those imposed to induce federal agencies to comply with injunctions or other judicial orders. U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 613 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992).

[8]U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 619, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992).

[9]U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 1637, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992).

cies; under Court precedent, the Court concluded, civil penalties imposed under state law, including an EPA-approved SPDES program, do not "arise under federal law" within the meaning of § 313.[10] The Court recognized that its interpretation of the federal facilities provision left unresolved the question as to what Congress could have meant by using the phrase "civil penalties arising under federal law" in § 313.[11]

§ 13:145 Marine sanitation devices

Discharges of sewage from vessels are exempt from the Act's basic regulatory program. Authority is divided between EPA and the Coast Guard, each of which have issued regulations to implement their respective parts of the program.[1]

The § 312 scheme involves the development by EPA of performance standards for marine sanitation devices applicable to new vessels and vessels existing on the date of the standards, which have sanitation devices already on them,[2] and the issuance by the Coast Guard of design, construction, installation, and operation standards implementing the performance standards. The agencies were to develop initial standards and revise them periodically.[3]

Standards applicable to existing vessels are enforced against the vessel operators, and new vessel standards are the responsibility of manufacturers.[4] The agencies are empowered to, and do, discriminate among types and classes of vessels as to the degree of treatment required.[5]

States are basically preempted from regulating vessel discharges. EPA is empowered to prohibit sewage discharges in designated waters and has done so for freshwater impoundments and lakes whose inlets and outflows do not permit vessel traffic.[6] The Agency is also empowered to approve state requests for discharge prohibitions into "some or all of" the state's waters upon a showing by the state that there are adequate onshore removal facilities available in the areas affected by the proposed ban.[7] A separate state ban authority is contained in § 312(f)(4). Under that provision, EPA may adopt state requests to ban discharges in "specified waters" that require prohibition for "protection and enhancement" of their quality[8] and

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[10]U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 1639, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992).

[11]U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 1639, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992). Justice White, joined by Justices Blackmun and Stevens, concluded in the dissenting opinion that the federal facilities and citizen suit provisions of the CWA "clearly contemplate a waiver of immunity as to suit for civil damages." U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 1644, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20804 (1992).

[Section 13:145]

[1]EPA's regulations are at 40 C.F.R. Part 140. The Coast Guard Regulations are published at 33 C.F.R. Part 159.

[2]CWA § 312(b)(1), 33 U.S.C.A. § 1322(b)(1). Congress deliberately avoided requiring small boat owners whose boats do not have toilets to install them. Congress mandated secondary treatment as the standard for vessels operating in the Great Lakes. *See* CWA § 312(c)(1)(B), 33 U.S.C.A. § 1322(c)(1).

[3]Existing vessels whose systems met the initial standards were grandfathered against upgraded standards so long as the existing facilities were not replaced.

[4]*See* 33 C.F.R. §§ 159.5, 159.7.

[5]CWA § 312(c)(2), 33 U.S.C.A. § 1322(c)(2). The agencies developed separate requirements built around Type I, Type II, and Type III devices, as defined in 33 C.F.R. § 159.3.

[6]40 C.F.R. § 140.3(a).

[7]CWA § 312(f)(3), 33 U.S.C.A. § 1322(f)(3); 40 C.F.R. § 140.4(a). States are otherwise prohibited from imposing more stringent requirements.

[8]CWA § 312(f)(4)(A), 33 U.S.C.A. § 1322(f)(4)(A). EPA's regulation, 40 C.F.R. § 140.4(b), indicates that the state's water quality standards are the key to this provision. To date, two areas, the Boundary

within "drinking water intake zones."[9] Although the statutory language is somewhat ambiguous, it appears that the "(f)(3)" ban is intended to involve broad areas in which essentially only holding tanks would be permitted, while the "(f)(4)" bans could involve either prohibition of vessels carrying discharging devices or simply chart demarcations indicating the areas that are off limits.

§ 13:146 Conclusion

Prior to the enactment of the CWA, many U.S. water bodies were severely polluted, including rivers so contaminated with industrial effluent that they caught on fire. The CWA's passage in 1972 ushered in a new era of environmental protection and a federal regulatory scheme with the lofty objective to restore and maintain the chemical, physical, and biological integrity of the nation's waters. To achieve this objective, Congress established key goals, including: (1) the elimination of the discharge of pollutants into navigable waters by 1985; (2) water quality providing for the protection and propagation of fish, shellfish, and wildlife as well as recreation by 1983; (3) financial assistance to construct publically-owned treatment works; and (4) research and technology necessary to eliminate the discharge of pollutants into navigable waters.

Undoubtedly, the CWA has done much to advance these goals and Congress's ultimate objective in passing the Act. The nations waters are cleaner today than they were before the statute's passage. The CWA's permitting programs, cooperative federalism approach with states and tribes, increasingly stringent water quality standards, and financial grant program have worked to demonstrably improve water quality. Yet, many of the nation's water are still classified by states as "impaired"—meaning much work remains to be accomplished.

Importantly, regulating the discharge of pollutants into WOTUS continues to be an ongoing area of legal development for regulators, lawmakers, and courts. The objective of the CWA and corresponding regulatory efforts to achieve this objective involve dynamic and complex issues that will challenge regulators and the regulated community alike for the foreseeable future and change over time. One clear example is the U.S. Supreme Court's and the executive branch's cycle of expansion and narrowing of what constitutes WOTUS (e.g., *Rapanos* and the Trump administration's Navigable Waters Protection Rule). Another area ripe for increased regulatory attention and scientific examination is the impact of climate change on the nation's waters, including issues like ocean acidification and floodplain protection. Despite the initial passage for the CWA in 1972, readers may expect Congress, the executive branch, and the U.S. judiciary to continue to refine and reimagine the regulatory schemes applicable to protection of WOTUS under the Act.

Waters Canoe Area and Caribou Roadless Area, both in Minnesota, have been made subject to the ban. 40 C.F.R. § 140.4(b)(1).

[9]CWA § 312(f)(4)(B), 33 U.S.C.A. § 1322(f)(4)(B).

APPENDIX 13A

Table of Acronyms

Table of Acronyms	
AST	Advanced Secondary Treatment
AWT	Advanced Wastewater Treatment
BAT	Best Available Control Technology
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BMR	Baseline Monitoring Report
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgment
BPT	Best Practicable Technology
CAA	Clean Air Act
CAFO	Concentrated Animal Feeding Operations
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
COD	Chemical Oxygen Demand
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DMR	Discharge Monitoring Report
DSEIS	Draft Supplemental Environmental Impact Statement
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FDF	Fundamentally Different Factors
FERC	Federal Energy Regulatory Commission
FONSI	Finding Of No Significant Impact
FWPCA	Federal Water Pollution Control Administration
ICR	Industrial Cost Recovery
ICS	Individual Control Strategies
LPC	Limiting Permissible Concentration
MOA	Memorandum of Agreement
MPRSA	Marine Protection Research and Sanctuaries Act
MS4	Municipal Separate Storm Sewer System
NAP	Non-Advisory Panel
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source Pollution

Table of Acronyms	
NRDC	Natural Resources Defense Council
NSPS	New Source Performance Standards
NWP	Nationwide Permits
PC	Prior Converted Cropland
POTW	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
REIS	Revised Environmental Impact Statements
ROD	Record of Decision
SS	Suspended Solids
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USDA	U.S. Department of Agriculture
WOTUS	Waters of the United States
WQM	Water Quality Management
ZID	Zone of Initial Dilution

Chapter 14

Soil and Groundwater*

I. INTRODUCTION AND HISTORICAL ROOTS OF HAZARDOUS WASTE MANAGEMENT

II. WASTE MANAGEMENT

III. THE REGULATION OF HAZARDOUS WASTES

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*By **Sheldon M. Novick** and **Donald W. Stever,** § 14:127 by **Donald W. Stever;** § 14:147 by **John P.C. Fogarty**. Updates prior to Spring 2022 by **Eric Laschever, Amber Penn Rocco, Ash Miller, Jennie Addis, Alyssa Moir**, **M. Quasius**, **Stephen J. Matzura**, **Molly E. Nixon, and Amanda A. Konarski**. Subsequent updates **by Stephen Matzura and B. David Naidu**.

IV. UNDERGROUND STORAGE TANKS

V. EMERGENCY RESPONSE AND LONG-TERM CLEANUP

VI. ENFORCEMENT AND LIABILITY

VII. SARA TITLE III—THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

VIII. COMPREHENSIVE GROUNDWATER PROTECTION PLANS

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Public Natural Resources Law | V. Oil Spills

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IX. HAZARDOUS WASTE OR MATERIALS ⚿149EIX; VIII. WASTE DISPOSAL AND MANAGEMENT ⚿149EVIII

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Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C.A. § 9601
Emergency Planning and Community Right-to-Know Act (EPCRA) 42 U.S.C.A. § 11001

Treatises and Practice Aids

Law of Solid Waste, Pollution Prevention, & Recycling §§ 1:1 et seq.
RCRA & Superfund: A Practice Guide §§ 1:1 et seq.
State Environmental Law §§ 9:1 et seq.
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I. INTRODUCTION AND HISTORICAL ROOTS OF HAZARDOUS WASTE MANAGEMENT

§ 14:1 Introduction

Federal law governing hazardous waste is comprised of several statutes,[1] so it is difficult to see the entire panoply. This chapter describes this area of law, which lies at the confluence of three streams: regulation of pollutants diverted from other media; regulation of waste disposal; and cleanup of abandoned chemicals. Varied enactments on these subjects have coalesced into what we now call hazardous waste law.

§ 14:2 A brief history of the original problem: Mountains of trash

Trash disposal, once regulated solely by county or municipal governments—if at all—has over the last 70 years or so become a federal matter as a result of its potential for environmental impacts. A federal program of assistance to state and local entities has existed since the 1950s,[1] and hazardous and solid waste disposal is nationally regulated along with air and water pollution.[2] The origins of trash regulation are notable, however, given its place at the roots of solid waste regulation.

Progressives at the turn of the last century made trash disposal a national priority. Many cities were corrupt and dirty; the Progressives sought to clean them up, literally and figuratively.

At about the same time, the Sierra Club was organized, and the conservation movement turned to preserving natural areas for recreation.[3] Municipalities began to establish trash disposal monopolies under city ownership, and the city or county "dump" was born, the child of a national reform movement. Decades later, the

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[Section 14:1]

[1]*See* Clean Water Act §§ 208(b)(2)(J)-(K), 33 U.S.C.A. §§ 1288(b)(2)(J)-(K) (waste management plans); Safe Drinking Water Act (SDWA), §§ 1421 to 1445, 42 U.S.C.A. §§ 300h to 300h-5 (underground injection control); Resource Conservation and Recovery Act of 1976, tit. C, 42 U.S.C.A. §§ 6921 to 6939g; Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C.A. §§ 9601 to 9675; Marine Protection, Research and Sanctuaries Act, 16 U.S.C.A. §§ 1401 to 1455 (ocean dumping).

[Section 14:2]

[1]*See* Public Health Service Act, 42 U.S.C.A. §§ 241, 264(a). *See also* Solid Waste Disposal Act of 1965, Pub. L. No. 89-272, tit. II, 79 Stat. 997 (assistance to states to develop solid waste disposal plans), amended by Resource Recovery Act of 1970, Pub. L. No. 91-512, 84 Stat. 1227 (guidelines and grants for demonstration facilities), revised by Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (comprehensive regulatory scheme for waste disposal), amended by Quiet Communities Act of 1978, Pub. L. No. 95-609, § 7, 92 Stat. 3079; Solid Waste Disposal Act Amendments of 1980, Pub. L. No. 96-482, 94 Stat. 2334; Used Oil Recycling Act of 1980, Pub. L. No. 96-463, 94 Stat. 2055; CERCLA § 37, Pub. L. No. 96-510, tit. III, § 307, 94 Stat. 2767; Hazardous and Solid Waste Amendments of 1984 (HSWA), Pub. L. No. 98-616, 98 Stat. 3221.

[2]The regulatory statute is now commonly referred to as the Resource Conservation and Recovery Act (RCRA), 42 U.S.C.A. §§ 6921 to 6992(k), although it is in fact a series of amendments to the Solid Waste Disposal Act of 1965. *See* note 1.

[3]*See* A. Gilliam, Voices for the Earth: A Treasury of the Sierra Club Bulletin xix–xxi, 499–500 (1979).

county dump morphed into both an eyesore and a health hazard; litter, once an urban problem, was spreading over the countryside. In the 1960s, a new type of concern for natural resources began to emerge. Environmental organizations, which were quite different in their attitudes and concerns from the older conservationist groups, began to search for the root causes of pollution.[4] Emerging economic theories traced the origin of pollution to the careless use of resources; the most common version of this theory held that the "external" environmental costs such as disposal were not included in the costs of production.[5] Disposable packaging became a symbolic enemy of the new environmental movement, which resembled its Progressive forbears in its opposition to waste and untidiness. Another theory posited that the waste of natural resources revealed an underlying flaw in capitalism which could be cured only by more fundamental social and economic change.[6] Nonetheless, different ideological groups supported the common cause of reducing the use of disposable packaging.

Even though the proposed federal anti-litter legislation was defeated in 1976,[7] the anti-litter movement had reached its high-water mark as the movement's ethic had been widely accepted.

In sum, trash disposal became a legitimate concern of the federal government during the Progressive Era, when national attention was needed to reform municipal corruption. In the 1970s, the environmental movement gave new context to this concern.

§ 14:3 The History on Diversion of pollutants

In the 1960s, the Department of Interior had responsibility for surface water pollution control, and sought to extend this jurisdiction to groundwater.[1] At the same time, Congress considered dramatic changes in the Federal Water Pollution Control Act (FWPCA); one bill would have extended the law's jurisdiction to groundwater,[2] and the debates on the 1972 FWPCA Amendments proposed a federal groundwater pollution program patterned on existing surface water pollution legislation.[3]

The principal objection to the groundwater scheme was that it would set up a federal program of land-use planning, traditionally a local government concern. These fears were well founded; some proponents of regulation saw it as a federal land-use planning tool, because at that time it was thought that groundwater pollu-

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[4]*See, e.g.*, Our World in Peril, An Environment Review (S. Novick & D. Cottrel eds. 1971).

[5]*See, e.g.*, F. Anderson, A. Kneese, P. Reed, R. Stevenson & S. Taylor, Environmental Improvement Through Economic Incentives 4–6, 41–45 (1977); D. Thompson, The Economics of Environmental Protection 8–11 (1973).

[6]B. Commoner, The Closing Circle 295–96 (1971).

[7]*See* Kovacs and Klucsik, The New Federal Role in Solid Waste Management: The Resource Conservation and Recovery Act of 1976, 3 Colum. J. Envtl. L. 257-60 (1976).

[Section 14:3]

[1]*See, e.g.*, Federal Water Quality Administration, Department of Interior, Clean Water for the 1970s: A Status Report 16–17, 23 (1970).

[2]Federal Water Quality Administration, Department of Interior, Clean Water for the 1970s: A Status Report 16 (1970).

[3]*See, e.g.*, S. Conf. Rep. No. 1236, 92d Cong., 2d Sess. 116 (1972), *reprinted in* 1 Committee on Public Works, A Legislative History of the Water Pollution Control Act Amendments of 1972 299 (1973); S. Rep. No. 414, 92d Cong., 1st Sess. 52–53 (1971), *reprinted in* 1 Committee on Public Works, A Legislative History of the Water Pollution Control Act Amendments of 1972 1470–71 (1973); *see also* 1 Committee on Public Works, A Legislative History of the Water Pollution Control Act Amendments of 1972 275 (1973) (remarks of Representative Kemp) (noting that groundwater was being given the same emphasis as surface water "for the first time in history").

tion stemmed primarily from unplanned growth.[4] Another objection was that groundwater was physically too complex to regulate with standards.

The fight over groundwater jurisdiction was inconclusive. Both sides claimed victory in the Senate Report on the 1972 Clean Water Act Amendments,[5] while the statute itself was ambiguous.[6] The Environmental Protection Agency (EPA) continued to assert jurisdiction over groundwater in the agency's surface water pollution control program, but its view was rejected by certain courts.[7] When the Safe Drinking Water Act expressly gave EPA jurisdiction over some injection disposal wells in 1974,[8] the agency gave up its efforts to extend all of the Clean Water Act to groundwater protection.

Yet some groundwater protection language was included in the 1972 Clean Water Act Amendments.[9] The states were required by § 208 of the Act to make plans for regulating water pollution from all sources, including those from sources outside the permit system administered by EPA.[10] The states' plans were to include provisions for controlling groundwater contamination from waste disposal:

> Any [state] plan . . . shall include, but not be limited to . . . (J) a process to control the disposition of all residual waste generated in [the planning area] which could affect water quality; and (K) a process to control the disposal of pollutants on land or in subsurface excavations within such [planning] area to protect ground and surface water quality.[11]

While the details of groundwater protection were left to the states, EPA was to provide technical information and criteria for groundwater quality which the states were to employ in their § 208 plans.[12]

This was arguably the first federal hazardous waste legislation and the first general groundwater protection statute. It remains in the Clean Water Act,[13] although EPA did not give the legislation life.[14] Section 208 created, for the first time, a

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[4]*See* S. Rep. No. 414 at 73, *reprinted in* 1 Committee on Public Works, A Legislative History of the Water Pollution Control Act Amendments of 1972 1491 (1973).

[5]S. Rep. No. 414 at 98, *reprinted in* 1 Committee on Public Works, A Legislative History of the Water Pollution Control Act Amendments of 1972 1513 (1973) (supplemental views of Senator Dole).

[6]The question is whether groundwater was included within the definition of "waters" of the United States. *See generally* Eckert, EPA Jurisdiction Over Well Injection Under the Federal Water Pollution Control Act, 9 Nat. Resources Law. 455, 456–58 (1976) (citing cases which support the proposition that FWPCA jurisdiction could include groundwater if underground waters would "flow into or otherwise affect surface waters").

[7]*Compare* United States Steel Corp. v. Train, 556 F.2d 822, 851–53, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20419, 20432 (7th Cir. 1977) (EPA may regulate disposal wells under the Clean Water Act's § 402 permit provisions) *with* Exxon Corp. v. Train, 554 F.2d 1310, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20594 (5th Cir. 1977) (deep disposal well not required to obtain EPA permit); *see also* Eckert, EPA Jurisdiction Over Well Injection Under the Federal Water Pollution Control Act, 9 Nat. Resources Law. 455, 456–58 (1976) (analysis of cases discussing extent of EPA jurisdiction over groundwater).

[8]Pub. L. No. 93-523, §§ 1421 to 1424, 88 Stat. 1660, 1674, to 1680 (1974) (current version codified at 42 U.S.C.A. §§ 300h to 300h-4).

[9]The 1972 amendments were, properly speaking, the Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, § 2, 86 Stat. 816. The present form of the statute is commonly referred to as the "Clean Water Act," however, and to avoid confusion, it will be referred to by this designation.

[10]Clean Water Act § 208(b), 33 U.S.C.A. § 1288(b) ("planning process").

[11]Clean Water Act § 208(b)(2)(J)-(K), 33 U.S.C.A. § 1288(b)(1)(B), (2)(J)-(K).

[12]*See* Clean Water Act §§ 304(a)(1)-(6), 33 U.S.C.A. §§ 1314(a)(1)-(6) (1982); Exxon Corp. v. Train, 554 F.2d 1310, 1325–26, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20594, 20601–02 (5th Cir. 1977).

[13]*See* this section note 11.

[14]Clean Water Act §§ 208(b)(2)(J)-(K), 33 U.S.C.A. §§ 1288(b)(1)(B) (2)(J)-(K). *See* Wilkins, The Implementation of Water Pollution Control Measures—Section 208 of the Water Pollution Control Act

distinction between ordinary waste (trash) and hazardous waste. The statute used the term "pollutants" to distinguish the more hazardous waste, which was then subject to special regulation when disposed of on the land.[15] The term betrays its origins; the drafters of the statute believed, with some justification, that provisions controlling surface water pollution might drive industrial operators to deposit their wastes into wells and landfills. Section 208 plans were meant to keep the surface-water pollutants from being shifted to groundwater.

Section 208 was defeated by its own ambition. A national land-use planning system was politically impracticable and, in any case, had no real constituency.[16] EPA, as is often the case, was consumed by narrower issues and did not give much attention to the broad planning process the Clean Water Act envisioned. Concern for groundwater focused on specific sources of contamination while the broader prevention program languished. But the concern was not entirely forgotten; four years later, in 1976, similar bills were proposed as Solid Waste Disposal Act Amendments.[17] In what would eventually become the Resource Conservation and Recovery Act (RCRA),[18] the provisions for trash disposal plans and special regulation of more hazardous waste were repeated, but with far stronger federal enforcement authority than had been provided in the Clean Water Act.[19]

Chapter 13, Section 13:34 discusses the recent decision in *County of Maui, Hawaii v. Hawaii Wildlife Fund*, in which the Supreme Court held that discharges to groundwater may require a NPDES permit, in circumstances where such discharges qualify as the "functional equivalent of a direct discharge" to surface waters.[20]

§ 14:4 Waste disposal law

Partly because of the boom in disposable packaging, roadside litter, and the cities were running out of space in their landfills, bills were introduced in Congress in the 1970s to reduce the volume of wastes.[1] According to the theory behind these bills, the costs of product disposal were not being taken into the marketer's accounting; the environment was, therefore, being consumed as if it had no value.[2] The waste disposal bills sought to internalize these costs, thereby making the costs of disposal part of the market price of the product. This would hypothetically allow the

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Amendments, 15 Land & Water L. Rev. 479, 480 (1980) (ineffectiveness of § 208 attributable to congressional naivetéé); Comment, Enforcement of Section 208 of the Federal Water Pollution Control Act Amendments of 1972 to Control Nonpoint Source Pollution, 14 Land & Water L. Rev. 419, 446 (1979) (§ 208 not effective to control nonpoint source pollution due to EPA unwillingness to compel production of state programs). *But see* Mandelker, The Role of the Comprehensive Plan in Land Use Regulation, 74 Mich. L. Rev. 899 (1976) (§ 208 is useful planning tool).

[15]22 U.S.C.A. § 1288(B)(2)(k); *see also* this section note 12.

[16]*But see* Train, The EPA Programs and Land Use Planning, 2 Colum. J. Envtl. L. 255 (1975) (former administrator of EPA argues for rational land-use legislation to integrate all environmental laws).

[17]Pub. L. No. 94-580, § 2, 90 Stat. 2795 (1976).

[18]*See* RCRA, tit. C, 42 U.S.C.A. §§ 6921 to 6939g; CERCLA, Pub. L. No. 96-510, 94 Stat. 2767, codified as amended in scattered sections of titles 26, 33, 42, 49 U.S.C.A.; Marine Protection, Research and Sanctuaries Act, 16 U.S.C.A. §§ 1401 to 1455 (ocean dumping).

[19]EPA could enforce the § 208 planning requirements only by withholding financial assistance, *see* Natural Resources Defense Council v. Costle, 564 F.2d 573, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20702, 20705 (D.C. Cir. 1977), whereas by contrast the agency could enforce RCRA directly. *See* RCRA §§ 7002 to 7003, 42 U.S.C.A. §§ 6972 to 6973 (1982).

[20]County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 206 L. Ed. 2d 640 (2020).

[Section 14:4]

[1]*See* Kovacs & Klucsik, The New Federal Role in Solid Waste Management: The Resource Conservation and Recovery Act of 1976, 3 Colum. J. Envtl. L. 205, 216–59 (1976).

[2]*See* F. Anderson, A. Kneese, P. Reed, R. Stevenson & S. Taylor, Environmental Improvement Through Economic Incentives 3–4 (1977).

marketplace to allocate environmental resources in the most efficient manner. As an afterthought, the bills also encouraged the creation of state plans—in a manner similar to the air and water statutes—for better regulation of disposal. The main purpose, however, was to discourage the discarding of valuable products by making disposal costly and recycling more accessible.

Most of the debate in Congress in 1975 and 1976 concerned mandatory deposit proposals, commonly known as "bottle bills,"[3] because of the belief that bottles comprised a large part of the litter and solid waste problem. The proposals became so contentious that their sponsors were forced to withdraw. Bottle deposits are now typically the subject of state law.

What remained after removal of the federal bottle bill provisions was the regulation of disposal facilities—echoing § 208 of the Clean Water Act—which required state plans for trash disposal and more stringent plans for the safe disposal of hazardous waste. The final waste disposal law was titled the Resource Conservation and Recovery Act of 1976 (RCRA).[4] RCRA was intended to close "the last remaining loophole in environmental law, that of unregulated land disposal of discarded materials and hazardous waste."[5] The new statute had some teeth by requiring EPA to prepare criteria for many provisions of the state plans, including performance standards for disposal facilities.[6] The plans were to include a permit system which EPA was to administer until the states enacted adequate legislation.[7] The now-familiar manifest systems were to be used to ensure that hazardous wastes were sent only to permitted facilities.[8]

For the first time in waste disposal law, pollution control had become dominant; groundwater protection, never before mentioned in the Solid Waste Disposal Act, now became the single most important environmental purpose of the new amendments.[9] The Progressive movement's original concern with cleanup of trash and waste shifted to a new focus on groundwater protection.

§ 14:5 Confusion and delay

Initially, EPA experienced extraordinary difficulties implementing RCRA. In retrospect, it is evident that there were two serious and closely connected problems embedded in the hazardous waste provisions of Subtitle C of RCRA.[1] First, there was little in the statute or its history to indicate just what Congress wanted to ac-

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[3]*See, e.g.*, 122 Cong. Rec. 21393–401 (1976) (floor debate on the Solid Waste Utilization Act of 1976, S. 2150, introduced by Senator Randolph of West Virginia). Although Senator Randolph's bill had many of the elements of the final statute regulating hazardous waste, the floor debate was almost solely concerned with amendments proposed by Senator Hatfield to ban disposable beverage containers. 122 Cong. Rec. 21404–728 (1976). There was no special discussion of hazardous wastes nor groundwater protection, although these were the focus of the final legislation. Aside from the interest in beverage containers, the Senate was absorbed by the Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976), codified as amended at 15 U.S.C.A. §§ 2601 to 2629, then under consideration by another subcommittee.

[4]Pub. L. No. 94-980, 90 Stat. 2795 (1976), codified as amended at 42 U.S.C.A. §§ 6901 to 6987, 9001 to 9010.

[5]H.R. Rep. No. 94-1491, pt. 1, at 4, reprinted in 1976 U.S.C.C.A.N. 6238, 6241.

[6]RCRA §§ 3004 to 3005, 42 U.S.C.A. §§ 6924 to 6925.

[7]RCRA § 3005, 42 U.S.C.A. § 6925.

[8]RCRA § 3002(a)(5), 42 U.S.C.A. § 6922(a)(5).

[9]*See generally* House Comm. on Interstate and Foreign Commerce, Subcomm. on Transportation and Commerce, 94th Cong., 2d Sess., Staff Materials Relating to the Resource Conservation and Recovery Act of 1976; *see also* 122 Cong. Rec. 32597 (1976).

[Section 14:5]

[1]RCRA §§ 3001 to 3013, 42 U.S.C.A. §§ 6921 to 6934.

complish in this field. Second, to the extent the statute gave explicit directions, it embodied a contradiction.[2] The contradiction stemmed primarily from the directive that EPA was to protect health and environment, which, if carried to its logical conclusion, could require the prohibition of land disposal of hazardous wastes. Yet such disposal methods were plainly intended to continue under RCRA.

The paucity of express direction is not surprising. Subtitle C had all the worst aspects of a purely advisory opinion of the kind federal courts are wisely restricted from making. If there was a problem stemming from hazardous waste disposal, that problem has not been crystallized in the statute; there was a vague belief that pollutants kept from the air and water by the command of earlier statutes were now being dumped on the land, from which the pollutants would eventually find their way back into the air and water by a more circuitous route. There was some testimony at hearings that this was indeed happening, and a few instances of groundwater pollution actually affecting drinking water supplies were cited.[3] Yet, one clear, practical judgment is discernible on the record; hazardous wastes in open dumps and municipal landfills were problems, and hazardous wastes should therefore be disposed of only in specially licensed facilities.[4]

EPA was directed to set standards for the disposal of hazardous wastes and to create a permit and manifest system to ensure that all waste went only to facilities that met the standards.[5] The statute makes clear that waste disposal standards were the framework on which the other regulations were to hang, but standards are of course merely a method of implementing legislative goals. What, then, does the statute intend for EPA to accomplish? The law says only, if grandly, to "protect human health and the environment."[6]

The difficulty was that most wastes, including hazardous wastes, were disposed of on the land, in landfills, lagoons, dumps, and unconstrained heaps.[7] There was no immediate alternative to land disposal for most wastes. Many were not flammable and could not be incinerated; the air and water pollution control laws limited releases into those media; and the activities that generated wastes, including the many activities which supported human life and society, could not be carried on without them. By default, therefore, some form of land disposal was likely a practical necessity. Yet the standard set for waste disposal on land was single-minded: EPA must protect health and environment—and do nothing more nor less.[8] EPA had no authority to consult other values, or so the statute read on its face. There was little in the law's history to suggest alternate readings.

Faced with an environmental quality standard that ignored cost, and with the difficulty of banning land disposal altogether, EPA vacillated for years. It tried to

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[2]*See, e.g.*, 42 U.S.C.A. § 6922(a). *See also* this section notes 5-11 and accompanying text.

[3]*See* House Comm. on Interstate and Foreign Commerce, Subcomm. on Transportation and Commerce, 94th Cong., 2d Sess., Staff Materials Relating to the Resource Conservation and Recovery Act of 1976, 39–41.

[4]*See* § 14:4 note 10; H.R. Rep. No. 1491, 94th Cong., 2d Sess. 3, 9–12, *reprinted in* United States Code Congressional and Administrative News pp 6240, 6246–50 (House bill basis of final compromise with Senate).

[5]RCRA §§ 3001 to 3005, 42 U.S.C.A. §§ 6921 to 6925.

[6]RCRA § 3004, 42 U.S.C.A. § 6924.

[7]EPA estimates a decrease in the landfilling of waste generated in the U.S. from 94% in 1960 to approximately 50% in 2018. U.S. EPA, NATIONAL OVERVIEW: FACTS AND FIGURES ON MATERIALS, WASTES AND RECYCLING, https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#Landfilling (last visited Dec. 17, 2021).

[8]*See, e.g.*, 42 U.S.C.A. §§ 6922(a), 6923(a), 6924(a).

require landfills that would not leak for some period of time.[9] The agency also considered and then rejected the notion of banning certain forms of waste production. The difficulty was similar to the one EPA faced under § 112 of the Clean Air Act, which on its face seemed to require the shutdown of large industrial facilities to end the release of toxic air pollutants.[10]

Perhaps worst of all, in the view of some of RCRA's sponsors, EPA deferred regulation of hazardous waste from "small generators"—waste generators which produced less than 1000 kilograms per month of hazardous waste. Wastes from small companies were most likely destined for municipal landfills; EPA thus seemed to ensure that the one clear mandate contained in RCRA, to keep hazardous waste out of ordinary landfills, would be greatly delayed. In fact, the exemption created by EPA persisted until the statute was amended in 1984.[11] EPA officials had worried about putting small businesses out of operation. The agency had also feared the threat of massive noncompliance. These were reasonable concerns. It was not until the Reagan Administration inadvertently mobilized the public via an EPA scandal that political support for stringent regulation could be assured.[12]

§ 14:6 Love Canal

In 1976, when RCRA was enacted, concern about hazardous wastes had been somewhat abstract and theoretical. But a few months later, the press began to report on an abandoned chemical dump in New York State.[1] A school and some houses had been built on the site of the filled dump, and the people who lived there were frightened for the health of their children.[2] The place had the memorable, if incongruous, name of Love Canal; it gave life to the abstract concern over hazardous wastes.

EPA had little authority to assist the local residents in cleaning up the horror they had found under their feet; local governments had little money or expertise. EPA had some authority under the Clean Water Act to require cleanup of oil spills on or near surface waters; costs of cleanup could be recovered from the originators of the spills, regardless of fault. The recovered money would then go into a revolving cleanup fund.[3] The oil-spill cleanup program had worked well; it provided a base of experience and some model procedures for a federal emergency response program.

Seizing on the precedent, in 1978, Congress quickly extended the reach of the Clean Water Act program to cover spills of hazardous chemicals, as well as petroleum, on or near navigable water. The National Contingency Plan was altered to allow EPA to respond when the spill occurred at an "on shore" facility threatening a

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[9]46 Fed. Reg. 28314 (May 26, 1981).

[10]Clean Air Act § 112, 42 U.S.C.A. § 7412; *see* Ruckelshaus, Risk, Science, and Democracy, Issues in Sci. & Tech., Spring 1985, 21–22. For a brief account of EPA's vacillations, see Smith, EPA's Permitting Requirements for Land Disposal Facilities, 15 Nat. Resources L. Newsletter 1 (1982).

[11]HSWA, Pub. L. No. 98-616, § 221, 98 Stat. 3221, 3248–51 (codified at 42 U.S.C.A. § 6921(d)).

[12]The Reagan Administration effort in 1981 and 1982 to reorganize EPA and to conserve funds for hazardous waste cleanup produced a spectacular confrontation with the Democratic majority in the House of Representatives. EPA Administrator Anne Gorsuch was forced to resign and hazardous waste program chief Rita Lavelle served a prison sentence for perjuring herself before a congressional committee. The scandals attracted public attention and gave irresistible force to congressional proposals for strict regulation of hazardous waste. *See, e.g.*, J. Lasch, K. Gillman & D. Sheridan, A Season of Spoils (1985); A. Burford & J. Greenya, Are You Tough Enough? (1986).

[Section 14:6]

[1]A. Levine, Love Canal: Science, Politics, and People 2, 16–21 (1982).

[2]A. Levine, Love Canal: Science, Politics, and People 2, 11–15 (1982).

[3]Clean Water Act §§ 311(f) to 311(i), 33 U.S.C.A. §§ 1321(f) to 1321(i).

navigable waterway; the Coast Guard continued to respond to oil and chemical spills from vessels.[4] Building on this slender foundation, several bills were proposed to extend the combined response program to all onshore spills; anticipating them, EPA pushed its Clean Water Act jurisdiction to—perhaps past—the limit, and began to respond to onshore spills.

There was some sentiment in Congress for keeping onshore oil and chemical spills response programs separate, but EPA favored combining the programs into a single "Superfund," that would be replenished by recoveries from responsible parties.[5]

There was considerable opposition.

The result was two years of escalating publicity and pressure on members of Congress to adopt new legislation. In the 1980 election, control of the White House and the Senate passed to Republicans. Prior to the change in executive and legislative control, a lame-duck Congress passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), still called "Superfund."[6] Superfund was a chemical spill program which contained an anomalous exclusion for onshore spills of petroleum products; these remained unregulated. The onshore oil-spill cleanup bill had remained separate and was never adopted.[7] Much later, Congress added a cleanup program for underground storage tanks to RCRA—covering the worst source of petroleum spills omitted from Superfund.[8]

CERCLA ratified EPA's emergency response program, and the legal theories under which the Justice Department had brought approximately 60 "imminent hazard" suits prior to the law's passage.[9] Superfund provided federal authority to respond to onshore chemical spills as emergencies, and made the generators and dumpers of waste proper defendants, despite their lack of present connection with the sites, responsible for reimbursing the cleanup fund.[10]

§ 14:7 RCRA revisited

Whatever else may have been accomplished, the national controversy over orphan dump-sites prompted people to decide how they felt about hazardous waste disposal on land. Three big constituencies took predictable positions: generators of waste saw no alternative to present practices; waste disposal companies wanted regulations that favored their existing practices; and citizens' groups wanted land disposal stopped altogether. These categorizations are, of course, broad generalizations, but the forces acting on legislation and on EPA were manifestly blunt. The opposition to land disposal was unusually effective politically, because it came directly from large groups of voters. Citizen's groups around the country, as well as individual citizens, have been an important source of pressure for hazardous waste control.

The new Reagan Administration continued to vacillate over land disposal regulations, and at first accepted the reality that landfills would leak. Then, when shocked

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[4]Clean Water Act § 311(b)-(c), 33 U.S.C.A. § 1321(b)-(c).

[5]*See generally* Stever, Law of Chemical Regulation and Hazardous Waste § 6:1 et seq.

[6]Pub. L. No. 96-510, 94 Stat. 2767 (codified as amended in scattered sections of titles 26, 33, 42, 49 U.S.C.A.). CERCLA was passed a scant two days before the House was scheduled to adjourn. Senator Randolph remarked: "I am disappointed that such an important bill to help solve such a pressing problem must be addressed in the last days of Congress." 126 Cong. Rec. 30930 (1980).

[7]*See* 126 Cong. Rec. H11795 (daily ed. Dec. 3, 1980) *reprinted* in 1 Superfund: A Legislative History 8 (H. Needham & M. Menefee eds. 1984).

[8]*See* § 14:72.

[9]About 30 were actually filed before the statute was enacted. *See generally* D. Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 6.

[10]CERCLA § 107, 42 U.S.C.A. § 9607. *See generally* 1 *Superfund: A Legislative History* 163–361 (H. Needham & M. Menefee eds. 1984) (liability); § 14:127.

into awareness of the depth of the public's concern, the agency adopted standards for landfills that would keep them from leaking during their operating lives and for some time afterward.[1] EPA, however, preserved the small-generator exclusion that had so annoyed some of RCRA's original sponsors.[2]

By 1984, it should have been plain that landfills would inevitably leak, and that the contradiction contained in RCRA had to be resolved by banning land disposal of most hazardous wastes as quickly as could be accomplished. The outcome was the 1984 amendments to RCRA,[3] which set rigid schedules for EPA to carry out most parts of the land disposal program, including the permitting of facilities and the gradual phasing out of land disposal for most hazardous materials that might eventually escape from landfills.[4] The small-generator exception was drastically cut back, so that only generators of 100 kilograms per month or less were exempted.[5]

The prohibition of land disposal of hazardous waste was to be carried out for groups of wastes, on a schedule set by statute. If EPA missed any of the deadlines, the prohibition would take effect; EPA could act only to lift the ban. The only significant escape route from the prohibition was through treatment of the wastes. EPA was required to set national standards for waste treatment and chose to do so based on the best demonstrated, available technology (BDAT),[6] performance standards similar to the BAT standards for toxic pollutant discharges under the Clean Water Act. Wastes treated to these standards could be land-disposed. In this indirect fashion, the hazardous waste program began to adopt national performance standards for treatment facilities that specified the "discharge" they could make into disposal facilities, similar to the limits on discharges into air and water.

The 1984 amendments to RCRA and the debates which led to them resolved another question which had puzzled EPA. Both RCRA and CERCLA had some retrospective application; the hazardous waste laws were meant to clean up the pollution caused by improper disposal in the past, as well as to prevent new problems from developing.[7] RCRA, by now increasingly patterned after the earlier pollution control laws, directed EPA to protect health and environment and was silent as to cost or

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[Section 14:7]

[1]*See* § 14:5 note 10 and accompanying text.

[2]*See* 40 C.F.R. § 261.10 (formerly § 261.5(a)). EPA's small generator exemption was superseded by the HSWA, Pub. L. No. 98-616, § 221, 98 Stat. 3221, 3248–51 (codified at 42 U.S.C.A. § 6921(d)). The exemption as it had existed was recognized as one of many gaps in the RCRA requirements. *See* H.R. Rep. No. 198, 98th Cong., 2d Sess. 19–20, *reprinted in* United States Code Congressional and Administrative News pp 5576, 5578; § 14:38. On November 28, 2016, EPA published a final Hazardous Waste Generator Improvements Rule. 81 Fed. Reg. 85732. The rule went into effect May 30, 2017, but the new standards will not be effective in states authorized to administer the RCRA program until adopted by those states. A list of states that have adopted the new standards is available at: https://www.epa.gov/hwgenerators/where-hazardous-waste-generator-improvements-rule-effect#map (last visited Dec. 27, 2021).

[3]HSWA, Pub. L. No. 98-616, § 221, 98 Stat. 3221, 3248–51 (codified at 42 U.S.C.A. § 6921(d)).

[4]*See* HSWA, § 101(b), 98 Stat. 3224 (codified at 42 U.S.C.A. § 6902(b)) (national policy is to reduce or eliminate hazardous waste as "expeditiously as possible"); *see also* HSWA § 201(a), 98 Stat. 3226–27 (codified at 42 U.S.C.A. § 6924(c)) (bulk or "noncontainerized liquid" not to be placed in any landfill, effective six months from the date of enactment; EPA was given 15 months to promulgate final regulations to "minimize" containerized as well as "free liquids"); §§ 201(d), 213, 98 Stat. 3227, 3241–42 (codified at 42 U.S.C.A. §§ 6924(d), 6925(c), (e)) (schedules for terminating "interim status," issuing permits to existing facilities; banning land disposal of certain wastes); § 201(a), 98 Stat. 3228–29 (codified at 42 U.S.C.A. § 6924(e)-(f)) (disposal of dioxins into deep injection wells prohibited unless EPA determines that such is not harmful to health); § 14:125.

[5]HSWA § 221(a), 98 Stat. 3248 (codified at 42 U.S.C.A. § 6921(d)); *see* § 14:102.

[6]*See* 42 U.S.C.A. § 6924(m); 40 C.F.R. § 268.

[7]*See, e.g.*, HSWA § 402, 98 Stat. 3271 (codified at 42 U.S.C.A. § 6973(a)) (imminent hazard).

feasibility. The natural implication of the statutory language was that groundwater would be protected, regardless of cost. Cleanup, it seemed to follow, should restore the original quality of groundwater; EPA made this the benchmark for RCRA cleanup. Drinking water quality standards—of which only a few had been established—were to be used when available. Acknowledging that either background or drinking water purity might be impractical to attain, the Agency set up a procedure for permit holders to establish alternate concentration limits at particular sites.[8] Congress ratified this approach to RCRA cleanups, and then turned to the bigger question of cleanup at abandoned waste dumps.

§ 14:8 Superfund revised

By 1984, Superfund had become the focus of environmental protection. The toxic chemical release at Bhopal, India generated considerable pressure for victims' compensation legislation, and for new emergency planning and disclosure rules. Superfund had become a populist program, pitting industrial companies against their neighbors. Superfund sites had been identified in most Congressional districts, and many sites were suspected of poisoning wells and water supplies. Neighborhood groups had organized around many sites, and lobbied or sued to obtain complete cleanup. By 1984, most big industrial companies were defendants in suits brought by EPA for cleanup or by private citizens for damages, and there was a large—if not always united—defense bar representing their interests in legislation.

The Superfund Amendment and Reauthorization Act of 1986—"SARA"—greatly enlarged the cleanup program, amended RCRA, and created a new free-standing statute, the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA).[1] From the welter of issues addressed in this statute a few major themes emerged, each colored by the populist tenor of the discussion.

The first theme is responsiveness to community concerns. Community concerns were addressed by extensive new provisions allowing citizen suits and community participation in cleanup, in setting new thresholds and goals for cleanup and requiring new studies of health effects near cleanup sites.

The second theme was related to the first. There was a near universal feeling outside the Administration that EPA had been too penurious and cautious, and had failed to pursue aggressively the goal of eradicating the traces of hazardous waste dumping. The Agency was put on a strict schedule, and given ample funds to meet it.

The third theme was EPA's management process. The Agency succeeded to some degree in extricating itself from the cross-fire between neighborhood groups and industrial companies by obtaining legislative authorization to proceed with cleanups without interference from outside parties. A number of measures that had come up in litigation with potentially responsible parties were resolved, and most of the remaining disagreements were postponed until cost-recovery actions. Those companies that sought—often without success—to participate in cleanup, diffusing the populist dispute by joining the cleanup program, won some modest concessions. But the dominant note was EPA cleanup at more sites, more quickly.

The following are the major changes as they affect hazardous waste law most generally, with references to fuller discussion in the chapter which follows.

§ 14:9 Superfund revised—Thresholds

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[8] *See generally* 40 C.F.R. § 264, Subpart F; § 14:122.

[Section 14:8]

[1] Pub. L. No. 99-499 100 Stat. 1613 (Oct. 17, 1986).

When Superfund was first considered, the skimpy legislative history showed some concern about abandoned dumps like Love Canal,[1] but little awareness of other sources of groundwater contamination. The sponsors and opponents of the bills all seemed to assume that the evil to be remedied was chemical waste spilled intentionally or unintentionally onto the ground. The statute's language was very broad, however, and by its terms covered any release of pollution or hazardous substances.[2] Petroleum products were not included, as they were to be covered by separate oil spill legislation which ultimately was never enacted.[3]

When EPA first began to evaluate the most serious sites for long-term cleanup, the Agency found that contamination of many of these sites had unexpected causes. Serious problems resulted from buried storage tanks—especially those used to store gasoline and solvents.[4] Other unexpected sources of serious pollution included agricultural pesticides, which had contaminated large reservoirs of groundwater; mining wastes; old residues of radium work from 50 years before; and tar pits left by nineteenth century coal gasification plants. In principle, the statute might also apply to lead-contaminated roadsides and to many city factory sites.[5]

Within this range of potential applications of the statute, nothing in the statute itself suggested to EPA where its resources should be targeted. The agency, accordingly, listed some sites contaminated by pesticides, which by objective criteria were as serious as the abandoned waste dumps Congress clearly had in mind in enacting the law. Some of the statute's early sponsors claimed to see the inclusion of pesticide-contaminated sites on the list of sites for cleanup as a betrayal of the program and accused EPA of avoiding dump sites. EPA's failure to list some sites contaminated by federal agency activity was also criticized; the general question of the program's scope came under piecemeal debate.[6]

The ultimate question of the scope of Superfund—how big is big?—has not been fully answered, and perhaps there never will be a simple, direct answer. It is hard for Congress expressly to deny the cleanup program to any group of constituents, but no feasible program can address all the contaminated sites. But the 1984 RCRA amendments, the 1986 amendments of Superfund, and the Safe Drinking Water Act, taken together provided some answers.

The successive amendments made it plain that the hazardous waste laws were groundwater protection statutes, and considerably broadened their scope.[7] Underground gasoline and oil storage tanks had been identified as a major source of

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[Section 14:9]

[1]The House Report contained the following, for instance: "The Love Canal health data shows elevated miscarriage and birth defect rates; evidence suggests many other health effects, the nature and extent of which are in dispute." H.R. Rep. No. 1016, Part 1, 96th Cong., 2d Sess. 19, *reprinted in* United States Code Congressional and Administrative News pp 6119, 6122.

[2]*See* CERCLA § 104(a), 42 U.S.C.A. § 9604; § 14:100.

[3]*See* CERCLA §§ 101(23), 104(b)(2), 42 U.S.C.A. §§ 9601(23), 9604(b)(2) (petroleum exclusions).

[4]While petroleum products were excluded from CERCLA's reach, underground oil tanks often contained waste oils contaminated with other hazardous substances, or mixtures of oils and other materials covered by CERCLA.

[5]*See generally* Novick, What Is Wrong With Superfund?, Envtl. Forum, Nov. 1983, at 6.

[6]*See* CERCLA § 107(1), 42 U.S.C.A. § 9607(1).

[7]The House Report evidenced concern about underground injection and land disposal of hazardous wastes as these processes impacted upon the quality of groundwater. H.R. Rep. No. 198, Part 1, 98th Cong., 2d Sess. 28–36, *reprinted in* United States Code Congressional and Administrative News pp 5576, 5587–94. In part to meet this concern, § 704 of the Act created a National Groundwater Commission to assist and coordinate federal, state, and local efforts to protect and preserve groundwater quality. H. Supp. Rep. No. 198, Part II, 98th Cong., 2d Sess. 129, *reprinted in* United States Code Congressional and Administrative News pp 5636, 5700.

groundwater contamination, but before 1984, EPA had declined to use Superfund authority to venture into this new territory. The ubiquitous problems of leaking underground tanks, exposed by the Superfund investigations and consequent public alarm, went unattended in part because "petroleum products" were excluded from EPA's cleanup authority under CERCLA. Congress in 1984 added a title to RCRA to authorize EPA to compel the owners and operators of underground tanks to clean up leaks.[8] In SARA, Superfund was expanded and a separate $500 million fund was created for cleaning up leaking underground petroleum storage tanks (the "LUST Fund").

Congress confirmed that federally owned sites were to be treated like any other, except that the Superfund itself was not to be used to clean them up. The Department of Defense was directed to establish its own internal fund, to be financed with otherwise appropriated funds and recoveries from responsible parties.

Other questions of scope were addressed but not resolved. EPA was directed to study the problem of lead-contaminated soil, but to limit its cleanup to pilot programs in three metropolitan areas. High-volume inorganic wastes from mining, power plants, and cement kilns were also to be studied. Sites where such wastes were found were to be evaluated solely on the basis of separately listed toxic or hazardous constituents of such waste.

Congress has been marking points on both sides of the boundary, rather than drawing sharp lines, but Superfund remains a program primarily to clean up waste dumps. It is also increasingly clearly a groundwater protection program.

§ 14:10 Summary: The purpose of hazardous waste law

The complex history described above has produced an intricate body of law, about which it is difficult to generalize. Taking the statutes together, however, and looking with half-closed eyes so that only general features are visible, a few principles are plain.

One overall purpose of the statutes, perhaps the dominant purpose, is to end significant pollution of soil and groundwater by hazardous wastes and the other pollutants designated for control. A system of incentives and penalties in RCRA is directed at discouraging the production of waste. RCRA and the Safe Drinking Water Act aim at ending the disposal of untreated wastes on land, and on reducing the releases from remaining land disposal facilities to insignificant levels. RCRA and CERCLA target cleaning soil and groundwater polluted by wastes to levels of insignificance. The principal methods for achieving these goals are treatment technologies for reducing or destroying the hazards posed by wastes.

II. WASTE MANAGEMENT

§ 14:11 Introduction

The principal statute under which hazardous waste disposal is regulated is technically an amendment to the Solid Waste Disposal Act. As we have seen, this was something of an afterthought to a more pressing concern about municipal trash disposal.[1] The law has never lost the mark of this origin, and is commonly referred to now as the "Resource Conservation and Recovery Act," or "RCRA."[2]

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[8]HSWA, Pub. L. No. 98-616, tit. VI, § 601, 98 Stat. 3222, 3277–88 (codified as RCRA Subtitle I, at 42 U.S.C.A. § 6991).

[Section 14:11]

[1]*See* § 14:4.

[2]*See* EPA, The Nation's Hazardous Waste Program at a Crossroads; the RCRA Implementation

Authorization for RCRA appropriations expired in September 1988, although interim funding has been included in EPA appropriations bills.[3] Senator Baucus introduced a reauthorization bill in 1988 that established a framework for reauthorization discussions.[4] The bill called for amending RCRA to require EPA to regulate air emissions, incinerator ash waste,[5] and medical waste disposal at municipal waste landfills.[6] Congress has continued to appropriate funds annually to EPA to implement RCRA rather than amending RCRA's appropriations provisions.

Under RCRA, EPA was required to treat "hazardous waste" as a subset of all wastes,[7] but the Agency probably had the authority to focus on the worst problems first. Instead, EPA defined "hazardous wastes" very broadly, as the class of all discarded materials with hazardous *qualities*.[8] This broad definition made some sense in the context of the statute's purpose, which was to limit environmental problems by reducing wastes at their source. The production of hazardous wastes, like other wastes, was to be discouraged, and a broad definition of "hazardous waste" would help to carry out this purpose.

The program for waste reduction is a system of incentives. Tight controls on waste disposal facilities were intended only in part as direct protection measures; they also raised the cost and difficulty of waste disposal, and so encouraged waste generators to find alternatives to disposal.[9] Essentially everyone generates "waste," and an incentive program is the only acceptable way of regulating such a wide range of behavior without command and control regulations for the whole economy. The definitions of "waste" and "hazardous waste" are drawn broadly, to bring the incentives to bear on as much of the economy as possible.

Waste disposal facilities, however, are a different matter. These are pollution sources and are usually required to have permits, and to meet detailed standards of performance.[10] A characteristic problem of the hazardous waste program has been to link the two parts of this program—the system of broad incentives to discourage waste generation in the first place, and the narrow system of permits for disposal

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Study, 55 Fed. Reg. 33959 (Aug. 20, 1990).

[3]*See* Pub. L. No. 100-404, 102 Stat. 1014 (1988).

[4]S. 2773, 100th Cong., 2d Sess. (1988); 134 Cong. Rec. S. 12171, S. 12172 (daily ed. Sept. 9, 1988); and S. 1113, 101 Cong., 2d Sess. (1989); 135 Cong. Rec. S. 6021, S. 6022 (daily ed. June 1, 1989). *See* 18 Envtl. L. Rep. (Envtl. L. Inst.) 10496–97.

[5]Since 1997, EPA's Office of Air Quality Planning and Standards issued a Hospital Medical Waste Infectious Rule that addresses medical and infectious waste incineration. 62 Fed. Reg. 48348 (Sept. 15, 1997); 65 Fed. Reg. 49,868 (Aug. 15, 2000); 74 Fed. Reg. 51,368 (Oct. 6, 2009); 92 Fed. Reg. 28052 (May 13, 2013).

[6]In 2019, EPA finalized a rule for the management of certain hazardous waste pharmaceuticals by healthcare facilities and reverse distributors, titled "Management Standards for Hazardous Waste Pharmaceuticals and Amendment to the P075 Listing for Nicotine." 84 Fed. Reg. 5816 (Feb. 22, 2019). To a certain extent, OSHA, 29 U.S.C. §§ 651 et seq., regulates the handling of medical wastes, although final disposal is not regulated by OSHA. *See* 29 C.F.R. § 1910.1030(d)(4)(iii)(C). In addition, several states have imposed their own requirements concerning medical waste. To find out which states have requirements on medical waste, it is necessary to examine state environmental and health agency programs. On its website, EPA links to state programs, including for medical waste. See EPA, Links to Hazardous Waste Programs and U.S. State Environmental Agencies, https://www.epa.gov/hwgenerators/links-hazardous-waste-programs-and-us-state-environmental-agencies; and https://www.epa.gov/aboutepa/health-and-environmental-agencies-us-states-and-territories (last visited Dec. 27, 2021). see also EPA, Medical Waste, https://www.epa.gov/rcra/medical-waste.

[7]*See* RCRA §§ 1002(b), 1004(5), 42 U.S.C.A. §§ 6901(b), 6903(5).

[8]*See generally* 40 C.F.R. § 261.3; § 14:21.

[9]*See, e.g.*, RCRA § 1002(b)(7), 42 U.S.C.A. § 6901(b)(7) (reliance on land disposal should be reduced or eliminated); RCRA § 3002(b), 42 U.S.C.A. § 6922(b) (generators must certify that they had no practicable alternative before disposing of hazardous waste).

[10]*See* § 14:20.

facilities. Congress' solution was to prohibit disposal of all "hazardous wastes" except in permitted facilities.[11] Because of the broad coverage of the incentive program, however, this meant putting an unusually large class of facilities and potential pollutants under regulation. Facilities were regulated, not necessarily because of any local environmental problem, but to stop the flow of wastes more broadly.

The following section summarizes the rules that encourage resource conservation and the regulation of trash disposal. It will then be appropriate to consider the regulation of hazardous waste facilities and underground tanks, and then, finally, the cleanup of spills.

§ 14:12 Resource conservation and recovery

Federally regulated waste is called "solid waste." This is somewhat misleading, since the term includes liquids and contained gases. The term is one of the reminders of the program's origin.[1] RCRA applies only to *waste,* not products, unlike some other environmental laws.[2]

Solid waste programs fall roughly into two categories: First, there is a set of general incentives and disincentives to stimulate more efficient use of energy and natural resources; second, there is a set of criteria for state plans to regulate land disposal of solid waste. The following briefly summarizes these provisions of the law.

§ 14:13 Resource conservation and recovery—Incentives for efficient resource use

The principal incentive for resource conservation is contained in the regulatory programs themselves; these programs narrow the figurative pipeline into which wastes flow. The regulatory programs are discussed more fully in the following sections.[1]

A second incentive is the imposition of liability on waste generators in some circumstances. Generators of wastes that fall into the broadly defined category of hazardous substances may be liable for cleaning up disposal sites.[2] The liability is not limited to clearly hazardous wastes, but covers many ordinary forms of refuse found at disposal sites which may contaminate groundwater.[3] This liability can be substantial; since liability of the responsible parties is joint and several, there is at least a theoretical possibility that a waste generator will pay to clean up not only its own wastes, but those of many other generators.[4]

The third incentive was a feedstock tax imposed on petrochemicals.[5] This tax

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[11] *See* RCRA § 3005(a), 42 U.S.C.A. § 6925(a).

[Section 14:12]

[1] *See* RCRA § 1004(27), 42 U.S.C.A. § 6903(27), 40 C.F.R. § 261.2.

[2] RCRA § 1004(27), 42 U.S.C.A. § 6903(27); RCRA § 3001, 42 U.S.C.A. § 6921.

[Section 14:13]

[1] *See* §§ 14:20, 14:83.

[2] *See* CERCLA § 107, 42 U.S.C.A. § 9607; *see also* § 14:109. *See, e.g.*, Am. Iron & Steel Inst. v. EPA, 886 F.2d 390, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20027 (D.C. Cir. 1989).

[3] *See* United States v. Wade, 546 F. Supp. 785, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20051 (E.D. Pa. 1982), app. dismissed, 713 F.2d 49, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20815 (3d Cir. 1983), ruling on liability and causation, 577 F. Supp. 1326, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20096 (E.D. Pa. 1983); CERCLA § 101(14), 42 U.S.C.A. § 9601(14).

[4] *See* § 14:127.

[5] *See* Internal Revenue Code of 1986, 26 U.S.C.A. § 4611.

went into a revolving fund to finance federal cleanups of abandoned waste dumps.[6] The authority for these taxes expired in 1995.[7]

A fourth possible incentive, a tax on wastes, was defeated in 1986.[8]

Fifth, there is a series of consciousness-raising reporting requirements which act as mild incentives for hazardous waste generators. Generators of hazardous wastes are required to review their operations annually and to report on measures for reducing hazardous waste volume or toxicity.[9] They must have waste reduction plans and manifests which accompany wastes for disposal and must contain the generator's certification that other means of reducing the volume of waste or avoiding disposal have been reviewed.[10] Owners and operators of treatment, storage, and disposal (TSD) facilities that handle waste generated on the premises are required to make the same certification on an annual basis.[11] EPA has issued guidance to aid these individuals in complying with these provisions.[12] In addition, the Pollution Prevention Act of 1990 mandates the inclusion of specific information concerning source reduction and recycling for every toxic chemical required to be reported in the annual toxic chemical release form filed by a facility under Title III of SARA.[13]

Sixth, one statutory objective of RCRA was to encourage the reclamation of solid waste.[14] For example, § 6922(b), entitled "waste minimization," requires a generator to certify that it has a program to reduce the volume, quantity, or toxicity of its hazardous waste and that the proposed treatment, storage, or disposal minimizes the present and future threat to human health and the environment. Also, the Act imposes the obligation to buy recycled products on "procuring" agencies using federal funds.[15] Finally, there is a series of miscellaneous research projects, demonstrations, and other incentives.[16]

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[6]The authority for these taxes expired in 1995. United States Government Accountability Office, Superfund: Funding and Reported Costs of Enforcement and Administrative Activities 8 (2008); United States Government Accountability Office, Superfund: Status of EPA's Efforts to Improve Its Management and Oversight of Special Accounts, GAO-12-109, 9 (Jan. 2012), https://www.gao.gov/assets/gao-12-109.pdf (last visited Dec. 18, 2021). With the passage of the 2021 Infrastructure Investment and Jobs Act, Congress imposed a "Superfund tax," an excise tax, on 42 chemicals that are manufactured or produced in the United States and on the importation of these chemicals, save for any an applicable exception. This tax will be in force until December 31, 2031. Pub. L. 117-58 (2021).

[7]United States Government Accountability Office, Superfund: Funding and Reported Costs of Enforcement and Administrative Activities 8 (2008); United States Government Accountability Office, Superfund: Status of EPA's Efforts to Improve Its Management and Oversight of Special Accounts, GAO-12-109, 9 (Jan. 2012), https://www.gao.gov/assets/gao-12-109.pdf (last visited Dec. 18, 2021).

[8]SARA, Pub. L. No. 99-499, 100 Stat. 1613 (1986) rejected the "waste-end" tax that had been proposed.

[9]RCRA § 3002(a)(6), 42 U.S.C.A. § 6922(a)(6).

[10]RCRA § 3002(b), 42 U.S.C.A. § 6922(b).

[11]RCRA § 3005(h), 42 U.S.C.A. § 6925(h).

[12]58 Fed. Reg. 31114 (May 28, 1993).

[13]Pollution Prevention Act of 1990, Pub. L. No. 101-508, 104 Stat. 1388–324, § 6607, 42 U.S.C.A. § 13106.

[14]*See* H.R. Rep. No. 1491, 94th Cong., 2d Sess. 2 (1976); United States Code Congressional and Administrative News pp 6238, 6239; *see also* RCRA § 1002(a)(1) to (4), (c) to (d) and § 1003(a)(1), (10) to (11), 42 U.S.C.A. § 6901(a)(1) to (4), (c) to (d), and § 6902(a)(1), (10)-(11).

[15]National Recycling Coalition, Inc. v. Reilly, 884 F.2d 1431, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20427 (D.C. Cir. 1989) (discussing RCRA § 6002, 42 U.S.C.A. § 6962).

[16]RCRA was enacted in 1976 and amended in 1980. RCRA provides that lubricating oil cans bear a label encouraging recycling, RCRA § 2005, 42 U.S.C.A. § 6914a; that EPA set up teams of experts to advise other agencies and governments on conserving resources, RCRA §§ 2002 to 2003, 42 U.S.C.A. §§ 6912 to 6913; grants for discarded tire disposal, RCRA § 2004, 42 U.S.C.A. § 6914; an Interagency Coordinating Committee with grand purposes and a charter to oversee the turf battles among EPA, the

§ 14:14 Resource conservation and recovery—State solid waste management plans

The Clean Water Act, the Safe Drinking Water Act, and RCRA encourage the states to establish plans for waste disposal.[1] RCRA authorizes two sets of plans. The first is intended for the management of all solid waste disposal within the state's jurisdiction. The second is intended solely for the management of hazardous wastes, which are to be diverted from the common disposal system into specially-licensed facilities.[2] These two systems of state plans remain connected. Small-quantity generators of hazardous waste, for instance, may choose between state-licensed landfills and incinerators or RCRA-licensed landfills and incinerators; EPA established, by regulation, the criteria for municipal landfills. Different requirements are applicable to new and existing units.[3] The Clean Water Act and the Safe Drinking Water Act require state permit systems for disposal wells.[4]

While the states may have to integrate all of these plans for management purposes, one must begin by conceptually separating them into at least two large categories: Waste disposal generally, and hazardous waste management. The following subsections briefly review the general waste disposal plans, which are loosely connected to the system of incentives for waste reduction. The subsequent sections describe the permitting system for hazardous waste facilities, including hazardous waste disposal wells.

§ 14:15 Resource conservation and recovery—State solid waste management plans—Dumps and landfills

Section 208 of the Clean Water Act and RCRA combine to produce a complex system for managing solid wastes. Subtitle D of RCRA prohibits open dumping of

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Department of Energy, and the Department of Commerce, RCRA § 2001(b), 42 U.S.C.A. § 6911(b); a string of programs for the Commerce Department designed to establish standards for recycled materials, and to help establish markets for these materials, RCRA §§ 5001 to 5006, 42 U.S.C.A. §§ 6951 to 6956; an elaborately detailed research and demonstration program to develop resource recycling, energy recovery, and other such technology in which EPA was authorized to provide grants and enter into contracts for demonstration facilities, RCRA §§ 8001 to 8007, 42 U.S.C.A. §§ 6981 to 6987. Notably missing is any mention of disposable containers. RCRA § 8002, 42 U.S.C.A. § 6982, authorizes special studies of multiple-unit apartment and office buildings; mining waste; sludge, tires, airport landfills; oil drilling fluids, etc. There is an unexplained announcement that resource recovery facilities shall be limited in size to the reasonably foreseeable needs of the area; this is apparently intended to prevent trash-to-fuel plants from competing unfairly with other recycling businesses; *see* RCRA § 4003(d), 42 U.S.C.A. § 6943(d). The system of taxes and incentives, in short, looks like a miniature unreformed tax code.

[Section 14:14]

[1]*See* § 14:3. RCRA Subtitle D, 42 U.S.C.A. §§ 6941 to 6949a.

[2]RCRA Subtitle C, 42 U.S.C.A. §§ 6921 to 6939g.

[3]56 Fed. Reg. 50978 (Oct. 9, 1991). This rule also fulfills a portion of EPA's responsibilities under the Clean Water Act to regulate the use and disposal of sewage sludge.

These regulations were challenged in Sierra Club v. EPA, 992 F.2d 337, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20827 (D.C. Cir. 1993), because they failed to impose numeric limits on toxics in sewage sludge that was to be co-disposed with municipal solid waste. The court accepted EPA's position that numeric limits would be infeasible. The court, however, vacated the portion of the regulations exempting small landfills from groundwater monitoring requirements, and remanded this provision to EPA for reconsideration.

[4]*See* Clean Water Act § 402(b)(1)(D), 33 U.S.C.A. § 1342(b)(1)(D); § 13:31. Note that state plans must include authority to issue well permits, but EPA itself does not have authority to issue such permits in most situations. *See* § 14:3. *See* SDWA §§ 1421 to 1424, 42 U.S.C.A. §§ 300h to 300h-3; § 14:68.

municipal waste and sets minimum siting and design criteria for landfills.[1] Those standards prescribe liners, leachate collection systems, and groundwater monitoring wells to minimize the possibility that toxic substances leached from a landfill might contaminate groundwater. Landfill owners and operators must demonstrate financial responsibility, assuring that landfills will be properly closed and adequately cared for after closure.[2] EPA is required to establish criteria for disposal technology,[3] for groundwater quality standards,[4] and for all the complex technical issues that affect a state plan to protect groundwater from waste disposal: "geologic, hydrologic, climatic, and other circumstances under which different solid waste practices are required . . . , methods, techniques and practices, and location of facilities."[5] The states may establish a regulatory program governing all waste disposal which, among other things, requires that "open dumps" either be closed or upgraded to become sanitary landfills.[6] These plans are to be submitted to EPA; if approved, EPA is authorized to supply financial assistance to the states in implementing their plans. Finally, when a state has an approved plan, EPA is authorized to provide added financial assistance for resource conservation planning and demonstration projects.[7] Landfill plans are to be included in a wider planning process for all sources of water pollution, for which EPA provides assistance under the Clean Water Act's § 208.[8] This state planning program has both benefitted and suffered from benign neglect. Little money was ever appropriated, and EPA never paid much attention to state planning under either the Clean Water Act or RCRA; the whole process is only weakly enforceable through the granting or withholding of financial assistance;[9] and it is further crippled by the separation of water pollution and solid waste regulation into different organizations within EPA.

The only mildly vigorous portion of this program at the federal level is the narrow effort for closing or upgrading dumps; even this is largely limited to the provision that each state must submit to EPA a list, to be published in the *Federal Register*, of open dumps. Since such dumps are liable to citizen action, the act of publication is sometimes an incentive for compliance.[10]

The states may have pursued these concerns more vigorously than the federal government; however, trash disposal is primarily a municipal responsibility. Landfills remain largely a problem of the towns and counties, which seem to be managing reasonably well.

However, an area of interest is the import of out-of-state wastes. In several cases, state restrictions on imports of wastes, ranging from total bans to higher disposal fees, have been held to impose unconstitutional burdens on interstate commerce.[11]

[Section 14:15]

[1]RCRA §§ 4004 to 4005(a), 42 U.S.C.A. §§ 6944 to 6945(a); see also 40 C.F.R. Pt. 258.

[2]40 C.F.R. §§ 258.71 to 258.73.

[3]RCRA § 4002(c), 42 U.S.C.A. § 6942(c).

[4]Clean Water Act § 304(a)(1)-(2), 33 U.S.C.A. § 1314(a)(1)-(2).

[5]RCRA § 4002(c), 42 U.S.C.A. § 6942(c).

[6]RCRA §§ 4003(a), 4005, 42 U.S.C.A. §§ 6943(a), 6945.

[7]RCRA §§ 4007 to 4008, 42 U.S.C.A. §§ 6947 to 6948.

[8]Clean Water Act §§ 208, 303(e), 33 U.S.C.A. §§ 1288, 1313(e).

[9]*See* Natural Resources Defense Council v. Costle, 564 F.2d 573, 580, 7 Envtl. L. Rep. (Envtl. L. Inst.) 20702, 20705 (D.C. Cir. 1977).

[10]*See* RCRA § 4005(a)-(b), 42 U.S.C.A. § 6945(a)-(b).

[11]*See, e.g.*, Chemical Waste Management, Inc. v. Hunt, 504 U.S. 334, 112 S. Ct. 2009, 119 L. Ed. 2d 121, 34 Env't. Rep. Cas. (BNA) 1721, 22 Envtl. L. Rep. 20909 (1992) (U.S. Supreme Court ruled that an Alabama statute that set a higher fee for disposal of out-of-state waste than for in-state waste

§ 14:16 Resource conservation and recovery—State solid waste management plans—Injection wells

Federal law requires states that administer Clean Water Act programs to impose discharge permits on all disposal wells.[1] The federal government itself lacks authority under the Clean Water Act to issue permits except where the wells affect navigable surface waters or the addition of the pollutants through groundwater is the "functional equivalent" of a direct discharge from a point source into navigable waters pursuant to the U.S. Supreme Court's 2020 decision in County of Maui v. Hawaii Wildlife Fund.[2] While this "functional equivalent" test may clarify groundwater regulation under the Clean Water Act to some extent,[3] there is ambiguity and arguably overlap regarding which statute applies to any given set of facts (the Clean Water Act, the Safe Drinking Water Act, and/or RCRA). For example, the Maui case overruled prior Clean Water Act holdings in the Fourth and Sixth Circuits involving alleged impacts from coal ash to groundwater (to the extent those holdings are inconsistent with Maui),[4] including cases where the courts had identified plaintiffs' RCRA claims as "the proper federal channel" against coal ash

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is unconstitutional.); National Solid Wastes Management Ass'n v. Alabama Dept. of Environmental Management, 910 F.2d 713, 31 Env't. Rep. Cas. (BNA) 1793, 20 Envtl. L. Rep. 21316 (11th Cir. 1990), opinion modified on denial of reh'g, National Solid Wastes Management Ass'n v. Alabama Dept. of Environmental Management, 924 F.2d 1001, 32 Env't. Rep. Cas. (BNA) 1717, 21 Envtl. L. Rep. 20637 (11th Cir. 1991). *But see* Kleenwell Biohazard Waste and General Ecology Consultants, Inc. v. Nelson, 48 F.3d 391, 40 Env't. Rep. Cas. (BNA) 1289, 25 Envtl. L. Rep. 20867 (9th Cir. 1995) (upholding certification requirement because it promotes safety and does not unnecessarily burden interstate commerce). The Supreme Court, resolving a split between the Second and Sixth Circuits, held that municipal ordinances that required wastes to be processed at local government-owned disposal facilities are constitutional. United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Management Authority, 550 U.S. 330, 127 S. Ct. 1786, 167 L. Ed. 2d 655, 64 Env't. Rep. Cas. (BNA) 1129, 41 A.L.R. Fed. 2d 601 (2007); *see also* Sandlands C & D LLC v. County of Horry, 737 F.3d 45, 77 Env't. Rep. Cas. (BNA) 1629 (4th Cir. 2013) (relying on the United Haulers case to hold that county ordinance requiring waste within county to be disposed of at county's landfills did not violate dormant Commerce Clause).

[Section 14:16]

[1]*See* Clean Water Act § 402(b)(1)(D), 33 U.S.C.A. § 1342(b)(1)(D).

[2]*See* § 14:3. *See also* County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 1476, 206 L. Ed. 2d 640 (2020) ("We hold that the [Clean Water Act] requires a permit when there is a direct discharge from a point source into navigable waters or when there is the *functional equivalent of a direct discharge*."). For a fuller discussion of the Maui case in the context of the Clean Water Act, see Chapter 13.

[3]The Court explained that "there are too many potentially relevant factors applicable to factually different cases for this Court now to use more specific language," and then set forth the following as examples "of the factors that may prove relevant (depending upon the circumstances of a particular case)":

> (1) transit time, (2) distance traveled, (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically changed as it travels, (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, (7) the degree to which the pollution (at that point) has maintained its specific identity. Time and distance will be the most important factors in most cases, but not necessarily every case.

County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 1476–77, 206 L. Ed. 2d 640 (2020).

[4]To the extent cases involved a different threshold determination under the Clean Water Act – whether coal ash ponds are a "point source"—Maui arguably did not overrule such holdings. In Maui, the parties did not dispute that the wells were "point sources" under the Clean Water Act, but the County argued that the Clean Water Act does not apply to discharges to groundwater (and only indirectly to the Pacific Ocean). *Compare* Hawai'i Wildlife Fund v. County of Maui, 881 F.3d 754, 765, 85 Env't. Rep. Cas. (BNA) 2391 (9th Cir. 2018), opinion amended and superseded on denial of reh'g en banc, 886 F.3d 737 (9th Cir. 2018), vacated and remanded, 140 S. Ct. 1462, 206 L. Ed. 2d 640 (2020), *with* Kentucky Waterways Alliance v. Kentucky Utilities Company, 905 F.3d 925, 933-38 (6th Cir. 2018) (abrogated by, County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 206 L. Ed. 2d 640 (2020)) (rejecting claims that coal ash ponds and underlying groundwater and karst through which it

operations.[5]

Plaintiffs and regulators may attempt to rely on each of the three statutes where injection wells or groundwater are involved, and which statute(s) are applicable in any given case will be fact-specific.[6] EPA has attempted to clarify the regulatory regimes in light of Maui, and courts are beginning to do the same.[7] Such cases may ultimately implicate RCRA's anti-duplication provision, RCRA § 1006(a), which provides that nothing in RCRA "shall be construed to apply to (or to authorize any State, interstate, or local authority to regulate) any activity or substance which is subject to the [Clean Water Act], the Safe Drinking Water Act," and other specified federal laws, "except to the extent that such application (or regulation) is not inconsistent with the requirements of such Acts."[8] This has the potential to expand Clean Water Act regulation of groundwater, including by states, and overlay the scope of RCRA (or shrink it, particularly where there is a perceived inconsistency between the application of the statutes).[9]

The Safe Drinking Water Act applies federal design standards to all injection wells which may affect "aquifers" that are capable of serving as public drinking water supplies. There is not necessarily much difference between an injection well and a landfill. Each is a hole in the ground; a well is deeper than it is wide.[10] Nonhazardous wastes, especially liquids, may be disposed of in any of the various kinds of disposal facilities; the states may accordingly channel wastes to the most suitable locations, but the vagaries of federal law, which differ from one statute to another, may sometimes hinder the state programs.

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travels are point sources).

[5]Kentucky Waterways Alliance v. Kentucky Utilities Company, 905 F.3d 925, 929-38 (6th Cir. 2018) (abrogated by, County of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 206 L. Ed. 2d 640 (2020)) (holding that the Clean Water Act does not apply to storage and treatment in coal ash ponds because they are not point sources and "RCRA governs," explaining that "adopting Plaintiffs' interpretation of the CWA would leave the [Coal Combustion Residuals (CCR)] Rule virtually useless," and "declin[ing] to interpret the CWA in a way that would effectively nullify the CCR Rule and large portions of RCRA"); Sierra Club v. Virginia Electric & Power Company, 903 F.3d 403, 410–12 (4th Cir. 2018) (holding that a "simple causal link" between the coal ash ponds and contamination in nearby waterways "does not fulfill the Clean Water Act's requirement that the discharge be from a point source" as the discharges did not originate from a "discernible, confined and discrete conveyance," and explaining that "EPA classifies coal ash and other coal combustion residuals as nonhazardous waste governed by the RCRA, *see* 40 C.F.R. §§ 257.50, 257.53 and [the Agency] has issued regulations pursuant to the RCRA imposing specific guidelines for the construction, management, and ultimate closure of coal ash sites, including, notably, obligations to monitor groundwater quality and undertake any necessary corrective action, *see* 40 C.F.R. §§ 257.90–257.98").

[6]See, e.g., Peconic Baykeeper, Inc. v. Harvey, 2021 WL 4755623 (E.D. N.Y. 2021) (making claims involving injection wells under the Clean Water Act, the Safe Drinking Water Act, and RCRA).

[7]In 2021, EPA offered guidance on the Maui decision, and then quickly rescinded it. EPA, Guidance Memorandum: Rescission of the January 2021 Guidance Document Entitled "Applying the Supreme Court's County of Maui v. Hawaii Wildlife Fund Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program," https://www.epa.gov/system/files/documents/2021-09/maui-rescission-memo_final-09.15.2021.pdf; see also 86 Fed. Reg. 6321 (Jan. 21, 2021).

[8]RCRA § 1006(a), 42 U.S.C.A. § 6905(a).

[9]Ecological Rights Foundation v. Pacific Gas & Electric Company, 874 F.3d 1083, 1097, 85 Env't. Rep. Cas. (BNA) 1605 (9th Cir. 2017) ("RCRA's anti-duplication provision does not bar RCRA's application unless the specific application would conflict with identifiable legal requirements promulgated under the CWA or another listed statute."); Coon ex rel. Coon v. Willet Dairy, LP, 536 F.3d 171, 174, 67 Env't. Rep. Cas. (BNA) 1193 (2d Cir. 2008) ("Appellants' RCRA claims are based on the same activities and substances that the CWA covers. Therefore, pursuant to Section 6905(a), the RCRA cannot apply to these activities and substances in this instance because any such application would be inconsistent with the CWA's 'permit shield.' "); Goldfarb v. Mayor and City Council of Baltimore, 791 F.3d 500, 80 Env't. Rep. Cas. (BNA) 2156 (4th Cir. 2015) (RCRA's anti-duplication provision is not jurisdictional).

[10]*See* 40 C.F.R. § 144.3 (definition of "well" in injection well regulations).

§ 14:17 Solid waste and hazardous waste

RCRA is technically a set of amendments to the Solid Waste Act of 1965,[1] and one of the consequences of this is the somewhat misleading term used for its subject matter, "solid waste." Jurisdiction under RCRA is limited to solid waste, but the term is defined in the statute to include liquid and contained gaseous wastes.[2] There are, in fact, two definitions of solid waste in the RCRA program; a definition which applies to ordinary solid waste, whose disposal is regulated under Subtitle D of RCRA, discussed in the preceding sections, and hazardous solid wastes, whose management is regulated under Subtitle C, discussed in the following sections.

§ 14:18 Solid waste and hazardous waste—Solid waste

Solid waste, for Subtitle D purposes, is any discarded material, including household wastes, garbage, commercial wastes, refuse from construction, industrial wastes, and sludges from waste treatment plants and pollution control facilities.[1] Courts have addressed this definition by focusing on the plain meaning of "discarded" (e.g., as cast aside, rejected, abandoned, given up, having served its intended purpose, or no longer wanted by the consumer).[2]

Excluded from the definition of solid waste are domestic sewage, irrigation return flows, discharges permitted under § 402 of the Clean Water Act (most industrial and municipal point discharges, but dredged and fill material remain solid wastes) and radioactive wastes under the jurisdiction of the Department of Energy or the Nuclear Regulatory Commission.[3] Oil and gas[4] and geothermal waste are also not regulated under Subtitle C.[5] The D.C. Circuit has addressed the issue of whether recycled material constitutes discarded waste. Specifically, in *American Mining Congress v. EPA ("AMC I")*, the court held that the term "discarded materials" could not include materials "destined for beneficial reuse or recycling in a continuous process by the generating industry itself" because they are not yet part of the waste disposal problem.[6] However, the D.C. Circuit as well as other circuits have held that certain materials destined for recycling are considered "discarded" and thus are within EPA's ambit of § 261.2.[7] In *Association of Battery Recyclers, Inc. v. EPA*,[8] the D.C. Circuit reiterated the holding in *AMC I* that materials reused within an ongo-

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[Section 14:17]

[1]Solid Waste Act of 1965, Pub. L. No. 89-272, tit. II, 79 Stat. 997, codified as extensively amended at 42 U.S.C.A. §§ 6901 to 6987.

[2]RCRA § 1004(27), 42 U.S.C.A. § 6903(27).

[Section 14:18]

[1]RCRA § 1004(27), 42 U.S.C.A. § 6903(27). *See* Garlick, "EPA's Definition of Solid Waste: Making Distinctions Between Shades of Grey," 17 Envtl. L. Rep. (Envtl. L. Inst.) 10349 (Sept. 1987).

[2]See, e.g., California River Watch v. City of Vacaville, 14 F.4th 1076 (9th Cir. 2021) (holding there was a triable issue of fact based on expert testimony regarding whether hexavalent chromium is "discarded material" that meets RCRA's definition of "solid waste" when it is discharged into the environment after a wood treatment process, and no longer serving its intended use as a preservative). *See, e.g.*, U.S. Brewers Ass'n v. EPA, 600 F.2d 974, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20395 (D.C. Cir. 1979).

[3]RCRA § 1004(27), 42 U.S.C.A. § 6903(27).

[4]*See* 53 Fed. Reg. 12162 (Apr. 13, 1988) (notice of availability of date on listing certain petroleum refinery wastes).

[5]53 Fed. Reg. 25446 (July 6, 1988).

[6]Am. Mining Cong. v. EPA, 824 F.2d 1177, 1186 (D.C. Cir. 1987) ("AMC I").

[7]*See, e.g.*, Am. Petroleum Inst. v. EPA, 906 F.2d 729 (D.C. Cir. 1990) ("API I") (holding that emission control dust from steelmaking operations is a solid waste, even when it is sent to a metals reclamation facility); Am. Mining Cong. v. EPA, 907 F.2d 1179 (D.C. Cir. 1990) ("*AMC II*") (holding that

ing industrial process are neither disposed of or abandoned and therefore not "discarded." In 2008, EPA finalized a rule revising the definition of solid waste to exclude "hazardous secondary materials"—materials that would be hazardous wastes if discarded—that are being "legitimately recycled by reclamation."[9] As a result of a petition requesting the repeal of the 2008 revisions, EPA agreed to a settlement on September 7, 2010, under which EPA committed to prepare a proposed rulemaking to address concerns raised in the petition and, ultimately, issue a final rulemaking by December 31, 2012.[10] EPA did not meet that deadline, but eventually finalized a rule, published in 2015, addressing the concerns raised in the petition.[11] Among other changes, such as additional storage requirements, the final rule primarily focuses on whether recycling activities are "legitimate" (not a "sham") and increases regulation of such activities by amending or removing portions of the 2008 exclusions.[12]

§ 14:19 Solid waste and hazardous waste—Hazardous waste

"Hazardous" wastes are nominally a subset of all solid wastes, but EPA has separately defined "solid waste" for purposes of the hazardous waste program.[1] This is an intricate definition, more inclusive in some ways than the Subtitle D definition, but also subject to broad exemptions which do not apply to Subtitle D.

The definition begins at the same statutory starting point: Subtitle C solid wastes, like Subtitle D solid wastes, are "discarded" materials which may be solid, liquid, or contained gases.[2] However, for these purposes, discarded materials include those which are accidentally or unintentionally released into the environment, if they are not promptly recovered; certain byproduct materials; materials speculatively accumulated for recycling; and certain recovered or recycled materials, including those which are used in a manner which constitutes disposal.[3]

The Subtitle C definition of hazardous waste is also subject to the statutory exclusions for sewage, irrigation return flows, permitted Clean Water Act § 402 point-

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fisted wastes managed in units that are part of wastewater treatment units are discarded materials if it is unclear that the industry actually reuses the materials); Am. Petroleum Inst. v. EPA, 216 F.3d 50, 57-58 (D.C. Cir. 2000) ("*API II*"); United States v. ILCO, Inc., 996 F.2d 1126, 1132 (11th Cir. 1993); Owen Elec. Steel Co. of S.C. v. EPA, 37 F.3d 146, 150 (4th Cir. 1994); Safe Food and Fertilizer v. E.P.A., 350 F.3d 1263, 1268–69, 57 Env't. Rep. Cas. (BNA) 1694, 34 Envtl. L. Rep. 20006 (D.C. Cir. 2003), on reh'g in part, 365 F.3d 46, 58 Env't. Rep. Cas. (BNA) 1330, 34 Envtl. L. Rep. 20027 (D.C. Cir. 2004); California Communities Against Toxics v. Environmental Protection Agency, 928 F.3d 1041, 1054–56 (D.C. Cir. 2019); American Petroleum Institute v. Environmental Protection Agency, 862 F.3d 50, 55–63 (D.C. Cir. 2017), decision modified on reh'g, 883 F.3d 918, 85 Env't. Rep. Cas. (BNA) 2655 (D.C. Cir. 2018).

[8]Association of Battery Recyclers, Inc. v. EPA, 208 F.3d 1047 (D.C. Cir. 2000).

[9]80 Fed. Reg. 1694 (Jan. 13, 2015) (definition of solid waste).

[10]Sierra Club v. EPA, No. 09-1041 (D.C. Cir. Sept. 10, 2010).

[11]80 Fed. Reg. 1694 (Jan. 13, 2015).

[12]40 C.F.R. §§ 261.2(f) to (g), 260.43 (legitimate recycling factors); see also American Petroleum Institute v. Environmental Protection Agency, 862 F.3d 50, 63, 75 (D.C. Cir. 2017), decision modified on reh'g, 883 F.3d 918, 85 Env't. Rep. Cas. (BNA) 2655 (D.C. Cir. 2018) (vacating Factor 4 in § 261.43(a)(4) "insofar as it applies to all hazardous secondary materials via § 261.2(g)," but not addressing Factor 4 to the extent it is incorporated into individual exemptions).

[Section 14:19]

[1]*See* 40 C.F.R. § 261.2 (definition of solid waste).

[2]RCRA § 1004(27), 42 U.S.C.A. § 6903(27).

[3]*See* 40 C.F.R. §§ 261.2(a)(2)–(b). EPA includes in this definition certain "inherently wastelike materials," notably including several toxic dioxins, which are wastes regardless of how they are managed, or whether they are discarded, unless they are excluded by EPA. 40 C.F.R. § 261.2(d).

source discharges, and otherwise regulated nuclear materials.[4] However, EPA separately defined the exclusion for domestic sewage to include any wastes added to a sewer which delivered the wastes to a treatment plant.[5] This definition excluded from regulation many industrial wastes disposed into sewers that EPA arguably had statutory authority to control.[6]

EPA also excluded "household wastes" from the definition of Subtitle C solid wastes, believing Congress did not intend to make households subject to the rules for generators of hazardous waste.[7] Congress confirmed this interpretation of the statute, and refined EPA's regulatory definition, in 1984.[8]

The statute contains additional exclusions from the Subtitle C definition for mining wastes. A 1980 RCRA amendment known as the Bevill-Bentsen Amendment required EPA to exclude solid waste generated from "extraction, beneficiation, and processing of ores and minerals" from regulation as hazardous waste under RCRA Subtitle C.[9] These mining wastes became known as Bevill wastes.[10] The Bentsen part of the amendment gave a similar exemption to oil, gas, and geothermal production wastes, becoming known as Bentsen wastes.[11] The Bevill-Bentsen Amendment also required EPA to conduct studies of these wastes to determine whether to regulate them as hazardous under RCRA Subtitle C. In 1980, EPA revised its regulations to exclude these wastes from Subtitle C hazardous waste regulation, but also expanded the mining waste exclusion to apply to solid waste from the "exploration, mining, milling, smelting and refining of ores and minerals."[12] Based on this broad interpretation of the Bevill Amendment, EPA suspended its Subtitle C listing of six hazardous smelter wastes. In 1985, EPA, under a court order, issued a proposed reinterpretation of the Bevill-Bentsen Amendment's mining waste exclusion. EPA proposed to narrow the scope of the exclusion to certain high-volume, low-hazard wastes and to relist the six smelting wastes under Subtitle C. A year later, EPA withdrew its proposal based on difficulties in applying the high-volume, low-hazard standard. In 1988, EPA's 1986 withdrawal of its 1985 proposed interpretation was held to be arbitrary and capricious.[13] EPA's actions were held to be illegal because the 1986 withdrawal reaffirmed the overly broad 1980 interpretation by default and effectively renewed the statutory review period. The amendment and its legislative history suggest that Congress intended the mining waste exclusion to apply only to wastes generated in large volumes. The court held that EPA's failure to quantify the parameters of the high-volume, low-hazard standard in its 1985 pro-

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[4]RCRA § 1004(27), 42 U.S.C.A. § 6903(27).

[5]*See* 40 C.F.R. § 261.4(a)(1)(ii).

[6]EPA was directed to carry out a study of exclusion of wastes disposed into sewage systems, and determine whether such disposal needs added regulation under RCRA or the Clean Water Act. The study was to be published in the spring of 1986, and the regulation, if any, published eighteen months later. *See* RCRA § 3018, 42 U.S.C.A. § 6939. The regulations continue to exclude "[a]ny mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment" from the definition of solid waste. 40 C.F.R. § 261.4(a)(1)(ii).

[7]*See* 40 C.F.R. § 261.4(b)(1). For a discussion of the scope of the exclusion, see Comite pro Rescate de la Salud v. Puerto Rico Aqueduct & Sewer Auth., 888 F.2d 180, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20211 (1st Cir. 1989), cert. denied, 494 U.S. 1029 (1990).

[8]*See* RCRA § 3001(i), 42 U.S.C.A. § 6921(i).

[9]RCRA §§ 3001(b)(2)(A), (C), 8002(m), 42 U.S.C.A. §§ 6921(b)(2)(A), (C), 6982(m).

[10]Bevill wastes, however, are not excluded from regulation under CERCLA. Louisiana Pac. Corp. v. ASARCO, Inc., 24 F.3d 1565, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20992 (9th Cir. 1994).

[11]RCRA § 3001(b)(2)(C), 42 U.S.C.A. § 6921(b)(2)(C) (1982).

[12]45 Fed. Reg. 76618 (Nov. 19, 1980) (Bentsen waste determination).

[13]Envtl. Def. Fund v. EPA, 852 F.2d 1316, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21169 (D.C. Cir. 1988).

posal does not justify withdrawal of the proposal to list six hazardous smelter wastes that do not qualify as special wastes. The court ordered EPA to relist the six hazardous smelting wastes and to determine the applicability of the Bevill Amendment to large-volume processing wastes.[14] In 1989, EPA was required to include these wastes under § 3004(u) of RCRA requiring corrective action.[15] On September 1, 1989, EPA narrowed the Bevill exclusion to five mineral processing wastes and allowed a "conditional exclusion" for 20 additional wastes until further studies could be completed.[16] On September 25, 1989, EPA proposed to permanently remove seven additional wastes from the exclusion making them subject to regulation as hazardous wastes.[17] But on January 17, 1990, in the final Rule, only five of the seven were removed.[18] According to a rule signed by the EPA on May 20, 1991, the remaining 20 will continue to be exempt from regulation under RCRA.[19] Since that time, however, EPA has contemplated regulating certain Bevill wastes.[20]

Pressure on EPA to regulate coal ash began to mount after an unlined surface impoundment in Tennessee failed on December 22, 2008, and released approximately 5.4 million cubic yards of sludge across 300 acres of land and into the nearby Emory River. EPA contemplated whether to regulate coal combustion residuals (CCR) as hazardous waste under RCRA Subtitle C, or as nonhazardous solid waste under Subtitle D, and ultimately selected Subtitle D (but is still studying potential regulation as hazardous waste under Subtitle C).[21] In 2016, Congress amended RCRA § 4005(d) to require that operators of CCR units (e.g., landfills and surface impoundments) obtain permits that incorporate EPA's disposal regulations for CCR.[22] This regulatory program sets the federal floor, but encourages states to regulate CCR further with their own permit programs approved by EPA.[23] EPA's CCR regulations have been subject to challenges from all sides and have been affected by court decisions to date. For example, the D.C. Circuit held that the CCR rule's exemption for inactive surface impoundments at inactive sites was arbitrary

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[14]*See* Envtl. Def. Fund v. EPA, 852 F.2d 1316, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21178 (D.C. Cir. 1988). EPA relisted the wastes at 53 Fed. Reg. 35412 (Sept. 13, 1988).

[15]Am. Iron & Steel Inst. v. EPA, 886 F.2d 390, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20027 (D.C. Cir. 1989).

[16]54 Fed. Reg. 36592 (Sept. 1, 1989).

[17]54 Fed. Reg. 39298 (Sept. 25, 1989); *see also* EPA, Report to Congress on Special Wastes from Mineral Processing, 55 Fed. Reg. 32135 (Aug. 7, 1990).

[18]55 Fed. Reg. 2322 (Jan. 23, 1990).

[19]56 Fed. Reg. 27300 (June 13, 1991).

[20]In 1993 and 2000, EPA concluded that regulation of certain Bevill wastes was not warranted, but decided to issue minimum national standards for certain other Bevill wastes under Subtitle D of RCRA. 58 Fed. Reg. 42466 (Aug. 9, 1993); 65 Fed. Reg. 32214 (May 22, 2000). EPA did not immediately proceed to formulate those standards.

[21]In 2010, EPA proposed to regulate coal combustion residuals (*e.g.*, coal ash, fly ash, bottom ash, boiler slag, and flue gas desulfurization materials) with two different proposals: (1) reverse the Bevill determinations to regulate coal combustion residuals under RCRA Subtitle C in certain situations; or (2) leave the Bevill determinations in place, but regulate coal combustion residuals under Subtitle D by issuing national minimum criteria. 75 Fed. Reg. 35128 (June 21, 2010); see also 40 C.F.R. § 257.53 (defining "coal combustion residuals"). In a final rulemaking, EPA elected the second option under Subtitle D, amending 40 C.F.R. Parts 257 and 261. 80 Fed. Reg. 21302 (April 17, 2015); *see also* EPA, Disposal of Coal Combustion Residuals from Electric Utilities Rulemakings, http://www2.epa.gov/coalash/coal-ash-rule.

[22]RCRA § 4005(d), 42 U.S.C. § 6945(d).

[23]See RCRA § 4005(d), 42 U.S.C. § 6945(d) (authorizing states to submit a permit program for EPA approval to regulate CCR units in lieu of 40 C.F.R. Part 257 or successor federal regulations); 80 Fed. Reg. 21301, 21430 (Apr. 17, 2015).

and capricious and remanded it to EPA for further rulemaking.[24]

EPA is directed to study—and must exclude from its regulations during the study—wastes from power production, oil and gas drilling, and cement kilns; EPA considers these solid wastes, but excludes them from the definition of "hazardous" wastes.[25] EPA was also directed to decide whether to list used oil destined for recycling as a hazardous waste,[26] and ultimately decided not to list it as hazardous in light of the management standards for used oil at 40 C.F.R. Part 279.[27]

III. THE REGULATION OF HAZARDOUS WASTES

§ 14:20 Designation of hazardous wastes

"Hazardous waste" is a relatively new idea in federal law; as we have seen, it made its first distinctive appearance in the Clean Water Act Amendments of 1972, which required the states to make plans for regulating land disposal of "pollutants," as well as other wastes.[1] Early laws were literally stop-gaps to check the escape of pollutants from the regulations governing their release into air and water.[2] When Congress finally established an enforceable federal program for regulating hazardous wastes, it was attached to a bill regulating municipal dumps. Hazardous wastes are therefore a subset of "solid wastes," a common euphemism for trash or garbage, but the term has been expanded to include any discarded solid, liquid, or contained gas.[3] The definition of "solid waste" is discussed in more detail in the preceding section.

A "hazardous" solid waste is one which, because of its quantity or characteristics, may pose a substantial threat when improperly managed.[4] This alone is broad enough to cover almost anything. The history sketched in preceding sections suggests that hazardous wastes are simply pollutants which have been contained and which must be disposed of, and the language of RCRA would have allowed EPA to designate hazardous wastes in the same manner that it designated air and water pollutants, by choosing first the pollutants which already posed the most serious risks in the environment.[5]

However, EPA delayed implementing RCRA until after the firestorms at

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[24]The court remanded provisions regarding "(i) the definition of 'Coal Residuals Piles,' *see* 40 C.F.R. § 257.53; (ii) the 12,400-ton beneficial use threshold, *see id.*; and (iii) the alternative groundwater protection standards, *see id.* § 257.95(h)(2)" and "[iv] that permit unlined impoundments to continue receiving coal ash unless they leak, *see id.* § 257.101(a), [v] classify "clay-lined" impoundments as lined, *see* 40 C.F.R. § 257.71(a)(1)(i), and [vi] exempt from regulation inactive impoundments at inactive facilities, *see* 40 C.F.R. § 257.50(e)." Utility Solid Waste Activities Group v. Environmental Protection Agency, 901 F.3d 414, 419–26, 449–50 (D.C. Cir. 2018), judgment entered, 2018 WL 4158384 (D.C. Cir. 2018); see also Duke Energy Carolinas, LLC v. South Carolina Office of Regulatory Staff, 434 S.C. 392, 864 S.E.2d 873 n.7 (2021).

[25]*See* RCRA § 3001(b)(3)(A); 42 U.S.C.A. § 6921(b)(3)(A); 40 C.F.R. §§ 261.4(b)(5), 261.4(b)(8). *But see* 40 C.F.R. § 261.4(a)(5) (*in situ* wastes excluded from definition of solid waste).

[26]Hazardous Waste Treatment Council v. EPA, 861 F.2d 270, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20059 (D.C. Cir. 1988).

[27]57 Fed. Reg. 41566 (Sept. 10, 1992); Natural Resources Defense Council, Inc. v. U.S. E.P.A., 25 F.3d 1063, 1065, 38 Env't. Rep. Cas. (BNA) 1639, 24 Envtl. L. Rep. 20959 (D.C. Cir. 1994).

[Section 14:20]

[1]Clean Water Act §§ 208(b)(2)(J) to 208(b)(2)(K), 33 U.S.C.A. §§ 1288(b)(2)(J) to 1288(b)(2)(K).

[2]Clean Water Act §§ 208(b)(2)(J) to 208(b)(2)(K), 33 U.S.C.A. §§ 1288(b)(2)(J) to 1288(b)(2)(K); SDWA, Part C, 42 U.S.C.A. §§ 300h to 300h-4; *see* § 14:1.

[3]RCRA § 1004(27), 42 U.S.C.A. § 6903(27); *see* § 14:1.

[4]*See* RCRA § 1004(5), 42 U.S.C.A. § 6903(5).

[5]RCRA § 3001, 42 U.S.C.A. § 6921.

abandoned waste dumps had been ignited; it was then too late to regulate one pollutant at a time on the basis of actual environmental harm. EPA instead adopted an extraordinarily complex scheme which sought to include all wastes with hazardous characteristics all at once, in a vast regulatory program.[6] While this was in accord with the effort to discourage waste production, it created an unusually difficult regulatory program.

At present, therefore, many hazardous wastes are sometimes separately designated, and many other wastes that have not been separately designated are regulated nonetheless, so long as they exhibit one of the characteristics established by EPA. The procedures for identifying wastes described by these categories, and adding or removing wastes from them, are discussed in the following subsections.

§ 14:21 Designation of hazardous wastes—Designation procedures: The threshold of regulation

Any person who generates a waste should determine whether it is hazardous.[1] The procedure for making this determination is both important and complex.[2] Once designated as hazardous, the waste will enter the regulatory system (unless it falls within a few enumerated exclusions), but small quantities of hazardous waste may be subject to only minimal regulation.[3] A person who designates a material in her or his facility as a hazardous waste must send a notice to EPA or a state agency.[4] The generator must request an identification number, which can be done by telephone in emergency situations; for example, during a spill cleanup, a person who retrieves a spilled shipment of chemicals and packages it for disposal will become a generator at the site of the spill, and should obtain an identification number.[5] Persons may petition to add categories of wastes, or to delete categories (listing and delisting petitions), to those listed by EPA.[6]

The generator's notice and identification number place the generator's facility, as well as the waste itself, within the RCRA regulatory system. The generator at the facility must attach to any off-site shipment of the hazardous waste a manifest which includes the generator's identification number, identification of the waste, and the destination.[7]

§ 14:22 Designation of hazardous wastes—Categories of hazardous wastes—Listed wastes

A waste is "hazardous" if it falls into one of two categories: (1) a waste EPA has *listed* as hazardous; or (2) if testing proves it to have *characteristics* which have been defined as hazardous. Both of these categories have numerous subdivisions.

Any solid waste generated in the treatment, storage, or disposal of a listed haz-

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[6]*See generally* 40 C.F.R. Part 261 (including appendices).

[Section 14:21]

[1]*See* 40 C.F.R. § 262.11.

[2]Office of Solid Waste, United States Environmental Protection Agency, RCRA Orientation Manual (1986); *see also* 40 C.F.R. § 261.2 (definition of solid waste).

[3]*See* 40 C.F.R. § 261.5; § 14:38. *See* 40 C.F.R. § 260.10 (definition of "very small quantity generator," formerly "conditionally exempt small quantity generators" in § 261.5), § 262.10(a)(1)(i) (very small quantity generator requirements); § 14:38.

[4]*See* RCRA § 3010, 42 U.S.C.A. § 6930; 40 C.F.R. § 261.18 (formerly in § 262.12).

[5]*See* 40 C.F.R. § 261.18 (formerly § 262.12); 45 Fed. Reg. 85022 (Dec. 24, 1980).

[6]*See* 40 C.F.R. §§ 260.20 to 260.22.

[7]40 C.F.R. §§ 262.20 to 262.21.

ardous waste is also a hazardous waste.[1]

RCRA's drafters appeared to recognize that "hazardous waste" was a new form of pollution, and that new categories of description would be needed. Air and water pollutants were usually designated by working backward from their adverse effect on the environment; toxic chemicals were designated by name and concentration; and other pollutants by such characteristics as pH and "oxygen demand."[2] These criteria for designation developed slowly over a century or more of professional experience; hazardous waste regulation would require a similar development in a period of months.

§ 14:23 Designation of hazardous wastes—Categories of hazardous wastes—Listed wastes—Thresholds for identifying wastes

The statute addresses identification of wastes. First, the statute required regulatory criteria for characteristics of hazardous waste that trigger the process—some hazard to health or the environment must exist.[1] EPA took these criteria directly from those already contained in the statutory definition of "hazardous waste." These in turn are borrowed from the Clean Air Act's threshold criterion for designation of toxic air pollutants,[2] combined with a rough paraphrase of the "imminent hazard" authority found in several statutes.[3] Hazardous wastes therefore must be either "toxic" or otherwise "hazardous."

§ 14:24 Designation of hazardous wastes—Categories of hazardous wastes—Listed wastes—Criteria for listing wastes

The second step is to establish criteria for identifying waste which may cause hazards to the public health or the environment that exceed the thresholds.[1] EPA's regulations create two distinct classes of criteria. The first are criteria EPA will use itself to "list" waste generically;[2] the second are criteria every generator must use to determine whether a particular batch of waste is "hazardous."[3]

FOUR CRITERIA OF HAZARDOUS WASTE

Ignitable wastes burn easily, posing a threat of fire

[Section 14:22]

[1]*See* 40 C.F.R. § 261.3(c)(2). *But see* § 14:29.

[2]*See* § 2:2.

[Section 14:23]

[1]*See* RCRA § 3001(a), 42 U.S.C.A. § 6921(a) ("criteria for identifying the characteristics of hazardous waste"); 40 C.F.R. § 261.10 (same).

[2]*Compare* RCRA § 1004(5)(A), 42 U.S.C.A. § 6903(5)(A) *with* Clean Air Act § 112(a)(6), (b), 42 U.S.C.A. § 7412(a)(6), (b).

[3]*Compare* RCRA § 1004(5)(B), 42 U.S.C.A. § 6903(5)(B) ("substantial present or potential hazard to human health or the environment") *with, e.g.,* Clean Air Act § 303, 42 U.S.C.A. § 7603 ("imminent and substantial endangerment to public health or welfare"); Clean Water Act § 504(a), 33 U.S.C.A. § 1364(a) ("imminent and substantial endangerment to the health of persons or to the welfare of persons"); RCRA § 7003(a), 42 U.S.C.A. § 6973(a) ("imminent and substantial endangerment to health or the environment").

[Section 14:24]

[1]*See* RCRA § 3001(a), 42 U.S.C.A. § 6921(a); 40 C.F.R. §§ 261.11 to 261.24.

[2]40 C.F.R. §§ 261.11, 261.20.

[3]*See* 40 C.F.R. §§ 261.20, 262.11.

Corrosive wastes are strong acids and bases, capable of eating through metals

Reactive wastes are unstable, with the potential to explode, react violently with water, or produce toxic fumes when exposed to water or strong acid or base

Toxic wastes have the potential to release toxic substances to the environment in toxic concentrations if handled improperly.

Common to both procedures are four cardinal criteria: "ignitability," "corrosivity," "reactivity," and "toxicity."[4] These criteria are operationally defined by testing methods and analytical procedures employed by EPA or required to be used by generators.[5] These definitions depart somewhat from the meaning the words convey to a layman; the biggest surprise is "toxicity." This is not the toxicity of the waste itself, but the toxicity of the waste's components that might be expected to leach out of a landfill; "EP" stands for an "extraction procedure," in which the waste is dissolved in mildly acidic water. The fraction which passes through a filter is chemically tested for the presence of a few listed "toxic" chemicals in concentrations that may exceed drinking water quality standards. The actual toxicity of the waste is not determined. Only eight heavy metals and six pesticides were listed for this purpose in RCRA's first ten years, but EPA in 1986 broadened this procedure to include more toxic organic chemicals.[6]

In the Hazardous and Solid Waste Amendments of 1984 (HSWA), Congress indicated its dissatisfaction with the scope of the extraction procedure toxicity characteristic test by requiring EPA to expand the characteristics of hazardous waste and to identify additional indicators of toxicity. In March 1990, EPA revised its toxicity characteristic test, defining regulatory levels for thirty-nine organic constituents.[7] The regulatory thresholds were derived by first identifying toxicity levels for the individual constituents. Second, EPA estimated the degree to which each constituent would be diluted and attenuated during migration from a landfill to a water source. Third, EPA calculated the concentration of a constituent in leachate. Concentration in leachate, when combined with the dilution or attenuation factor, equals the toxicity level. The leachate concentration equals the regulatory threshold. To simulate generation of leachate containing the constituents of concern, EPA developed a toxicity characteristic leaching procedure (TCLP). The TCLP is designed to mimic generation of a leachate containing toxicity characteristic constituents in a "worst-case" management situation where hazardous and municipal waste are disposed in one landfill. The TCLP test became effective in 1990 and replaced the EP test for determining toxicity under 40 C.F.R. § 261.24.[8]

EPA utilizes additional criteria to "list" categories of waste for regulation,[9] includ-

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[4]*See* 40 C.F.R. §§ 261.21 to 261.24.

[5]40 C.F.R. §§ 261.21 to 261.24 (and regulations referred to therein).

[6]*See* 40 C.F.R. § 261.24.

[7]RCRA § 3001(g), 42 U.S.C.A. § 6921(g).

[8]For a contemporaneous analysis of this change, see Stever, "Recent Development Under RCRA, Toxic Substances Control Act, and in Toxic Tort Litigation," ALI-ABA Course of Study Materials: Environmental Law, Feb. 15–17, 1990, Washington, D.C. at 129–131.

[9]*See* 40 C.F.R. § 261.11.

ing a reactivity test, and a definition of "acute" toxicity.[10] If the waste contains one or more of the constituents listed in Appendix VIII of the regulations as "toxic," EPA will list the waste unless it passes muster under general criteria related to characteristics of the waste, the hazard the waste poses in use, and the responses already being taken by other agencies.[11] Finally, the regulations reserve authority for EPA to classify wastes as hazardous by applying the general hazard criteria in the statute.[12]

§ 14:25 Designation of hazardous wastes—Categories of hazardous wastes—Listed wastes—Hazardous waste lists and identification symbols

There are two categories of lists: the first describes waste streams, from general or particular sources;[1] the second category lists particular chemical species.[2]

The first category of lists includes types of waste—spent solvents, wastewater treatment sludges, distillation bottoms, and the like; some are listed without regard to source,[3] while others are listed if they derive from particular industrial sources.[4] EPA has to some extent followed categories used in the statutory determination of solid waste, especially in emphasizing "sludges" from air pollution control and wastewater treatment, a focus of the statute as a whole.[5]

The second category contains chemical "products"—by which seems to be meant particular chemical species rather than the products made from them—and "intermediates" listed by generic chemical names—which are hazardous wastes when they become wastes by any means.[6]

Each of the listed chemicals and wastes is identified by the principal characteristics that make it hazardous. These characteristics are depicted by six symbols called "Hazard Codes," and used on reports and manifest forms.[7] Department of Transportation symbols are used for listed chemicals and wastes in transit.

§ 14:26 Designation of hazardous wastes—Categories of hazardous wastes—Listed wastes—Listing procedures and delisting petitions

EPA's initial regulations, effective on November 19, 1980, attempted an inclusive

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[10] 40 C.F.R. § 261.11(a)(2).

[11] 40 C.F.R. § 261.11(a)(3). Envtl. Def. Fund v. EPA, 210 F.3d 396 (D.C. Cir. 2000) (holding that EPA's decision not to list 14 solvents as hazardous waste was within its authority even though constituents of the wastes were listed in Appendix VIII).

[12] RCRA § 1004(5), 42 U.S.C.A. § 6903(5); 40 C.F.R. § 261.11(b). The Agency is authorized by the statute to list "infectious" wastes as well, but it has not included this among its criteria. For a general review of the listing criteria, see Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 5.

[Section 14:25]

[1] *See* 40 C.F.R. §§ 261.31 to 261.32.

[2] 40 C.F.R. § 261.33.

[3] *See* 40 C.F.R. § 261.31.

[4] *See* 40 C.F.R. § 261.32.

[5] *See* RCRA § 1004(27), 42 U.S.C.A. § 6903(26A) ("sludge"), (27) ("solid waste"); 40 C.F.R. § 261.2 ("solid waste").

[6] *See* 40 C.F.R. § 261.32.

[7] 40 C.F.R. § 261.30(a). The symbols are as follows: Ignitable Waste (I); Corrosive Waste (C); Reactive Waste (R); Toxicity Characteristic Waste (E); Acute Hazardous Waste (H), and Toxic Waste (T).

listing of all hazardous wastes that met the statutory criteria.[1] It is not clear why EPA felt obliged at that time to include essentially all eligible wastes in the program at once. Multiple listing and delistings have occurred since 1990,[2] and EPA now moves with considerable caution before adding new categories of wastes to its hazardous listings. Congress has confirmed the Agency's initial impulse toward complete coverage, however, and has required EPA to consider several large categories of waste omitted from its lists.[3]

The governor of any state may petition EPA to "identify" or list any waste.[4] Any interested person may petition EPA to exclude from a listed category a waste produced at a particular generating facility.[5] To obtain an exclusion, the petitioner must demonstrate that the facility's waste does not exhibit the criteria for which the waste category as a whole was listed.[6] Such a petition triggers a *de novo* review of the waste, however.[7]

§ 14:27 Designation of hazardous wastes—Categories of hazardous wastes—"Characteristic" wastes

If generators find their wastes are not listed, they must still test their wastes for the four cardinal "characteristics" of hazardous waste—ignitability, reactivity, corrosivity, and toxicity.[1] EPA regulations prescribe sampling techniques and the tests to be used to measure these characteristics.[2] Generators must also apply their knowledge of the wastes and the processes which generated them.[3]

[Section 14:26]

[1]*See* 45 Fed. Reg. 33084, 33119 (May 19, 1980).

[2]*See, e.g.*, 55 Fed. Reg. 18496 (May 2, 1990) (designating four new to RCRA list); 55 Fed. Reg. 46354 (Nov. 2, 1990) (listing petroleum sludges); 77 Fed. Reg. 56558 (Sept. 13, 2012) (delisting a particular wastewater treatment sludge).

[3]RCRA § 3001(e), 42 U.S.C.A. § 6921(e), added by the HSWA, required EPA to list, "where appropriate," chlorinated and halogenated dioxins and dibenzofurans. This section also required the EPA to make listing determinations in regard to a series of other wastes.

[4]RCRA § 3001(c), 42 U.S.C.A. § 6921(c).

[5]40 C.F.R. § 260.22. 54 Fed. Reg. 27114 (June 27, 1989) (EPA clarifying delisting rules); 53 Fed. Reg. 21639 (June 9, 1988) (notice of policy determination on the delisting model); *see* Florini, "EPA's Delisting Program for Hazardous Wastes: Current Limitations and Future Directions," 19 Envtl. L. Rep. (Envtl. L. Inst.) 10558 (Dec. 1989); Ethyl Corp. v. EPA, 918 F.2d 225 (D.C. Cir 1990). EPA has published a manual, entitled *Petitions to Delist Hazardous Wastes—A Guidance Document,* that describes the data and information that should be included in a delisting petition submitted pursuant to 40 C.F.R. §§ 260.20 and 260.22. The Guidance is available online at https://nepis.epa.gov/Exe/ZyPDF.cgi/200125QL.PDF?Dockey=200125QL.PDF. *See also* 58 Fed. Reg. 19250 (Apr. 13, 1993). EPA has since provided additional guidance online, and ultimately the delisting process is governed by each EPA Region and each delegated state. See EPA, Delisting a Hazardous Waste, https://www.epa.gov/hw/delisting-hazardous-waste#howdo.

[6]See 40 C.F.R. § 260.22.

[7]*See* RCRA § 3001(f), 42 U.S.C.A. § 6921(f); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 5.

[Section 14:27]

[1]EPA's toxicity characteristic rules were upheld in all respects, except for their application to certain mineral processing and electric utility wastes, in Edison Elec. Inst. v. EPA, 2 F.3d 438, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21173 (D.C. Cir. Aug. 6, 1993). *See also* U.S. v. WCI Steel, Inc., 72 F. Supp. 2d 810, 49 Env't. Rep. Cas. (BNA) 1685, 30 Envtl. L. Rep. 20169 (N.D. Ohio 1999) (holding that corrosivity of wastewater may be determined by samples that were representative of the wastewater, even though the sampling method did not adhere to sampling methods set forth in EPA regulations).

[2]*See, e.g.*, 40 C.F.R. §§ 261.21 to 261.24.

[3]*See* 40 C.F.R. § 262.11(c)–(d); § 14:24.

§ 14:28 Designation of hazardous wastes—Categories of hazardous wastes—Mixtures

By EPA rule, listed wastes remain regulated as hazardous wastes even if mixed with large quantities of nonhazardous wastes; this rule carries out the general policy against treating pollutants by diluting them, but there are numerous exceptions to this rule.[1] The largest exception is if the hazardous waste is hazardous solely because it exhibits characteristics that generators must test for in unlisted wastes—the four cardinal "Subpart C" characteristics—and if the *mixture* does not exhibit any of these characteristics, then the mixture is not a hazardous waste. This is a curiously permissive rule, and arguably allows generators to discharge large quantities of otherwise regulated waste by diluting them in certain circumstances, a practice that is otherwise not permitted.[2]

The mixture rules were vacated and remanded to EPA in *Shell Oil Co. v. EPA* on December 6, 1991,[3] because of a lack of notice to affected parties. The court ruled that affected industries had insufficient notice in the December 1978 proposal that EPA would regulate mixtures of hazardous and nonhazardous waste as hazardous wastes. Such notice and an opportunity to comment is required under the Administrative Procedure Act.

The court similarly found that the industries were not given proper notice of EPA's intent to regulate as hazardous waste all solid waste generated from treating or disposing of hazardous waste. This aspect of the rule, known as the "derived-from" rule, was also remanded to EPA. Subsequently, EPA reenacted the rules based on a "good cause" exemption in the Administrative Procedure Act.[4]

Subsequently, the D.C. Circuit denied EPA's request for clarification to determine whether the *Shell Oil* decision would apply retroactively to enforcement actions filed prior to the decision. However, on June 4, 1992, the Eighth Circuit in *United States v. Goodner Bros. Aircraft* held that the Shell Oil decision applies retroactively.[5] In light of this determination, the *Goodner* court held that two defendants convicted of RCRA violations must be retried because the jury may have based its guilty verdicts on a finding that the wastes at issue were hazardous under the mixture rule. The court also ignored EPA's argument that the convictions were based on the analogous state mixture rule, which was not implicated by the *Shell Oil* decision.[6]

[Section 14:28]

[1]RCRA § 1004(27), 42 U.S.C.A. § 6903(27); 53 Fed. Reg. 31138 (Aug. 17, 1988); 40 C.F.R. Part 268, § 261.11.

[2]*See* 40 C.F.R. § 261.3(g); 66 Fed. Reg. 27266 (May 16, 2001) (revising the former exclusions in § 261.3); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch 5. The dilution process is "treatment" that may require a permit, although the residue is not a hazardous waste.

[3]Shell Oil Co. v. EPA, 950 F.2d 741, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20305 (D.C. Cir. 1991).

[4]57 Fed. Reg. 7628 (Mar. 3, 1992); 57 Fed. Reg. 49278 (Oct. 30, 1992) (removing rule expiration date); *see also* Mobil Oil Corp. v. EPA, 35 F.3d 579 (D.C. Cir. 1994) (by prohibiting termination of EPA's interim mixture and derived-from rules pending further administrative action by the Agency, Congress rendered moot a suit challenging the validity of the interim rules).

[5]United States v. Goodner Bros. Aircraft, 966 F.2d 380, 22 Envtl. L. Rep. (Envtl. L. Inst.) 21201 (8th Cir. 1992), cert. denied, 506 U.S. 1049, 113 S. Ct. 967 (1993); *see also* In re Hardin County, RCRA Appeal No. (3008) 93-1 (EPA Apr. 12, 1994) (holding the mixture rule void from its effective date).

[6]*See also* In re Hardin County, RCRA Appeal No. (3008) 93-1 (EPA Apr. 12, 1994) (Environmental Appeals Board did not allow EPA to enforce Ohio rule). *But see* Rollins Envtl. Serv. (NJ), Inc. v. State, 634 A.2d 1356 (N.J. Super. Ct. App. Div. 1994) (New Jersey may enforce the mixture and derived-from rules enacted in the state); U.S. v. Bethlehem Steel Corp., 38 F.3d 862, 39 Env't. Rep. Cas. (BNA) 1449, 24 Envtl. L. Rep. 21499 (7th Cir. 1994) (holding that in the absence of a valid mixture rule, hazardous wastewater treatment sludges that are mixed with nonhazardous wastes do not constitute hazardous waste).

§ 14:29 Designation of hazardous wastes—Categories of hazardous wastes—Exceptions and variances; Recovery of wastes

A listed waste, or a waste found to have hazardous characteristics, may still escape regulation if it falls under an exclusion or is eligible for one of the variances provided by statute or regulation.[1] The exclusions and variances fall into two broad categories: (1) a series of specific exemptions based on varied policies and interests; and (2) exclusions and variances which encourage the recycling of hazardous wastes. The first category of exemptions limits or qualifies the statute's effectiveness, while the second is important in carrying out the statute's fundamental purpose of discouraging disposal and stimulating recovery of wastes.

§ 14:30 Designation of hazardous wastes—Categories of hazardous wastes—Exceptions and variances; Recovery of wastes—Miscellaneous exclusions

The boundaries between RCRA and other statutes are marked by a series of exclusions from the definition of "hazardous waste." Gaseous emissions to the air are not solid wastes because they are not contained,[1] and are regulated, if at all, under the Clean Air Act. Discharges authorized by some Clean Water Act permits are also excluded from the definition of solid waste, as are the discharges from oil and gas drilling operations and irrigation return flows,[2] whose exemption from regulation under the Clean Water Act is preserved by a similar exclusion in RCRA.[3] "Source, special nuclear or byproduct materials," terms of art for radioactive materials regulated by the Department of Energy or the Nuclear Regulatory Commission, are also excluded.[4] Wastes disposed of in injection wells or by ocean dumping remain hazardous waste, but by regulation, such disposal is regulated under other statutes.[5]

One of these boundaries is especially important. Industrial discharges into sewage treatment systems are regulated under the Clean Water Act, and so are excluded

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[Section 14:29]

[1]*See generally* Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 5; *see also* Center for Community Action and Environmental Justice v. BNSF R. Co., 764 F.3d 1019, 78 Env't. Rep. Cas. (BNA) 2085 (9th Cir. 2014) (holding that emission of particulate matter does not constitute "disposal" of solid waste under RCRA and, therefore, finding it unnecessary to decide whether diesel particulate matter is "solid waste").

[Section 14:30]

[1]*See* RCRA § 1004(27), 42 U.S.C.A. § 6903(27).

[2]This exemption applies only to wastes that are uniquely associated with primary field operations associated with oil or gas. It does not apply to wastes that are only secondarily associated with exploration, development, or production, such as wastes generated by transportation or manufacturing operations. 58 Fed. Reg. 15284 (Mar. 22, 1993).

[3]58 Fed. Reg. 15284 (Mar. 22, 1993); 40 C.F.R. §§ 261.4(a)(2) to (3), (b)(5); *see also* State v. PVS Chemicals, Inc., 50 F. Supp. 2d 171, 48 Env't. Rep. Cas. (BNA) 1670 (W.D. N.Y. 1998) (applying RCRA's wastewater exclusion to discharges subject to permit under the Clean Water Act to avoid duplicative regulation). RCRA also contains an anti-duplication provision which expressly excludes from regulation "any activity or substance which is subject to" the Clean Water Act and certain other statutes "except to the extent that such application (or regulation) is not inconsistent with the requirements of such Acts." RCRA § 1006(a), 42 U.S.C. § 6905(a). *But see* Goldfarb v. Mayor and City Council of Baltimore, 791 F.3d 500, 80 Env't. Rep. Cas. (BNA) 2156 (4th Cir. 2015) (RCRA's anti-duplication provision is not jurisdictional).

[4]*See* RCRA § 1004(27), 42 U.S.C.A. § 6903(27); 40 C.F.R. § 261.4(a)(4). Naturally-occurring radioactive materials and isotopes made in accelerators remain under EPA's jurisdiction, as do otherwise hazardous wastes which happen also to contain "source, special nuclear or byproduct material."

[5]*See* 40 C.F.R. §§ 270.60, 270.64.

from the definition of "solid waste."[6] Since they are not wastes, these discharges are not listed hazardous wastes, and their presence in sewage sludge does not render the sludge subject to regulation, unless the sludge itself exhibits hazardous characteristics.[7] Regulation under the Clean Water Act, however, has moved much more slowly than under RCRA, creating a very large loophole in the system for regulating hazardous wastes.[8] In 1984, Congress directed EPA to close the loophole by the end of 1987, by regulating under either statute as it chose.[9] In November 1990, EPA published regulations to comply with this directive.[10] The "domestic sewage" exemption was discussed in *Comite pro Rescate de la Salud v. Puerto Rico Aqueduct and Sewer Authority*.[11] The First Circuit rejected the claim that untreated sanitary waste discharged from the workplace constitutes "domestic sewage" within the meaning of the statute and 40 C.F.R. § 261.4 and thus that the mixture of such waste with industrial waste constituted an exempt "mixture." The court held that the term "domestic sewage" as used in § 1004(27) applies only to untreated sanitary waste that originates from residences, not from workplaces. The court also found that the mixture exclusion and the definition of domestic sewage provided in 40 C.F.R. § 261.4 apply only to Subtitle C, not to §§ 7002 and 7003, and that defining "domestic sewage" differently under the two portions of the statute was reasonable given their different purposes. Leaving the mixture issue to another day, the First Circuit observed that because the industrial park's sewage was subsequently rerouted to another POTW, one receiving sewage not only from the park but also from residences, the lower court would be obliged on remand to consider whether the defendants' discharges would be exempt because their sewage now mixes with genuine, residentially-generated "domestic sewage."[12]

Some other exclusions express uncertainty whether some industries should be subjected to the burden of hazardous waste regulation. Some mining wastes, most of the wastes produced in electric power production, and "cement kiln dust," which otherwise undoubtedly would meet the criteria for listing as hazardous, are excluded while EPA studies the need for regulation.[13]

Further, RCRA applies only to hazardous waste within the territorial jurisdiction of the United States.[14] "Household wastes" were excluded from "hazardous waste" by regulation, and Congress has ratified EPA's reading of the statute, with some qualifications.[15] Trash from hotels and other similar wastes are excluded along with "household wastes" and incinerators or "resource recovery" facilities that handle

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[6]RCRA § 1004(27), 42 U.S.C.A. § 6903(27); 40 C.F.R. § 261.4(a)(2).

[7]*See* 40 C.F.R. § 261.3(a)(2).

[8]*See* § 14:59.

[9]*See* RCRA § 3018, 42 U.S.C.A. § 6939.

[10]EPA proposed regulations under § 4010(c) on November 23, 1988, 53 Fed. Reg. 47632. The rules became final on July 24, 1990, 55 Fed. Reg. 30082 (July 24, 1990). *See* 40 C.F.R. Part 403 amendments to pretreatment standards.

[11]Comite pro Rescate de la Salud v. Puerto Rico Aqueduct & Sewer Auth., 888 F.2d 180, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20211 (1st Cir. 1989), cert. denied, 494 U.S. 1029 (1990).

[12]See also U.S. v. Spain, 591 F. Supp. 2d 970, 975 n.3 (N.D. Ill. 2008) (the "domestic sewage" exemption "does not apply to industrial waste that happens to be mixed with residential waste in the sewer system").

[13]RCRA § 3001(b)(3)(A)(iii), 42 U.S.C.A. § 6921(b)(3)(A)(iii). The reports were required on fairly tight schedules, RCRA § 3002, 42 U.S.C.A. § 6982.

[14]Amlon Metals, Inc. v. FMC Corp., 775 F. Supp. 668, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20235 (S.D.N.Y. 1991).

[15]*See* RCRA § 3001(i), 42 U.S.C.A. 6921(i); 40 C.F.R. § 261.4(b)(1).

only household wastes and other non-hazardous wastes excluded from regulation.[16]

Some other wastes are excluded for a variety of reasons, and those exclusions are scattered throughout EPA definitions of solid and hazardous waste, as well as under the heading for exclusions.[17] EPA has chosen to exclude certain wastes from regulation as hazardous waste, including where it determines that such regulation is not necessary to protect human health and the environment.[18] But EPA's policy decisions with respect to excluded wastes have not always withstood judicial scrutiny.[19]

§ 14:31 Designation of hazardous wastes—Categories of hazardous wastes—Exceptions and variances; Recovery of wastes—Recovery of wastes

Similarly complex exclusions apply to some wastes which are recovered for reuse. The statute encourages the recovery of waste for new uses, but discourages its casual disposal; the line between the two is both important and difficult to draw. For instance, if an oily waste is sold for dust suppression on local roads, has it been "recovered" or just disposed of in a particularly hazardous way?

EPA's hazardous waste regulations draw this line by excluding from the definition of "solid waste," materials that would be wastes, or in fact have become wastes, but instead of being disposed of are used as raw materials in a production process or directly as commercial products.[1] Materials reclaimed from wastes, which would otherwise be defined as wastes because they result from a waste treatment process, are similarly excluded if used as raw materials or sold as products.[2]

There are exclusions within the exclusions, however, for uses of some wastes which require continued regulation. Some materials recovered from wastes continue to be solid wastes if they are "used in a manner constituting disposal"; used as a fuel; reclaimed; or accumulated speculatively.[3] These provisions are particularly

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[16]RCRA § 3001(i), 42 U.S.C.A. § 6921(i); 40 C.F.R. § 261.4(b)(1). Of course, if the wastes *produced* at the incinerator have hazardous characteristics, they enter the regulatory system. The incinerator will be regulated as a generator rather than a disposal facility. See City of Chicago v. Environmental Defense Fund, 511 U.S. 328, 337, 114 S. Ct. 1588, 128 L. Ed. 2d 302, 38 Env't. Rep. Cas. (BNA) 1433, 24 Envtl. L. Rep. 20810 (1994) ("The incineration here is exempt from TSDF regulation, but subject to regulation as hazardous waste generation.").

[17]*See* 40 C.F.R. § 261.3(a), § 261.4 (exclusions).

[18]*See, e.g.*, Military Toxics Project v. E.P.A., 146 F.3d 948, 28 Envtl. L. Rep. 21350 (D.C. Cir. 1998) (upholding conditional exemption for military munitions as a rational policy decision).

[19]*See, e.g.*, Natural Resources Defense Council v. E.P.A., 755 F.3d 1010, 78 Env't. Rep. Cas. (BNA) 1745 (D.C. Cir. 2014) (vacating Comparable Fuels Exclusion, promulgated at 63 Fed. Reg. 33782 (June 19, 1998), because Congress intended that EPA regulate all hazardous-waste-derived fuels except those expressly excluded in 42 U.S.C.A. § 6924(q)); Sierra Club v. E.P.A., 755 F.3d 968, 78 Env't. Rep. Cas. (BNA) 2095 (D.C. Cir. 2014) (same with respect to Gasification Exclusion Rule, promulgated at 73 Fed. Reg. 57 (Jan. 2, 2008), but noting that 42 U.S.C.A. § 6924(q) does not necessarily require full regulation under RCRA).

[Section 14:31]

[1]*See* 40 C.F.R. § 261.2(e).

[2]*See* 40 C.F.R. §§ 261.1(c), 261.2(c); *see* Am. Mining Cong. v. EPA, 824 F.2d 1177, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21064 (D.C. Cir. 1987).

[3]*See* 40 C.F.R. § 261.2(c). The burden of proving the exclusion falls on the respondent in an enforcement action. 40 C.F.R. § 261.2(f). To further complicate matters, and to encourage the development of new uses and markets, EPA regional administrators may grant case-by-case "variances" from classification as a solid waste for recovered materials. 40 C.F.R. § 260.30. There is a similar procedure for classifying certain "enclosed controlled flame combustion devices" as boilers, so that burning constitutes use as a fuel, rather than treatment of a waste. 40 C.F.R. § 260.33. There are parallel provisions, however, for reclassifying exempt uses back into the category of waste storage, treatment, or disposal. 40 C.F.R. §§ 260.40 to 260.41. These rules are so complex and so subject to discretionary determina-

aimed at the use of contaminated oils sprayed on roads or burned as heating fuel in home and commercial boilers.

The HSWA in 1984 somewhat dampened the earlier enthusiasm for recycling, and authorized the Agency to place less weight on recycling when designating used oil as a hazardous waste, regulating used oil as a hazardous waste, and promulgating regulations for the control of recycling.[4] Complex regulations for the control of contaminated heating oil or any other material contaminated with hazardous waste were spelled out. "Dust suppression or road treatment" was prohibited.[5]

§ 14:32 Facilities for which permits are required

Treatment, storage, or disposal of hazardous wastes is prohibited, except at facilities whose owners and operators have permits issued in accordance with EPA regulations (or at "interim status" facilities which are treated as if they had permits).[1] Anyone who wishes to operate a hazardous waste "TSD" facility must apply for a permit, and may not operate the facility without one.[2] Where one owns a facility that is operated by another, both parties are required to sign the permit application, and the permit is issued in both names.[3]

§ 14:33 Facilities for which permits are required—"Facility"

Only the owners and operators of a "facility" may receive a permit. A "facility" is the area within property boundaries, and includes in that area land, structures, or appurtenances—language which usually applies only to real estate, and not to movables.[1] This has made it difficult to license mobile treatment units. A "hazardous waste facility" is a facility where treatment, storage, or disposal of hazardous wastes is carried out, and such a facility must have a permit. The functions which trigger the permit requirement are as follows.

§ 14:34 Facilities for which permits are required—Treatment

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tions by EPA that it is probably good practice to seek a determination from the regional administrator at the outset.

[4]The Congressional declaration of purpose in the 1976 statute had omitted the need to protect health and the environment in regard to used oil recycling, and this omission was corrected in the HSWA of 1984. *See* 42 U.S.C.A. § 6901(a).

[5]*See* RCRA § 3004(l), 42 U.S.C.A. § 6924(l).

[Section 14:32]

[1]*See* RCRA § 3005(a), 42 U.S.C.A. § 6925(a).

[2]RCRA § 3005(a), 42 U.S.C.A. § 6925(a); 40 C.F.R. § 270.10. TSD regulations, including corrective action requirements, apply only to currently operating facilities. Acme Printing Ink Co. v. Menard, Inc., 870 F. Supp. 1465, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20784 (E.D. Wis. 1994).

[3]The regulations require both the owner and operator of the facility to sign the permit application and certify to the truth of the facts supplied in the application. 40 C.F.R. § 270.10(b). However, the Ninth Circuit has limited the scope of the certification requirement for absentee landowners to their knowledge of the activity and their liability for that activity. Systech Envtl. Corp. v. U.S. EPA, 55 F.3d 1466, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21247 (9th Cir. 1995).

[Section 14:33]

[1]The statute does not define "facility." In EPA's regulations, the term is defined in somewhat circular fashion as a place where regulated activities occur. 40 C.F.R. § 260.10(a). The emphasis of EPA's regulations is in fact on permitted activities, but the owner of the real estate where the activity occurs is required to assume responsibility. Limiting the definition to structures, real estate, and appurtenances makes it difficult to regulate mobile treatment units. *See* United Techs. Corp. v. EPA, 821 F.2d 714, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21015 (D.C. Cir. 1987); *see also* Fishel v. Westinghouse Elec. Corp., 617 F. Supp. 1531, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20001 (M.D. Pa. 1985) (intent to operate a regulated facility not relevant to status); *see also* Stever, *Law of Chemical Regulation and Hazardous Waste*.

"Treatment" is broadly defined in the statute. Treatment is any activity which reduces the volume of the hazardous waste, makes it easier to manage, reduces its hazardous qualities, or makes recovery easier.[1] Incineration and other methods of destroying wastes constitute "treatment" rather than disposal.

§ 14:35 Facilities for which permits are required—Storage

"Storage" has several definitions. The statute defines it as any "containment" of hazardous waste that is not disposal.[1] EPA's regulations contain a general definition, which is not the same as the statute's. EPA's definition is as follows: "Storage means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere."[2] This introduces a series of other defined terms into the definition, and arguably creates some gaps that EPA must then fill elsewhere in its regulations.[3] EPA has set separate criteria for categories of vessels used to store wastes.[4]

Generators often will hold hazardous wastes before transporting them for treatment or disposal, and transporters will hold them for loading or transshipment. Since it would not be practical to impose "storage facility" permit requirements in every such instance,[5] EPA created some exceptions to the storage regulations, which Congress embroidered upon. These exceptions defy brief summary and must be consulted. There are separate exceptions for different classes of generators, depending on size,[6] and for transporters.[7] Probably the largest exception is the one for generators who may hold wastes for up to 90 days (for large quantity generators) or 180 days (for small quantity generators) without becoming subject to storage facility permit regulations, so long as the wastes are accumulated in compliance with specified requirements, including for containment, inspections, and labeling and marking with the date and "Hazardous Waste."[8] Generators during the allowed accumulation period are not subject to the requirements for "storer" vessels at other facilities but

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[Section 14:34]

[1]RCRA § 1004(34), 42 U.S.C.A. § 6903(34).

[Section 14:35]

[1]RCRA § 1004(33), 42 U.S.C.A. § 6903(33).

[2]40 C.F.R. § 260.10 ("storage"). This regulation is ambiguous; it is not clear whether holding wastes for on-site disposal is "storage," nor whether wastes held for transportation to another site are in "storage." When a generator holds wastes within accumulation limits and timeframes (90 days for large quantity generators and 180 days for small quantity generators), subject to certain conditions, it is exempt from the permit requirements for storage "facilities." 40 C.F.R. § 262.16(b) (accumulation limits for small quantity generators), § 262.17(a) (accumulation limits for large quantity generators), formerly in § 262.34; *see* §§ 14:38, 14:39. The statute's more inclusive and clear definition probably governs in other situations.

[3]*See, e.g.*, 40 C.F.R. § 266.22 ("storers" of recyclable materials which will be used in a manner that constitutes disposal).

[4]*See* 40 C.F.R. §§ 264, Subpart I (containers), Subpart J (tanks); *see also* RCRA § 3004(w), 42 U.S.C.A. § 6924(w) (EPA to regulate underground tanks that cannot be entered for inspection); 53 Fed. Reg. 34079 (Sept. 2, 1988) (EPA interpretation of final hazardous waste standards).

[5]EPA has issued a specific accumulation period for electroplating wastewater treatment sludge (F006), which allows the waste to be stored for 180 days if the waste is being stored for legitimate metals recovery. It may be stored for 270 days if the electroplating operator must transport the waste over 200 miles for recycling. 40 C.F.R. § 262.17(c)–(e) (formerly in § 262.34(g)-(i)); 65 Fed. Reg. 12378 (Mar. 8, 2000).

[6]*See* 40 C.F.R. §§ 261.5, 262.34. *See* 40 C.F.R. § 261.10 (definitions of "large quantity generator" and "small quantity generator," formerly in § 261.5), 262.17 (large quantity generators), § 262.16 (small quantity generators), formerly in § 262.34).

[7]40 C.F.R. § 263.12 (transfer facility requirement).

[8]40 C.F.R. § 262.34(a). 40 C.F.R. § 262.17(a) (accumulation limits for large quantity generators),

are subject to some special rules of their own.[9]

§ 14:36 Facilities for which permits are required—Disposal

"Disposal" is also a complex term. The statute defines it as accidentally or intentionally releasing hazardous waste onto land or into water, "so that the hazardous waste or any constituent thereof may enter the environment."[1]

This evidently is a two-part definition. Hazardous wastes must first be put on the land or into the water and second, this placing must be done in a way that may allow uncontrolled dispersal thereafter. This seems to fuse the definitions of "disposal" and disposal "facility," and gives an odd twist to each. The incineration of wastes, for instance, is not disposal, but treatment; disposal can only be carried out at a land or water-based facility.[2] Since disposal in water is regulated under other statutes, "disposal" is in practice very nearly synonymous with land disposal.

The 1984 Amendments created a separate definition of "land disposal" for the purpose of banning land disposal of most wastes, which encompasses prolonged storage on land and the use of soil for treating wastes (land treatment) as well.[3] For other purposes, however, "disposal facility" is separately defined by EPA as a facility where waste is intentionally placed, and where the waste will remain until closure.[4]

§ 14:37 Persons affected by hazardous waste regulations—Generators of hazardous waste

Generators' principal obligations are (1) to see that wastes are sent to permitted facilities for storage, and ultimately treatment and disposal; and (2) to ensure that the government is notified of any other disposal or release. This responsibility is

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§ 262.16(b) (accumulation limits for small quantity generators), formerly in § 262.34; see also §§ 262.11(g), 262.32.

[9]40 C.F.R. § 263.12.

[Section 14:36]

[1]The term "disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground water. RCRA § 1004(3), 42 U.S.C.A. § 6903(3). *See* Smith, "CERCLA Compliance with RCRA: The Labyrinth," 18 Envtl. L. Rep. (Envtl. L. Inst.) 10518 (Dec. 1988). The acts enumerated in the statute, not the decision or intent to take those acts sometime in the future, will trigger "disposal." *See, e.g.*, U.S. v. Humphries, 728 F.3d 1028 (9th Cir. 2013), for additional opinion, see 539 Fed. Appx. 782 (9th Cir. 2013), cert. denied, 134 S. Ct. 1800, 188 L. Ed. 2d 766 (2014).

[2]*See* Center for Community Action and Environmental Justice v. BNSF R. Co., 764 F.3d 1019, 78 Env't. Rep. Cas. (BNA) 2085 (9th Cir. 2014) (plaintiffs alleging that air emissions of diesel particulate matter were deposited on nearby land and water failed to state a claim because emitting waste directly into the air does not constitute "disposal"); see also Pakootas v. Teck Cominco Metals, LTD., 830 F.3d 975, 82 Env't. Rep. Cas. (BNA) 2045 (9th Cir. 2016) (holding that plaintiff failed to allege arranger liability for aerial deposition of hazardous substances under CERCLA, which cross-references RCRA's definition of "disposal"). *But see* Little Hocking Water Ass'n, Inc. v. E.I. du Pont Nemours and Co., 91 F. Supp. 3d 940, 965 (S.D. Ohio 2015) ("RCRA's legislative history and purpose supports [sic] a finding in this case that the aerial emissions of C8 particulate matter, which fell onto the ground, remained there, and contaminated the groundwater, constitutes [sic] disposal of solid waste under RCRA."); see also California Department of Toxic Substances Control v. NL Industries, Inc., 2021 WL 4434984, at *6 (C.D. Cal. 2021) (distinguishing Pakootas and holding that plaintiff sufficiently pled owner/operator liability under CERCLA for air emissions).

[3]*See* RCRA § 3004(k), 42 U.S.C.A. § 6924(k).

[4]*See* 40 C.F.R. § 260.10: " 'Disposal facility' means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure."

discharged by arranging for proper management and by documenting the arrangement with a "manifest," a shipping document that must accompany the waste until it reaches the designated destination.[1] Proprietors of treatment, storage, or disposal facilities who receive properly documented wastes must return a copy of the manifest to the generator, who in turn must keep records and report any failure to receive this evidence of proper disposal.[2]

To help EPA and the states keep track of millions of manifests, every generator must obtain an identification number.[3] EPA also assigns numbers to all designated wastes; as the manifest system now uses a single, uniform EPA form in every state, the movement of hazardous wastes around the country is being documented.[4]

In October 2012, the enactment of the Hazardous Waste Electronic Manifest Establishment Act added another section to Subtitle C of RCRA.[5] This legislation requires EPA to establish an electronic manifest system that could be used by any user, subject to reasonable service fees that are to be deposited by EPA into a fund intended to maintain the system.[6] It also enabled EPA to enter into contracts and create an advisory board for purposes of establishing and maintaining an effective system and designated appropriations for start-up activities.[7] EPA promulgated regulations in 2014 to meet the legislative directive.[8] Under the regulations, the "e-Manifests" are an optional alternative to using paper manifests, although EPA expects most users to choose the electronic versions.[9] EPA launched the e-Manifest system on June 30, 2018, and has since continued to encourage industry adoption of electronic manifests.[10] This system is effective in all states and will be administered by EPA unless the state has received authorization to do so.[11] The regulations describe the procedures that generators of hazardous waste must follow with respect to preparing e-Manifests.[12]

The focus of the hazardous waste regulations is the "generator" of hazardous wastes, who must identify the wastes and ensure that they are properly managed; the ultimate purpose of the statute is to discourage generators from producing or disposing of wastes. It is therefore somewhat unfortunate that the regulations make it difficult to determine who is responsible for carrying out the generator's duties.

The term "generator" is not defined in the statute, but is in the regulations. EPA's regulations state simply that a generator is "any person, by site, whose act or process produces hazardous waste identified or listed in part 261 of this chapter or

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[Section 14:37]

[1]*See* 40 C.F.R. § 262.20(b).

[2]*See* 40 C.F.R. § 262.40.

[3]40 C.F.R. § 261.18 (formerly in § 262.12).

[4]EPA Form 8700-22 is available online. See EPA, Uniform Hazardous Waste Manifest: Instructions, Sample Form and Continuation Sheet, https://www.epa.gov/hwgenerators/uniform-hazardous-waste-manifest-instructions-sample-form-and-continuation-sheet.

[5]Hazardous Waste Electronic Manifest Establishment Act, Pub. L. No. 112-195, 126 Stat. 1452 (adding RCRA § 3024, codified at 42 U.S.C.A. § 6939g).

[6]RCRA § 3024(b)-(d), 42 U.S.C.A. § 6939g(b)-(d).

[7]RCRA § 3024(e)-(f), (i), 42 U.S.C.A. § 6939g(e)-(f), (i).

[8]*See* RCRA § 3024(g), 42 U.S.C.A. § 6939g(g); 79 Fed. Reg. 7518 (Feb. 7, 2014).

[9]40 C.F.R. §§ 262.24, 262.25.

[10]86 Fed. Reg. 54188 (Sept. 30, 2021); EPA, The Hazardous Waste Electronic Manifest (E-Manifest) System, https://www.epa.gov/e-manifest (last visited Dec. 20, 2021).

[11]*See* RCRA § 3024(g)(3), (h), 42 U.S.C.A. § 6939g(g)(3), (h); 40 C.F.R. §§ 271.3(b)(4), 271.4(c).

[12]*See* 40 C.F.R. §§ 262.20(a)(3), 262.24, 262.25.

whose act first causes a hazardous waste to become subject to regulation."[13] The regulations which describe the generator's responsibilities simply provide that they are applicable to "generators,"[14] but whether this includes the owner of a factory (who does not perform any act, although he or she may own a "process"),[15] or the production worker who turns a valve, or both, is not very clear. Furthermore, many wastes are created by inaction or omission; when materials are accumulated, but never used or sold, for instance, they become hazardous wastes by the lapse of time.[16] In this case, the materials seem to become wastes without a generator; and while the owner and operators of the facility may now require a storage permit, if they do not direct the waste-generating activity, no one seems to be obliged to identify the wastes or create the manifests that allow EPA to enforce its regulations.

The peculiar phrase in the definition, "any person, by site," signals the source of the difficulty. Some "generator" requirements apply to a facility where wastes are produced, while others apply to particular persons.[17] By combining the two sets of requirements in a single definition of generator, the regulations make it difficult to determine who is responsible for either set.

In 2016, EPA amended and restructured the regulations applicable to generators through its Hazardous Waste Generator Improvements Rule.[18] This restructuring adds to the complexity of this regulatory regime, and those intending to perform comprehensive research should be careful to consult former section numbers (including in case law). Current and former numbering of such rule sections are noted in the footnotes throughout this Chapter where practical, and EPA's "Crosswalk" document may also be consulted for quick reference.[19]

EPA's Hazardous Waste Generator Improvements Rule codifies some longstanding interpretations, including for determining whether waste is hazardous (i.e., hazardous waste determinations). The regulations now require generators to make "an accurate determination" based on the listed criteria, both "at the point of waste generation" *and* "at any time in the course of its management" where the waste may have changed its properties.[20] EPA explained that "accurate" determinations are necessary "to emphasize the importance of this step in the waste management process" and to ensure "that the results of the determination [are] accurate and bring about the proper management of the waste under the RCRA regulatory framework."[21] In EPA's words: "Inaccurate hazardous waste determinations will lead to violation of other RCRA regulatory requirements and mismanagement of the waste, which may result in damage to human health or the environment."[22] EPA explained that generators should also understand their wastes sufficiently to anticipate and moni-

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[13]40 C.F.R. § 260.10; *see also* 40 C.F.R. § 270.2, a slightly different definition in the permit regulations. Since generators are not required to obtain permits, the Part 270 definition is not generally applicable.

[14]*See* 40 C.F.R. § 262.10(a).

[15]*See* United States v. Envtl. Waste Control, Inc., 698 F. Supp. 1422, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20674 (N.D. Ind. 1988).

[16]*See, e.g.*, 40 C.F.R. § 261.2(c)(4); *see* § 14:31.

[17]*See, e.g.*, 40 C.F.R. §§ 262.10(d)–(f), 262.11.

[18]81 Fed. Reg. 85732 (Nov. 28, 2016).

[19]U.S. EPA, Hazardous Waste Generator Regulations Crosswalk, https://www.epa.gov/hwgenerators/hazardous-waste-generator-regulations-crosswalk (last visited Dec. 20, 2021).

[20]40 C.F.R. § 262.11(a).

[21]81 Fed. Reg. 85732, 85749 to 85750 (Nov. 28, 2016).

[22]81 Fed. Reg. 85732, 85749 to 85750 (Nov. 28, 2016).

tor potential changes to the waste's characteristics.[23]

EPA's clarifications to hazardous waste determinations specify types of generator knowledge necessary to make the determination (*e.g.*, knowledge of waste origin, waste-making process, or feedstock, as nonexhaustive examples for purposes of illustration).[24] Though generators will usually have sufficient knowledge of their waste to determine whether and why it is hazardous, testing may be appropriate when generator knowledge is inconclusive or uncertain. When there is doubt concerning status of waste as hazardous or non-hazardous, EPA continues to allow generators to over-manage waste by assuming it is hazardous, and expects generators to continue to manage the waste as hazardous waste before the determination is made.[25] EPA has emphasized that the generator is ultimately responsible for the accuracy of the waste determination and must continue to be diligent in reviewing information developed by third-parties.[26]

Generators also need to understand their recordkeeping obligations as they relate to hazardous waste determinations. After originally proposing to require records for non-waste determinations (i.e., determinations that waste is not regulated or hazardous), EPA ultimately decided against requiring records to support non-waste determinations. Instead, the recordkeeping requirements apply when the waste is determined to be a hazardous waste. Specifically, generators must maintain records to support determinations and to demonstrate the "generator's knowledge" that a waste is hazardous in accordance with the recordkeeping requirements, which contain a nonexhaustive list of records that must be included (*e.g.*, test results, analyses, etc.).[27] This list is very broad because EPA intends for it to capture any type of information that a generator uses to support a hazardous waste determination.[28] The recordkeeping period is three years from the date the waste was last sent to onsite or offsite treatment, storage, or disposal.[29]

Although not required in the federal regulations, EPA has acknowledged that some states may ultimately require recordkeeping for non-waste determinations and recommended that generators should maintain such records as a best management practice.[30] Thus, generators should monitor how their state regulatory agencies incorporate and interpret the requirements and EPA's recommendations, and consider not only recordkeeping obligations, but also best practices, for clarity and to avoid and mitigate potential enforcement.

§ 14:38 Persons affected by hazardous waste regulations—Generators of hazardous waste—Generators as persons

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[23]In the preamble, EPA stated: "If a generator is aware that its waste tends to have the potential to change over time, the generator may wish to establish processes to determine whether the nature of its waste has changed and make a new hazardous waste determination." EPA also noted that, in such circumstances, "generators should also notify any subsequent waste handlers to monitor for changes in waste properties." 81 Fed. Reg. 85732, 85751 (Nov. 28, 2016).

[24]40 C.F.R. § 262.11(c)–(d).

[25]81 Fed. Reg. 85732, 85750 to 85751 (Nov. 28, 2016).

[26]EPA stated in its rulemaking: "It would be prudent for the generators to practice due diligence and establish processes and procedures that ask questions of their suppliers and waste management companies to understand why their materials are hazardous or not." 81 Fed. Reg. 85732, 85749 to 85750 (Nov. 28, 2016).

[27]40 C.F.R. § 262.11(f).

[28]81 Fed. Reg. 85732, 85752 to 85753 (Nov. 28, 2016).

[29]40 C.F.R. § 262.40(c).

[30]81 Fed. Reg. 85732, 85753 to 85754 (Nov. 28, 2016).

The "person" who "generates" a waste must determine if it is hazardous.[1] "Person" is very broadly defined in the statute, and plainly may include any business entity, government, or natural person.[2] It is not clear that the owner of a site or the supervisor of an operation is the person who "generates" a waste, however, although arguably EPA intends to hold both responsible for the proper management of wastes.

Persons who generate wastes are subject to liability for any violations of the rules which apply to generators and generators' facilities.[3] These are obligations that ordinarily can only be fulfilled by the manager of a facility. For instance, when a chemical plant is properly maintained, there may still be leaks and spills from process equipment which is hosed down; the wash water may be collected and discharged through a treatment plant. The routine leaks and spills, so long as proper maintenance is kept up, will not be "wastes,"[4] but if a pipe breaks or there is some failure of maintenance, the resulting spills may be hazardous wastes. Furthermore, part of the definition of a hazardous waste is the quantity produced in any one month at a facility, and the manner in which the material is used after it is produced.[5] Only the person in charge of a facility can ensure that wastes generated in the whole facility under varying conditions of maintenance will be monitored. Subordinate personnel who improperly create or dispose of hazardous wastes may violate the prohibitions against unpermitted disposal,[6] but it seems unreasonable to hold them to the obligations imposed on generators, as present regulations appear to do. On the other hand, it might be helpful to clarify that the *person in charge* of a facility is responsible for identifying wastes, and tracking them into the regulatory system,[7] which the regulations also fail to do.

Generators who plan to dispose of their wastes at landfills or other land disposal facilities must determine whether the wastes are eligible for land disposal at the point of generation, without dilution.[8]

Importers and exporters of hazardous waste are treated as "generators."[9]

§ 14:39 Persons affected by hazardous waste regulations—Generators of hazardous waste—Generators as places

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[Section 14:38]

[1]40 C.F.R. § 262.11.

[2]*See* RCRA § 1004(15), 42 U.S.C.A. § 6903(15).

[3]*See* 40 C.F.R. § 262.10(g).

[4]*See* 40 C.F.R. § 261.3(a)(2)(iv)(D).

[5]*See* 40 C.F.R. § 261.3(b), § 262.13 to § 262.17 (formerly in § 261.5).

[6]United States v. Johnson & Towers, Inc., 741 F.2d 662, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20634 (3d Cir. 1984).

[7]*Cf.* Clean Water Act § 311(b)(5), 33 U.S.C.A. § 1321(b)(5); CERCLA § 103, 42 U.S.C.A. § 9603 ("person in charge" of facility is required to give notice to government when petroleum or "hazardous substances," which include all hazardous wastes, are released to the environment). *Cf.* Lawrence, "Liability of Corporate Officers Under CERCLA: An Ounce of Prevention May Be the Cure," 20 Envtl. L. Rep. (Envtl. L. Inst.) 10377 (Sept. 1990).

[8]*See* § 14:62; 40 C.F.R. § 262.11(d).

[9]For example, an importer of hazardous waste must execute a manifest and sign a certification statement normally signed by a generator. The manifest must include both the name and address of the foreign generator and the EPA identification number, name, and address of the importer. An importer must also comply with other requirements imposed on generators, such as submitting biennial reports. *See* 40 C.F.R. §§ 262.10(d), 262.20(a). *See generally* RCRA § 3017, 42 U.S.C.A. § 6938 (exporters); 51 Fed. Reg. 28682 (Aug. 8, 1986) (codified at 40 C.F.R. Parts 260, 262, 263, 271), as amended by 81 Fed. Reg. 85696 (Nov. 28, 2016); 40 C.F.R. § 262.83 (formerly in § 262.50) (exporters); 40 C.F.R. § 262.84 (formerly in § 262.60) (importers).

At any place,[1] the persons responsible for compliance must (a) send notices to EPA when hazardous wastes are first generated; (b) provide manifests for wastes shipped off-site; and (c) keep records of the notices, manifests, and reports.[2]

For each place where wastes are generated, there must be a plan for minimizing waste production.[3] If any wastes are accumulated, the persons responsible for compliance must ensure that certain minimum standards for design and operation are maintained, that suitable containers are used, and that personnel are available and trained for responding to emergencies.[4] If the accumulation of waste exceeds specified amounts and times, the facility as a whole becomes a storage facility for which a permit is required.[5] Within the specified limits, however, generators, unlike most other persons, may store wastes without a permit.

There is a series of exemptions from some or all of these requirements for "small quantity generators" (SQG) and "very small quantity generators" (VSQGs)—where less than 1,000 kilograms of hazardous waste is generated in any one month.[6]

The small-quantity exemption is not a static category, and does not depend on the size of a business or even on the amount of wastes generated in the past. It is based on a continuously recalculated rate of waste generation, and varies from month to month. As stated in the preamble to the regulations, "[EPA] has always taken the position that a generator may be subjected to different standards at different times, depending upon his generation rate in a given calendar month."[7] The regulations thus require a hazardous waste determination and then a generator category determination for each month using the applicable threshold quantities for large, small, and very small quantity generators.[8] EPA has provided some allowance for "episodic generation" of hazardous waste to allow VSQGs and SQGs to maintain their status when certain conditions are met.[9] If managed under these provisions as part of an episodic event, the hazardous wastes are not counted toward the quantity for purposes of determining the generator category.[10]

§ 14:40 Persons affected by hazardous waste regulations—Generators of hazardous waste—"Small quantity" generators

EPA had originally excluded from the generator regulations all who produced less than 1,000 kilograms of hazardous waste per month, on the theory that this large category of generators produced only a small fraction of all hazardous waste, and that regulation of the small generators would be unduly burdensome for them and

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[Section 14:39]

[1]There is no term corresponding to "facility" where hazardous wastes are generated.

[2]*See* 40 C.F.R. Part 262, Subparts B and D.

[3]*See* RCRA § 3002(b), 42 U.S.C.A. § 6922(b); 40 C.F.R. § 262.27.

[4]*See* 40 C.F.R. §§ 262.16, 262.17 (formerly in § 262.34).

[5]*See* 40 C.F.R. §§ 262.16, 262.17 (formerly in § 262.34); see also RCRA § 3005(a), (e), 42 U.S.C. § 6925(a), (e); 40 C.F.R. § 270.1(b).

[6]*See* RCRA § 3001(d), 42 U.S.C.A. § 6921(d); 40 C.F.R. § 260.10 (defining "small quantity generator" and "very small quantity generator"), § 262.16 (conditions for exemption for a small quantity generator) (formerly in § 262.34).

[7]51 Fed. Reg. 10146 (Mar. 24, 1986); *see also* 45 Fed. Reg. 76620 (Nov. 19, 1980).

[8]40 C.F.R. § 262.13 tbl. 1 ("Generator Categories Based on Quantity of Waste Generated in a Calendar Month") (formerly in § 261.5).

[9]*See* 40 C.F.R. Part 262, Subpart L (§§ 262.230 to 262.233). Examples of conditions include: where limited to one episodic event per calendar year, unless a petition is granted for a second event; notification to EPA; EPA identification number; and accumulation limited to containers and tanks, with marking and labeling requirements.

[10]40 C.F.R. § 262.13(c)(8).

for the Agency. Congress disagreed with this judgment, in part because small-quantity generators—despite their small share of total wastes—were viewed as a large part of the problem that RCRA had set out to correct.[1]

The statute now lowers the exemption from 1,000 to 100 kilograms per month, but allows EPA to ease the burden of regulation for generators who produce between 100 and 1,000 kilograms.[2] The result is that there are now three categories of the "small quantity generator" exemption: generators between 100 and 1,000 kilograms per month; generators of less than 100 kilograms per month (now known as "very small quantity generators" or VSQGs); and generators of still smaller quantities of acutely hazardous waste. Generally speaking, generators in the first category are subject to the same types of regulatory requirements that apply to other generators, except that wastes may be accumulated for up to 180 days—so long as the quantity of waste does not exceed 6,000 kilograms; if the 100–1,000 kilogram generator must send wastes more than 200 miles for off-site handling, that generator may accumulate for up to 270 days, to allow more efficient shipments, but the total *quantity* accumulated onsite is still limited to 6,000 kilograms.[3]

The second category includes generators who produce less than 100 kilograms of waste in any one month, so long as the waste is not "acute hazardous waste," which is separately defined for this purpose and subject to separate limits.[4] Generators in this category were previously called "conditionally exempt small quantity generators" (CESQGs) until 2016, when EPA's Hazardous Waste Generator Improvements Rule changed the name to "very small quantity generators" (VSQGs) (all regulations previously applicable to CESQGs apply to VSQGs).[5] VSQGs are exempt from regulation as generators, so long as they observe the conditions of the exemption.[6]

The conditions of the exemption are substantial. First, of course, the exemption only applies month by month, and to be sure of having it, the generator presumably must test the wastes produced at the facility, and must ensure that none are the acutely hazardous wastes with lower cutoffs, and that hazardous wastes (which the generator must identify) are not accumulated in amounts or times beyond the conditional exemption limits.[7] This somewhat lessens the value of the exemption from the requirement to test wastes and determine if they are hazardous.

Further, VSQGs must send acute hazardous waste (generally those listed as hazardous wastes for their toxicity) to either a permitted hazardous waste facility, a reclamation facility, or another facility licensed by the state to receive solid wastes.[8] Many state-licensed facilities may require documentation equivalent to the manifests required under RCRA for hazardous wastes, and many states eliminate

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[Section 14:40]

[1]*See* § 14:7, 14:8. EPA published its final Hazardous Waste Generator Improvements Rule on November 28, 2016. 81 Fed. Reg. 85732. The rule went into effect on May 30, 2017. The Rule includes a new section to address how a generator makes a generator category determination.

[2]RCRA § 3001(d), 42 U.S.C.A. § 6921(d).

[3]*See* 40 C.F.R. § 262.16(b)–(c) (formerly in § 262.34(d)–(e)).

[4]40 C.F.R. § 261.10 ("acute hazardous waste") (formerly in § 261.5).

[5]81 Fed. Reg. 85732, 85734, 85740 (Nov. 28, 2016).

[6]40 C.F.R. § 262.14 (formerly in § 261.5(b)).

[7]Although generator knowledge alone may be sufficient for a hazardous waste determination, at least initially generators may need to test their waste streams to gain an understanding of hazardous characteristics. See 81 Fed. Reg. 85732, 85734, 85750–85751 (Nov. 28, 2016) ("Through knowledge of the process or materials, and/or through testing, all generators must make a hazardous waste determination at the point of generation. . . . When generator knowledge is inconclusive or uncertain, testing may be appropriate.").

[8]40 C.F.R. § 262.14(a)(5) (formerly in § 261.5(b)).

the small-generator exclusion entirely.

One hundred kilograms of waste is only 15 gallons of acid, or of water contaminated with listed wastes; the exemption is fairly narrow, and few businesses can be confident of remaining within it from month to month if they generate any industrial wastes at all. The small quantity generator may not mix its wastes with used oil or with fuel destined for burning, without complying with the regulations applicable to wastes from large-quantity generators.[9]

The third category of small-quantity generator exclusion applies to generators of acutely hazardous wastes of one kilogram or less in any one month (or up to 100 kilograms of soil or debris contaminated with acutely hazardous waste).[10] Acutely hazardous wastes may be accumulated only up to the monthly allowance.[11] Acutely hazardous wastes within the very narrow allowance for small-quantity generators must still be sent to state-licensed facilities, although not necessarily hazardous waste facilities.[12]

The small-quantity generator exemption therefore hardly gives them *carte blanche.* The generator must at a minimum keep a watchful eye on wastes to identify any listed wastes which may be acutely hazardous. If the volume of any wastes exceeds 100 kilograms per month, it is probably good practice to test them to determine if they are hazardous wastes subject to regulation.

§ 14:41 Persons affected by hazardous waste regulations—Generators of hazardous waste—Generators' on-site management of wastes

Generators, more often than not, manage their hazardous wastes after production. Indeed, unless the wastes are accidentally spilled at the time of production, a generator can hardly avoid storing the wastes briefly, and disposing of some—if only floor sweepings and hosings—on site. So long as generators stay within the limits prescribed by regulations, and carry out activities considered ancillary to the production of wastes, they do not require permits for these activities. There are two types of accumulation areas where generators may store hazardous wastes to avoid triggering permit requirements for "storage facilities": (1) satellite accumulation areas (at or near the point of generation)[1] and (2) central accumulation areas.[2] In 2016, EPA restructured and revised standards for satellite accumulation areas, including for marking and labeling.[3] EPA adopted a maximum weight of 2.2 pounds (one kilogram) for non-liquid acute hazardous wastes, instead of the previous one-quart-volume limit, which is now just intended for liquids. Hazardous waste must be removed from satellite accumulation areas within "three consecutive calendar days" (not business days) of reaching the threshold accumulation limits, to either a central accumulation area, an onsite interim status or permitted TSD facility, or an

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[9]40 C.F.R. § 262.13(f) (formerly in § 261.5(h)).

[10]40 C.F.R. § 261.10 (definition of "small quantity generator") (formerly in § 261.5(e)).

[11]40 C.F.R. § 262.14(a)(3), § 261.10 (formerly in § 261.5(e)).

[12]40 C.F.R. § 262.14(a)(5) (formerly in § 261.5(e)).

[Section 14:41]

[1]40 C.F.R. § 262.15 (formerly in § 262.34(c)).

[2]The requirements for accumulation and central accumulation areas are within the regulations for small quantity and large quantity generators, respectively, at 40 C.F.R. §§ 262.16(b) and 262.17(a). See also 40 C.F.R. § 262.10 (defining "central accumulation area").

[3]40 C.F.R. § 262.15 (formerly in § 262.34(c)). The total accumulation of hazardous waste at satellite accumulation areas was previously allowed in certain quantities (55 gallons of hazardous waste; 1 quart of acutely hazardous waste) and with certain required labeling (*e.g.*, "Hazardous Waste").

offsite designated facility.[4] To qualify for the exemption for accumulation at satellite accumulation areas, generators must also mark or label containers with the words "Hazardous Waste" *and* some "indication of the hazards of the contents."[5] Other conditions also apply, including, for example, separating incompatible wastes and following the preparedness, prevention, and emergency procedures.[6]

In 2016, EPA also attached similar conditions for containers and tanks at central accumulation areas, including marking and labeling requirements identical to those for containers at satellite accumulation areas described above (*i.e.*, "Hazardous Waste" and some "indication of the hazards of the contents").[7] EPA imposed additional requirements for central accumulation areas, including that generators must remove hazardous wastes from drip pads and collection systems at least once every 90 days,[8] and must comply with certain requirements for hazardous wastes accumulated in containment buildings.[9] At least weekly, generators must inspect their central accumulation areas to look for leaking containers and deterioration. Although EPA declined to adopt proposed recordkeeping requirements for such inspections, the Agency recommended such recordkeeping as a best management practice.[10]

Overall, if the storage conditions are met, large quantity generators may accumulate hazardous waste on site for up to 90 days, and small quantity generators may do the same for up to 180 days, and be exempt from storage facility and operating requirements.[11] The transporter regulations are not intended to apply to generators who transport wastes within their facilities.[12]

§ 14:42 Persons affected by hazardous waste regulations—Transporters of hazardous waste

EPA does not impose significant added burdens of regulation on transporters of

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[4]40 C.F.R. § 262.15(a)(6).

[5]40 C.F.R. § 262.15(a)(5). EPA did not adopt its original proposal that would have required identification of the *contents* of containers, but instead required that the *hazards* must be identified. In the preamble, EPA nonetheless stated that it "not only encourage[s], but would expect, that generators would identify the *contents* of hazardous waste in their containers considering both the operational and potential downstream regulatory problems that would likely emerge if the contents were not identified." 81 Fed. Reg. 85732, 85734, 85758 (Nov. 28, 2016).

[6]40 C.F.R. § 262.15(a)(3) address the separation requirement. The regulations also require generators to meet preparedness, prevention, and emergency procedures for areas where the hazardous waste is generated or accumulated on site, as specified in 40 C.F.R. § 262.15(a)(7) to (8) and § 262.16(b)(8) to (9) (for small quantity generators), and Part 262, Subpart M (for large quantity generators). These requirements include, for example, emergency response equipment (*e.g.*, communications or alarm systems, phones, fire extinguishers, and water systems) that is tested and maintained to assure proper operation, as well as a contingency plan that lists such equipment and other information. These requirements were imposed in 2016, and large quantity generators that first become subject to them after May 30, 2017, and existing large quantity generators amending/updating their contingency plans, must submit a "quick reference guide" (*i.e.*, an executive summary with information specified in § 262.262) to local emergency responders or Local Emergency Planning Committees. 81 Fed. Reg. 85732, 85794 (Nov. 28, 2016). Small quantity generators are not required to develop a quick reference guide, but EPA nonetheless encourages it as a best management practice. 81 Fed. Reg. 85732, 85796 (Nov. 28, 2016).

[7]40 C.F.R. §§ 262.17(a)(5), 262.16(b)(6).

[8]40 C.F.R. §§ 262.17(a)(3), 262.16(b)(4).

[9]40 C.F.R. §§ 262.17(a)(4), 262.16(b)(5).

[10]81 Fed. Reg. 85732, 85734, 85773 (Nov. 28, 2016).

[11]*See* 40 C.F.R. § 262.17(a) (accumulation limits for large quantity generators), § 262.16(b) (accumulation limits for small quantity generators), formerly in § 262.34; *see* § 14:34.

[12]*See* 40 C.F.R. § 263.10(b). Generators who treat, store, or dispose of wastes at the facilities where they were generated do not need to prepare manifests. *See* 40 C.F.R. § 262.20.

hazardous waste who must, of course, comply with Department of Transportation regulations for hazardous substances.[1] EPA requires that transporters obtain identification numbers (which are in no sense permits), carry generator's manifests with every load of hazardous waste, identify the wastes they are carrying, and deliver the manifests along with the wastes.[2]

Transporters, like generators, must notify EPA or a state agency of hazardous wastes they may have delivered for disposal before the manifest system took effect if, as was commonly the case before RCRA was effective, the transporter was free to choose the destination for the wastes; there are criminal penalties for failing to give this notice.[3] And again, as in the case of generators, transporters may store and handle wastes for brief periods in ways that are ancillary to the transportation without a permit.[4] Finally, importers and exporters are both generators and transporters; it is not clear which set of rules governing ancillary storage and other handling would govern.[5]

§ 14:43 Persons affected by hazardous waste regulations—Owners and operators of hazardous waste management facilities; Other persons who manage hazardous wastes

Here we reach the neck of the funnel; hazardous wastes have been channeled by generally-applicable, self-executing rules to a few facilities where they are stored, treated, or disposed.

Facility "owners" and "operators" are principally responsible for compliance with facility regulations. Owners and operators must "have" permits, which contain the applicable law,[1] and owners and operators are subject to penalties for noncompliance.[2]

"Owner" is circularly defined, but appears to be the holder of title. "Operator" is the person in charge of overall operation of the facility.[3]

No one may treat, store, or dispose of hazardous waste except in accordance with a permit; while only owners or operators must have permits, employees and any others who manage the wastes also may be individually subject to both civil and criminal penalties for violations.[4]

§ 14:44 Permit procedures and general provisions

[Section 14:42]

[1]Hazardous Materials Transportation Act, 49 U.S.C. §§ 5101 to 5127.

[2]*See generally* 40 C.F.R. Part 263. For the Department of Transportation regulations, see 49 C.F.R. Parts 171 to 179.

[3]*See* CERCLA § 103(c), 42 U.S.C.A. § 9603(c).

[4]*See* 40 C.F.R. § 263.12 (hazardous waste in containers may be stored for up to ten days at a "transfer facility").

[5]*See* 40 C.F.R. § 263.10(c).

[Section 14:43]

[1]*See* RCRA § 3005(a), 42 U.S.C.A. § 6925(a).

[2]*See* RCRA § 3008, 42 U.S.C.A. § 6928.

[3]*See* 40 C.F.R. § 260.10. *See* United States v. Envtl. Waste Control, Inc., 698 F. Supp. 1422, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20674 (N.D. Ind. 1988); *see also* In re Paoli R.R. Yard PCB Litigation, 790 F. Supp. 94, 35 Env't. Rep. Cas. (BNA) 1070, 22 Envtl. L. Rep. 21517 (E.D. Pa. 1992), judgment aff'd, 980 F.2d 724 (3d Cir. 1992) (holding that EPA's cleanup of a contaminated site in its regulatory capacity did not make the Agency an operator under CERCLA).

[4]*See* United States v. Johnson & Towers, Inc., 741 F.2d 662, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20634 (3d Cir. 1984); RCRA § 3009(a), 42 U.S.C.A. § 6925(a); *see also* RCRA § 3008, 42 U.S.C.A. § 6928. The *Johnson & Towers* opinion assumes that the permit requirement applies only to owners and operators—forgetting that the prohibition against disposal without a permit applies to everyone—and

The whole complex program of hazardous waste regulation finally draws itself to a point, and focuses on the owners and operators of hazardous waste management facilities, who must apply to a state agency or EPA for a permit, and who may not operate their facility if the permit is denied. Treatment, storage, or disposal of hazardous waste except in accordance with a permit is prohibited.[1]

§ 14:45 Permit procedures and general provisions—The role of state agencies; Authorization

As in other environmental protection programs, state agencies are expected to assume primary responsibility for implementing and enforcing the hazardous waste permit system. States may adopt their own statutes and regulations for this purpose, and submit them to EPA. After publishing a notice for comment, EPA must approve the state plan, unless it is "not equivalent" to the federal program; it is inconsistent with programs in other states; or the state provides inadequate assurance the plan will be enforced. Once approved by EPA, the state program is said to be "authorized."[1]

Unless and until a state program is authorized, EPA must administer the RCRA program within that state; once the state program is "authorized," however, the state carries out its program "in lieu" of the federal program.[2] Since the state is acting in lieu of EPA, and not as its agent, it is not subject to the federal statutes which regulate federal actions; for instance, the federal Administrative Procedure Act continues some permits in effect after their expiration date, but there is often no comparable provision in state law.[3] EPA has concurrent authority to enforce the authorized program, but the federal agency enforces the state's regulations, rather than its own.[4]

The statute calls for "equivalent" state programs, and in theory EPA could have allowed considerable experimentation by the states, requiring only equivalent results. However, the agency instead has required state programs to be equivalent

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therefore leaves open the anomalous possibility that persons who are not connected with facilities at all are not subject to criminal prosecution. *But see* U.S. v. Laughlin, 10 F.3d 961, 965-66, 38 Env't. Rep. Cas. (BNA) 1062, 24 Envtl. L. Rep. 20221 (2d Cir. 1993) (holding that 42 U.S.C. § 6928(d)(2)(A) does not require a defendant to have knowledge of the lack of a permit for hazardous waste disposal). A single transporter can commit offenses for both transportation and disposal. See U.S. v. Wasserson, 418 F.3d 225, 233, 60 Env't. Rep. Cas. (BNA) 2092 (3d Cir. 2005); U.S. v. MacDonald & Watson Waste Oil Co., 933 F.2d 35, 47, 33 Env't. Rep. Cas. (BNA) 1411, 21 Envtl. L. Rep. 21449 (1st Cir. 1991) (rejecting defendants' argument that "it is necessary to limit criminal liability to just those transporters who violate 'a responsibility that is unambiguously theirs' ").

[Section 14:44]

[1]RCRA § 3005(a), 42 U.S.C.A. § 6925(a).

[Section 14:45]

[1]*See* RCRA § 3006, 42 U.S.C.A. § 6926.

[2]*See* RCRA § 3006(b), 42 U.S.C.A. § 6926(b).

[3]*See* 5 U.S.C.A. § 558(c). Federally issued permits must also comply with the Wild and Scenic Rivers Act, 16 U.S.C.A. §§ 1271 to 1287; the Endangered Species Act, 16 U.S.C.A. §§ 1531 to 1544; the Fish and Wildlife Coordination Act, 16 U.S.C.A. §§ 661 to 667h; and the Coastal Zone Management Act, 16 U.S.C.A. §§ 1451 to 1467. Federal agencies are also subject to procedural requirements of various kinds, in the Administrative Procedure Act, 5 U.S.C.A. §§ 551 to 706, and the National Environmental Policy Act, 42 U.S.C.A. §§ 4321 to 4370j. This last statute may not be applied in all its terms to EPA, if a court finds that RCRA provides the "functional equivalent" of its procedures, which is the view that EPA takes. State law may, of course, provide equivalent requirements. *See* Alabamians for a Clean Environment v. Thomas, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20460 (N.D. Ala. 1987); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 5.5; Allegany Envtl. Action v. Westinghouse Elec. Corp., No. 96-2178, 46 ERC (BNA) 1118, at *21 (W.D. Pa. Jan. 20, 1998) ("RCRA's remedial process displaces any NEPA requirements.").

[4]*See* RCRA § 3008, 42 U.S.C.A. § 6928.

to the federal in their provisions, as well as in their performance; EPA's standard therefore amounts to a requirement that state programs adopt statutes and regulations identical in all important respects to the federal. There are some odd departures from this standard, however; for instance, the states were not required to have interim authority to impose civil penalties for violations of their laws. Where EPA's authorization rules have such gaps, the Agency tends to fill them in its oversight policy. States were not required to have administrative civil penalty authority, for instance, but if they fail to levy penalties, EPA may override state actions with its own enforcement program.[5]

§ 14:46 Permit procedures and general provisions—The role of state agencies; Authorization—Interim and final authorization

Authorization is broken into several stages, and as a result, different portions of a hazardous waste program may be administered by different levels of government.

To allow states to assume responsibility for hazardous waste regulation as quickly as possible, RCRA provided for a transition step, "interim authorization," whose requirements were less exacting than final authorization. If EPA determined that a state program was only "substantially equivalent" to the federal program, the agency could grant "interim authorization" for the state to operate its program in lieu of the federal program until the program was entirely equivalent and was finally authorized.[1] Interim authorizations ended on January 31, 1986; after that date, state law was carried out in programs with final authorization, while federal law was to be carried out by EPA everywhere else.[2] However, EPA's resources for administering hazardous waste programs were limited; the agency therefore adopted a practice of contracting with the states to administer portions of the federal program. The 1984 amendments authorized such agreements to carry out the new programs imposed by those amendments, but were silent as to agreements to carry out the older program.[3]

To add a final layer of complexity, when Congress amended RCRA extensively in 1984, some of the changes were self-executing and others required changes in authorized programs. Until the states had time to enact parallel provisions and submit them for final authorization, EPA was required to administer these provisions, even in authorized states.[4]

Finally, federal law does not entirely preempt state law in this field; state requirements which fall outside the RCRA specifications, or which are more stringent than RCRA, may continue in effect even under authorization.[5] Before authorization, divergent state requirements remain in effect unless they are so inconsistent with EPA's program as to be constitutionally preempted.[6] In authorized programs, EPA has authority to enforce state requirements which are consistent with, but more stringent than, the federal program; EPA probably does not have authority to enforce state law which is outside the federal requirements, and in any case will

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[5] *See* § 9:42.

[Section 14:46]

[1] RCRA § 3006(c), 42 U.S.C.A. § 6926(c).

[2] *See* RCRA § 3006(c)(1), 42 U.S.C.A. § 6926(c)(1); 51 Fed. Reg. 4128 (Jan. 31, 1986).

[3] *See* RCRA § 3006(c)(3), 42 U.S.C.A. § 6926(c)(3).

[4] *See* RCRA § 3006(g), 42 U.S.C.A. § 6926(g).

[5] Hazardous Waste Treatment Council v. Reilly, 938 F.2d 1390, 33 Env't. Rep. Cas. (BNA) 1699, 21 Envtl. L. Rep. 21228 (D.C. Cir. 1991) (holding that North Carolina's stringent hazardous waste program does not conflict with federal law even though it interfered with a company's plan to build a treatment facility in the state).

[6] *See* RCRA § 3009, 42 U.S.C.A. § 6929.

not. It is not always clear whether a requirement is more stringent, or just different, from federal law. States may enforce their delegated RCRA programs against federally owned and operated facilities.[7]

§ 14:47 Permit procedures and general provisions—The role of state agencies; Authorization—Status of state programs

To summarize, in any state, a hazardous waste program may now have one or more of these four components:

(1) A program carried out by the state under an agreement with EPA
(2) An "authorized" program carried out by the state in lieu of EPA's
(3) A program carried out directly by EPA
(4) A portion of the state program which is outside and not inconsistent with federal law[1]

It is difficult to ascertain the status of any state program. EPA publishes authorization actions in the *Federal Register*, and some but not all of these are collected in Part 272 of Title 40, Code of Federal Regulations. EPA tracks each state's authorization status and makes it available online, but evaluating the status of programs is complicated by the piecemeal nature of authorizations over time.[2] As of December 2021, 50 states and territories received authorization to implement the initial RCRA program, while several also have authority to implement various additional parts of the RCRA program (*e.g.*, corrective action).[3]

One useful document for determining the status of any one state's program is usually a Memorandum of Agreement (MOA) entered into between the state and EPA's regional administrator.[4] The MOA defines the portions of the program which the state will administer, and those for which EPA reserves authority; it may also contain extensive agreements about inspection and enforcement procedures which reflect EPA's policies for exercising oversight authority.[5] The MOAs are not published, but are public records available from EPA regional offices.

As a practical matter, one must begin with state law, which is always in effect to some degree; most states have their own permit program, whether or not authorized

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[7]United States v. Colorado, 990 F.2d 1565, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20800 (10th Cir. 1993).

[Section 14:47]

[1]For an example of the last of these: RCRA does not contain any limits on siting of hazardous waste facilities, so long as performance-based requirements are met. Local governments almost always have zoning and other siting restrictions, which are not preempted by federal law; some states may have elaborate site-approval procedures, which allow public participation.

[2]EPA, Federal Register Notices and State Authorization Tracking System (StATS) Reports for State Authorization under the Resource Conservation and Recovery Act, https://www.epa.gov/rcra/federal-register-notices-and-state-authorization-tracking-system-stats-reports-state. This website includes "StATS Reports" that provide a snapshot of each state's authorizations with a list of references to the Federal Register.

[3]EPA, State Authorization under the Resource Conservation and Recovery Act (RCRA), https://www.epa.gov/rcra/state-authorization-under-resource-conservation-and-recovery-act-rcra#stats.

[4]MOAs accompany every interim or final authorization. *See* 40 C.F.R. §§ 271.5(a)(4), 271.8. EPA regional offices usually have two other agreements with the states: financial assistance agreements, and "state/EPA agreements" which are informal memoranda consolidating EPA's financial assistance and oversight policies, all of which may deal with hazardous waste program delegations. These agreements should all be made consistent with each other. 40 C.F.R. § 271.8(c).

[5]*See* 40 C.F.R. § 271.8. Facility operators may be particularly concerned to know how pending permit applications and existing permits are handled after an authorization. This must be separately negotiated in each state, and the arrangements are contained in the MOA. EPA may complete action on pending applications even after authorizations, as it has in other programs.

to carry out a permit program in lieu of the federal.[6] But it is probably wise to assume that there is also a parallel federal program, even in authorized states, and to consult EPA regional offices, the MOA, and state agencies about applicable law.

Most of this complexity is transitional; eventually, the programs should settle down to final authorization, but the transition has been greatly prolonged by changes in EPA regulations and amendments in the statutes. To soften the impact of changes, EPA may authorize states to carry out programs, based on the law as it existed on the date one year before the state applied for authorization, or January 26, 1983, whichever is later,[7] but later enactments must be absorbed into the authorized program by the same elaborate process as the initial authorization.

§ 14:48 Permit procedures and general provisions—The role of state agencies; Authorization—Withdrawal of authorization

After public notice and comment, and after affording the state an opportunity to cure the defect, EPA may withdraw any authorization it has granted, if it finds the program is not being administered or enforced in accordance with the requirements of EPA guidelines.[1]

§ 14:49 Permit procedures and general provisions—Permit procedures

The owners and operators of hazardous waste management facilities in existence on November 19, 1980, the effective date of EPA's permit regulations, are required to submit the first part—Part A—of a permit application to EPA (or an authorized state).[1] Facilities which closed before July 26, 1982, were excused from completing their applications.[2] However, owners and operators of land disposal facilities which closed after that date must still complete their applications and hold permits during the period after the facility is closed—which may be 30 years or longer—during which the law requires continuing surveillance and corrective action.[3] Persons who wish to operate a new facility must apply for a permit and receive it before beginning construction.[4]

Permits are issued for a fixed term not to exceed 10 years, are reviewed after five

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[6]*See* Stever, *Law of Chemical Regulation and Hazardous Waste* app. (compendium of state hazardous waste law).

[7]*See* RCRA § 3006(b), 42 U.S.C.A. § 6926(b).

[Section 14:48]

[1]*See* RCRA § 3006(e), 42 U.S.C.A. § 6926(e). *See, e.g.*, North Carolina v. EPA, 881 F.2d 1250 (4th Cir. 1989) (denial of stay of withdrawal of state authorization).

[Section 14:49]

[1]The statute requires facility owners and operators to "have" permits, RCRA § 3005(a), 42 U.S.C.A. § 6925(a), and EPA regulations require persons who must have permits to apply for them. 40 C.F.R. § 270.10. Until EPA acts on the application, the facility has "interim status," if it meets other requirements. *See* § 14:126.

[2]*See* 40 C.F.R. § 270.1(c).

[3]40 C.F.R. § 270.1(c).

[4]RCRA § 3005(a), 42 U.S.C.A. § 6925(a). The statute actually requires anyone "planning" a new facility to apply, and prohibits construction until a permit has been granted. EPA regulations only require, however, that a permit be obtained before "physical construction" begins. *See* 40 C.F.R. § 270.10(f). This is narrower than the apparent statutory requirement, and is inconsistent with the definition of an "existing facility," where "construction" is said to begin on entering into a binding agreement to construct. 40 C.F.R. § 270.10(e). The effect is to broaden the category of "existing" facilities, and somewhat to vitiate the impact of technology-forcing requirements for new facilities, since under EPA's regulations, long-term contracts have the effect of grandfathering a facility out of new technology-forcing requirements, even if construction is delayed for many years.

years, and may be modified, suspended, or revoked by EPA during their term.[5]

Permits may be issued to classes of facilities, a single facility, or for a "unit" within a facility if there have been no releases from other units by the facility.[6] Permits may be issued for "units" when a single facility is the site of different processes,[7] such as separate waste treatment or disposal processes; or where there are separate, independently managed waste management activities.[8]

Both the owner and operator of a facility must sign the permit application, and the signers must be "principal executive officers" if either is a corporation. There are equivalent requirements for other types of business organization or government.[9]

The permit application consists of two parts. "Part A," which serves as a notice to the government, is brief and is filed on a specified form, generally within six months after the effective date of regulations which first subject the facility to RCRA standards.[10] This portion of the application contains a general description of the facility and the activities that are carried out there.[11]

The second portion of the application, "Part B," is a detailed narrative statement, containing a great deal of technical detail, as well as the results of environmental monitoring; interim status land disposal facilities were required to complete their applications by November 8, 1985, or twelve months of coming within RCRA requirements, whichever is later.[12] For new facilities, Part B need not be submitted until called for.[13]

Congress anticipated that EPA would take some time to issue permits for existing facilities and, therefore, provided a limited grandfather period during which existing facilities that submitted Part A of their applications and obtained local permits would be treated as if they held federal permits. This is called "interim status" in the statute.[14] EPA was indeed slow to act on the permit applications from existing facilities, and some thousands of facilities remained in interim status 10 years after the passage of RCRA. When Congress amended the statute in 1984, it set schedules for EPA to act on the permit applications. Existing facilities were to complete their applications and show compliance with interim status standards for groundwater monitoring and financial responsibility by November 8, 1985. Interim status for land disposal facilities in existence on November 8, 1984, was limited to four years, and for other facilities, eight years.[15] Many—perhaps most—land disposal facilities failed to show compliance by November 9, 1985, and were required to close.

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[5]*See* RCRA § 3005(c), 42 U.S.C.A. § 6925(c); 40 C.F.R. §§ 270.41 to 270.50.

[6]*See* 40 C.F.R. § 270.1(c)(4).

[7]*See* § 14:44.

[8]*See* 40 C.F.R. § 270.10(b).

[9]*See* 40 C.F.R. § 270.11. The present requirement was adopted in settlement of litigation. *See* 48 Fed. Reg. 39611, 39619 (Sept. 1, 1983); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 5.

[10]40 C.F.R. § 270.10(e)(1)(i). EPA may effectively extend this deadline where good cause is shown. *See* 49 Fed. Reg. 17716 n.1 (Apr. 24, 1984).

[11]*See* 40 C.F.R. § 270.13.

[12]*See* RCRA § 3005(e)(3), 42 U.S.C.A. § 6925(e)(3).

[13]*See* 40 C.F.R. § 270.10(e)(4). Persons who propose to build new facilities must *complete* their applications by 180 days before they plan to begin physical construction. 40 C.F.R. § 270.10(e)(4). Since EPA rarely finds an initial application complete, and regularly asks for supplemental information, it is good practice to consult the Agency well before submission, and to allow a year or more for processing of the ostensibly final application.

[14]*See* RCRA § 3005(e), 42 U.S.C.A. § 6925(e).

[15]RCRA § 3005(c)(2)(C), 42 U.S.C.A. § 6925(c)(2)(C). EPA is required to act on permit applications before those terms end, but it seems that if EPA fails to act, interim status will expire by operation of the statute unless the facility has filed a permit application. *See* 40 C.F.R. § 270.73(c), (d), (f), and (g).

§ 14:50 Permit procedures and general provisions—"Interim status" during permit processing

This status is conferred by the statute itself, and applies to any facility in existence on the date of the regulations which cause it to be a hazardous waste facility that has applied for a permit, and whose permit has been neither granted nor denied.[1] The definition of "in existence" is borrowed from the Clean Air Act and requires the facility to have been in operation or under construction on the applicable date and to have received all necessary state and local waste management permits (zoning approval is not required).[2]

While EPA does not confer interim status, it may terminate the status.[3] A facility operator may ask for a determination whether the facility has interim status. The letter is issued by a regional administrator or regional counsel of EPA, but such letters are only opinions and are not subject to judicial review.[4] In most states, a state agency now administers the interim status program, but the practice of requesting determinations from the federal EPA has persisted.

Facilities in interim status must comply with a few important requirements imposed by federal and state law.[5] Generally, they must maintain security at their facilities, and maintain records for inspection. Land disposal facilities must monitor groundwater quality, and take corrective action whenever impermissible contamination is found. Even if they close before receiving a final permit, interim status facilities must follow federal requirements for closing a facility, for surveillance (and corrective action if required by a permit) for 30 years after closure, and for any continued period after that time during which corrective action is required by a permit. Facility owners and operators must also submit evidence of insurance and of their financial ability to comply with federal closure and post-closure requirements.[6]

These are substantial requirements. They mirror the parallel requirements for permitted facilities, which are described in more detail below. The burden of drilling wells and monitoring the groundwater beneath a landfill, for instance, or of providing the needed financial assurance of monitoring and any required cleanup during the facility's life plus 30 years may be well beyond the resources of a landfill owner; many interim status land disposal facilities therefore may become abandoned Superfund cleanup sites.[7]

Interim status terminates on the date EPA takes final action on a permit applica-

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[Section 14:50]

[1]RCRA § 3005(e)(1), 42 U.S.C.A. § 6925(e)(1); 40 C.F.R. §§ 270.2 ("Interim authorization"), 270.70(a); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 5.

[2]40 C.F.R. § 270.2 ("existing hazardous waste management facility").

[3]*See* RCRA § 3005(e)(1)(C), 42 U.S.C.A. § 6925(e)(1)(C); 40 C.F.R. § 270.10(e)(4). Failure to submit requested information is the only ground for termination, but as EPA may properly request information concerning compliance status, the Agency plainly may terminate interim status for noncomplying facilities. The statute also states that interim status will terminate if "other plaintiff[s]" than EPA prove the deficiency, which presumably creates a right of action for declaratory judgment actions by some class of injured plaintiffs.

[4]*See* Hempstead County & Nevada County Project: Landfill Comm. v. EPA, 700 F.2d 459, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20385 (8th Cir. 1983).

[5]*See* 54 Fed. Reg. 9596, 9598 (Mar. 7, 1989) (EPA amends interim status facility regulations and allows flexibility to comply with federal and state law).

[6]*See* RCRA § 3005(e)(2), 42 U.S.C.A. § 6925(e)(2); 40 C.F.R. Part 265.

[7]EPA may defer sites to RCRA corrective action instead of using Superfund. See Apache Powder Co. v. U.S., 968 F.2d 66, 69, 34 Env't. Rep. Cas. (BNA) 1950, 22 Envtl. L. Rep. 21301 (D.C. Cir. 1992) (whether to use RCRA or CERCLA for cleanup involved "policy questions appropriate for agency resolution"); Office of Inspector General, Audit Report: Superfund Sites Deferred to RCRA, Report No.

tion; when EPA otherwise terminates the status; or on the date provided in the statute, whichever is soonest.[8]

§ 14:51 Permit procedures and general provisions—Permit issuance and modification

EPA's permit issuance procedures are similar under each of the environmental protection statutes, but there are enough slight dissimilarities to require a separate procedure in each program. Because the slight differences are imbedded in the statutes, EPA has been unable to create a unified procedure.[1]

The hazardous waste permitting procedures are set out in Title 40, Part 270 of the Code of Federal Regulations. However, some disposal wells require permits under the Safe Drinking Water Act, which requires slightly different procedures;[2] and disposal into surface water[3] or into the oceans,[4] of course, requires still other permits.

Permits are issued for a term not to exceed 10 years, are reviewed after five years, and may be modified or terminated by the issuing agency.[5]

§ 14:52 Permit procedures and general provisions—General requirements for facility permits[1]

Individual facility permits will contain general requirements, categorical requirements established for that class of facility, and in most cases, facility-specific requirements negotiated with the permit issuing agency. The general and categorical requirements are described in detail in Part 264 of EPA's regulations, Title 40 of the Code of Federal Regulations. The prescribed requirements are often highly specific and leave little room for discretion. Others, however, are stated quite generally in the regulations; agency permit writers may translate them into detailed site-specific requirements. The following is a summary of the general requirements. In the next section, we will summarize the more important categorical requirements.

§ 14:53 Permit procedures and general provisions—General requirements for facility permits—Design standards

All designs must meet some minimum performance standards. These are commonsense requirements that are stated in general terms. Incompatible wastes which might react or explode when brought together must be physically separated, and facility units must be designed and located in a way that protects them from

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9100116, at 41 (March 31, 1999), https://www.epa.gov/sites/default/files/2015-09/documents/9100116.pdf (discussing interim status facilities).

[8] *See* RCRA § 3005(e)(1)(C), 42 U.S.C.A. § 6925(e)(1)(C); 40 C.F.R. § 270.10(e)(4).

[Section 14:51]

[1] For the sad history of EPA's "consolidated permit regulations," see 48 Fed. Reg. 14146 (April 1, 1983); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch 5.

[2] *See* 40 C.F.R. §§ 144.31 to 144.55.

[3] *See* 40 C.F.R. §§ 122.21 to 122.50.

[4] *See* 40 C.F.R. Parts 220 to 229.

[5] *See* RCRA § 3005(c)(3), 42 U.S.C.A. § 6925(c)(3); 53 Fed. Reg. 37912 (Sept. 28, 1988) (EPA amends permit modification requirements); see U.S. v. Clow Water Systems, a Div. of McWane, Inc., 701 F. Supp. 1345, 19 Envtl. L. Rep. 20566 (S.D. Ohio 1988); U.S. (EPA) v. Environmental Waste Control, Inc., 698 F. Supp. 1422, 19 Envtl. L. Rep. 20674 (N.D. Ind. 1988); U.S. v. Allegan Metal Finishing Co., 696 F. Supp. 275, 28 Env't. Rep. Cas. (BNA) 1581, 19 Envtl. L. Rep. 20148 (W.D. Mich. 1988).

[Section 14:52]

[1] **Donald W. Stever** is the principal author of this subsection. Updated by Stephen J. Matzura.

earthquakes and floods, that prevents emergencies, and allows response action to be taken when emergencies of any kind do occur.[1] These very general statements are likely to be translated into site-specific terms by EPA permit writers wherever categorical design standards do not apply.

§ 14:54 Permit procedures and general provisions—General requirements for facility permits—Operating requirements

The general operating requirements are extensive and detailed. The facility of course must comply with the manifest system; there are several operating procedures designed to support this system.

First, the facility operator must test each new waste received (and each waste received from a new generator), and must note any discrepancies between its test and the information on the manifest.[1] The sample must be representative, taken in accordance with an approved waste analysis plan, and must be analyzed in accordance with the detailed requirements EPA has specified in Part 261 of its regulations.[2] The permit holder must return to the generator a notice that the facility has a permit, and that the waste has been accepted; when additional tests are completed it must send a further notice of any variance from the manifest description. The facility must maintain records of these documents and must make regular activity reports to EPA or a state agency.[3]

The notice and recordkeeping requirements are at the heart of the whole regulatory scheme: The permit holder's records and notices allow the government to enforce the requirement that wastes be channeled to permitted facilities.

The facility must also have a series of plans for maintenance and inspection, for personnel training, and for response to emergencies, which are usually incorporated into the permit. These plans are detailed and may be the subject of extensive negotiation, although the regulations are stated in only general terms.[4]

§ 14:55 Permit procedures and general provisions—General requirements for facility permits—Financial responsibility—General

Section 3004(a)(6) of RCRA specifically requires that EPA develop standards governing "the maintenance and operation of [TSD] facilities and requiring such additional qualifications as to ownership, continuity of operation . . . and financial responsibility . . . as may be necessary or desirable."[1] Owner/operators are to provide either corporate guarantees or one of three mechanisms for insuring liabilities during the facility's active life and to provide several mechanisms to ensure

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[Section 14:53]

[1]*See* 40 C.F.R. §§ 264.18, 264.31, 264.35.

[Section 14:54]

[1]*See* 40 C.F.R. § 264.13.

[2]*See* 40 C.F.R. § 264.13.

[3]*See* 40 C.F.R. §§ 264.70 to 264.77.

[4]*See* 40 C.F.R. §§ 264.15 to 264.16, 264.33 to 264.37, 264.50 to 264.56.

[Section 14:55]

[1]RCRA § 3004(a), 42 U.S.C.A. § 6924(a), is qualified by a provision stating: "No private entity shall be precluded by reason of criteria established under paragraph (6) from the ownership or operation of facilities . . . where such entity can provide assurances of financial responsibility and continuity of operation consistent with the . . . risks." This provision, unenlightened by the legislative history, appears to preclude EPA from conditioning TSD facility ownership or operation on such factors as absence of criminal record or general moral acceptability.

that the cost of compliance with the closure and postclosure requirements[2] will be met throughout the regulated death of the entity.[3]

States may, and often do, require different mechanisms. The regulatory requirement is that alternative state mechanisms be "at least equivalent" to the Subpart H requirements.[4] State mechanisms may be employed even in states in which EPA administers the RCRA program, when authorized by the Regional Administrator.[5]

Finally, there are notification and other requirements respecting transfer of ownership or operation, and incapacity of either the owner or operator or the financial guarantor.[6]

Permitted facilities' financial assurances must include the cost of corrective actions to clean up releases; an amendment in 1984 inserted a special requirement that the financial responsibility demonstration for land disposal facilities also include financial responsibility to carry out corrective action relating to off-site contamination.[7]

§ 14:56 Permit procedures and general provisions—General requirements for facility permits—Liability insurance requirements

EPA requires all facilities to insure themselves against third-party claims for bodily injury or property damage.[1] Facilities too small to qualify as self-insurers or unable to shift liability to the state must purchase insurance in specified amounts to cover both "sudden" and (for land disposal facilities) "nonsudden" accidental occurrences;[2] this is unique as a regulatory device, and controversial.[3] A brief historical discussion is necessary to put these requirements into perspective.

The insurance industry is a state-regulated industry. While there is vigorous competition among insurers, the regulated nature of the industry and the need to cooperate in reinsurance pools to cover very large risks have resulted in a certain amount of standardization of liability and other casualty insurance contracts. Thus, while individual insurers form their contracts to fit their own marketing needs, the variations tend not to affect the fundamental legal undertaking by the insurer and the language by which that undertaking is expressed.

Prior to 1966, most industrial liability insurance policies covered bodily injury or property damage caused "by accident." The language was construed by a number of

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[2]*See* 40 C.F.R. §§ 264.143(a)-(g), 264.145(a)-(g). Regulations authorizing corporate guarantees—self-insurance—were issued in 1986. 51 Fed. Reg. 16422, 16448 (May 2, 1986). *See* 53 Fed. Reg. 33938 (Sept. 1, 1988) (final rule amending financial responsibility requirements for hazardous waste facilities, allowing few additional mechanisms to demonstrate financial responsibility).

[3]State and federal facilities, which are otherwise subject to permit requirements, are not subject to the financial responsibility requirements. *See* 40 C.F.R. § 264.150.

[4]40 C.F.R. § 264.149.

[5]40 C.F.R. § 264.149. United States v. Power Eng'g Co., 191 F.3d 1224 (10th Cir. 1999) (holding that EPA can enforce a state's financial assurance requirements without requiring compliance with the state's permitting scheme), cert. denied, 529 U.S. 1086 (2000).

[6]40 C.F.R. § 264.148.

[7]*See* RCRA § 3004(a), (v), 42 U.S.C.A. § 6924(a), (v).

[Section 14:56]

[1]*See* RCRA § 3004(t), 42 U.S.C.A. § 6924(t); 40 C.F.R. § 264.147; 46 Fed. Reg. 2802, 2847 (Jan. 12, 1981); 47 Fed. Reg. 16544, 16554 (Apr. 16, 1982); 53 Fed. Reg. 33938, 33950 (Sept. 1, 1988).

[2]*See* 40 C.F.R. § 264.147.

[3]*See, e.g.*, Cheek, Risk-Spreaders or Risk Eliminators? An Insurer's Perspective on the Liability and Financial Responsibility Provisions of RCRA and CERCLA, 2 Va. J. Nat. Resources L. 131 (1982); Meyer, Compensating Hazardous Waste Victims: RCRA Insurance Regulations and a Not So "Super" Fund, 11 Envtl. L. 689 (1981).

courts to provide coverage for claims based on the cumulative effect of prolonged exposure to a hazardous condition or substance. In 1966, the comprehensive general liability (CGL) policy used by American insurers was modified to reflect these decisions; in the revised policies, coverage was premised on an "occurrence," which was defined to include continuous repeated exposure to conditions resulting in bodily injury or property damage.

In about 1970, the "pollution exclusion" began to appear in CGL policies. This provision excluded from coverage bodily injury or property damage resulting from the discharge, dispersal, escape, or release of pollutants into the environment, unless the event was "sudden and accidental." Beginning around 1980, insureds began to litigate the applicability of the pollution exclusion clause to damage arising from the slow leaking of hazardous constituents from landfills and other areas where hazardous wastes are present. The pattern of decisions is not uniform. In some cases the courts have found the "sudden and accidental" language to be ambiguous and have construed the coverage liberally in favor of the insured or limited the language to situations in which the damage either was intended by the insured or could reasonably have been expected to result from the insured's acts.[4] In other cases, courts strictly interpreted the exclusion to preclude recovery for slow leaking of waste regardless of the insured's intent.[5]

The industry began to rewrite the CGL policies in 1984 to provide greater exclusion for pollution events. The standard CGL policies were rewritten by the Insurance Services Office (ISO) to exclude all pollution coverage from the basic coverage and provide coverage for sudden and accidental pollution events only for an additional premium. Pending acceptance of the new forms by state insurance regulators, a number of insurers began inserting restrictive endorsements on CGL policies excluding all coverage of pollution-related damages. Others have dramatically increased the premiums for the standard CGL coverage, or simply refused to write the coverage. Finally, some companies sought regulatory clearance to issue "claims-made" CGL policies.[6]

EPA defined the term "sudden accidental occurrence," for Subpart H purposes, as "an occurrence which is not continuous or repeated in nature."[7] A "nonsudden accidental occurrence" is one that "takes place over time and involves continuous or

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[4]These courts reached their conclusions by finding the pollution exclusion to be ambiguous and looking to insurance company documents submitted to the insurance commission regarding the breadth of the pollution exclusion. *See* Meridian Mut. Ins. Co. v. Kellman, 197 F.3d 1178 (6th Cir. 1999) (an insurer is liable when the insured party suffers damages caused by a toxic substance that was applied when the insured was in the immediate vicinity and when the toxic substance was applied in a manner consistent with its intended use); Morton Int'l, Inc. v. Gen. Accident Ins. Co., 629 A.2d 831 (N.J. 1993), cert. denied, 512 U.S. 1245 (1994) (insurer needs evidence of exceptional circumstances that objectively establishes an intent to cause harm); Greenville County v. Ins. Reserve Fund, 443 S.E.2d 552 (S.C. 1994); Queen City Farms, Inc. v. Aetna Cas. & Sur. Co., 882 P.2d 703 (Wash. 1994); Hecla Mining Co. v. New Hampshire Ins. Co., 811 P.2d 1083 (Colo. 1991); Just v. Land Reclamation, Ltd., 456 N.W.2d 570 (Wis. 1990); Bentz v. Mut. Fire, Marine & Inland Ins. Co., 575 A.2d 795 (Md. Ct. Spec. App. 1990); Claussen v. Aetna Cas. & Sur. Co., 380 S.E.2d 686 (Ga. 1989).

[5]These courts found the pollution exclusion to be clear and unambiguous. Thus, there is no coverage for gradual pollution in these jurisdictions. *See* Technicon Electronics Corp. v. American Home Assur. Co., 74 N.Y.2d 66, 544 N.Y.S.2d 531, 542 N.E.2d 1048, 30 Env't. Rep. Cas. (BNA) 1306, 20 Envtl. L. Rep. 20380 (1989); Waste Mgmt. of Carolinas, Inc. v. Peerless Ins. Co., 340 S.E.2d 374 (N.C. 1986); Techalloy Co. v. Reliance Ins. Co., 487 A.2d 820 (Pa. Super. 1984).

[6]Under a claims-made policy, the coverage is triggered only when claims are made during the policy period, or any extension bought by the insured for an additional premium. The claims-made policy was developed to reduce the exposure from claims brought long after the occurrences on which they were based, and to make losses more predictable.

[7]40 C.F.R. § 264.141(g).

repeated exposure."[8]

An occurrence is "accidental" if it "results in bodily injury or property damage neither expected nor intended from the standpoint of the insured."[9] By specifically requiring coverage for both sudden and nonsudden occurrences, as defined, EPA prospectively avoids the problem presented by the CGL policy's pollution exclusion provision.[10]

By defining "nonsudden occurrence" as it does, EPA's nonbinding definition seems to attempt to address, albeit unsuccessfully, the complicated issue of at what point (for example, exposure, manifestation of symptoms, or other) the "occurrence" happens. Insurance coverage litigation has involved the issue of which policy covers a claim of injury premised on latent disease. CGL policies are typically one-year contracts, and a facility may contract with a number of different insurers over time. In either the latent disease following chemical exposure scenario, or a situation in which a drinking water source is contaminated by leachate that escaped from an upgradient landfill years earlier, which policy covers the claim will depend upon how the phrase "damages . . . caused by an occurrence" is construed. A 1991 watershed decision by the United States Court of Appeals for the District of Columbia Circuit, *Independent Petrochem Corp. v. Aetna Casualty & Surety Co.*,[11] has established that the term "damages" under CGL policies includes environmental cleanup costs.

The typical CGL policy defines "occurrence" as an "accident, including injurious exposure to conditions, which results, during the policy period, in bodily injury or property damage neither expected nor intended from the standpoint of the insured."[12] As in the judicial literature construing the application of statutes of limitation to latent diseases,[13] courts construing the CGL policy in cases of latent disease following chemical exposure have divergently interpreted the time of occurrence of and consequent liability for the disease. Some courts have placed liability on the insurer covering the risk at the time of exposure (the "exposure rule").[14] Others have fixed liability at the point the symptoms became manifest, the point the diagnosis was

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[8]40 C.F.R. § 264.141(g).

[9]40 C.F.R. § 264.141(g).

[10]It does not eliminate the problem, however, for older facilities previously covered by the 1970 version of the CGL policy. "Occurrences" traceable to those policy years will still be subject to the problem of interpretation outlined above. EPA also disclaims any binding effect for its definitions, stating that they are "not intended to limit their meanings in a way that conflicts with general insurance industry usage." 40 C.F.R. § 264.141(g).

[11]Independent Petrochemical Corp. v. Aetna Cas. & Sur. Co., 944 F.2d 940, 33 Env't. Rep. Cas. (BNA) 1984, 21 Envtl. L. Rep. 21483 (D.C. Cir. 1991). Independent Petrochemical Corp. v. Aetna Cas. & Sur. Co., 944 F.2d 940, 33 Env't. Rep. Cas. (BNA) 1984, 21 Envtl. L. Rep. 21483 (D.C. Cir. 1991); see also International Ins. Co. v. RSR Corp., 426 F.3d 281, 287–88, 35 Envtl. L. Rep. 20187 (5th Cir. 2005) ("[U]nder Texas law, environmental remediation or cleanup costs are 'damages' within the meaning of an insurance policy that provides indemnity for all sums which the insured is obligated to pay by reason of liability imposed by law for damages, whether incurred by the federal government under CERCLA or by an individual who voluntarily undertakes the task of cleaning up hazardous waste.").

[12]EPA's nonbinding definition inserts the words "continuous or repeated" before "exposure," and deletes the phrase "during the policy period." 40 C.F.R. § 264.141(g).

[13]*See, e.g.*, Harig v. Johns-Manville Prods. Corp., 394 A.2d 299 (Md. 1978) (discussing the evolution of the discovery rule).

[14]Ins. Co. of N. Am. v. Forty-Eight Insulations, Inc., 633 F.2d 1212 (6th Cir. 1980), clarified and aff'd on rehearing, 657 F.2d 814 (6th Cir. 1981), cert. denied, 454 U.S. 1109 (1981). *Accord* Porter v. Am. Optical Corp., 641 F.2d 1128 (5th Cir. 1980), cert. denied, 454 U.S. 1109 (1981); *see also* Fireman's Fund Ins. Co. v. Ex-Cell-O Corp., 702 F. Supp. 1317 (E.D. Mich. 1988) (applying Michigan law); Zurich Ins. v. Raymark Indus., Inc., 514 N.E.2d 150 (Ill. 1987).

made, or the date of death if the decedent died undiagnosed.[15] Still others have swept into the coverage net both the policies on the risk from the point exposure began until it ended (or, in the case of an employee injury, until employment at the site(s) of exposure ended) and the policies in effect at the time of manifestation, on a sort of enterprise liability theory.[16] There are other theories as well, including several holdings that the relevant occurrence happens at the point the exposure actually produces diseased tissue, whether or not the disease is diagnosable at that time.[17]

EPA's nonbinding definition seems intended to fix the insurer liability to the entity on the risk at the time exposure or release occurs. Nevertheless, the CGL policies are not required to follow EPA's language, and even if they were to do so, there is no guarantee that the courts will construe EPA's language uniformly.[18]

Between 1970 and 1980, the insurance industry began to offer a new type of claims-made coverage tailored to environmental damage risks: environmental impairment liability (EIL) insurance. Initially, this coverage was only available for sudden releases of pollutants. EPA's regulations produced a demand for EIL policies that provided coverage for nonsudden releases, and by 1981, the few excess or surplus lines companies writing such policies were joined by a number of the larger insurers.[19] A reinsurance pool, the Pollution Liability Insurance Association, was formed.

The premiums for nonsudden occurrence EIL policies did not stabilize, however, and by 1985 several companies previously offering the coverage ceased offering it, and premiums rose dramatically. The industry's explanation for this is its concern about the potential ramifications of the Bhopal, India, gas leak, the high litigation costs of hazardous waste cleanup cases, and its concern that the pattern of court decisions construing the CGL policy to cover risks they had not anticipated would repeat itself with the EIL policies.

Unless a variance is obtained from the EPA Regional Administrator,[20] the liability limits required of TSD facility insurance are $1 million per occurrence and $2 million annual aggregate for sudden occurrences, and $3 million per occurrence and $6 million annual aggregate for nonsudden occurrences.[21]

A sufficiently large and solvent entity is permitted to be a self-insurer. It must

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[15]Eagle-Picher Indus., Inc. v. Liberty Mut. Ins. Co., 523 F. Supp. 110 (D. Mass. 1981), aff'd as modified, 682 F.2d 12 (1st Cir. 1982); *see also* Metal Bank of Am., Inc. v. Liberty Mut. Ins. Co., 520 A.2d 493 (Pa. Super. 1987); Mraz v. Canadian Universal Ins. Co., 804 F.2d 1325 (4th Cir. 1986).

[16]*See* Keene Corp. v. Ins. Co. of N. Am., 667 F.2d 1034, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20105 (D.C. Cir. 1981), cert. denied, 455 U.S. 1007 (1982); Owens-Illinois, Inc. v. United Ins. Co., 650 A.2d 974 (N.J. 1994), superseded by statute as stated in Farmers Mut. Fire Ins. Co. of Salem v. N.J. Property-Liability Ins. Guar. Ass'n, 74 A.3d 860 (N.J. 2013); Montrose Chem. Corp. of Cal. v. Admiral Ins. Co., 913 P.2d 878 (Cal. 1995).

[17]Am. Home Prod. Corp. v. Liberty Mut. Ins. Co., 565 F. Supp. 1485 (S.D.N.Y. 1983); Sandoz, Inc. v. Employer's Liability Assurance Corp., 554 F. Supp. 257 (D.N.J. 1982); Indus. Steel Container Co. v. Fireman's Fund Ins. Co., 399 N.W.2d 156 (Minn. Ct. App. 1987); Aetna Cas. & Sur. Co. v. Abbott Lab., Inc., 636 F. Supp. 546 (D. Conn. 1986) (applying Connecticut law).

[18]Insurance policy provisions are normally a matter of state law, since the insurance industry is state regulated. Federal courts construing policy language do so in diversity cases, applying state law.

[19]Excess and surplus lines are a designation that state insurance regulators give to insurance companies that provide insurance that is not readily available from companies licensed ("admitted") to transact insurance business in the state.

[20]40 C.F.R. § 264.147(c)-(d).

[21]40 C.F.R. § 264.147(a)-(b). EPA phased in the nonsudden occurrence liability insurance requirements, requiring larger facilities to have insurance in effect in 1982, and the smallest group by 1984. *See* 40 C.F.R. § 264.147(b)(4).

satisfy the "financial test for liability coverage."[22] A combination of insurance coverage and self-insurance is also permitted.

§ 14:57 Permit procedures and general provisions—General requirements for facility permits—Closure, postclosure, and corrective action requirements

All disposal facilities must comply with closure and postclosure requirements; storage facilities such as waste piles and surface impoundments, from which wastes are intended to be removed upon closure, need comply only with the closure requirements. Subpart G contains a general closure performance standard.[1] It also includes more specific closure and postclosure requirements applicable to TSD facilities.[2] Still more specific requirements appear in the performance standards for individual classes of facilities.[3] The closure and postclosure provisions involve a public proceeding, and the application of long-term maintenance and security obligations.[4]

After the 1984 HSWA amendments, many facilities were unable or unwilling to meet the new provisions, to certify compliance with groundwater monitoring, and to meet financial responsibility requirements. As of January 1988, 956 of the 1,451 land disposal facilities were required to close.[5] EPA and the states generally run behind schedule in closing violating facilities. For example, as of December 10, 1987, 645 of 1,161 closing facilities had approved closure plans while 204 had completed the closure process.[6] Permit holders cannot walk away from the permit, but must achieve "clean closure"[7] or obtain a post-closure permit as a hazardous waste landfill.[8] The duration of the postclosure period established by EPA is 30 years following completion of closure,[9] although the period may be either reduced or extended by EPA on the basis of the Agency's perception of the degree of hazard

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[22] 40 C.F.R. § 264.147(f). Several states require a more onerous test for self-insurance than EPA. *See also* Stever, Law of Chemical Regulation and Hazardous Waste.

[Section 14:57]

[1] 40 C.F.R. § 264.111. The standard is minimization of the need for further maintenance and minimization of future threats to health or the environment resulting from release of wastes.

[2] These are: (1) the adoption and approval by EPA of closure and postclosure plans, 40 C.F.R. §§ 264.112, 264.118; (2) specification of a closure timetable, 40 C.F.R. § 264.113; (3) preparation and filing of a survey plat with the local zoning or land use authority setting forth the postclosure restrictions on use of the property, 40 C.F.R. § 264.119; and (4) recording of an instrument of title setting forth the use restrictions, 40 C.F.R. § 264.119.

[3] Containers, 40 C.F.R. § 264.178; surface impoundments, 40 C.F.R. § 264.228; waste piles, 40 C.F.R. § 264.258; land treatment, 40 C.F.R. § 264.280; landfills, 40 C.F.R. § 264.310; and incinerators, 40 C.F.R. § 264.351.

[4] 40 C.F.R. § 264.117.

[5] Stein, "An Environmental Perspective on the RCRA Program and Enforcement," ALI-ABA Course of Study, Hazardous Waste, Superfund, and Toxic Substances, Dec. 1–3, 1988, at 331. *See* Government Accounting Office Report, Hazardous Waste: New Approach Needed to Manage the Resource Conservation and Recovery Act, July 1988.

[6] Stein, "An Environmental Perspective on the RCRA Program and Enforcement," ALI-ABA Course of Study, Hazardous Waste, Superfund, and Toxic Substances, Dec. 1–3, 1988, at 332. *See* Statement of Jugh Wessinger of the Government Accounting Office, testifying before the Subcommittee on Environment, Energy, and Natural Resources Committee on Government Operations of the U.S. House of Representatives on Dec. 15, 1987.

[7] *See, e.g.*, 52 Fed. Reg. 8704, 8706 (Mar. 19, 1987).

[8] 52 Fed. Reg. 45788, 45794–45796 (Dec. 1, 1987); *see* 53 Fed. Reg. 9944 (Mar. 28, 1988) (clarification of clean closure requirements for interim status surface impoundments); In re Consolidated Land Disposal Reg. Litig., 938 F.2d 1386 (D.C. Cir. 1991).

[9] 40 C.F.R. § 264.117(a)(1).

posed by the unit.[10] The 30-year benchmark is more or less arbitrary, since experience, particularly with landfills, has demonstrated that the possibility of release of waste may exist for a long time beyond that point. EPA's adoption of the 30-year period was a compromise, albeit a controversial one.[11]

As noted in the preceding sections, the permit holder must provide some form of assurance that the costs of closure and postclosure operation will be met.[12]

CERCLA originally provided a separate fund to finance any cleanup required after proper closure of a land disposal facility. This fund was designed to ease the burden of the long postclosure period, but the statute was poorly worded, and seemed only to apply if EPA had first made a determination that no significant hazard was present at the site after closure. It is not clear under what circumstances EPA could make such a certification, and there is accordingly some doubt how useful the present postclosure fund would be.[13] In the 1986 Superfund reauthorization, the postclosure fund was suspended, pending a study by the Comptroller General and further action by Congress.

In *United Technologies Corp. v. EPA*,[14] the United States Court of Appeals for the District of Columbia Circuit held that the corrective action requirements in RCRA applied to facilities seeking post-closure permits as well as those seeking operating permits.

Post-closure permits are required for any landfill, surface impoundment, waste pile, or land treatment unit that received waste after July 26, 1982, or that closed after January 26, 1983. The term "closure" is defined to mean certification of closure according to 40 C.F.R. § 265.115. An exception to the post-closure permit requirement is provided for units that closed by removal or decontamination according to the requirements of §§ 264.228, 264.259, or 264.280(e). Without a permitting requirement, an owner or operator would be relieved of responsibility for complying with the RCRA § 3004(u) corrective action requirements.[15]

Surface impoundments, waste piles, land treatment, and landfill TSD facilities are required to comply with groundwater protection requirements for wastes contained in any "waste management unit" that "receives hazardous waste" after July 26, 1982. Inactive units that received wastes after July 26, 1982, were not originally required to upgrade their interim status groundwater monitoring programs to meet the more stringent Part 264 Subpart F requirements, but were required to do so by a 1984 amendment to RCRA § 3005, which legislatively over-

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[10]40 C.F.R. § 264.117(a)(2).

[11]*See* 47 Fed. Reg. 32274, 32349 (July 26, 1982).

[12]*See* 40 C.F.R. § 264.145; *see also* § 14:55; *see also* CERCLA §§ 107(k), 111(j), 42 U.S.C.A. §§ 9607(k), 9611(j).

[13]The statute provides that all further liability for a site is shifted to the postclosure liability fund after it has been closed in accordance with federal RCRA requirements, and the facility and the surrounding area have been monitored as required by such [RCRA] regulations and permit conditions for a period not to exceed five years after closure to demonstrate that there is no substantial likelihood that any migration offsite or release from confinement of any hazardous substance or other risk to public health or welfare will occur. CERCLA § 107(k)(1)(B), 42 U.S.C.A. § 9607(k)(1)(B). The site owner or operator must notify EPA when the required monitoring is complete, and the Administrator then must make an affirmative determination that the statutory requirements were met. Since some eventual leaking of land disposal facilities is likely in most cases, it is not clear when or how the Administrator could allow the shift of liability to the fund.

[14]United Technologies Corp. v. EPA, 821 F.2d 714, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21015 (D.C. Cir. 1987).

[15]52 Fed. Reg. 45788 (Dec. 1, 1987); *see* Quarles and Sheehan, "Recent RCRA Developments," ALI-ABA Course of Study Hazardous Wastes, Superfund, and Toxic Substances, Dec. 1–3 (1988).

ruled EPA's regulatory policy.[16]

Certain types of the regulated classes of entities were initially exempt from the Subpart F permit requirements.[17] These included surface impoundments, waste piles, and landfill units that had chosen to employ double liners.[18] Totally covered waste piles producing no runoff or leachate and single-lined waste piles located above the seasonal high water table and meeting certain performance standards were also exempt, as were some land treatment facilities whose treatment zone had been shown not to contain hazardous constituent levels above background levels to a statistically significant degree.[19] Finally, if, using conservative assumptions about the maximum rate of liquid migration, the TSD could demonstrate that there was no potential for migration to the "uppermost aquifer" during useful life and postclosure period, EPA could waive the Subpart F requirements.[20]

Congress nullified some of these blanket exemptions in 1984 by amending RCRA § 3004 to add a new subsection (p), which prohibits EPA's exemptions of facilities not located above the seasonal high water table, double-lined facilities, and facilities employing liner inspection. Subsequent to 1984, EPA is allowed to exempt specific evidentiary findings of no impact.

Facilities subject to Subpart F must maintain their groundwater protection system at least during the active life of the unit. Facilities that have been required to undertake "detection monitoring"[21] must do so throughout the postclosure period (usually 30 years), and those required to do "compliance monitoring"[22] or undertake "corrective action"[23] must continue for a "compliance period," which can range from the number of years of active life (including prepermitted active years and the closure period) to an indefinite period until the applicable "ground-water protection standard" has not been exceeded for three consecutive years.[24]

The permits of facilities at which the groundwater has been contaminated by any hazardous constituents attributable to a regulated unit will also contain: (1) the location where monitoring samples must be taken and at which the facility's "groundwater protection standard" applies;[25] (2) the hazardous constituents for which the facility must monitor;[26] (3) the "concentration limits" applicable to the

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[16]*See* RCRA § 3005(e), (i), 42 U.S.C.A. § 6925(e), (i). Part 264-exempt entities are, of course, not required to comply with this or any other provision of Part 264. *See* 40 C.F.R. § 264.90(b)(1).

[17]40 C.F.R. § 264.90(b)(2); *see also* 40 C.F.R. § 264.221(c) (double-liner requirement for surface impoundments); 40 C.F.R. § 264.251(c) (double-liner requirement for waste piles); 40 C.F.R. § 264.301(c) (double-liner requirement for landfills).

[18]40 C.F.R. §§ 264.90(b)(2), 264.250(c), 264.253.

[19]40 C.F.R. § 264.90(b)(3).

[20]40 C.F.R. § 264.90(b)(4).

[21]*See* § 14:119, notes 1–9 and accompanying text. *See* 53 Fed. Reg. 28160 (July 26, 1988) (proposed amendments to Subpart F groundwater monitoring requirements).

[22]53 Fed. Reg. 28160 (July 26, 1988).

[23]53 Fed. Reg. 28160 (July 26, 1988).

[24]*See* 40 C.F.R. §§ 264.90(c), 264.96. EPA amended 40 C.F.R. § 90(a)-(b) on July 15, 1985, implementing the 1984 amendment's prohibitions. 50 Fed. Reg. 28702, 28746 to 28747 (July 15, 1985).

[25]This location is established at a vertical surface at the hydraulically downgradient limit of the area that extends into the uppermost aquifer underlying the regulated units. 40 C.F.R. § 264.95(a).

[26]40 C.F.R. § 264.93(a). These can range from a few substances to the entire Part 261 Appendix VIII list, depending upon (a) which constituents have been identified in the aquifer above background in pre-permit sampling, and (b) which constituents are being disposed of that EPA considers likely to find their way into the groundwater. For criteria used to exclude constituents from monitoring, see 40 C.F.R. § 264.93(b)-(c).

hazardous constituents for which the facility must monitor;[27] and (4) other groundwater protection requirements. Normally the "concentration limits" will be background levels determined by prepermit upgradient well sampling and analysis, although EPA has established specific "maximum concentration" limits for a list of 14 heavy metals and pesticides, which will apply in lieu of a lesser background concentration.[28] EPA's (or the state's) permit writer may also set "alternate concentration limits," based on regulatory criteria, that are greater than background levels but do not "pose a substantial present or potential hazard to human health or the environment."[29]

One of the criteria upon which alternative concentration limits may be based is the "quantity of groundwater and the direction of groundwater flow."[30] It thus appears that dilution is a consideration relevant to groundwater contamination under RCRA, although it has largely been prohibited by Congress from being considered in connection with standard setting for surface water pollution.[31]

Facilities at which hazardous constituents have not been found in the uppermost aquifer are required only to perform "detection monitoring,"[32] and EPA maintains a list of constituents from which the permit writer selects as providing a "reliable indication of the presence of hazardous constituents in groundwater."[33] At all times EPA's general groundwater monitoring requirements must be followed.[34] If at any point a statistically significant increase in any of the parameters or constituents over background levels is found, the entity is required immediately to sample all groundwater monitoring wells for the presence of any of the entire list of hazardous constituents listed in Appendix VIII of Part 261.

Once hazardous constituents are detected in the groundwater, a facility that had previously been required only to carry out detection monitoring will, by permit amendment, be required to escalate to the next stage: "compliance monitoring."[35] The critical factors in compliance monitoring are: (1) the point of compliance; (2) the hazardous constituents that must be monitored for; and (3) the "ground water protection standard," which is one of the trigger levels of concentration that initiates the facility's obligation to undertake the next stage, "corrective action."[36]

A compliance monitoring program generally involves drilling a number of monitoring wells at and downgradient of the active portion of the facility,[37] and sampling for exceeding of the "groundwater protection standard" established for the hazard-

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[27]40 C.F.R. § 264.94. Concentration limits are usually expressed in milligrams per liter.

[28]40 C.F.R. § 264.94(a)(2).

[29]40 C.F.R. § 264.94(a)(3), (b)-(c).

[30]40 C.F.R. § 264.94(b)(1)(iii).

[31]*See* Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1041–44, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20284, 20296–98 (D.C. Cir. 1979); Clean Water Act § 301(h), 33 U.S.C.A. § 1311(h) (limited exemption for dilution by ocean waters applicable to municipal discharges.).

[32]40 C.F.R. § 264.91(a)(4).

[33]40 C.F.R. § 264.98. The indicator parameters include specific conductance, total organic carbon, and total organic halogens.

[34]40 C.F.R. § 264.98(a). Subsequent paragraphs of the regulation establish the ground rules for taking samples and determining the statistical significance of variations from background, and for notifying EPA and taking further action if a statistically significant increase in the indicator parameters or constituents is found.

[35]40 C.F.R. §§ 264.98(h), 264.91(a)(1), 264.99.

[36]40 C.F.R. §§ 264.91(a)(2), 264.100.

[37]*See* 56 Fed. Reg. 66365 (Dec. 23, 1991) for guidance and amended regulations on the placement of groundwater monitoring wells.

ous constituents for which monitoring is required.[38]

Once the groundwater protection standard is exceeded, a corrective action program will inevitably be imposed on the facility unless it can be shown that the levels are a result of erroneous "sampling, analysis or evaluation," or are caused by "a source other than a regulated unit."[39]

The 1984 HSWA provisions amending RCRA § 3004(u) mandated that Part B permits for solid waste management units require corrective action for all releases of hazardous wastes or constituents from any solid waste management unit at a TSD facility regardless of the time and the waste placed in the unit.[40] Presently, corrective action requirements are codified at 40 C.F.R. §§ 264.100 and 264.101. On July 27, 1990, EPA proposed the substantive provisions for corrective action, which would become a new Subpart S to the RCRA 40 C.F.R. Part 264 regulations.[41] The proposed regulation defined requirements for conducting remedial investigations, evaluating potential remedies, and selecting and implementing remedies at RCRA facilities. EPA went on to codify provisions of the proposed regulation related to Correction Action Management Units (CAMUs) in 1993.[42] However, EPA withdrew most of the remaining proposal in 1999, based on its assessment that the regulations were not necessary to carry out the corrective action program and that finalizing the final rule would disrupt the state programs authorized to carry out the program at that time.[43] After years of negotiations and legal challenges to the CAMU rules, in 2002 EPA finally promulgated amendments to the rules, which defined the types of wastes eligible for placement in CAMUs and which established more detailed standards and requirements for CAMU application.[44]

Under RCRA § 3008(h), corrective action orders can provide authority for Superfund-type cleanup at interim status facilities or pre-HSWA permitted facilities where hazardous wastes are released.[45] Section 3008(h) applies to facilities that do not have § 3004(u) permits, or which have releases not being addressed under § 3004(u) programs. The provision applies to the entire facility, not just the solid waste management units.

§ 14:58 Specific facilities

In addition to the general requirements for all permitted facilities, discussed

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[38]40 C.F.R. § 264.99(a)-(b). The "ground water protection standards" are somewhat ambiguously defined in 40 C.F.R. § 264.92 as "conditions . . . designed to ensure that hazardous constituents . . . detected in the ground water . . . do not exceed the concentration limits . . . in the uppermost aquifer underlying the waste management area beyond the point of compliance." The term used in § 264.99, however, appears to mean the concentration limits that must not be exceeded at the point of compliance, and other limits and monitoring points designed to detect migration of contaminated groundwater.

[39]40 C.F.R. § 264.99(i)-(j); *see* § 14:125 (concerning the nature of corrective action). Leachate collected from a listed waste is a hazardous waste. Al Tech Specialty Steel, Inc. v. EPA, 846 F.2d 158, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20867 (2d Cir. 1988).

[40]In re Rohm & Haas Co., RCRA Appeal No. 98-2, No. TND058660390, 2000 WL 1481387 (Envtl. App. Bd. Oct. 5, 2000) (noting that RCRA § 3004(u) does not require EPA to institute permit modification procedures or issue a new permit each time EPA wishes to impose corrective action). Section 3004(v) provides for corrective action beyond facility boundaries to remedy releases. This authority modifies the prior strategy for abating releases at facility boundaries. *See* 40 C.F.R. § 264.100(e)(2), § 264.101(c).

[41]55 Fed. Reg. 30798 (July 27, 1990). The corrective provisions of the statute are codified. *See* 50 Fed. Reg. 28702 (July 15, 1985); 52 Fed. Reg. 45788 (Dec. 1, 1987).

[42]58 Fed. Reg. 8658 (Feb. 16, 1993).

[43]64 Fed. Reg. 54604 (Oct. 7, 1999).

[44]67 Fed. Reg. 2962 (Jan. 22, 2002).

[45]Hearing procedures were established at 53 Fed. Reg. 12256 (Apr. 13, 1988) (codified at 40 C.F.R. Part 24).

above, EPA sets requirements for categories of facilities and for certain functional types of equipment used at facilities. The following subsections summarize the major issues in land disposal requirements, which are the focus of the statute's concern, and provide a brief summary of the other categorical requirements. Regulations in these areas are highly detailed, subject to frequent revision, and therefore should be carefully consulted.

§ 14:59 Specific facilities—Land disposal facilities

RCRA's principal purpose is to protect groundwater from improper disposal of hazardous wastes on land;[1] the standards for land disposal facilities therefore define the statute's purpose in precise terms.

EPA did not succeed in its early efforts to supply this precision; after several false starts, the Agency decided to accept an approach which provided for continuing land disposal of most hazardous wastes.[2] Congress very bluntly rejected this approach in 1984.[3]

The central issue is the leaking of liquids from landfills. Hazardous constituents in wastes stay pretty much where they are put, so long as they remain solid. If a landfill is thought of as a source of pollution, most of its emissions are liquids that seep or leak out of the landfill.

To prevent pollution from a landfill, therefore, one keeps liquids—rainfall, liquid wastes, surface water or groundwater—from entering in the first place, or from leaking out, once they are in. EPA began by setting up a system of controls on liquids placed in landfills and performance standards for the landfills themselves, which relied heavily on the notion of a liner and leachate collection system that would capture leaks, and a monitoring system to detect failures in the liner.

By 1984, there was some evidence, and a great deal of sentiment, that EPA's regulations would delay but would not prevent the eventual seepage of hazardous wastes out of most landfills. In the eastern part of the United States, rainfall and groundwater are ubiquitous, and water is a near-universal solvent; it seems almost impossible to ensure that landfills will remain dry, or that they will not leak at any time in future decades. In the western part of the United States, where there are many dry locations, it had long been common practice to dispose of hazardous liquids, especially solvents, in landfills; these, too, could be expected to leak.

In the 1984 HSWA, Congress addressed these questions in some detail. It greatly tightened the rules for disposal of liquids in landfills; set more stringent performance requirements for the landfills themselves to prevent leaking; and finally, acknowledging that these measures were at best temporary, created a staged ban on continued landfilling of most hazardous substances.[4]

§ 14:60 Specific facilities—Land disposal facilities—Liquids in landfills

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[Section 14:59]

[1]*See* § 14:7, 14:8; *see* 54 Fed. Reg. 41566 (Oct. 10, 1989) (EPA notice solicits comments on interpretation of the term "land disposal").

[2]*See* 47 Fed. Reg. 32274, 32349 (July 26, 1982).

[3]*See* HSWA, Pub. L. No. 98-616, 98 Stat. 3221.

[4]EPA codified some of the more important short-term changes in a discursive *Federal Register* notice on July 15, 1985, 50 Fed. Reg. 28702 (July 15, 1985), and proposed further codifications on March 28, 1986, 51 Fed. Reg. 10706 (Mar. 28, 1986). The long discussions in these notices, which will not appear in the codified regulations, are a valuable guide to the Agency's understanding of the law. On January 14, 1986, EPA proposed new land disposal facility regulations, implementing the new presumptions and prohibitions against land disposal. 51 Fed. Reg. 1602 (Jan. 14, 1986). This proposal was heavily criticized and was greatly modified. *See* 51 Fed. Reg. 40572 (Nov. 7, 1986); § 14:62.

EPA had prohibited the disposal of liquid hazardous wastes in landfills, and had prohibited anyone from pouring nonhazardous liquids into a hazardous-waste landfill unless—and this was rarely the case for existing landfills—the facility was protected by an impermeable liner. The Agency had allowed some limited disposal of containers of liquids in hazardous waste landfills, but only if the liquid was absorbed into some material.[1] Since containers eventually break or rust, and absorbent materials release their liquids when crushed or compacted, these regulations would have allowed some liquids to be released into landfills, and eventually to leak out of them. The 1984 Amendments required EPA to modify these regulations, to prohibit even the landfilling of absorbent materials in containers if the materials can release liquids when crushed or degraded.[2] EPA's rules had also allowed an occasional exception to the bans on containerized liquids; the statute now requires that such exceptions be made only for nonhazardous liquids, and only where there is "no present risk" of contaminating soil or groundwater.[3]

§ 14:61 Specific facilities—Land disposal facilities—Performance requirements

Early in the RCRA program, EPA had tried to require landfill designs that would not usually leak, and in which leaks could be detected and corrected when they did occur during the lifetime of the facility. This approach was embodied in the Agency's requirement that a landfill (or new surface impoundment for storing liquids) be equipped with an impermeable liner, leachate collection system, and a monitoring system to detect leaks.[1] Evidence had begun to accumulate, however, that the required liners almost always leaked. The 1984 HSWA sharply tightened the Agency's requirements. Section 3004(o) is titled "Minimum Technological Requirements," and ties the performance requirements for landfills to the progress of advancing technology. It also sets initial requirements at levels Congress evidently believed could be attained by the best technology already available.[2]

As in other environmental protection programs, the technology-forcing requirements are primarily imposed on new facilities (but also on existing storage impoundments), which must have at least two liners, with a system for collecting liquid that seeps into the space above and between the liners and for the monitoring of groundwater for leaks.[3] The Amendments translate these requirements into performance-based design standards; the liners may be waived in various circumstances when equivalent performance can be shown, or where they are not needed. A generic standard was written into the statute, as a way of providing an effective regulation until EPA promulgated implementing rules. This unusual, congressionally-determined design standard is written in the form of a permeability limit for the bottom-most liner of a landfill: Bottom liners, which determine the rate

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[Section 14:60]

[1]*See* 40 C.F.R. § 264.314 (1985).

[2]*See* RCRA § 3004(c), 42 U.S.C.A. § 6924(c); H.R. Rep. No. 1133, 99th Cong., 1st Sess. 84 (1984).

[3]*See* RCRA § 3004(c), 42 U.S.C.A. § 6924(c); H.R. Rep. No. 1133, 99th Cong., 1st Sess. 84 (1984).

[Section 14:61]

[1]*See* 40 C.F.R. § 264.301. On January 29, 1992, EPA issued a final rule on standards for leachate collection and removal systems, leak detection systems, construction quality assurance programs, and synthetic and clay liners for owners and operators of new or replacement hazardous waste disposal facilities. 57 Fed. Reg. 3462 (Jan. 29, 1992).

[2]*See* 56 Fed. Reg. 50978 (Oct. 9, 1991) (final rule establishing municipal landfill standards); *see also* Hazardous Waste Treatment Council v. EPA, 886 F.2d 355, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21398 (D.C. Cir. 1989) (technology-based standards for hazardous solvents and dioxins are reasonable).

[3]RCRA § 3004(o)(1), 42 U.S.C.A. § 6924(o)(1).

of release of any liquids from the facility, must a have permeability of no more than 1×10^{-7} centimeters per second.[4]

§ 14:62 Specific facilities—Land disposal facilities—Land disposal restrictions

In 1984, Congress adopted an overlay of restrictions on land disposal of hazardous wastes.[1] Until then, RCRA had directed only that hazardous wastes be channeled to disposal facilities in compliance with the statute's performance standards. The 1984 amendments, however, established very plainly that land disposal *per se* was disfavored:

> [R]eliance on land disposal should be minimized or eliminated, and land disposal, particularly landfill and surface impoundment, should be the least favored method for managing hazardous wastes.[2]

No longer trusting EPA to implement this policy without firm direction, Congress prohibited land disposal of hazardous wastes on a schedule which automatically takes effect unless EPA adopts regulations granting one of the narrow statutory variances or extensions.[3]

There are two escape routes from the land disposal ban. First, the wastes may be treated before disposal. If hazardous wastes are first treated by the best available and demonstrated treatment technology, the residue remaining after treatment may be disposed on land.[4]

The second escape from the ban is an exemption procedure. On petition, EPA may allow continued land disposal of a hazardous waste if the Administrator finds that the prohibition is *not* required to protect human health and the environment.[5] To make such a finding the Administrator must first determine, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.[6]

The schedule for implementing the land disposal prohibition for wastes which do not escape through either route is set out in some detail in the statute, and is discussed below.[7] EPA may grant limited extensions of these deadlines.[8]

When the Superfund statute was amended and reauthorized in 1986,[9] a similar but less detailed provision favoring treatment over land disposal was adopted. When choosing the remedy for a site under Superfund, EPA must favor on-site treatment. Disposal at the site is discouraged, and wastes shipped for disposal off

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[4]RCRA § 3004(o)(5)(B), 42 U.S.C.A. § 6924(o)(5)(B).

[Section 14:62]

[1]*See* HSWA, Pub. L. No. 98-616, 98 Stat. 3221 (extensively amending RCRA § 3004, 42 U.S.C.A. § 6924). In the following discussion we will cite only the current statute.

[2]RCRA § 1002(b)(7), 42 U.S.C.A. § 6901(b)(7).

[3]Mobil Oil Corp. v. EPA, 871 F.2d 149, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20847 (D.C. Cir. 1989) (EPA's interpretation of variance provisions upheld as reasonable. Each disposal unit or facility must comply to receive so-called variance waste that, due to a lack of available treatment facilities, was not required to be treated to the applicable standard during a two-year "national capacity variance" under RCRA § 3004(h)(4), 42 U.S.C. § 6924(h)(4)).

[4]*See* § 14:65.

[5]*See* § 14:67.

[6]RCRA § 3004(d)(1), 42 U.S.C.A. § 6924(d)(1).

[7]*See* § 14:64.

[8]*See* § 14:67.

[9]*See* SARA, Pub. L. No. 99-499, 100 Stat. 1613.

site are subject to RCRA requirements, including the restrictions on land disposal.[10]

§ 14:63 Specific facilities—Land disposal facilities—Land disposal restrictions—Framework of regulations

On January 14, 1986, the Agency proposed a regulatory framework implementing the new land disposal restrictions.[1] The proposal was not a success.

The statute provided two principal routes by which a hazardous waste could escape the land disposal prohibition. First, interested persons could petition for an exemption based on a finding by EPA that the prohibition was not needed to protect health and the environment. Second, EPA could establish standards for prior treatment of the waste, and after such treatment the residue could be disposed on land.

The Agency had devised a "screening model" to use in making these two related determinations.[2] The screening model was an effort to set risk-based groundwater quality standards. The model would predict the concentration of hazardous chemicals that would migrate through groundwater under usual conditions, if a land disposal facility failed to contain it. When wastes were so dilute or immobile that the model predicted no significant risk from migration of the wastes, EPA proposed to allow land disposal. If wastes passed the screening model, they would be eligible for exemption; if they did not, treatment would have to achieve the screening-model levels, if adequate technology were available.

EPA also proposed to allow land disposal of wastes treated by the best available, demonstrated technology, even when the criteria of its screening model would not be met;[3] the environmental quality standards implicit in the screening model were only a goal to be achieved by advancing technology, but which never need be exceeded.

Finally, EPA proposed that treatment methods that created risks greater than the risks permitted by the screening model for land disposal would not be accepted as "available" treatment technology.[4]

This proposal brought down a rain of fiery criticism.[5] First, several members of Congress objected; the statute plainly required a prohibition of land disposal except where the Agency found there would be "no migration" from the site.[6] EPA had converted this to a risk-based environmental quality standard in its proposed rules, while the statute seemed to require a flat prohibition. Second, the Agency had proposed not to require even available treatment when the screening model showed it would not be needed to meet the risk-based standards.[7]

On November 7, 1986, one day before the statute's first "hammer" provisions

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[10] *See* § 14:122. The land disposal restrictions did not apply to Superfund response and RCRA corrective action wastes until November 8, 1988. *See* § 14:64.

[Section 14:63]

[1] 51 Fed. Reg. 1602 (Jan. 14, 1986).

[2] 51 Fed. Reg. 1602, 1624 to 1676 (Jan. 14, 1986).

[3] 51 Fed. Reg. 1602, 1676 to 1680 (Jan. 14, 1986); *see* Hazardous Waste Treatment Council, Inc. v. EPA, 886 F.2d 355, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21398 (D.C. Cir. 1989).

[4] 51 Fed. Reg. 1602, 1680 to 1690 (Jan. 14, 1986).

[5] The Agency received comments arguing "strongly" against use of the screening model from eleven members of Congress. *See* 51 Fed. Reg. 40572, 40578 (Nov. 7, 1986).

[6] *See, e.g.*, Letter from Rep. Dennis E. Eckart to EPA Administrator Lee A. Thomas, January 13, 1986.

[7] *See* 51 Fed. Reg. 40572, 40578 (Nov. 7, 1986).

would have taken effect, EPA published its final regulations,[8] and abandoned the screening model for the time being. Instead, the regulations allowed exemptions only where a petitioner could show that there would be "no migration" of land disposed wastes. The Agency stated it expected to grant few exemptions.[9]

Treatment standards are based on the technology found to be demonstrated and available, and treatment is required, regardless of the degree of risk which remains.[10] However, treatment technology which causes risks greater than those of land disposal are not considered "available."[11]

EPA abandoned its risk-based approach only grudgingly, and announced that it would consider using the screening model at another stage in the hazardous waste regulation program—perhaps in the process of listing wastes as hazardous.[12]

§ 14:64 Specific facilities—Land disposal facilities—Land disposal restrictions—Schedule of restrictions

The statute establishes categories of wastes and for each category sets a date on which the land disposal prohibition becomes effective.[1] EPA's regulations establishing treatment standards for each category of wastes must be effective on the same date.[2] If EPA's regulations are delayed, in each case the land disposal prohibition was to effect on the statutory date. The regulations were promulgated in three separate rules. The first set of the land ban rules was promulgated in August 1988[3] and the next set was promulgated in June 1989.[4] The last set of the land ban rules was issued on June 1, 1990.[5]

§ 14:65 Specific facilities—Land disposal facilities—Land disposal restrictions—Treatment standards

Wastes treated with the best demonstrated, available treatment technology (BDAT) are exempt from the land disposal prohibition.[1] BDAT standards are technology-based performance standards, similar in some ways to BAT standards for toxic discharges under the Clean Water Act.[2] The Agency has authority, however,

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[8]*See* 51 Fed. Reg. 40572 (Nov. 7, 1986).

[9]51 Fed. Reg. 40572, 40578 (Nov. 7, 1986).

[10]51 Fed. Reg. 40572, 40588, 40638 (Nov. 7, 1986) (codified at 40 C.F.R. Part 268, Subpart D); *see* § 14:65.

[11]*See* 51 Fed. Reg. 40572, 40592 (Nov. 7, 1986). The comparative risk methodology is that described in the Agency's January 14, 1986, proposal. *See* 51 Fed. Reg. 1602, 1680 to 1690 (Jan. 14, 1986).

[12]*See* 51 Fed. Reg. 40572, 40578 (Nov. 7, 1986).

[Section 14:64]

[1]*See* RCRA § 3004(d)-(g), 42 U.S.C.A. § 6924(d)-(g).

[2]*See* RCRA § 3004(m), 42 U.S.C.A. § 6924(m).

[3]53 Fed. Reg. 31138 (Aug. 17, 1988); 40 C.F.R. Part 268; *see also* 54 Fed. Reg. 36967 (Sept. 6, 1989) (EPA corrects first set of land ban rules).

[4]54 Fed. Reg. 26594 (June 23, 1989).

[5]55 Fed. Reg. 22520 (June 1, 1990).

[Section 14:65]

[1]*See* RCRA § 3004(m), 42 U.S.C.A. § 6924(m).

[2]BDAT standards are uniform, technology-based performance standards, as are Best Available Technology (BAT) standards under the Clean Water Act. *See* 51 Fed. Reg. 40572, 40588 (Nov. 7, 1986); § 14:74; § 14:102. EPA distinguishes them from BAT, however. BDAT must have been demonstrated in-use, while BAT may be based on bench or pilot-scale technology. 51 Fed. Reg. 40572, 40588 (Nov. 7, 1986). EPA also performs a comparative risk assessment before determining that a technology is "available" for hazardous waste treatment, but no comparative risk assessment is performed under the

to specify actual treatment methods rather than performance standards.[3]

In its first set of regulations, EPA measured performance solely by a Toxicity Characteristic Leaching Procedure (TCLP), which measures the concentration of hazardous constituents in a characteristic landfill leachate.[4] Treatment standards are therefore written in units of concentration (as are most Clean Water Act effluent limits and Clean Air Act emission limits). Consistent with its policy under those other statutes, EPA forbids dilution as a treatment method.[5] EPA prohibits generators from diluting their wastes before disposal to avoid the land disposal prohibition and expressly removes dilution from the acceptable methods of treatment.[6]

Standards for BDAT are promulgated by EPA at Part 268, Subpart D of its RCRA regulations for particular wastes.

Variances from treatment standards may be obtained for wastes with characteristics that do not allow treatment to the stated standard.[7]

§ 14:66 Specific facilities—Land disposal facilities—Land disposal restrictions—Comparative risk

An innovation of the BDAT rules is the concept of comparative risk. A treatment technology will not be considered "available" if the risks to health and the environment from the discharges of such treatment exceed the risks of untreated land disposal.[1] This provision may become more meaningful now that EPA has focused its regulatory and enforcement efforts on air emissions under RCRA.[2]

§ 14:67 Specific facilities—Land disposal facilities—Land disposal restrictions—Exemptions and variances

On petition by any interested party, EPA may grant an exemption from the land disposal prohibition for any method of land disposal of hazardous waste.[1] The petitioner must demonstrate that the prohibition is not necessary to protect health or the environment, for as long as the waste remains hazardous, taking into account long-range uncertainties, the goals of proper waste management, and the "persistence, toxicity, mobility, and propensity to bioaccumulate" of the wastes which are

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Clean Water Act.

[3]EPA may require either "levels" or "methods" of treatment. RCRA § 3004(m), 42 U.S.C.A. § 6924(m). Even when a method is promulgated, however, EPA apparently plans to allow alternative methods to be used on a demonstration of equivalent performance. *See* 51 Fed. Reg. 40572, 40642 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.42(b)).

[4]*See* 51 Fed. Reg. 40572, 40642 (Nov. 7, 1986) (codified at 40 C.F.R. Part 268, Subpart D).

[5]*See* 51 Fed. Reg. 40572, 40592 (Nov. 7, 1986); *see also* § 14:19 (general policy against dilution as method of pollution control).

[6]*See* 51 Fed. Reg. 40572, 40639 to 40641 (Nov. 7, 1986)) (codified at 40 C.F.R. §§ 268.3, 268.7).

[7]51 Fed. Reg. 40572, 40642 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.44).

[Section 14:66]

[1]*See* 51 Fed. Reg. 40572, 40592 (Nov. 7, 1986). The comparative risk assessment methodology is set out in detail in EPA's January 14, 1986, proposal. *See* 51 Fed. Reg. 1602, 1680 to 1690 (Jan. 14, 1986).

[2]See, e.g., EPA Enforcement Alert National Compliance Initiative Focus on RCRA Air Emissions, https://www.epa.gov/enforcement/epa-enforcement-alert-national-compliance-initiative-focus-rcra-air-emissions (last visited Dec. 21, 2021).

[Section 14:67]

[1]*See* RCRA § 3004(d)(1), (e)(1), (g)(5), 42 U.S.C.A. § 6924(d)(1), (e)(1), (g)(5); *cf.* RCRA § 3004(f)(2), 42 U.S.C.A. § 6924(f)(2) (determination, on same factors, that deep-well injection need not be prohibited).

the subject of the petition.[2] The petition must include a demonstration, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.[3]

Although generic petitions are authorized, as a practical matter, petitions for exemption must be filed on a site-specific basis. EPA expected few petitions will be granted,[4] but some types, such as for underground wells that inject hazardous waste deep beneath the surface, have typically been granted.[5] The Agency may also grant exemptions for certain surface impoundments used to treat wastes.[6]

The statute also authorizes EPA to grant generic extensions in deadlines for land disposal prohibitions.[7] The extensions in time, called "variances," may not exceed two years. The Agency additionally may grant site-specific extensions of up to one year.[8] During the period of the variance, some additional restrictions are imposed on land disposal. Wastes for which the variance has been granted must be disposed of in facilities which meet the minimum technological requirements for new land disposal facilities;[9] wastes subject to site-specific variances may not be disposed even in such facilities unless there is no practical alternative open to the generator.[10]

Finally, the Agency may grant variances from treatment standards. These resemble the "fundamentally different factor" variances granted under the Clean Water Act. They do not exempt a waste from treatment, but establish an alternate treatment standard when a petitioner shows that the uniform national standard cannot be met for a particular waste.[11]

§ 14:68 Specific facilities—Injection well disposal: Underground injection control (UIC)[1]

Part C of the Safe Drinking Water Act establishes a program for regulating deep-well injection of wastes, called the Underground Injection Control (UIC) program.[2] The disposal of wastes, particularly petroleum extraction wastes, by injecting them into deep "dry" wells, is a relatively common practice, particularly in the Southwest. As the hazardous waste land disposal industry began to come under regulatory scrutiny in the 1970s, disposal of hazardous wastes into wells began to increase. Migration of contaminants injected into injection wells is the concern of the UIC

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[2]RCRA § 3004(d)(1), (e)(1), (g)(5), 42 U.S.C.A. § 6924(d)(1), (e)(1), (g)(5); *cf.* RCRA § 3004(f)(2), 42 U.S.C.A. § 6924(f)(2).

[3]*See, e.g.*, RCRA § 3004(d)(1), 42 U.S.C.A. § 6924(d)(1); *see* 40 C.F.R. Part 268.

[4]*See* 51 Fed. Reg. 40572, 40578, 40582 (Nov. 7, 1986). The regulation governing these petitions asks for site-specific data, including a description of the disposal site. *See* 51 Fed. Reg. 40572, 40640 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.6).

[5]EPA, Introduction to United States Environmental Protection Agency Land Disposal Restrictions, EPA530-K-05-013, at 12 (Sept. 2005), https://www.epa.gov/sites/default/files/2015-09/documents/ldr05.pdf.

[6]*See* 51 Fed. Reg. 40572, 40639 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.4).

[7]*See* RCRA § 3004(h), 42 U.S.C.A. § 6924(h).

[8]RCRA § 3004(h), 42 U.S.C.A. § 6924(h); *see* 51 Fed. Reg. 40572, 40639 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.5).

[9]*See* RCRA § 3004(h), 42 U.S.C.A. § 6924(h); 51 Fed. Reg. 40572, 40641 to 40642 (Nov. 7, 1986) (codified at 40 C.F.R. §§ 268.30(b), 268.31(c)).

[10]*See* RCRA § 3004(h)(2), 42 U.S.C.A. § 6924(h)(2); 51 Fed. Reg. 40572, 40639 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.5).

[11]51 Fed. Reg. 40642 (Nov. 7, 1986) (codified at 40 C.F.R. § 268.44).

[Section 14:68]

[1]By **Donald W. Stever, updated by Stephen J. Matzura**.

[2]42 U.S.C.A. §§ 300h to 300h-8.

provisions.

There is an obvious interrelationship between the thrust of the RCRA regulatory program and the UIC program. Indeed, though the two programs are administered by different subparts of EPA, the injection of hazardous wastes has come to be considered more of a hazardous waste regulatory issue than a drinking water regulation issue. Injection wells are land disposal facilities and require a RCRA permit. However, SDWA permits are considered generically to be RCRA permits "by rule."[3]

EPA maintains four sets of UIC regulations:

(1) General criteria and performance standards for injection wells (which form a national regulatory floor)
(2) Standards and procedures for approval of state UIC programs[4]
(3) Standards and related provisions from state UIC programs that have been approved in whole or in part by EPA[5]
(4) Procedural and substantive permit requirements for injection wells regulated directly by EPA in those states whose UIC program elements for that class of well have not been approved by EPA.[6]

EPA's Part 146 regulations divide the universe of injection wells into six categories:

- ***Class I*** wells are those used by hazardous waste generators or owner/operators of hazardous waste TSD facilities, as those entities are defined in the RCRA regulations,[7] and other industrial and municipal injection wells[8]
- ***Class II*** wells are those used by the petroleum industry in connection with conventional oil and gas extraction[9]
- ***Class III*** wells are those used in the mining and power generation (including geothermal) industries[10]
- ***Class IV*** wells are hazardous waste disposal wells in which hazardous or radioactive waste is disposed of above, within, or into a formation where there is an underground source of drinking water within one-quarter mile of the well

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[3] *See* 40 C.F.R. § 270.60(b).

[4] 40 C.F.R. Part 145; *see* 48 Fed. Reg. 14146 (Apr. 1, 1983); 48 Fed. Reg. 39611 (Sept. 1, 1983).

[5] 40 C.F.R. Part 147; *see* 49 Fed. Reg. 20138, 20197 (May 11, 1984). These regulations are amended frequently to reflect additions, deletions, or modifications to the state program provisions. They resemble EPA's State Implementation Plan listing under the Clean Air Act. *See* 40 C.F.R. Part 52.

[6] 40 C.F.R. Parts 144, 146, 147. Permit procedures under 40 C.F.R. Part 124 are also applicable. EPA's failure to promulgate federal UIC permit requirements for states not having primary enforcement authority was the subject of National Wildlife Fed'n v. Ruckelshaus, C.A. No. 83-JM-1333 (D. Colo. Dec. 22, 1983). A consent decree, entered on December 22, 1983, resulted in the issuance of a number of federal UIC permit programs. *See* 49 Fed. Reg. 45292 (Nov. 15, 1984).

[7] EPA's classification regulation, 40 C.F.R. § 146.5, defines Class I wells to include only wells where the waste was injected "beneath the lowermost formation containing, within one quarter (1/4) mile of the well bore, an underground source of drinking water." 40 C.F.R. § 146.5(a)(1). Wells injecting waste into, within, or above such a formation are Class IV wells. *See* 40 C.F.R. § 146.5(d)(1). EPA regulated Class I wells. Class IV wells were not regulated until Section 405(a) of the HSWA of 1984 inserted a new § 7010 into RCRA (now § 3020), which legislatively overruled the Class IV inaction. The RCRA provision prohibits the disposal of hazardous waste by injection into or above a formation that contains "within one-quarter mile of the well" an underground source of drinking water. The prohibition is self-executing as of May 8, 1985, except in states with more stringent preexisting UIC requirements, and except for reinjections of treated groundwater pursuant to a response action under CERCLA. *See* RCRA § 3020, 42 U.S.C.A. § 6939b. The provision is made specifically enforceable under the SDWA.

[8] 40 C.F.R. § 146.5(a)(2).

[9] 40 C.F.R. § 146.5(b).

[10] 40 C.F.R. § 146.5(c).

bore[11]

- ***Class V*** wells include various other types of injection wells, including such things as cesspools and septic systems serving multifamily or industrial structures or drainage wells, but do not include non-experimental carbon dioxide sequestration wells[12]
- ***Class VI*** wells comprise a category added in 2010 to include wells used for geologic sequestration of carbon dioxide (*i.e.*, long-term storage of carbon dioxide).[13]

Class V wells originally permitted for experimental injection of carbon dioxide must be re-permitted as Class VI wells once they outlive their experimental status.[14] Likewise, enhanced recovery wells that utilize carbon dioxide for oil and gas production and are permitted as Class II wells must be re-permitted under Class VI if the "primary purpose" becomes long-term storage of carbon dioxide in the reservoir and there is an increased risk to underground drinking water.[15] Effective March 4, 2014, EPA conditionally excluded carbon dioxide injected for such purposes from the definition of hazardous waste, reasoning that RCRA does not require regulation if it is properly managed and injected pursuant to the requirements for Class VI wells and other specified conditions.[16]

There are standards and criteria of a substantive nature applicable to Class I, II, III, and VI wells.[17] Class IV hazardous waste injection wells are prohibited under a 1984 amendment to RCRA.[18]

The substantive requirements for the regulated wells, which are enforced by permits issued by the states or by EPA, affect construction, operation, closure, and corrective action of the wells.[19] States may impose more stringent requirements. Decisions on the rate of migration of pollutants, for the purpose of permit conditions, are premised in part on a complex formula set out in § 146.6 of EPA's regulations from which the "zone of endangering influence" is derived.

Not regulated under the UIC program are wells located in aquifers that are not now, cannot now, and will not in the future be suitable for water supply purposes and aquifers that are "mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible."[20] There is no similar

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[11]40 C.F.R. § 146.5(d). EPA did not promulgate regulatory standards for this class of wells, although EPA's Part 144 regulations did contain a requirement that they be phased out. The disposal of hazardous waste into them was prohibited by § 7010 of RCRA (now recodified at § 3020), added by § 405 of Pub. L. No. 98-616. The RCRA "interim prohibition" is self-executing as of May 8, 1985, and is applicable in all states except those with more stringent UIC requirements. Such wells may be used to reinject treated waste extracted from the ground then treated pursuant to a CERCLA response action. RCRA § 3020, 42 U.S.C.A. § 6939b. The prohibition is enforceable under the SDWA. It does not appear to be applicable to radioactive waste, at least to the extent the waste is not subject to regulation under RCRA.

[12]40 C.F.R. § 146.5(e).

[13]40 C.F.R. § 146.5(f); 75 Fed. Reg. 77230 (Dec. 10, 2010).

[14]*See* 40 C.F.R. §§ 144.15, 146.81(c); 75 Fed. Reg. 77230, 77245 (Dec. 10, 2010).

[15]40 C.F.R. § 144.19.

[16]79 Fed. Reg. 350 (Jan. 3, 2014) (adding 40 C.F.R. § 261.4(h)).

[17]40 C.F.R. Part 146, Subparts B and G (Class I), C (Class II), D (Class III), and H (Class VI).

[18]*See* Ch. 5.

[19]Am. Iron & Steel Inst. v. EPA, 886 F.2d 390, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20027 (D.C. Cir. 1989).

[20]40 C.F.R. § 146.4.

exclusion for other hazardous waste land disposal facilities.

Although Congress has prohibited hazardous waste disposal into Class IV wells, EPA's generally permissive regulatory requirements for Class I wells appear to make them a viable hazardous waste disposal method in states that have not adopted outright prohibitions or more stringent requirements. This is particularly so in light of the fact that under RCRA such facilities are not required to have a RCRA permit, and have thus been largely outside of the RCRA regulatory loop.

Congress has, however, moved in several directions under the RCRA umbrella to eliminate at least some deep-well injection of hazardous waste. The 1984 RCRA amendments prohibit hazardous waste injection into Class IV wells. In addition, another 1984 addition (to RCRA § 3004(f)), requires EPA to reconsider allowing the injection of cyanides, heavy metals, acids, polychlorinated biphenyls (PCBs), and halogenated organics, solvents, and dioxins, and prohibits further injection of those wastes after August 1988 (and makes the other land disposal discussed in the preceding section applicable), unless EPA has affirmatively determined that continued injection, with whatever controls it imposes, is consistent with public health protection criteria (or EPA standards for pretreatment) set forth in the RCRA provision.

§ 14:69 Specific facilities—Treatment of hazardous wastes

"Treatment" is defined by RCRA as any method or process by which hazardous wastes are reduced in volume or toxicity, and made safer or easier to manage.[1] Any method of destroying a waste's hazardous qualities is plainly appealing, and RCRA expresses a strong preference throughout for treatment rather than disposal of hazardous wastes. The final hazardous wastes prohibited from land disposal unless first treated by the best demonstrated, available treatment technology were listed in June 1990.[2] The statutory preference for treatment is general and uncritical, but treatment methods have their own problems. EPA has begun slowly to address these, and late in 1986 announced that it would not consider treatment technology "available" as an alternative to land disposal if its risks were greater than those of proper land disposal.[3]

"Treatment" includes dilution of a waste with nonhazardous materials, but dilution is not acceptable as a means of avoiding the restriction on land disposal.[4] Facilities where hazardous wastes are treated require permits under RCRA § 3005.

EPA regulations contain two sets of standards for treatment facilities. The first are general permit requirements for treatment facilities, in Part 264 (during interim status, Part 265 applies); the second are performance standards for facilities which may serve as an alternative to land disposal, in Part 268. The general permit standards in Part 264 are not very detailed, and leave a great deal to be negotiated in permits. The Part 268 standards, however, are highly specific performance standards based on the best demonstrated, available technology. BDAT standards have been set for solvent and dioxin wastes. Many hazardous wastes are now covered.[5] Surface impoundments used to treat wastes, open burning and open detonation on

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[Section 14:69]

[1] *See* RCRA § 1004(34), 42 U.S.C.A. § 6903(34).

[2] 55 Fed. Reg. 22520 (June 1, 1990); *see* RCRA § 3004(d)-(m), 42 U.S.C.A. § 6924(d)-(m); § 14:62.

[3] *See* 51 Fed. Reg. 40572, 40592 (Nov. 7, 1986); 51 Fed. Reg. 1602, 1680 to 1690 (Jan. 14, 1986).

[4] 51 Fed. Reg. 40572, 40639, 40641 (Nov. 7, 1986) (codified at 40 C.F.R. §§ 268.3, 268.7).

[5] The first set of these rules was promulgated on August 17, 1988. 53 Fed. Reg. 31138 (Aug. 17, 1988). The second set was promulgated on June 23, 1989, at 54 Fed. Reg. 26594 (June 23, 1989). The third set was promulgated on June 1, 1990, at 55 Fed. Reg. 22520 (June 1, 1990).

land must achieve BDAT standards or fall within the land disposal prohibition.[6] For other facilities, the BDAT standards are optional, but only if they meet BDAT will EPA allow their residue to be land disposed.

The most common categories of treatment are thermal treatment and tank treatment.

§ 14:70 Specific facilities—Treatment of hazardous wastes—Thermal treatment

This category includes incineration, open burning, detonation, and other thermal treatment.[1] When wastes are hazardous solely because of ignitability or reactivity, burning or detonation may leave no hazardous residue.[2] Wastes may also be burned as fuel, but this may be considered reuse rather than treatment.[3]

By far the most common method of thermal treatment is incineration. About 12% of the municipal solid waste in the United States is incinerated – representing an approximate 15% decline from 2000 levels.[4] High-temperature incineration is the most favored method for managing many of the wastes banned from land disposal, including solvents, dioxins, and PCBs. High-temperature incinerators tend to be temperamental and difficult to monitor, and EPA's initial incinerator performance standards were the subject of significant pulling and tugging over the questions of what destruction and removal efficiency was economically or technologically feasible.

EPA's initial incinerator performance standards, issued in the waning days of the Carter administration, required 99.99% destruction and removal efficiency. The Agency repealed the initial standards on June 25, 1982, replacing them with less stringent standards. Congress legislatively overruled EPA's 1982 regulation in 1984. RCRA § 3004(o)(1)(B) establishes as statutory incinerator performance standards the EPA regulations "in effect on June 24, 1982."[5] The statutory standards are effective for all incinerators permitted after the effective date of the 1984 amendments. It is not clear that the pre-1982 requirements are as stringent as the best technology available in 1987, however.

The validity of incinerator permits issued under RCRA cannot be attacked collaterally through a RCRA citizen's suit claiming that the operation of the permitted incinerator would pose an imminent and substantial danger to health or the environment. Rather, permitting decisions must be reviewed on direct appeal under RCRA § 7006(b).[6]

§ 14:71 Specific facilities—Treatment of hazardous wastes—Tank treatment

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[6] *See* 40 C.F.R. § 268.4.

[Section 14:70]

[1] *See* 40 C.F.R. Part 268, Part 264, Subpart O.

[2] For a time, incinerator ash was not held to be subject to RCRA disposal requirements. *See* Envtl. Def. Fund, Inc. v. City of Chicago, 727 F. Supp. 419, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20375 (N.D. Ill. 1989) (municipal incinerator ash exempt from RCRA if derived solely from household waste); Envtl. Def. Fund, Inc. v. Wheelabrator Techs. Inc., 725 F. Supp. 758, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20326 (S.D.N.Y. 1989) (rejection of claim that municipal resource recovery incineration ash must be regulated as hazardous waste). However, in City of Chicago v. Envtl. Def. Fund, Inc., 511 U.S. 328, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20810 (1994), the Supreme Court held that incinerator ash that exhibits the characteristics of hazardous waste is not exempt from regulation under RCRA.

[3] *See* § 14:29.

[4] EPA, Municipal Solid Waste in the United States: 2009 Facts and Figures 14 (Dec. 2010).

[5] RCRA § 3004(o)(1)(B), 42 U.S.C.A. § 6924(o)(1)(B).

[6] Palumbo v. Waste Techs. Indus., 989 F.2d 156, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20876 (4th Cir. 1993).

By far the most common method of treatment is some form of "tank treatment," or biological or chemical treatment to alter or neutralize hazardous wastes.[1] Of all treatment methods, these promise the greatest overall reduction in discharges of toxic pollutants to the environment.

EPA's qualitative Parts 264 and 265 rules for facility permits will in many cases be supplemented by detailed performance standards for Clean Water Act discharges and BDAT standards to avoid RCRA's land disposal prohibition.[2]

IV. UNDERGROUND STORAGE TANKS*

§ 14:72 Introduction

When EPA began taking inventory of contaminated sites that would require cleanup under Superfund, the Agency discovered a recurring problem: Drinking water supplies had been contaminated by gasoline which had leaked from buried tanks. Gasoline tanks were commonly buried as a safety precaution to minimize the hazard of fire or explosion. The leaking tanks were often at gasoline stations built during the oil boom of the 1950s and 1960s and which had since been abandoned.

Although the leaking tanks were reported to EPA, the Agency decided it had no authority to require cleanup in most situations. Superfund contained an exclusion for "petroleum products";[1] EPA decided this exclusion kept it from responding to gasoline contamination of groundwater,[2] and was reluctant to expand its struggling Superfund program so quickly without more express Congressional authorization. This was not long in coming.[3] The American Petroleum Institute and other tank-owner representatives objected vigorously to extending Superfund liability to their members.

Another common problem that EPA found was sites contaminated by leaking, buried tanks of solvents—especially trichlorethylene, the common degreasing agent. The Agency had ample authority to clean up these leaks, and used it, but because the leaking tanks were not regulated in any way—since they contained product, not wastes, they were not covered by RCRA—it appeared the leaks and cleanups would

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[Section 14:71]

[1]*See* 53 Fed. Reg. 34079 (Sept. 2, 1988) (interpretive revisions to hazardous waste storage and treatment tank rules).

[2]*See* 40 C.F.R. Part 268, Part 264, Subpart J; § 14:62.

*Updated from Stever, "Overview of RCRA Land Ban and USR Provisions," ALI/ABA and ELI Course of Study, Environmental Law, Feb. 16–18, 1989, Washington, D.C., at 361.

[Section 14:72]

[1]*See* CERCLA §§ 101(14), 104(a)(2), 42 U.S.C.A. §§ 9601(14), 9604(a)(2). The exclusion was intended, as we have seen, to draw a boundary between the Superfund bill and another piece of legislation, never enacted, to cover onshore oil spills. *See* § 14:6. This distinction is clarified, to a degree, in the Oil Pollution Act of 1990 (OPA), Pub. L. No. 101-380, 104 Stat. 484 (1990).

[2]Memorandum from A. James Barnes, General Counsel of EPA, to Sheldon M. Novick, June 19, 1983. EPA's choice was motivated as much by policy as by considerations of law; the Superfund exclusion did not apply to petrochemicals, but only to "petroleum, including crude oil or any fraction thereof"; the Agency had the option of claiming authority over gasoline itself, as a refined product, or more realistically, over the benzene which is commonly added to gasoline and which constitutes the principle hazard from spills. In the past, the Agency had claimed authority over a release if it contained any designated hazardous substance, and EPA had to ignore its own administrative precedents in order to decline jurisdiction over the benzene in gasoline spills. *See also* CERCLA § 101(14), 42 U.S.C.A. § 9601(14) (petroleum fractions separately designated as hazardous—as benzene is—do not fall within the petroleum exclusion).

[3]*See generally* Hearings Before the Senate Subcomm. on Toxic Substances and Environmental Oversight, H. R. Rep. No. 721, 98th Cong., 2d Sess. 73 (1984).

continue indefinitely unless some controls were placed on the sources.[4]

The result of all this was a new regulatory program to apply prospectively to tank owners, but with some provisions that would require tank owners and operators to clean up past discharges; it was attached to the RCRA Amendments of 1984. In 1986, a government cleanup program for abandoned petroleum tanks was added, completing the program.[5] The new regulatory program, Subtitle I of RCRA[6]—"Underground Storage Tanks" (UST)—sets standards and imposes controls for hundreds of thousands of buried storage tanks everywhere in the United States. In 1988, EPA replaced its interim UST regulations with final regulations that contain substantive performance standards, recordkeeping and reporting obligations, release response requirements, closure requirements, and financial responsibility requirements.[7] EPA also issued guidelines for approval of state underground storage tank programs. The final rules construct an elaborate, self-contained regulatory program for underground storage tanks.

§ 14:73 Overview of the regulatory program

The problem the statute focused upon was the corrosion of buried tanks, which is both virulent and concealed. When dissimilar metals come into contact and are immersed in water, a current may flow across the point of contact. This effect causes some batteries to operate; it also causes severe and rapid corrosion of iron or steel buried in damp earth. The corrosion can be eliminated by "cathodic" protection, which breaks the battery circuit, by insulating the steel with nonconducting materials, or by replacing steel with nonconducting plastic or fiberglass.

Subtitle I of RCRA requires that EPA set national performance criteria for buried tanks that contain "regulated substances"—petroleum and hazardous chemicals—to guard against corrosion and structural defects. The states may establish plans of enforceable regulations to ensure that buried tanks meet the national performance criteria, as well as any additional controls needed to protect environmental quality, and to ensure that significant leaking is stopped and corrective measures taken. The program applies to all tanks used, or formerly used and abandoned, for storing regulated substances. The program is to be principally administered by the states (or EPA where state programs are not approved), with a miniature Superfund for abandoned petroleum tanks.

§ 14:74 Notices—Persons responsible for compliance

Owners and operators of underground storage tanks must send notices to state agencies, and must bring their tanks into compliance with regulations. Owners alone are responsible for initial notices;[1] owners and operators are jointly responsible for later compliance.[2] These terms are defined elsewhere in the RCRA regulations.[3] The notice requirements apply to owners of existing tanks, to owners of tanks taken

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[4]Hearings Before the Senate Subcomm. on Toxic Substances and Environmental Oversight, H. R. Rep. No. 721, 98th Cong., 2d Sess. 73 (1984).

[5]HSWA, Pub. L. No. 98-616, tit. VI, § 601, 98 Stat. 3221, 3277–3288 (regulatory program); SARA § 205, Pub. L. No. 99-499, 100 Stat. 1613, 1696 (1986) (codified at RCRA §§ 9001 to 9014, 42 U.S.C.A. §§ 6991 to 6991m).

[6]HSWA, Pub. L. No. 98-616, tit. VI, § 601, 98 Stat. 3221, 3277–3288 (regulatory program); SARA § 205, Pub. L. No. 99-499, 100 Stat. 1613, 1696 (1986) (codified at RCRA §§ 9001 to 9014, 42 U.S.C.A. §§ 6991 to 6991m).

[7]40 C.F.R. Part 280, Subparts A to G (1988); 53 Fed. Reg. 37082 (Sept. 23, 1988).

[Section 14:74]

[1]*See* RCRA § 9002, 42 U.S.C.A. § 6991a.

[2]RCRA § 9002(a), 42 U.S.C.A. § 6991a(a).

out of service after 1973, and to owners of new tanks brought into operation after November 8, 1984.[4] Notices must describe the age, size, type, location, and use of each tank.[5]

Persons who "deposit" regulated substances in underground tanks must inform the tank owners of their duty to send notices to EPA or state agencies; this "depositor" obligation begins 30 days after the notice forms are published, and continues for 18 months.[6] Thirty days after criteria for new tank performance are published, anyone who sells a new tank must inform the buyer of his notice obligation.[7] In the 1988 revisions, EPA imposed an enforcement-related notification requirement, which expands on the original Part 280 regulations' notification requirement, and the Appendix I form was expanded.

§ 14:75 Regulated substances—Designated pollutants

The UST program applies to all tanks used for storage of liquid "petroleum" or hazardous substances (as defined in CERCLA).[1] Hazardous substances are defined in CERCLA to include most chemicals designated as toxic or hazardous under other statutes. "Petroleum" includes "crude oil or any fraction thereof" (a term borrowed from CERCLA where it is understood to include gasoline) which is liquid at room temperature and pressure.[2] Collectively, these are called "regulated substances."[3] CERCLA specifically excludes oil and natural gas but does not exclude oil if it is mixed with other hazardous substances.[4]

When the hazardous waste and UST portions of RCRA are taken together, regulation should extend over all underground tanks which contain liquid petroleum or hazardous substances, whether products or wastes, regardless of the statutes under which they are designated. EPA's UST program does apply to both hazardous substances and petroleum, although it does have some separate requirements for USTs containing those substances.[5]

§ 14:76 Sources subject to regulation

An underground tank is defined in the statute as follows:

> The term "underground storage tank" means any one or combination of tanks (including underground pipes connected thereto) which is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is 10 per centum or more beneath the surface of the ground.[1]

The regulatory definition generally follows the statutory language, with some elaboration on it. The exemptions and deferrals, however, are primarily products of

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[3]*Compare* RCRA § 9001(3)-(4), 42 U.S.C.A. § 6991(3)-(4) *with* 40 C.F.R. § 260.10 ("operator" and "owner"). The operator is the person responsible for overall operation of the facility.

[4]*See* RCRA § 9002(a)(2), 42 U.S.C.A. § 6991a(a)(2); 50 Fed. Reg. 46602 (Nov. 6, 1985).

[5]*See* RCRA § 9002(a)(2), 42 U.S.C.A. § 6991a(a)(2); 50 Fed. Reg. 46602 (Nov. 6, 1985).

[6]*See* RCRA § 9002(a)(5), 42 U.S.C.A. § 6991a(a)(5); 50 Fed. Reg. 46602 (Nov. 6, 1985).

[7]*See* RCRA § 9002(a)(6), 42 U.S.C.A. § 6991a(a)(6); 50 Fed. Reg. 46602 (Nov. 6, 1985).

[Section 14:75]

[1]*See* RCRA § 9001(7), 42 U.S.C.A. § 6991(7).

[2]RCRA § 9001(6), 42 U.S.C.A. § 6991(6).

[3]*See* RCRA § 9001(7), 42 U.S.C.A. §§ 6991(7).

[4]Tosco Corp. v. Koch Industries, Inc., 216 F.3d 886, 892, 30 Envtl. L. Rep. 20647 (10th Cir. 2000).

[5]*See* 40 C.F.R. §§ 280.41, 280.42.

[Section 14:76]

[1]RCRA § 9001(10), 42 U.S.C.A. § 6991(10).

EPA's regulatory choices and priorities.

The UST regulations apply to any "UST system," as defined in the regulations, unless excluded by them or deferred pending further rulemaking. UST systems are subject to the regulations only if they contain "regulated substances," defined to include (1) any CERCLA hazardous substances not regulated as a hazardous waste under Subtitle C of RCRA, and (2) petroleum, including crude oil or any fraction thereof that is a liquid under standard temperature and pressure conditions.

Connecting "pipes" are sensibly included in the definition but drawing the boundaries of the tank against which the "0 per centum" will be measured is problematic because there is a high degree of interconnection by pipes.

Excluded from regulation are "tanks" which contain substances regulated as hazardous wastes; tanks which are used for farm or home residential purposes; tanks used for heating oil burned on site; septic tanks; and some other industrial facilities exempted for various stated or unstated reasons.[2]

In addition to hazardous waste storage tank systems, systems containing a mixture of hazardous waste and "other regulated substances" are exempt from regulation. Also exempt are: UST systems that are part of a wastewater treatment facility regulated under §§ 402 or 307(b) of the Clean Water Act, tanks that are actually equipment or machinery hydraulic lift tanks or electrical equipment, systems of 110 gallons or less, systems that contain *de minimis* concentrations of regulated substances, and "any emergency spill or overflow containment UST system that is expeditiously emptied after use."

EPA deferred from regulating wastewater treatment tank systems, systems containing radioactive material regulated under the Atomic Energy Act, systems that are part of an emergency generator system at a nuclear power generation facility regulated by the NRC under Appendix A of 10 C.F.R. Part 50, airport hydrant fuel distribution systems, and UST systems with field-constructed tanks. Partially deferred (temporarily exempt from the release detection requirements) are UST systems that store fuel solely for use by emergency power generators. Those USTs deferred from regulation are nevertheless subject to narrative requirements that new systems be cathodically protected or constructed of or clad with noncorrodible material, or designed to prevent release of the contents (unless experts deem the environment in which the tank is to be located to be noncorrosive, and compatible with the stored material).

Each state must prepare an inventory of underground storage tanks containing regulated substances. RCRA § 9002 was amended in 1986 to require separate inventories for petroleum and hazardous substance tanks; responses to notice are to be aggregated, and the two inventories to be submitted to EPA by the fall of 1987.[3]

§ 14:77 Leak detection and "emission limits"

Subtitle I contains the traditional distinction between existing and new sources in setting these criteria. Existing tanks must have leak-detection systems, and corrective action will be required to be taken if leaks are detected.[1] New sources must meet these and additional requirements.

The UST regulations contain specific new tank construction standards, piping

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[2]RCRA § 9001(10), 42 U.S.C.A. § 6991(10); *see* 53 Fed. Reg. 37082 (Sept. 23, 1988) (EPA final rules for hazardous substances and petroleum products stored in underground storage tanks).

[3]EPA maintains a website identifying the location of USTs in the entire United States. *See* EPA, UST Finder, https://www.epa.gov/ust/ust-finder (last visited Dec. 28, 2021).

[Section 14:77]

[1]*See* RCRA § 9003(c), 42 U.S.C.A. § 6991b(c).

standards, spill and overflow prevention requirements, and installation standards. Except for spill and overflow prevention, which are detailed, the standards generally follow, and can be met by conforming to, a number of industry standards. Installers must be certified by tank manufacturers or the state agency responsible for the state's UST program, or the owner/operator must comply with one of several other means of assuring compliance with the regulations, such as installation under supervision of a professional engineer with relevant experience. New tank installations must be certified to EPA and the relevant state agency that the tank and the installation complied with the Part 280 requirements.[2] The statute allows EPA to set up categories of tanks, based on age, use and location, industry practice, and the "technical capability" of owners and operators. EPA is not barred from considering economic factors, but the regulations must always be such as "may be necessary to protect human health and the environment."[3]

The statute sets action-forcing schedules to compel EPA and the states to establish rules, but unlike the Clean Air Act and Clean Water Act there is no schedule to achieve environmental quality objectives. This may be in recognition that cleaning up the accumulated leaks of the past century will take time. Within the framework of goals and emission limits, therefore, EPA and the states have considerable latitude to implement technology-based emission limits and achieve environmental quality standards on a reasonable schedule. As a result, if EPA accepts the statute's long-term goals of eliminating significant pollution from this source, it has considerable latitude to establish a cost-effective program to reach the goal in a reasonable time.

The regulations also impose detailed operational requirements that are related to the cathodic protection and leak detection systems required to be installed, which significantly increase the operating costs of UST maintenance, and make use of plastic tanks, where possible, significantly less expensive over the long run.

The regulations establish somewhat different release detection requirements for petroleum and hazardous substance UST systems. The most significant difference between the two sets of requirements is the obligation on the part of hazardous substance UST owner/operators to have a secondary containment system or double-walled tanks, not applicable to petroleum tanks. The regulations also detail the acceptable methodologies and criteria for various types of leak detection. Recordkeeping for leak detection monitoring is required, and records must be maintained for one year, unless a different time is established by EPA.

§ 14:78 Corrective action requirements

As in the Subtitle C program, corrective action is triggered by release reporting, which in turn is triggered by release monitoring. The UST release reporting obligations are specified in Subpart E of the UST regulations. The basic reporting requirement is that owners and operators must report, within 24 hours, knowledge of (1) discovery of released regulated substances in the neighborhood's environment, (2) unusual operating conditions such as evidence of unusual product loss or the presence of water in the tank, for which there is no benign explanation, or (3) monitoring results from a leak detection system that indicate, after confirming the reliability of the results, that a release may have occurred.[1]

Although under some circumstances corrective action may be warranted im-

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[2]53 Fed. Reg. 37082 (Sept. 23, 1988).

[3]*See* RCRA § 9003(a), 42 U.S.C.A. § 6991b(a).

[Section 14:78]

[1]Nat'l Tel. Coop. Ass'n v. Exxon Corp., 38 F. Supp. 2d 1, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21245 (D.D.C. 1998) (holding that a UST owner may be held liable for damages attributed to negligent

mediately, the regulations assume that further investigation will normally follow reporting of a suspected release. If offsite impacts are discovered, the owner/operator may be required to undertake an investigation to determine linkage with the UST. Otherwise, the follow-up, pre-corrective action obligations involve determining whether in fact a leak occurred, repairing the UST, and checking the site for other sources of environmental contamination if the system ultimately is shown not to have leaked.

The simplest corrective action requirement of the UST regulations is the obligation to report and clean up spills and overfills. Spills and overfills resulting in a release of more than 25 gallons of petroleum or of a hazardous substance in excess of its CERCLA reportable quantity are automatically required to be addressed under the Subpart F corrective action scheme. Smaller spills and overfills simply need to be cleaned up by whatever means the owner/operator chooses, although the regulations presume that the action can normally be accomplished within 24 hours.

The Subpart F corrective action requirements are reasonably straightforward, involving notification to the implementing agency, rapid site characterization and free product removal, determination of the extent of residual soil and groundwater contamination, or both, and measures to address such residual contamination over the longer term.

§ 14:79 Closure

The Subpart G closure requirements for UST systems include requirements for temporary as well as permanent closure, site assessment at closure or change in service, and recordkeeping requirements. Temporary closure requirements basically involve requirements that corrosion protection systems be maintained during the closure period, define what is "empty," and impose additional requirements for closures of three months or more.

UST systems closed for more than 12 months must either be closed permanently if they do not meet the Part 280 standards, or be upgraded to meet either the performance standards for new systems or the upgrade requirements.[1]

The preferred permanent closure strategy is physical removal and disposal of the tank. *In situ* closure by filling a tank with inert material is permissible under the regulations, but can be difficult in some situations because of the sampling and analysis requirements, which essentially require sampling from beneath the tank. Each closure site must be soil-tested for evidence of past leakage, and if such evidence emerges the corrective action requirements are triggered.

Section 280.73 provides authority for EPA or an authorized state agency to require the owner and operator of a tank closed prior to December 22, 1988 (*i.e.*, before the UST regulations became effective), to assess the excavation zone and go through closure "if releases from the UST may, in the judgment of the implementing agency, pose a current or potential threat to human health and the environment." This provision poses a potentially significant residual closure liability on owner/operators who decommissioned tanks that had leaked in the past by filling them with cement grout prior to the trigger date, since in some circumstances the application of the site assessment requirements may be impossible without physical removal of the tank.

§ 14:80 The LUST fund—Financial responsibility

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remediation if the owner fails to adhere to the corrective action plan).

[Section 14:79]

[1]40 C.F.R. § 280.70(c).

When a significant leak or emission is detected, the tank may remain in service if the leak is corrected, but approvable state plans must have adequate regulations to require closures where needed.[1] If significant leakage has already contaminated soil and groundwater, cleanup also may be required.[2] Cleanup, like other compliance, is primarily the owner and operator's obligation, and EPA or a state may order owners or operators to clean up contaminated soil or groundwater.

When the spill or leakage is a hazardous substance, EPA may order or carry out a cleanup under Superfund.[3] Petroleum and its products—including gasoline—are not covered by Superfund unless EPA expressly lists these products as hazardous, which it has shown no intention of doing. In 1986, this omission was addressed in the SARA, but, instead of extending Superfund, a similar but much smaller Leaking Underground Storage Tank (LUST) Fund was established by an amendment to RCRA.[4]

EPA (or a state under a cooperative agreement with EPA) may draw on the LUST Fund to clean up spills from buried liquid petroleum or petroleum product storage tanks when the owners or operators cannot be found or cannot carry out the measures adequately (or have disregarded an order to carry them out), where the required financial assurances are inadequate for the cleanup, or where prompt action is required and a cleanup is "necessary" to protect health or the environment. EPA is required to give priority to releases of petroleum which pose the greatest threat,[5] but there is no requirement to set up an elaborate administrative procedure for ranking releases in order of priority, as there is in Superfund, and the entire program may be turned over to states for administration.

To ensure that correction, closure, or cleanup occurs, EPA may—but need not—require tank owners and operators to provide assurances of financial responsibility.[6] EPA may also require evidence of financial responsibility to meet the claims of persons injured by leaks.[7] In 1986, the statute was amended by the SARA to allow a separate set of financial responsibility rules for petroleum tanks, with special attention to the needs of small businesses,[8] and allowing state funds or risk retention groups to provide the needed insurance.

The UST financial responsibility regulations bear an understandable similarity to the RCRA financial responsibility provisions in their structure. The Subpart H regulations, which were issued in 1988, address financial responsibility only for petroleum USTs and are applicable to all owners and operators of petroleum USTs in

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[Section 14:80]

[1]*See* RCRA § 9004(a)(1)-(9), 42 U.S.C.A. § 6991c(a)(1)-(9).

[2]*See* RCRA § 9004(a)(4), 42 U.S.C.A. § 6991c(a)(4). The statute requires "corrective action," a term borrowed from EPA's hazardous waste facility standards for groundwater protection, where it includes actions to restore groundwater quality, as well as to correct the source of contamination. *See* 40 C.F.R. § 264.100(b).

[3]*See* § 14:98, below.

[4]SARA § 205, Pub. L. No. 99-499, 100 Stat. 1613 (1986) (amending RCRA §§ 9001 to 9003, 42 U.S.C.A. §§ 6991 to 6991c).

[5]RCRA § 9003(h)(3), 42 U.S.C.A. § 6991b(h)(3).

[6]*See* RCRA § 9003(d), 42 U.S.C.A. § 6991b(d); *see also* RCRA § 9004(a)(6), 42 U.S.C.A. § 6991c(a)(6); 54 Fed. Reg. 47077 (Nov. 9, 1989).

[7]RCRA § 9003(d), 42 U.S.C.A. § 6991b(d). While EPA is given discretion in forming its own regulations, it appears that the state plans are required to have those elements for approval.

[8]*See* 53 Fed. Reg. 43322 (Oct. 26, 1988) (final rules for petroleum USTs); 53 Fed. Reg. 3818 (Feb. 9, 1988) (advanced notice of proposed rulemaking for hazardous substance tanks).

existence on the effective date, with limited exemptions.[9]

Owners or operators of facilities engaged in petroleum production, refining, or marketing, and owners or operators of USTs with an average monthly throughput of more than 10,000 gallons are required to obtain "financial assurance" available to cover corrective action or liability to third parties of at least $1 million "per occurrence," while smaller operators must hold $500,000 per occurrence. All UST owners or operators must, in addition, maintain an "annual aggregate" of funds of either $1 million or $2 million, depending on the number of USTs subject to regulation.

Financial responsibility may be demonstrated by insurance, risk retention group coverage, surety bond, guarantee, letter of credit, financial test of self-insurance, trust fund, or a state fund or other state assurance, or a combination of two or more. A financial responsibility demonstration is required when new tanks are installed, when a release or suspected release occurs, when a provider becomes incapable of providing assurance, or revokes a mechanism and the owner or operator cannot secure a replacement, or if requested by EPA or the state. There is a specific requirement imposed upon guarantors and insurance carriers that requires notice of cancellation to provide the owner or operator time to seek alternate means of assurance. Records of financial responsibility must be kept until the owner or operator is released, following closure or corrective action, whichever occurs last.

Local governments have four additional mechanisms to demonstrate financial responsibility. These include a bond rating test, a local government financial test, a governmental guarantee, and maintenance of a fund balance.[10] An important provision of the UST financial responsibility regulations allows the implementing agency to require the provider to place funds into a "standby trust," which the government can draw upon in the event a release occurs or a source of financial responsibility terminates.

§ 14:81 State plans

The states are the primary enforcement agencies for this program. States are not required to submit their programs for approval by EPA; if they do not have approved programs, however, EPA will directly administer the federal requirements.[1] This has generally been sufficient inducement for the states to assume responsibility in other areas.

The statute allows EPA and the states considerable flexibility in designing their plan; a permit system is not required, and states and local government are left free to regulate by general rules, as under the Clean Air Act. EPA and the states must only provide for adequate measures of the traditional kind to accomplish the principal purposes of the statute: protection of health and the environment through leak detection and correction, and the gradual upgrading of new tanks.[2] Here again, the Agency has broad freedom to adopt a program that benefits from experience in other media.

A number of states had UST regulatory programs in place well before EPA

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[9]*See* 40 C.F.R. § 280.90(a)-(e). The effective dates were set forth in 40 C.F.R § 280.91.

Certain USTs are exempted from or deferred from regulation under 40 C.F.R. § 280.10, as are state and federal entities whose debts are the liabilities of the sovereign under § 280.90(c). Most local governments will not qualify for the state and federal entity exemption. A separate local government financial responsibility was considered, but not included in the initial UST financial responsibility rule. *See* 53 Fed. Reg. 43322, 43329 (Oct. 26, 1988).

[10]58 Fed. Reg. 9026 (Feb. 18, 1993).

[Section 14:81]

[1]*See* RCRA § 9004, 42 U.S.C.A. § 6991c; 53 Fed. Reg. 37212 (Sept. 23, 1988).

[2]*See* RCRA § 9003(a), 42 U.S.C.A. § 6991b(a).

implemented the federal program. The Part 281 regulations, adopted by EPA in 1988, point heavily toward EPA's interest in vigorous delegation of federal authority to the states. For example, they provide for partial delegation, whereby a state may choose to regulate either petroleum or hazardous substance USTs, but not both, and there is provision for interim approval.

The standard for receiving authority to administer the federal program is adoption of a state program that is "no less stringent" than the EPA program.

§ 14:82 Enforcement

EPA and the states are given concurrent enforcement authority; EPA may issue orders or proceed by suit, and may administratively or by judicial action assess civil penalties.[1] The civil penalties are substantial—up to $36,500 per day of noncompliance[2]—but there are no criminal penalties.[3]

Although there is no citizen suit provision in the UST regulatory program, courts have interpreted the language of RCRA's general citizen's suit provision to encompass UST issues, including corrective action for leaking petroleum tanks.[4]

V. EMERGENCY RESPONSE AND LONG-TERM CLEANUP

§ 14:83 Introduction

"Emergency response" is one of EPA's functions, which it carries out in different environmental media in collaboration with other agencies. It is a kind of fire-fighting work, for which the Agency maintains highly specialized staff and contractors. The Agency has authority to respond to most situations in which the release of some material into the environment may create a hazard, and it may order others to respond and recover the costs of response from responsible parties.

As often happens, Congress has assembled authority for this function piecemeal, using whatever vehicles were at hand when they were needed. As a result, emergency response and remedial programs are scattered in the hazardous waste laws and in the Clean Water Act. The Clean Water Act program was in fact the first part of the program to be authorized, and it has given shape to much of what followed; the case law and legislative history of the Clean Water Act's § 311 oil spill response program in some cases may clarify the later hazardous waste statutes' provisions. As noted in § 14:1, above, the response programs now are principally aimed at soil and groundwater protection, and are dominated by Superfund.

[Section 14:82]

[1]In re U.S. Air Force Tinker Air Force Base, No. UST-6-98-002-AO-1 (EPA ALJ May 19, 1999) (holding that although EPA may administratively fine another agency for alleged UST violations, RCRA §§ 6001, 9001, 9006, and 9007 do not authorize EPA to administratively assess punitive penalties for those same violations).

[2]*See* Office of Solid Waste and Emergency Response, U.S. EPA Penalty Guidance for Violations of UST Regulations, OSWER Directive 9610.12 (Nov. 14, 1990). EPA may make violator-specific adjustments between 50% increases and 25% decreases to matrix penalty values depending on a violator's degree of cooperation, degree of willfulness, and other factors unique to the case.

[3]*See* RCRA § 9006, 42 U.S.C.A. § 6991e.

[4]*See, e.g.*, Agricultural Excess and Surplus Ins. Co. v. A.B.D. Tank & Pump Co., 878 F. Supp. 1091, 40 Env't. Rep. Cas. (BNA) 2126, 25 Envtl. L. Rep. 21091 (N.D. Ill. 1995) (rejecting argument that RCRA citizen suit based on leaking UST was barred because of CERCLA petroleum exclusion); *see also* Bowers v. Wurzburg, 528 S.E.2d 475 (W.Va. 1999) (holding that based on common law tort theory a property owner can be held liable to third parties for damages resulting from lessee's negligent maintenance of USTs, even if the owner has no control over the lessee's operations and has no knowledge of any problems). *But see* Park Hiway Enterprises, LLC v. CEM Leasing, Inc., 995 P.2d 657 (Alaska 2000) (holding that a gasoline distributor is not liable to third parties for contamination resulting from a service station because the distributor was too remote to impose statutory or common law liability).

§ 14:84 Oil spills[1]—History of oil spill legislation

Section 311 was created by the Federal Water Pollution Control Act Amendments of 1972.[2] It was a congressional response to the disastrous Santa Barbara oil well blowouts and the *Torrey Canyon* spill, which occurred during the 1960s. The development of § 311 paralleled attempts to establish an international regime for addressing oil spills on the high seas. Much of the considerable complexity of § 311 is a result of Congress' efforts to engraft onto it many of the established doctrines of maritime law to appease the international maritime establishment and insurance carriers, while not applying those provisions to nonmaritime spillers.

The premise on which § 311 rests is that the custodian of the oil at the time it escapes into the environment is in the best position to clean up the spill, and should be obligated to do so without regard to who was actually at fault in the accident. In addition, it assumes that the private sector should ultimately be financially responsible for oil spill cleanup; accordingly, the government should have a right of action to recover public monies spent on oil spills from the defaulting custodian. Finally, since there may be cases in which the custodian is in no sense at fault, there should be a mechanism for shifting the financial responsibility to the person who is at fault. All these concepts are contained within § 311.

Congress amended § 311 in 1978,[3] adding a provision authorizing the government to recover, in addition to cleanup costs, the value of lost or damaged natural resources.[4] It also substantially broadened § 311's coverage, originally limited to petroleum products, to include a wide range of toxic and hazardous chemicals.[5]

Between 1978 and 1981, when the CERCLA program came into being, § 311(z) contained the sole authority for government financed cleanup of hazardous waste sites posing a threat to human health or the environment. During that period, EPA expended millions of dollars from the § 311 revolving fund on hazardous waste sites. Not all of these sites posed a threat to surface waters. Since § 311 is part of the Clean Water Act, its jurisdiction is coterminous with the Act. As a result, § 311 arguably only authorized the expenditure of funds on hazardous waste sites that posed a threat to "waters of the United States,"[6] which encompasses only surface waters. Accordingly, a strong argument can be made that a number of EPA's post-

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[Section 14:84]

[1]By **Donald W. Stever**. Updated by **Celia Campbell-Mohn**. Adapted from *Law of Chemical Regulation and Hazardous Waste*. Updated by B. David Naidu and Dean Brower.

[2]Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C.A. §§ 1251 to 1376) [hereinafter cited as Clean Water Act].

[3]Pub. L. No. 95-576, 92 Stat 2467–69 (1978).

[4]*See* United States v. M.V. Zoe Colcatroni, 602 F.2d 12 (1st Cir. 1979) (general discussion of this provision); In re Ballard Shipping Co., 772 F. Supp. 721 (D.R.I. 1991) (cause of action conferred on federal government only, not on states).

[5]EPA subsequently promulgated a list of hazardous substances subject to the authority of § 311(b)(2)(A). *See* 40 C.F.R. § 116.4.

[6]*See* Clean Water Act § 502(7), (12), 33 U.S.C.A. § 1362(7), (12). The meaning of "waters of the United States," [WOTUS] and therefore the extent of federal regulation, remains a subject of uncertainty and controversy. The term has been subject to three Supreme Court decisions, U.S. v. Riverside Bayview Homes, Inc., 474 U.S. 121, 106 S. Ct. 455, 88 L. Ed. 2d 419, 23 Env't. Rep. Cas. (BNA) 1561, 16 Envtl. L. Rep. 20086 (1985), Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159, 121 S. Ct. 675, 148 L. Ed. 2d 576, 51 Env't. Rep. Cas. (BNA) 1833, 31 Envtl. L. Rep. 20382 (2001), and Rapanos v. U.S., 547 U.S. 715, 126 S. Ct. 2208, 165 L. Ed. 2d 159, 62 Env't. Rep. Cas. (BNA) 1481, 36 Envtl. L. Rep. 20116 (2006). In 2015, EPA and the Corps amended their regulations defining WOTUS. *See, e.g.*, 80 Fed. Reg. 37054-01 (June 29, 2015) ("This final rule interprets the CWA to cover those waters that require protection in order to restore and maintain the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, and the territorial seas."). The rule went into effect on Aug. 18, 2015 and was immediately challenged in court

1978 § 311 hazardous waste expenditures were unauthorized since they addressed sites at which only groundwater pollution was implicated.

Section 311's usefulness as a mechanism to address hazardous waste problems ceased with the enactment of CERCLA,[7] although, as will become apparent, CERCLA owes its essence to the § 311 scheme. CERCLA has far broader applicability to chemicals and any substances whose discharge may pose a hazard, while § 311 is limited to oil and a list of designated hazardous substances; chemical discharges from vessels are therefore usually handled under CERCLA. But since Congress chose to exempt "petroleum, including crude oil or any fraction thereof"[8] from its definitions of "hazardous substance" and "pollutant or contaminant," § 311 remained the primary source of federal authority to address petroleum product spills.[9] It is unclear to just what extent CERCLA applied to petroleum derivatives,[10] and whether both CERCLA and § 311 were applicable when CERCLA applied to a petroleum derivative.

The centerpiece of the § 311 program was the National Oil and Hazardous Substances Contingency Plan (NCP).[11] This regulation was initially developed by the Council on Environmental Quality under § 311(c)(2).[12] Following enactment of CERCLA, President Reagan delegated authority to revise the NCP, as mandated by § 105 of CERCLA, to EPA. The revised NCP addresses both oil and hazardous substance response, but preserves the basic intergovernmental coordination scheme originally put together for oil spill response.

Litigation resulted in courts enjoining the implementation of the rule as well as remand to the agencies for reconsideration. In 2019, the agencies repealed the 2015 rule and re-codified the pre-2015 definition. Then, in April 2020, the agencies issued the Navigable Waters Protection Rule, 85 Fed. Reg. 22250 (April 21, 2020). In Pasqua Yaqui Tribe v. United States, CV-20-00266-TUC-RM (Aug. 30, 2021), the District Court for Arizona vacated the Navigation Waters Protection Rule and allowed the agencies to replace it. In November 2021, the agencies issued a proposed rule to revise the definition of WOTUS; in the interim, the agencies would enforce the pre-2015 definition of WOTUS. *See* 86 Fed. Reg. 69372 (Dec. 7, 2021). Public comments on the proposed rule would be accepted until February 2022.

[7]Section 304(b) of CERCLA transferred one-half of the unobligated balance of the Clean Water Act § 311(k) oil pollution cleanup fund to the CERCLA Hazardous Substance Response Trust Fund. Section 304(c) of CERCLA provides that in the event of a conflict between Clean Water Act § 311 and CERCLA, the latter applies. In the event the § 311 fund runs out of money, the CERCLA trust fund can be tapped for oil spills.

[8]CERCLA §§ 101(4), 104(a)(2), 42 U.S.C.A. §§ 9601(4), 9604(a)(2) ("hazardous substance" and "pollutant").

[9]The Trans Alaska Pipeline Authorization Act, 43 U.S.C.A. §§ 1651 to 1655, contains its own oil spill provision which is similar to, but in some respects more stringent than, Clean Water Act § 311. *See* Alyeska Pipeline Serv. Co. v. United States, 649 F.2d 831, 11 Envtl. L. Rep. (Envtl. L. Inst.) 20592 (Ct. Cl. 1981). In 1990, the OPA repealed the limited oil spill cost recovery provisions under the Deepwater Port Act of 1974 and Title III of the Outer Continental Shelf Lands Act Amendments of 1978, and remaining monies from the Deepwater Port Liability Fund and Offshore Oil Pollution Compensation Fund were rolled into the Oil Spill Liability Trust Fund. *See* OPA, Pub. L. No. 101-380, §§ 2003 to 2004, 104 Stat. 484, 507 (1990) (repealing 33 U.S.C. § 1517 and 43 U.S.C. §§ 1811 to 1824).

[10]CERCLA §§ 1011(14), 104(a)(2), 42 U.S.C.A. §§ 9601(14), 9604(a)(2), remove from the petroleum exemption "any fraction . . . otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph." Subparagraphs (A) through (F) incorporate by reference hazardous waste lists and designations of toxic pollutants compiled by EPA under the environmental protection statutes. Thus, when benzene is a petroleum fraction, since it is listed as a hazardous waste under RCRA, *see* 40 C.F.R. § 261, it is subject to CERCLA.

[11]40 C.F.R. § 300. The NCP was significantly amended, primarily as it pertains to hazardous substances, on Nov. 20, 1985. *See* 50 Fed. Reg. 47912 (Nov. 20, 1985). The NCP was significantly revised again in 1990. *See* 55 Fed. Reg. 8666 to 8865 (Mar. 8, 1990) (codified at 40 C.F.R. Part 300); *see also* Starfield, "The 1990 National Contingency Plan—More Detail and More Structure, But Still a Balancing Act," 20 Envtl. L. Rep. (Envtl. Law Inst.) 10222 (June 1990).

[12]The NCP was previously codified at 40 C.F.R. § 1510.

Partially the result of the *Exxon Valdez* oil spill in March 1989[13] and partially the result of over 15 years of congressional negotiations, on August 18, 1990, the Oil Pollution Act of 1990 (OPA)[14] was signed into law after a unanimous vote in both houses.[15] The Act establishes and enhances: a comprehensive federal liability scheme; a single federal fund called the Oil Spill Liability Trust Fund to pay for response and monitoring costs; federal authority to order removal action or conduct such action itself; standards and reviews for licensing tank personnel; tightened tank equipment standards; spill prevention control and countermeasure (SPCC) plan requirements for onshore facilities, offshore facilities, and vessels; criminal penalties for violations of the Act; and civil penalties for spills of oil and other hazardous substances. The Act also condones participation of the United States in an international oil liability and compensation scheme. The Act applies only to oil discharges occurring after August 18, 1990.[16] The explosion of the *Deepwater Horizon*, a mobile offshore drilling rig, in 2010, illustrated the limits of the OPA in addressing massive spills.[17]

§ 14:85 Oil spills—Oil spill cleanup

The Oil Pollution Act of 1990 (OPA) amended § 311(11)(c)(1) of the Clean Water Act to strengthen federal authority to order removal actions and to conduct removal actions. Congress also provided harsh penalties if a discharger improperly refuses to undertake removal work.[1] The OPA significantly revises and expands contingency planning, cleanup, response, and penalty provisions for prevention and removal of oil spills. In addition to the SPCC plans required under § 311 of the Clean Water Act, the OPA requires plans for ports, vessels, and facilities, including both onshore and offshore facilities. The Coast Guard must periodically review the plans. All plans must address "worst case discharges."[2] After the *Deepwater Horizon* spill, in 2011 the Department of Interior promulgated regulations governing response plans for offshore oil facilities (along with several other requirements related to offshore drilling).[3] Those rules created the Bureau of Safety and Environmental Enforcement (BSEE), which is responsible for approving the plans.[4]

The OPA limits the President's discretion to rely on private cleanup efforts,

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[13]*See, e.g.*, H.R. Doc. No. 19, 101st Cong., 1st Sess. (June 28, 1989), Hearing on Oil Spill Liability and Compensation before the Subcomm. on Water Resources of the Comm. on Public Works and Transportation.

[14]OPA, Pub. L. No. 101-380, 104 Stat. 484 (1990) (codified in part in 33 U.S.C.A. §§ 2701 to 2761).

[15]135 Cong. Record No. 107, S. 9678–9716 (daily ed. Aug. 3, 1989) and No. 107, S. 10070–10090 (daily ed. Aug. 4, 1989), Senate debate on S. 656.

[16]OPA § 1017(e), 33 U.S.C.A. § 2717(e); *see* Randle, "The Oil Pollution Act of 1990: Its Provisions, Intent, and Likely Effects," 21 Envtl. L. Rep. (Envtl. L. Inst.) 10119 (Mar. 1990).

[17]*See Deepwater Horizon* and the Limits of Civil Liability, 86 Wash. L. Rev. 1 (2011).

[Section 14:85]

[1]OPA § 4201, Clean Water Act § 311(b)(6), (7), 33 U.S.C.A. § 1321(b)(6)-(7).

[2]Requirements for OPA response plans are set forth in various parts of Title 49 of the Code of Federal Regulations, including 49 C.F.R. Parts 150, 154, 171 to 174, 176, and 194. These requirements were established by a series of interim final rules and apply to certain onshore pipelines, 58 Fed. Reg. 244 (Jan. 5, 1993); bulk packagings containing oil, specifically cargo tanks, railroad tank cars and portable tanks, 58 Fed. Reg. 6864 (Feb. 2, 1993); marine transportation-related facilities that handle, store or transport oil, 58 Fed. Reg. 7330 (Feb. 5, 1993); and certain vessels that carry oil in bulk as cargo, 58 Fed. Reg. 7330 (Feb. 5, 1993).

[3]76 Fed. Reg. 64432 (Oct. 18, 2011); *see* 30 C.F.R. Part 254.

[4]*See* 30 C.F.R. §§ 254.2, 254.50. The rulemaking split the responsibilities of the former Minerals Management Service among BSEE, the Bureau of Ocean Energy Management (BOEM), and the Office of Natural Resources Revenue (ONRR). 76 Fed. Reg. 64432 (Oct. 18, 2011); *see also* Native Village of Point Hope v. Salazar, 680 F.3d 1123, 74 Env't. Rep. Cas. (BNA) 1801 (9th Cir. 2012) (challenge to ap-

requiring the federal government to direct all cleanup efforts in the event of a major spill posing a "substantial danger to public health or welfare." Simultaneously, the Act broadens the President's authority to clean up spills by allowing federal contractors to perform the cleanup. In the case of smaller spills, the President can choose between performing the cleanup and directing or monitoring private efforts. Response officials and cleanup personnel are shielded from liability absent gross negligence or willful misconduct. The Act establishes a new system of strike teams, Coast Guard district groups, area committees, and contingency plans to respond to spills.

Section 1014 requires that the federal government designate the source of the discharge or threat and notify it that it is a responsible party under the statute. The responsible party then has five days to deny the designation.[5] If it does not deny, it must advertise the procedures for submitting claims within 15 days and lasting for 30 days. If the federal government cannot designate a responsible party, or the designated party denies responsibility, then the federal government advertises procedures for submitting claims against a fund.[6] Section 1016 requires that responsible parties for any vessel over a certain size establish evidence of financial responsibility up to the maximum liability limitation.[7] Claimants may proceed directly against the guarantor of vessels. Section 1015 allows contribution claims between parties, and does not cut off contribution claims where a party settles with the state or federal government.[8]

§ 14:86 Oil spills—Liability

Title I of the OPA establishes liability for oil spills. The liability provisions and funding mechanism closely model CERCLA, which was originally based on § 311 of the Clean Water Act. The OPA now makes it easier for the government to establish liability against a responsible party.[1]

Liability is strict, joint, and several. The terms "liable" and "liability" as defined in § 1001(17) are to be construed to be the standard under § 311 of the Clean Water Act which courts have repeatedly held is strict, joint, and several.[2]

§ 14:87 Oil spills—Liability—Prohibited discharges

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proval of spill response plan under Outer Continental Shelf Lands Act mooted by approval of revised plan). BSEE is responsible for safety and environmental enforcement and permitting.

[5]*Cf.* Smith Prop. Holdings, 4411 Conn. LLC v. United States, 311 F. Supp. 2d 69 (D.D.C. 2004) (holding that the Coast Guard was not obligated to reimburse a party for its cleanup costs because it was deemed to be a "responsible party" under the OPA regardless of whether the Coast Guard determined the spill source).

[6]OPA § 1014, 33 U.S.C.A. § 2714.

[7]The threshold size is 300 gross tons; OPA § 1016, 33 U.S.C.A. § 2716.

[8]OPA § 1015, 33 U.S.C.A. § 2715.

[Section 14:86]

[1]The Oil Pollution Act is silent as to the availability of punitive damages. Punitive damages may be available under general maritime law. *See* In re Oil Spill by the Oil Rig Deepwater Horizon in the Gulf of Mexico, on April 20, 2010, 808 F. Supp. 2d 943, 74 Env't. Rep. Cas. (BNA) 1668, 2011 A.M.C. 2220 (E.D. La. 2011).

[2]*See, e.g.*, In re Deepwater Horizon, 753 F.3d 570, 78 Env't. Rep. Cas. (BNA) 1633, 2014 A.M.C. 1521 (5th Cir. 2014), adhered to, 772 F.3d 350 (5th Cir. 2014) (path that the oil takes to reach surface waters is immaterial to liability for civil penalties, which is absolute).

Under the OPA, a "responsible party" for a "vessel" or a "facility"[1] from which "oil" is "discharged," or which poses a substantial threat of discharge, is liable.[2] "Oil" means oil of any kind, or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.[3] Hazardous substances covered under § 101(14) of CERCLA are not covered under the OPA.[4] This indicates Congress' intent that oil spills be cleaned up under the OPA and that hazardous releases be cleaned up under CERCLA.[5] "Discharge" means any intentional or unintentional emission, other than natural seepage, including spilling, leaking, pumping, pouring, emitting, emptying, or dumping.[6] Liability for discharges under the OPA is broader than under the previously applicable § 311(b) of the Clean Water Act. In fact, the OPA amended § 311(b) to require the President to determine those "quantities of oil and any hazardous substances in the discharges of which may be harmful to the public health or welfare *or the environment*."[7] EPA formerly defined "harmful quantities" as enough to either violate a state water quality standard approved by EPA under § 303 of the Clean Water Act or to "cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines."[8] EPA and the Coast Guard have signed a Memorandum of Understanding establishing criteria for coordinating penalty actions under the OPA. In general, the agency that provides the on-site coordinator will be designated as the lead enforcement agency.[9]

§ 14:88 Oil spills—Liability—Regulated entities

Liability under § 1002(a) of the OPA applies to *each* "responsible party" for a "vessel" or a "facility" from which oil is discharged. A "responsible party" is defined according to whether the discharge is from a vessel, onshore facility, offshore facility, deepwater port, pipeline, or party responsible for abandonment of any of these.[1]

§ 14:89 Oil spills—Liability—Regulated entities—Vessels

Unlike previous coverage of vessels under § 311 of the Clean Water Act which left the maritime industry reasonably immune from liability for oil-spill related costs from tanker spills absent a showing of "willful negligence or willful misconduct,"[1]

[Section 14:87]

[1] *See* § 14:95 for discussion of the regulated entities.

[2] *See* § 14:86 for discussion of the liability provisions.

[3] OPA § 1001(23), 33 U.S.C.A. § 2701(23).

[4] 42 U.S.C.A. § 9601.

[5] Randle, "The Oil Pollution Act of 1990, Its Provisions, Intent, and Likely Effects," 21 Envtl L Rep (Envtl L Inst) 10119 (Mar 1990).

[6] OPA § 1001(7), 33 U.S.C.A. § 2701(7).

[7] Clean Water Act, § 311(b)(4), 33 U.S.C.A. § 1321(b)(4).

[8] 40 C.F.R. § 110.3. Although § 311(b) prohibits a discharge of "oil which may affect natural resources," EPA added the requirement that it be in harmful quantities as defined in the regulation.

[9] 58 Fed. Reg. 19420 (Apr. 14, 1993).

[Section 14:88]

[1] Indemnity agreements between responsible parties may be invalidated by a court under specific circumstances. *See generally* In re Oil Spill by the Oil Rig Deepwater Horizon in the Gulf of Mexico, on April 20, 2010, 841 F. Supp. 2d 988, 2012 A.M.C. 982 (E.D. La. 2012).

[Section 14:89]

[1] Clean Water Act § 311(f)(1), 33 U.S.C.A. § 1321(f)(1).

the OPA holds "any person owning, operating, or demise chartering"[2] the vessel from which a discharge occurs liable. The OPA, unlike § 311 of the Clean Water Act, requires SPCC plans for vessels.[3] The Act also contains detailed provisions requiring double hulls,[4] traffic service, and tug escort requirements, drug and alcohol abuse, and on-board manning and vessel personnel policies. Floating platforms such as the *Deepwater Horizon* are considered vessels.[5]

§ 14:90 Oil spills—Liability—Regulated entities—Onshore and offshore facilities

The term "facility" is broadly defined under the OPA. Generally, a facility is anything that stands still, or anything that moves except a vessel. Thus, almost any location from which oil is discharged and from which the oil can reach surface waters in the United States or exclusive economic zone are included.[1]

Any person owning or operating an onshore facility may be liable, except political entities.[2] An onshore facility is broadly defined to include any facility of any kind, including motor vehicles and rolling stock located in, on, or under, any land within the United States other than submerged land.[3] This is the same definition that applied under § 311 of the Clean Water Act.

Any person owning or operating an offshore facility may also be liable under § 1002 of the OPA.[4] In the case of offshore facilities, other than a pipeline or a licensed deepwater port, the responsible party is the lessee or permittee of the area in which the facility is located or the holder of a right of use and easement under state law or the Outer Continental Shelf Lands Act.[5] Political subdivisions are not liable. An "outer Continental Shelf facility" is an offshore facility that is located, in whole or in part, on the Outer Continental Shelf and is or was used for: exploring for, drilling for, producing, storing, handling, transferring, processing, or transporting oil or some combination of these activities.[6] The OPA revised the requirements for SPCC plans at offshore and onshore facilities.[7]

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[2]OPA § 1001(32)(A), 33 U.S.C.A. § 2701(32)(A).

[3]OPA § 4202(a)(5), Clean Water Act § 311(j)(5), 33 U.S.C.A. § 1321(j)(5).

[4]The United States has taken the position that ships meeting the double hull standards in regulations of the International Maritime Organization will not be deemed in compliance with the double hull requirements of the Oil Pollution Act without express approval from the U.S. Government. 58 Fed. Reg. 39087 (July 21, 1993). The Coast Guard has also published a final rule that requires tank level or pressure monitoring (TPLM) devices to be installed on single hull tank barges and tank ships carrying oil or oil residue as cargo. 67 Fed. Reg. 58515 to 58524 (Sept. 17, 2002).

[5]*See* In re Oil Spill by the Oil Rig Deepwater Horizon in the Gulf of Mexico, on April 20, 2010, 808 F. Supp. 2d 943, 74 Env't. Rep. Cas. (BNA) 1668, 2011 A.M.C. 2220 (E.D. La. 2011).

[Section 14:90]

[1]*See also* In re Needham, 354 F.3d 340 (5th Cir. 2003) (holding that the OPA also allows recovery of cleanup costs if oil spills onto non-navigable waters that are truly adjacent to an open body of navigable water); Rice v. Harken Exploration Co., 250 F.3d 264, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20599 (5th Cir. 2001) (holding that plaintiffs may not bring claims under OPA for damages and cleanup costs associated with groundwater contamination allegedly caused by an oil and gas production facility, if there is no discharge to "navigable waters").

[2]OPA § 1001(32)(B), 33 U.S.C.A. § 2701(32)(B).

[3]OPA § 1001(24), 33 U.S.C.A. § 2701(24).

[4]OPA § 1002(a), § 1001(32)(C), 33 U.S.C.A. § 2701(32)(C), § 2702(a).

[5]43 U.S.C.A. §§ 1301 to 1356.

[6]OPA § 1001(25), 33 U.S.C.A. § 2701(25).

[7]OPA § 4202(a)(5), Clean Water Act, § 311(j)(5), 33 U.S.C.A. § 1321(j)(5).

§ 14:91 Oil spills—Liability—Regulated entities—Deepwater ports, pipelines, and abandonment

The licensee of a licensed deepwater port is the responsible party.[1] In the case of a pipeline, any person owning or operating the pipeline is the responsible party.[2]

§ 14:92 Oil spills—Liability—Defenses and exclusions to liability

The OPA limits defenses and exclusions previously available under § 311 of the Clean Water Act and CERCLA. Section 1003(a) eliminates liability solely for: an act of God, an act of war, an act or omission of a third party other than an employee, agent, or party in a contractual relationship with the responsible party, or some combination thereof.[1] These defenses are not available if the discharge was caused by gross negligence or willful misconduct, or a violation of an applicable federal safety, construction, or operating regulation.[2] Formerly, under § 311(f)(1)(C) "negligence on the part of the United States Government" was a complete defense if the discharge resulted solely from that cause.

Section 1002(e) of the OPA excludes from liability: (1) discharges permitted by a federal, state, or local permit; (2) discharges from a public vessel; or (3) discharges from an onshore facility subject to the Trans-Alaska Pipeline Authorization Act.[3] Bypasses, upsets, and permit violations resulting from the normal operations of point sources governed by National Pollutant Discharge Elimination System (NPDES) permits that were excluded under § 311 of the Clean Water Act, are no longer excluded.[4]

§ 14:93 Oil spills—Liability—Recoverable costs and damages

A responsible party is liable for removal costs.[1] Removal costs include costs incurred to respond to substantial threats of discharges as well as costs to prevent, minimize, or mitigate costs from a discharge.[2] Removal costs, however, apply only to oil. Removal costs for hazardous substances are covered under CERCLA. Recoverable removal costs for any person, other than the federal and state governments and Indian tribes, include "any removal costs incurred by any person for acts taken by the person which are consistent with the National Contingency Plan."[3] This allows and promotes private party, state, and local cleanup actions. Recoverable damages

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[Section 14:91]

[1]OPA § 1001(32)(D), 33 U.S.C.A. § 2701(32)(D).

[2]OPA § 1001(32)(E), 33 U.S.C.A. § 2701(32)(E).

[Section 14:92]

[1]Unocal Corp. v. United States, 222 F.3d 528, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20012 (9th Cir. 2000) (holding that a regional rail authority and its contractor were liable to the owner of a pipeline for cleanup costs the owner incurred in connection with an oil spill because the owner exercised due care with regard to the pipeline and took precautions against foreseeable acts or omissions by third parties).

[2]OPA of 1990 § 1003, 33 U.S.C.A. § 2703.

[3]43 U.S.C.A. §§ 1651 et seq.

[4]U.S. v. Locke, 529 U.S. 89, 120 S. Ct. 1135, 146 L. Ed. 2d 69, 50 Env't. Rep. Cas. (BNA) 1097, 2000 O.S.H. Dec. (CCH) P 32038, 2000 A.M.C. 913, 30 Envtl. L. Rep. 20438, 153 O.G.R. 565 (2000) (OPA savings clause does not affect whether other federal statutes preempt state regulations); Alaska Sport Fishing Ass'n v. Exxon Corp., 34 F.3d 769, 39 ERC (BNA) 1604 (9th Cir. 1994).

[Section 14:93]

[1]OPA § 1002(a), 33 U.S.C.A. § 2702(a).

[2]OPA § 1001(31), 33 U.S.C.A. § 2701(31).

[3]OPA § 1002(b)(1), 33 U.S.C.A. § 2702(b)(1).

include:[4] natural resource damages; damages to real and personal property, including loss of use of property; loss of subsistence use of natural resources;[5] loss of tax and other revenues; loss of profits or earning capacity;[6] and increased costs of public services.[7]

Natural resource damages, loss of tax revenue, and increased cost of public services are recoverable by governmental entities. Political subdivisions may recover natural resource damages. The other classes of damages are recoverable by private claimants or governments. It is likely that claims for natural resource damages will be subject to jury trial. Under § 1005, responsible parties are liable for interest payments beginning on the 30th day after the claim is presented, unless payment is delayed for reasons beyond their control or they have made an offer greater to or equal to the amount due.

A major remedial purpose of OPA was to allow a broader class of claimants for economic losses than allowed under general maritime law.[8] Under § 1006(d) of the Act, natural resource damages are to be measured by the replacement cost of the resource, not its market value as was an option under CERCLA before *State of Ohio v. Department of Interior*.[9] Rather, the measure of natural resource damages is to be: the cost of restoring, replacing, rehabilitating, or acquiring the equivalent of the damaged natural resources; the diminution in value of those natural resources pending restoration; plus the reasonable cost of assessing those damages. The trustee for the resources is to devise a plan for the restoration, replacement, or acquisition of equivalent resources that serves as the basis for the measure of damages. Restoration rather than replacement is to be the preferred alternative.[10] The National Oceanic and Atmospheric Administration (NOAA) promulgated regulations governing natural resource damage claims under the OPA.[11] The rules set up a process for natural resource damage assessments and divide the assessments into three different phases: preassessment, restoration planning, and restoration

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[4]United States v. Hyundai Merchant Marine Co. Ltd., 172 F.3d 1187 (9th Cir. 1999), cert. denied, 528 U.S. 963 (1999) (holding that the government may recover the costs of monitoring a liable party's response and cleanup operations).

[5]In In re Petition of Cleveland Tankers, Inc., 791 F. Supp. 669 (E.D. Mich. 1992), the court held that in order to recover damages for loss of subsistence use of natural resources, claimant must show that the natural resource was used "to obtain the minimum necessities for life." To include any business activity within the meaning of "subsistence" would distort the plain meaning of the term. In re Petition of Cleveland Tankers, Inc., 791 F. Supp. 669, 678 (E.D. Mich. 1992).

[6]The *Cleveland Tankers* court also suggested that a dock owner whose business interests were adversely affected by a vessel accident that blocked the channel may not recover for lost profits or impairment of earning capacity "due to the injury, destruction, or loss of real property, personal property, or natural resources." In re Petition of Cleveland Tankers, Inc., 791 F. Supp. 669, 678–79 (E.D. Mich. 1992). The court found that most of the claimants had not alleged "injury, destruction, or loss" to their property. In re Petition of Cleveland Tankers, Inc., 791 F. Supp. 669, 697 (E.D. Mich. 1992) S. Port Marine, LLC v. Gulf Oil Ltd. P'ship, 234 F.3d 58, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20344 (1st Cir. 2000) (holding that a claimant is entitled to a jury trial, but that punitive damages are unavailable under OPA).

[7]OPA of 1990 § 1002(b)(2), 33 U.S.C.A. § 2702(b)(2); *see also* In re Oil Spill by the Amoco Cadiz, 954 F.2d 1279 (7th Cir. 1992) (ordering payment to the French government for cleanup costs and damages to 90 towns along the coast, fishermen, and others).

[8]In re Oil Spill by the Oil Rig Deepwater Horizon in the Gulf of Mexico, on April 20, 2010, 808 F. Supp. 2d 943, 74 Env't. Rep. Cas. (BNA) 1668, 2011 A.M.C. 2220 (E.D. La. 2011).

[9]Ohio v. Dep't of Interior, 880 F.2d 432, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21099 (D.C. Cir. 1989).

[10]Conference Report H. 6262, Cong. Rec. daily ed. Aug. 1, 1990.

[11]15 C.F.R. Part 990. NOAA first issued the final regulations on January 5, 1996. 61 Fed. Reg. 440 (Jan. 5, 1996). Those initial rules were challenged in General Elec. Co. v. U.S. Dept. of Commerce, 128 F.3d 767, 45 Env't. Rep. Cas. (BNA) 1609, 28 Envtl. L. Rep. 20263 (D.C. Cir. 1997). In response to certain issues from the case, NOAA promulgated amendments to the final regulations in 2002. 67 Fed. Reg. 61483 (Oct. 1, 2002).

implementation. NOAA has also issued a number of guidance documents related to the different phases of natural resource damage assessments.[12]

§ 14:94 Oil spills—Liability—Limits on liability

Section 1004 of the OPA sets liability limits for vessels, tankers, onshore and offshore facilities, deepwater ports, and Mobile Offshore Drilling Units. Offshore responsible parties are liable for all removal costs; the caps apply only to damages. The liability limits do not apply if the discharge was caused by gross negligence or willful misconduct, or a violation of an applicable federal safety, construction, or operating regulation. They also do not apply if the responsible party refuses to follow reporting requirements, cooperate with official removal activities, or comply with an administrative or judicial order issued under Clean Water Act § 311(c) or (e) or the Intervention on the High Seas Act. The OPA does not preempt state law or remedies.[1] Therefore the liability limits apply only to claims under the OPA.

§ 14:95 Oil spills—The oil spill liability trust fund

Section 1014 of the OPA establishes an Oil Spill Liability Trust Fund like the Superfund under CERCLA, but intended to be used only where the extensive liability procedures against responsible parties fail.[1] Under § 1012, the Fund can be used, when the costs are otherwise not recoverable, for: removal and monitoring costs consistent with the NCP and which are not the result of gross negligence or willful misconduct; natural resource damages; removal costs and damages resulting from oil discharged from a foreign offshore unit; payment of uncompensated removal costs and damages as defined by the Act; and administrative costs. Only the president determines which costs are eligible to be recovered from the fund. Claims against the fund are paid in the order they are filed.[2] The statutes of limitations for claims against the fund are the same as for litigation claims.

§ 14:96 Oil spills—Litigation

The OPA requires that challenges to regulations promulgated to implement it must be brought in the United States Court of Appeals for the District of Columbia Circuit within 90 days of promulgation.[1] Claims for removal costs and damages must be brought in the district court in any district in which the discharge occurred, or where the damages or injury was suffered, or in which the defendant resides, may be found, has its principal office, or has appointed an agent, or in the state

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[12]NOAA, Legal Authorities, https://darrp.noaa.gov/legal-context.

[Section 14:94]

[1]OPA § 1018, 33 U.S.C.A. § 2718; United States v. Locke, 529 U.S. 89 (U.S. 2000) (holding that OPA does not prevent other federal statutes from preempting state statutes or regulations governing maritime operations). *But see* In re Deepwater Horizon, 745 F.3d 157, 78 Env't. Rep. Cas. (BNA) 1254, 2014 A.M.C. 2600 (5th Cir. 2014), cert. denied, 135 S.Ct. 401 (2014) (construing Clean Water Act and OPA savings clauses together to hold that state law claims were preempted by the Clean Water Act because discharge of oil did not occur within the state's borders).

[Section 14:95]

[1]*See, e.g.*, U.S. v. American Commercial Lines, L.L.C., 759 F.3d 420, 79 Env't. Rep. Cas. (BNA) 1065, 2014 A.M.C. 2400 (5th Cir. 2014), petition for certiorari filed, 83 U.S.L.W. 3253 (U.S. Oct. 14, 2014) (holding that the fund is the exclusive remedy for a claimant to recover removal costs from a responsible party under the OPA because the OPA does not authorize third-party complaints).

[2]26 U.S.C.A. § 9509(e)(3).

[Section 14:96]

[1]OPA of 1990 § 1017(a), 33 U.S.C.A. § 2717(a).

courts.[2] Damage claims must be filed within three years from when the discharge was reasonably discoverable with the exercise of due care or, for natural resources, within three years after completion of the damage assessment.[3] Claims for removal costs must be filed within three years after completion of the removal action,[4] a difficult thing to judge.

§ 14:97 Oil spills—International matters

Cartage and spillage of oil on the high seas and in the territorial waters of other nations is the subject of a number of international agreements. In addition, the maritime insurance cartel is extremely centralized, and plays a significant role in shaping the law in the international arena.

Among the treaties that affect oil are the:

- 1954 Convention on Pollution of the Sea by Oil[1]
- 1969 Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties
- 1969 Convention on Civil Liability for Oil Pollution Damage[2]
- 1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
- 1973 Convention for the Prevention of Pollution by Ships
- Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (and an Oil Spill Protocol thereto)
- 1982 United Nations Convention on the Law of the Sea.[3]

These international agreements are complex, partially overlapping, and in some cases subject to preconditions—have not yet occurred—to being in force which. They are, for the most part, of concern to governments and the highly concentrated petroleum shipping and offshore extraction industry, and the maritime insurance industry.

A provision in the OPA that implemented international protocol was deleted by House and Senate conferees. The provision was replaced by a new provision that expresses support for an international liability and compensation regime,[4] but which does not ratify any of the international agreements.

§ 14:98 Superfund

Superfund is a federal program for cleaning up chemicals and wastes whose release threatens health or the environment, as well as a colloquial name for the statute which creates a broad liability scheme applicable to private party claims in addition to EPA- or state-sponsored cleanups. The program and liability framework

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[2]OPA of 1990 § 1017(b), 33 U.S.C.A. § 2717(b).

[3]OPA of 1990 § 1017(f), 33 U.S.C.A. § 2717(f).

[4]OPA of 1990 § 1017(f), 33 U.S.C.A. § 2717(f).

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[1]These are technical amendments adopted in 1969 and 1971, of which the former went in force in 1978.

[2]This Convention is the source of the affirmative defenses and the limitations on liability contained in Clean Water Act § 311, 42 U.S.C.A. § 1321, although the United States is not a party.

[3]The United States is not a contracting party, but recognizes the maritime pollution provisions as customary international law.

[4]Grumbles, Major Provisions, Themes of the Oil Pollution Act of 1990, Env't Rep. 1264, 1266 (Nov. 2, 1990).

was created by CERCLA,[1] which was passed in 1980 in the midst of growing concern over abandoned hazardous waste. The statute is based in part on the oil spill cleanup program discussed in the preceding section. The history of CERCLA is given in §§ 14:6 to 14:8.

§ 14:99 Superfund—Overview

Under CERCLA, EPA may respond to "releases," including substantial threats of release, of hazardous substances, pollutants, or contaminants.[1] Responses may be of two kinds, "removal" actions[2]—which are generally emergency actions or limited-duration measures—or "remedial actions,"[3] which are long-term measures consistent with a permanent remedy. Together, removal and remedial actions are considered "response" actions in CERCLA parlance.[4] When EPA receives a notice or report of a release, it assesses the situation and then chooses the appropriate response. Unlike most other environmental protection programs, state governments and private parties generally play only a limited role in the response program. EPA designs site-specific responses, and either carries them out directly, or allows (or requires) other persons to carry them out under EPA supervision.

A "release" in many ways resembles other sources of pollution regulated by federal law. It is usually a spill or disposal of contamination into groundwater or soil whose impacts must be addressed.[5]

CERCLA establishes a revolving trust fund, primarily funded by taxes on petrochemical feedstocks, crude oil, and general corporate income. Additional monies may come from general revenues.[6] EPA may draw on this fund to finance its response activities, including the Agency's necessary overhead.[7] EPA is authorized to draw on the fund for response costs "not inconsistent" with its regulations;[8] EPA must then see that the fund is replenished by the persons liable for response costs—informally called "responsible parties" or "potentially responsible parties" (PRPs).[9] If responsible parties decline to reimburse the fund voluntarily, EPA is authorized to bring suit.[10]

Other units of government and private persons are authorized or required to carry out responses themselves under some conditions; in these cases, their response costs also may be reimbursed by the fund, or directly by responsible parties.[11] When the fund pays for response, the fund will be subrogated to any claims against responsible parties, who always bear the ultimate liability for response costs and for

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[Section 14:98]

[1]42 U.S.C.A. §§ 9601 to 9675. *See generally* Stever, *Law of Chemical Regulation and Hazardous Waste*.

[Section 14:99]

[1]*See* CERCLA § 104(a), 42 U.S.C.A. § 9604(a).

[2]*See* CERCLA § 101(23), (25), 42 U.S.C.A. § 9601(23), (25).

[3]CERCLA § 101(24), 42 U.S.C.A. § 9601(24).

[4]CERCLA § 101(25); 24 U.S.C.A. § 9601(25).

[5]*See* CERCLA § 101(22); 42 U.S.C.A. § 9601(22).

[6]The Superfund taxes were reinstated with the passage of the Infrastructure Investment and Jobs Act.

[7]CERCLA § 111, 42 U.S.C.A. § 9611.

[8]CERCLA §§ 107(a)(4)(A), 111, 42 U.S.C.A. §§ 9607(a)(4)(A), 9631.

[9]*See* § 14:109.

[10]*See* § 14:127.

[11]*See* CERCLA § 112, 42 U.S.C.A. § 9612; *see* § 14:113.

damages to natural resources.[12]

The procedures for the response program are set out in the National Contingency Plan (NCP), Part 300 of EPA's regulations in title 40 of the Code of Federal Regulations.[13] The NCP includes a list of the sites that pose the most serious hazards.[14] The NCP also contains procedures for response under the OPA oil spill program, discussed above.[15]

EPA's responses are triggered by reports and notices from the states, from private parties, and occasionally from its own investigations.[16] An important part of the program, therefore, is the requirement that persons with knowledge of a release give notice to the government (subject to reporting thresholds based on volume). Notices are required for past and present releases to air, water, soil, or groundwater, and there are criminal penalties for failure to give the required notices.[17] EPA may receive such notices or more leisurely reports from state governments, which submit releases to EPA for consideration; other reports come from members of Congress, individual citizens, and EPA's own staff and contractors. These reports were initially assembled in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), which has been replaced with the Superfund Enterprise Management System (SEMS).[18]

Sites listed in CERCLIS receive a preliminary assessment; this is usually done by an On-Scene Coordinator (OSC), an EPA staff person assigned to a regional office. The preliminary assessment includes a review of the statutory requirements for a federal response, as well as more practical questions, such as a determination if someone else is already making a proper response.[19] The preliminary assessment is a determination whether the federal government has jurisdiction, and whether there is an "imminent and substantial danger" which triggers EPA enforcement authority. The EPA has broad discretion to find that jurisdiction and authority exist, guided only by the criteria given in the NCP.[20]

The OSC's decision is documented and reviewed, when time allows, by several layers of managers in regional offices and EPA headquarters, but his or her judgment is usually accepted. OSCs will visit the site of a release if additional information is necessary to evaluate the release.[21]

EPA was criticized for moving too slowly in performing these preliminary assessments, and § 116 of CERCLA, added by the SARA of 1986, required EPA to complete by January 1, 1988, a preliminary assessment of all sites in CERCLIS by October

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[12]*See* CERCLA §§ 107(a), 112, 42 U.S.C.A. §§ 9607(a), 9613.

[13]Extensive revisions of the NCP were published on September 16, 1985, 50 Fed. Reg. 37624 (Sept. 16, 1985); November 20, 1985, 50 Fed. Reg. 47912 (Nov. 20, 1985); March 8, 1990, 55 Fed. Reg. 8666 (Mar. 8, 1990); and September 15, 1994, 59 Fed. Reg. 47384 (Sept. 15, 1994). References to the NCP herein cite the codified sections of the NCP revisions since 1994. *See* Versatile Metals, Inc. v. Union Corp., 693 F. Supp. 1563, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20473 (E.D. Pa. 1988).

[14]*Id.*

[15]*Id.*

[16]Private parties are required to notify EPA of "releases." CERCLA § 103, 42 U.S.C.A. § 9603. The states assist in compiling a list of priority "releases" for remedial action, which must include at least one site in each state, and EPA assembles these notices and reports and other information it receives from members of Congress and its own contractors into a list of candidate sites which it gradually screens. *See* CERCLA § 105, 42 U.S.C.A. § 9605. The Agency has occasionally used aerial photography to identify disturbed soil for investigation.

[17]CERCLA § 103(a), 42 U.S.C.A. § 9603(a).

[18]*See* https://www.epa.gov/enviro/sems-search.

[19]*See* 40 C.F.R. § 300.400.

[20]40 C.F.R. § 300.415.

[21]40 C.F.R. § 300.410.

17, 1986.

If the preliminary assessment shows federal jurisdiction, the next step is usually to inspect the site carefully and then to decide whether removal or remedial action is appropriate.[22] As discussed below, some imminent and substantial danger must exist if the response is to go beyond monitoring and assessment, to actual cleanup. CERCLA § 116(a)(2) required EPA to complete site inspections by January 1, 1989, for all sites on CERCLIS on October 17, 1986.

After the inspection, EPA regional staff prepare a "scoping" study and, using this study, will decide whether to seek funding for a prompt removal action, or to recommend consideration of longer-term remedial action. In many situations of imminent danger, either removal or remedial action may be appropriate, and the Agency may decide for reasons of general policy to shift releases into one or the other program. Policies vary from time to time, as the Agency's bias shifts from rapid, unfettered removals, to more elaborate and permanent remedies.

If the release is treated as a removal, the OSC will take charge and will coordinate the actions of EPA's contractors, and state and local agencies at the site.[23] If the Agency decides the release requires the more elaborate, long-term treatment of remedial action, it will begin the elaborate process of ranking the site for the National Priority List (NPL), discussed below.[24] Of course, the two are not incompatible; the OSC may decide that emergency action is needed while the site is being evaluated for longer-term cleanup.

Remedial actions are elaborate, long-term affairs, and are centrally managed. Operations on the site are directed by a Remedial Program Manager, who takes over from the OSC. This is likely to be a contractor supervised by EPA staff.

For Fund-financed responses, the cleanup work itself may be carried out by another EPA contractor, by a state or local government agency under a cooperative agreement with EPA, or by a private party. When private parties do carry out the cleanup, EPA usually insists on their signing an administrative order, or judicial decree, on consent. PRPs who have no present connection with a site, and who therefore may feel that EPA could not require them to perform a cleanup, nevertheless may sign orders on consent so as to be allowed to do the cleanup themselves.[25]

§ 14:100 Superfund—Overview—Removal actions

The CERCLA removal program is similar in substance and procedure to the Clean Water Act § 311 oil spill removal program, on which it is based. When the OSC has finished his or her preliminary assessment, and found that a basis for federal action exists, the next step is to decide whether removal is appropriate. The factors to be considered are a list of things that an ordinary person would think of as emergencies: whether nearby populations will be exposed through food or drinking water unless action is taken; whether there are hazardous substances in bulk

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[22] *See* 57 Fed. Reg. 22888 (May 29, 1992) (guidelines for exposure assessments). PRPs may volunteer to undertake investigative work under 40 C.F.R. § 300.700.

[23] 40 C.F.R. § 300.415.

[24] *See* § 14:113.

[25] The question is whether CERCLA § 106, 42 U.S.C.A. § 9606, authorizes injunctive relief or administrative orders to persons who have no present connection with a release, but who may be PRPs subject to claims for reimbursement of response costs. The legislative history is not helpful and the courts are divided. *See* § 14:134. The procedure for entering into consent decrees for PRP cleanup was codified in CERCLA § 122, added by SARA in 1986.

which may be released; whether there are threats of fire or explosion; or the like.[1] Removal actions are rapid or actions limited in duration, generally appropriate to respond to an emergency.[2]

CERCLA's definition of "removal" distinguishes between the measures needed to monitor and assess a release, and "actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or the environment."[3] In general, a response action is authorized merely by the threat of release, but EPA must find that some danger of actual injury exists before it may go beyond monitoring and assessment and undertake actual cleanup. The NCP lists in some detail the actions which are appropriate removal actions in emergency settings. The government, for instance, may put up fences and warning signs; install dikes or pave soil surfaces to reduce runoff; temporarily relocate people; and remove drums or barrels to a safer location.[4]

The list shows by illustration that measures taken in emergencies should be of a temporary and limited kind.[5] Removals must be limited to six months or an expenditure of one million dollars, unless the Agency makes a new determination that expenditure is still appropriate.[6] Emergency actions may be taken without significant review inside the government and the public is afforded little or no opportunity to comment.

Removals are usually performed by contractors under EPA supervision, and only rarely by state governments or responsible parties. State and local agencies usually provide security and traditional fire-fighting services, and any relocation of local residents that may be needed.

The SARA of 1986 eroded the sharp distinction EPA was drawing between removal and remedial actions. Congress amended § 104(b) to require that removal actions "contribute to the efficient performance of any long-term remedial action" where "practicable." This grows out of a GAO report critical of EPA's removal actions routinely carried out without much concern for the remedial measures which would follow.

In its early versions of the NCP, EPA had created a larger category of responses that were intermediate between removals and remedial actions. "Planned removals" were abandoned by the Agency, but then revived by Congress in the SARA of 1986, which amended § 104(c)(1)(C) to allow EPA to exceed the time and money limits on removal actions where "otherwise appropriate and consistent with remedial action to be taken."

§ 14:101 Superfund—Overview—Remedial actions

A "remedy" or "remedial action" is any action "consistent with permanent remedy." The paragraph-long definition in § 101(24) enumerates both provisional and permanent measures, including confinement of the hazard, on-site treatment or disposal,

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[Section 14:100]

[1]*See* 40 C.F.R. § 300.415(b)(2).

[2]*See, e.g.*, New York v. Next Millennium Realty, LLC, 732 F.3d 117, 77 Env't. Rep. Cas. (BNA) 1245 (2d Cir. 2013), as corrected, (Oct. 16, 2013) (installation of equipment to remove volatile organic compounds from groundwater was "removal" action at the time relevant to statute of limitations, despite significant duration of use, cost, and fact that it eventually became part of the remedial plan, because it was done urgently in response to concerns about imminent threat to drinking water).

[3]*See* CERCLA § 101(23), 42 U.S.C.A. § 6901(23).

[4]*See* 40 C.F.R. § 300.415(e).

[5]*See* 40 C.F.R. § 300.415(e); CERCLA § 101(23), 42 U.S.C.A. § 9601(23).

[6]*See* 40 C.F.R. § 300.415(b)(5); CERCLA § 101(23), 42 U.S.C.A. § 9601(23).

and relocation of residents and businesses.

The characteristic remedial action is soil and groundwater cleanup. After abandoned drums have been hauled away—either in an emergency removal or in the first stages of remedy—contaminated soil and groundwater must be cleaned up.

Such cleanup is often protracted and expensive, and very little experience was available before CERCLA. At a typical site, extensive explorations are needed to establish the location of aquifers and the extent of contamination. Wells may be drilled to pump up groundwater for treatment and to prevent further spread of contaminants. Trenches may be excavated and a permeable barrier installed down to bedrock. The site may be capped with asphalt to prevent infiltration of rainwater. A treatment facility may be constructed on site. Arrangements may be made for off-site disposal of the residue of contaminants extracted from groundwater. Such remedies may take years to plan, design, and carry out.

Remedial actions must be both cost-effective and permanent, and the various levels of government and private parties interested in the result must all be allowed an opportunity to participate. Congress has devised an intricate procedure to ensure that these sometimes conflicting aims are all carried out. Each remedial action can be a good-sized pollution control program in itself, with environmental quality standards and controls devised to meet them. Where private parties carry out a cleanup, they may be subject to a site-specific regime of rules embodied in a decree, with stipulated penalties for failure to comply, and the threat of citizen suit for "violations."

§ 14:102 Superfund—Overview—Early years of the remedial program

The remedial action program has moved very slowly. The statute was enacted on the eve of the new Reagan Administration, which accordingly had the job of setting up a complex new program. The first two years were all but lost through mismanagement and scandal. The remedial program required new policies and procedures, and there was no adequate beginning for these until 1982, when Anne Gorsuch was replaced by William Ruckelshaus as EPA Administrator. At that point, some intrinsic difficulties became evident.

The statute requires, first, that EPA must survey and rank in order of priority all potential remedial actions.[1] This is a formidable task, as there are tens of thousands of candidate sites. Second, the Agency should identify responsible parties, whose connection to abandoned sites may lie far in the past. EPA may offer them an opportunity to perform a "proper" response, but must at least offer an opportunity to comment on EPA's plans.[2] Since there are many more sites than EPA can handle itself, EPA also may encourage or compel responsible parties to respond. From an early stage onward, potentially responsible parties may become interested collaborators and antagonists in the response process.

Third, state governments are given very little formal authority in the program,[3] yet they are obliged to contribute at least 10% of the cost of any remedial action;[4] may be treated as if they were responsible parties, liable for up to 50% of the cost of

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[Section 14:102]

[1]*See* CERCLA § 105(a)(8), 42 U.S.C.A. § 9605(a)(8).

[2]CERCLA § 104(a)(1), 42 U.S.C.A. § 9604(a)(1).

[3]*See* Exxon Corp. v. Hunt, 475 U.S. 355 (1986).

[4]*See* CERCLA § 104(c)(3), 42 U.S.C.A. § 9604(c)(3). The state must also "assume the availability of a hazardous waste disposal facility," but some states have no licensed hazardous waste disposal facility within their borders.

response at county and municipal facilities;[5] and finally, are obliged to pay all of the long-term operating costs for containment and supervision of completed responses.[6] In substance, the states' interests are put into conflict with the overall program and in sympathy with the responsible parties, who may also be among their more influential citizens. Having set the EPA and the states at odds, Congress then gave each state a veto over EPA's remedial actions, by preventing EPA from proceeding without state contributions, which cannot be compelled.[7]

The remedial program, in short, was designed with a series of internal checks and balances to protect private parties and state governments. At each release, EPA would have to manage this *ad hoc* political system before it could even begin serious work. Each site then had to be explored in detail—often extensive drilling was needed and groundwater changes had to be monitored through seasonal fluctuations. Only then could design of the remedy begin—often a first-of-a-kind groundwater containment and treatment system.

Having given EPA an all but unworkable procedure to follow in making decisions, the statute then fell silent on the largest decision of all. CERCLA gave only the most general indication of what purpose was to be accomplished, or what was to be reached in remedial actions. EPA floundered unsuccessfully with this fundamental legislative decision, and it took some years for EPA to finally accept the need to borrow environmental quality standards and goals from other environmental protection programs, a decision promptly ratified by Congress.[8]

EPA has undoubtedly added to the difficulties, of course. It began by suing most of the major PRPs—indeed, the program in part grew out of those suits. The litigation was not a good premise for negotiating complex cooperative arrangements, especially as EPA was unable either to settle or specify final relief, and has often put EPA at odds with the states as well as the PRPs.

The Agency also was slow to use mobile treatment units, the best and perhaps the only likely avenue for rapid technological progress for *in situ* treatment at many Superfund sites, which the statute strongly favors.[9]

Considering all these initial difficulties, it is not surprising the remedial program was slow to begin. Work at many sites bogged down in complex multi-party negotiations and studies. The Agency installed elaborate containment systems at sites where the final remedy was unclear.

By 1986, however, EPA and the states had resolved many of the procedural problems. In the SARA,[10] Congress ratified and elaborated on these solutions. Many states had adopted their own cleanup programs, and had found adequate sources of

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[5]*See* CERCLA § 104(c)(3)(C)(ii), 42 U.S.C.A. § 9604(c)(3)(C)(ii).

[6]CERCLA § 104(c)(3)(A), 42 U.S.C.A. § 9604(c)(3)(A). With respect to tribal authorities, in 1984, EPA issued the *1984 EPA Policy for the Administration of Environmental Programs on Indian Reservations*, which outlined the consultative process between the EPA and tribes. This policy was updated with the *EPA Policy on Consultation and Coordination with Indian Tribes* (May 2011).

[7]No remedial action may be taken unless the state agrees beforehand to its share of the cost and other obligations. CERCLA § 104(c)(3), 42 U.S.C.A. § 9604(c)(3); *see* § 14:118.

[8]The remedy chosen must attain or exceed "applicable or relevant and appropriate Federal public health and environmental requirements." 50 Fed. Reg. 44912, 47916 (Nov. 20, 1985); *see also* 40 C.F.R. § 300.430(e)(9)(iii)(B) ("[t]he alternatives shall be assessed to determine whether they attain applicable or relevant and appropriate requirements under federal environmental laws and state environmental or facility siting laws"). This policy was codified in the SARA, adding new § 121 to CERCLA, with substantial additions. *See* § 14:122.

[9]*See* § 14:122.

[10]Pub. L. No. 99-499, 100 Stat. 1613 (1986).

funding for their share of remedial costs,[11] somewhat reducing friction and threats of state veto. SARA removed many minor sources of irritation by giving the states more liberal credits toward their 10- or 50% shares, relieving the states of some liability for sites passively owned, or acquired through bankruptcy or abandonment, and most importantly, shifting to Superfund and responsible parties liability for maintaining (for up to 10 years) groundwater treatment systems.[12]

Friction with PRPs was more difficult to smooth. At dozens of sites, EPA had begun with suits for injunctive relief before its own cleanup program was underway; at other sites, PRPs received notices that they would be liable and came forward to try to settle their liability. In either case, questions were raised before EPA had ready answers. In the early 1980s, EPA was still learning how to explore a site adequately and was experimenting with remedies. This made it difficult to resolve disputes with PRPs. To complicate the discussions, the statute seemed to impose joint and several liability, which made it difficult to enter into partial settlements, even when the remedy could be specified, unless all the PRPs had been identified and had come to agreement.

These problems were extensively addressed in amendments to § 113, and new § 122, added by the SARA of 1986. An optional procedure was established for negotiating with PRPs, and EPA was authorized to enter partial settlements and to indemnify private party cleanup contractors. PRPs could no longer challenge EPA remedies until the Agency demanded their participation or billed them for reimbursement.

Finally, and perhaps most importantly, SARA clarified the goals of cleanup and gave EPA ample funds to pursue cleanup at many more sites without PRP participation.

Even with areas of friction smoothed, the remedial program remained extraordinarily difficult to manage. The Administrator of EPA has the final word, but EPA's regional and headquarters staff, the Department of Justice, state agencies, hundreds of PRPs, and neighborhood groups—all separately represented by counsel, and often championed by their representatives in Congress—must all play their parts in *ad hoc* pollution control programs at hundreds of sites.

§ 14:103 Superfund—Releases meriting a response

CERCLA authorizes EPA to respond in certain situations in which some environmental harm has occurred or is imminent.[1] These situations are characterized as actual or threatened "releases." The definition of "releases" is complex, and the authority conferred is very broad.

There are two elements in a release which establish response authority: (1) Some designated substance must be present; (2) and there must be a release or a threat of a release of that substance to the environment.[2]

§ 14:104 Superfund—Releases meriting a response—Substances

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[11] *See* Stever, *Law of Chemical Regulation and Hazardous Waste*, app. 5L (state hazardous waste laws).

[12] *See generally* § 14:114. Groundwater maintenance is addressed at CERCLA § 104(c)-(d)(1), 42 U.S.C.A. § 9604(c)-(d)(1).

[Section 14:103]

[1] *See* CERCLA § 104(a), 42 U.S.C.A. § 9604(a).

[2] The court in Fertilizer Inst. v. EPA, 935 F.2d 1303, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21122 (D.C. Cir. 1991), ruled that EPA's 1989 final rule went too far in requiring those who placed a reportable quantity of a hazardous substance in an unenclosed containment structure to report a release of the substance regardless of whether a reportable quantity of the substance actually volatilizes into the air or migrates into water or soil.

Most substances designated as toxic pollutants or hazardous wastes under other environmental protection statutes are collectively called "hazardous substances" under CERCLA.[1] CERCLA authorizes EPA to respond to any release or threat of release of any hazardous substance.[2] EPA may also fill gaps in generic designations under other statutes by responding to imminently hazardous releases or threatened releases of "pollutants or contaminants" which have not been previously designated as toxic or hazardous.[3]

While the government's response authority is very broad, private party responsibility and liability may be somewhat more limited, depending on the substances released.

§ 14:105 Superfund—Releases meriting a response—Substances—Hazardous substances

The government may respond to releases in regard to hazardous substances designated under CERCLA or other statutes; and some private parties connected with the release may be jointly responsible for cleanup and jointly liable for cleanup costs and natural resource damages.[1] At least financial liability, and perhaps also the obligation to assist in cleanup, is roughly complementary with provisions of older statutes. When a private party holds a permit under federal environmental protection law, that person will not be liable for response costs connected with "federally permitted releases."[2] This seems fair, and accords with EPA's interpretation of other statutes that compliance with permit provisions is generally compliance with applicable law.[3]

"Federally permitted release" includes releases expressly authorized by Clean Water Act § 402 (which covers most industrial and municipal releases), by SDWA injection well and RCRA permits, or emissions authorized by state regulation under the Clean Air Act, permits, regulations, or municipal ordinances governing discharges into sewers under the Clean Water Act.[4] Permit holders are not necessarily free from obligation to assist in the cleanup, however, when required to do

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[Section 14:104]

[1]*See* CERCLA § 101(14), 42 U.S.C.A. § 9601(14); Hassayampa Steering Comm. v. Arizona, 942 F.2d 791 (9th Cir. 1991) (holding that states have no authority to expand the definition of "hazardous substance" under CERCLA).

[2]CERCLA § 104(a)(1)(A), 42 U.S.C.A. § 9604(a)(1)(A).

[3]CERCLA § 104(a)(1)(B), 42 U.S.C.A. § 9604(a)(1)(B).

[Section 14:105]

[1]CERCLA §§ 106(a), 107(a), 42 U.S.C.A. §§ 9606(a), 9607(a); *see* § 14:127.

[2]CERCLA § 107(k), 42 U.S.C.A. § 9607(k).

[3]*See, e.g.*, 40 C.F.R. § 270.1(A)(1). Senator Randolph remarked:

> [T]he congress has never said or suggested that a Federal permit amounts to a license to create threats to public health or the environment with legal immunity. However, in view of the large sums of money spent to comply with specific regulatory programs, liability for federally permitted releases . . . ought to be assessed against the permit holder under the provisions of other laws, not this bill.

126 Cong. Rec. S. 14964 (daily ed. Nov. 24, 1980) (remarks of Sen. Randolph on final text of CERCLA), *reprinted in* CERCLA Legislative History, Section 13:1.

[4]*See* CERCLA § 101(10), 42 U.S.C.A. § 9601(10). Also exempt from liability under this definition are state-authorized injections into wells to stimulate oil or gas recovery, and farmers' applications of fertilizers, which are not so much permitted as they are exempt from regulation under the Safe Drinking Water Act and the Clean Water Act, and certain releases of radioactive materials regulated by the Nuclear Regulatory Commission or the Department of Energy. CERCLA § 101(10), 42 U.S.C.A. § 9601(10). The latter exclusion does not apply to naturally occurring radioactive materials, or radioisotopes manufactured in accelerators.

so.[5] Pesticide applicators are not required to have permits under federal law, so a separate, similar exclusion is provided for pesticide releases in accordance with federally registered label directions.[6] Mining wastes and fly ash can be hazardous substances.[7] The exclusion for federally permitted releases is not available, however, for persons who dispose of their wastes in accordance with federal law at RCRA-permitted facilities. The effect is to impose liability on generators who send their wastes to these facilities if a response at the facility is later required—unless, of course, the release that causes the response is in accordance with the disposal facility's permit, which is unlikely.

§ 14:106 Superfund—Releases meriting a response—Substances—Pollutants or contaminants

The government may also respond under some conditions to releases of previously undesignated materials when they pose an imminent danger.[1] Private parties arguably may be compelled to cooperate in cleanup of such previously undesignated "pollutants or contaminants,"[2] but they will bear no liability for the government's cleanup costs.[3]

The exclusion from liability for these emergency response actions is not explained, and may be an oversight. So many hazardous substances have been designated, however, and the designations include so many common chemical elements, that this escape from liability will rarely be available.[4]

§ 14:107 Superfund—Releases meriting a response—Risks posed by release

If a previously designated "hazardous substance" is present at a facility, EPA may respond if there has been a release of the substance, or if there is a substantial threat of release.[1] A release is an escape into the outdoor environment by any route.[2] "Release" authorizing a response is not qualified by any modifiers—any release, no matter how slight, beyond some implied *de minimis* amount, is appar-

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[5]The exemption for federally permitted releases appears only in the section of the statute which governs liability for the costs of cleanup in § 107. There is no corresponding exemption in the definitions or substantive provisions authorizing injunctions against persons who may aid in cleanup. *See* CERCLA § 106(a), 42 U.S.C.A. § 9606(a). Owners and operators accordingly may be compelled to assist in cleanup at federally permitted facilities.

[6]CERCLA § 107(i), 42 U.S.C.A. § 9607(i).

[7]Atlantic States Legal Found. v. Tyson Foods, Inc., 682 F. Supp. 1186, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20924 (N.D. Ala. 1988).

[Section 14:106]

[1]CERCLA § 104(a)(1)(B), 42 U.S.C.A. § 9604(a)(1)(B) (district courts authorized to issue such orders as necessary and as the equities of the case require, where there is a release or substantial threat of release of a hazardous substance).

[2]*See* § 14:127.

[3]*See, e.g.*, RCRA § 7003, 42 U.S.C.A. § 6973.

[4]*See* CERCLA § 107(a), 42 U.S.C.A. § 9607(a).

[Section 14:107]

[1]*See* CERCLA § 104(a)(1)(A), 42 U.S.C.A. § 9604(a)(1)(A).

[2]Both "release" ("any spilling, leaking pumping, pouring," etc.) and "environment" (navigable waters, coastal waters, ground waters, land surface, etc.) are laboriously defined by enumeration. *See* CERCLA § 101(8), (10), 42 U.S.C.A. § 9601(8), (10). Carson Harbor Village, Ltd. v. Unocal Corp., 227 F.3d 1196, 51 Env't. Rep. Cas. (BNA) 1193, 31 Envtl. L. Rep. 20141, 154 O.G.R. 477 (9th Cir. 2000), opinion withdrawn and superseded on reh'g en banc, 270 F.3d 863, 53 Env't. Rep. Cas. (BNA) 1321, 32 Envtl. L. Rep. 20180 (9th Cir. 2001) (holding that a former site owner may be responsible for passive migration of hazardous substances that occurred during its tenure of ownership since the definition of

ently sufficient to trigger EPA's authority.[3]

There may be some implied limit on EPA's authority to incur costs or impose liabilities in connection with a trivial release,[4] but the mere presence of a release of a hazardous substance undoubtedly gives the Agency authority to investigate and to decide whether response action is needed.

The logic of this broad authorization is plain; releases of hazardous substances are regulated under other statutes, presumably because EPA or the Congress has determined that such releases may pose hazards. EPA is therefore authorized to rely on a presumption that such releases are hazardous, and to respond accordingly.

EPA may also respond if there has not yet been an actual release of a hazardous substance, but there is a "substantial threat" that a release will occur. Abandoning intact containers is a release, but the mere presence of pollutants in an attended tank is probably not sufficient to create a "substantial threat of release"—at least some evidence that an uncontrolled release is threatened seems to be needed.[5]

With regard to the previously undesignated "pollutants or contaminants," EPA must make the additional threshold determination that a release or substantial threat of release poses an imminent and substantial danger to public health or welfare.[6] "Pollutant or contaminant" is very broadly defined to include any material substance capable of posing a threat.[7] In case of apparent threat, therefore, if EPA does not have the presumption of an earlier designation on which to rely, the Agency must make an *ad hoc* determination that an imminent danger is present.

EPA was required to publish uniform guidelines for its exercise of response authority under CERCLA and other statutes, and it has done so in very general terms, enumerating the very general criteria in the NCP.[8] EPA considers the population at risk, the potential routes of exposure, the valuable natural resources which may be threatened, and other common sense factors, including the likelihood that another agency of government will handle the situation.[9]

Beyond this recital of general criteria, neither EPA regulations nor case law cast much light on the degree of risk that releases must pose. There are few reported de-

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the term "disposal" includes passive migration) (reversing determination as to passive migration). *Contra* Servco Pac. Inc. v. Dods, 193 F. Supp. 2d 1183, 1196, 54 Env't. Rep. Cas. (BNA) 1765, 32 Envtl. L. Rep. 20536 (D. Haw. 2002) (holding that a prior owner is not liable for passive migration while noting that the term "disposal" requires a demonstration of hazardous substances being affirmatively introduced into the environment). The definition of "environment" contains several overlapping or synonymous terms (groundwater as well as underground drinking water supply); the enumerations seem evidently intended to make the definitions inclusive, rather than to exclude omitted items. But, in Pakootas v. Teck Cominco Metals, LTD., 830 F.3d 975, 82 Env't. Rep. Cas. (BNA) 2045 (9th Cir. 2016) ("Pakootas III'), the Ninth Circuit refused to allow the aerial deposition of hazardous waste to fall under CERCLA's definition for disposal. *Id.* at 986.

[3] *Cf.* United States v. Wade, 546 F. Supp. 785, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (E.D. Pa. 1982) (sack of pennies left at cleanup site theoretically sufficient to trigger liability for entire cleanup).

[4] *See* 40 C.F.R. § 300.415 (preliminary assessment to ensure that authority exists for additional response actions); *see also* § 14:114.

[5] Some doubt about abandoned containers, raised by, *e.g.*, United States v. A & F Materials, Inc., 578 F. Supp. 1249, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20105 (S.D. Ill. 1984) (mere presence of abandoned wastes in drums is not sufficient to authorize RCRA imminent hazard action), was resolved by the SARA § 101(c), Pub. L. No. 99-499, 100 Stat. 1613 (1986) (amending CERCLA § 101(22), 42 U.S.C.A. § 9601(22)).

[6] CERCLA § 104(a)(1)(B), 42 U.S.C.A. § 9604(a)(1)(B).

[7] CERCLA § 104(a)(2), 42 U.S.C.A. § 9604(a)(2). This is another enumeration ("any element, substance, compound, . . . mixture," etc.).

[8] *See* CERCLA § 106(c), 42 U.S.C.A. § 9606(c); 47 Fed. Reg. 20664 (May 13, 1982); 55 Fed. Reg. 8666 (Mar. 8, 1990).

[9] *See* § 14:111.

cisions construing EPA's response authority under CERCLA's § 104 imminent hazard response language, but similar language is used in § 106, specifying the conditions under which the Agency may seek injunctive relief; under that provision, the limited case law under CERCLA, and the precedents under other statutes, it has been held that only the risk of injury, and not the injury itself, must be "imminent."[10]

The injury which is risked must be something more than *de minimis* damage, and probably can be analyzed in terms of the probability of the harm and the magnitude of the harm if it occurs.[11] Extremely improbable events, as well as trivially small damages, are therefore both *de minimis*.[12]

§ 14:108 Superfund—Releases meriting a response—Exclusions

Petroleum and petroleum products are excluded from the definitions of both "hazardous substance" and "pollutant or contaminant,"[1] although EPA may designate any or all as "hazardous substances." This is a reminder that oil spills and chemical spills were treated separately by some of the bills which preceded CERCLA.[2] EPA decided not to enlarge Superfund to cover the ubiquitous problem of leaking gasoline tanks, and these eventually were addressed by the UST program, which was added to RCRA in 1984, and amended to include a miniature Superfund in 1986.[3] There remains an odd gap in coverage, however: Vehicles carrying petroleum or petroleum products and above-ground petroleum storage tanks are not regulated by federal environmental protection law. State law often fills in the gaps, but varies widely.

There are some other idiosyncratic exclusions in the definition of "hazardous substance." Since it tracks the designations of hazardous substances under other statutes, there is some question whether exclusions under the other statutes also carry forward into CERCLA. For instance, some high-volume wastes from cement kilns, power plants, and mining, which would otherwise be hazardous wastes under RCRA, are excluded from designation under that statute while EPA studies the advisability of regulating them. This exclusion does keep these mineral wastes from *ipso facto* inclusion as CERCLA hazardous substances, but any separately

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[10] *See* U.S. v. W.R. Grace & Co.-Conn., 280 F. Supp. 2d 1135 (D. Mont. 2002), aff'd, 429 F.3d 1224, 61 Env't. Rep. Cas. (BNA) 1865, 35 Envtl. L. Rep. 20245, 24 A.L.R. Fed. 2d 631 (9th Cir. 2005) (EPA's decision that public's continued exposure to asbestos constituted an immediate risk to the public health was consistent with the NCP and not arbitrary or capricious); U.S. v. Dickerson, 660 F. Supp. 227, 25 Env't. Rep. Cas. (BNA) 2087, 18 Envtl. L. Rep. 20269 (M.D. Ga. 1987), order aff'd, 834 F.2d 974, 26 Env't. Rep. Cas. (BNA) 2081, 18 Envtl. L. Rep. 20305 (11th Cir. 1987) (any release poses an imminent and substantial endangerment); *cf.* United States. v. Price, 688 F.2d 204, 213–14, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21020, 21024–25 (3d Cir. 1982) (imminent hazard standard under RCRA § 7003); *see also* § 2:9.

[11] *Cf.* Ethyl Corp. v. EPA, 541 F.2d 1, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20267 (D.C. Cir. 1976) (en banc) ("endangerment" threshold for designation of fuel additives), cert. denied, 426 U.S. 941 (1976).

[12] *Cf.* Ethyl Corp. v. EPA, 541 F.2d 1, 6 Envtl. L. Rep. (Envtl. L. Inst.) 20267 (D.C. Cir. 1976) (en banc) ("endangerment" threshold for designation of fuel additives), cert. denied, 426 U.S. 941 (1976); *see* § 2:23 (general discussion of *de minimis* standards).

[Section 14:108]

[1] *See* CERCLA §§ 101(14), 104(a)(2), 42 U.S.C.A. §§ 9601(14), 9604(a)(2). Sections 101(14) and 104(a)(2) exclude petroleum products but are not applicable to listed substances in excess of amounts occurring in the oil refining process. *See* Wilshire Westwood Assoc. v. Atlantic Richfield Corp., 881 F.2d 801, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21313 (9th Cir. 1988); Washington v. Time Oil Co., 687 F. Supp. 529, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21376 (W.D. Wash. 1988); Licciardi v. Murphy Oil USA, Inc., No. 93-0490, 1994 WL 285051 (E.D. La. June 20, 1994), modified, on recons., recons. denied, in part, No. 93-0490, 1994 WL 424375 (E.D. La. Aug. 11, 1994).

[2] *See* § 14:1.

[3] *See* § 14:72.

designated hazardous substances found in the mining wastes—and most have designated contaminants—will independently support both EPA's cleanup authority and liability for responsible persons.[4] Similarly, petroleum fractions which have been separately designated are "hazardous substances," even though petroleum as such is excluded.[5] EPA has generally followed this logic,[6] but the Agency has not always been consistent; it declines to treat gasoline as a hazardous substance, even though gasoline uniformly contains benzene, a separately designated toxic chemical which is separately manufactured and added to the product.[7] To date, courts have generally agreed that exclusions under RCRA do not extend to the definition of "hazardous substance" under CERCLA.[8]

Also excluded from the definition of release are vehicle exhaust emissions and pipeline pumping station engine emissions, both of which might extend liability to the oil and gas industry if not excluded; releases of radioactive material covered by the special provisions of other laws; and releases within a workplace, but only to the extent that they give rise to employee claims for compensation.[9] This last, awkwardly worded exception apparently is not intended to limit EPA response authority, but to keep CERCLA from encroaching on state workers' compensation laws.[10] CERCLA does not create any private right of action for personal injury damages, however, so this exclusion actually serves no purpose; it is probably a remainder of an earlier draft of the bill. It may, however, create needless confusion for employees who file claims for reimbursement of costs caused by injuries incurred in response activities. Employers are probably jointly liable for such claims, the exclusion and state law notwithstanding, if they are responsible parties.

"Consumer products in consumer use" are excluded from CERCLA's definition of "facility,"[11] rather than from the definition of release, which raises an interesting question about the exclusion's effect on EPA's response authority. The term "facility" is used to establish financial liability for some persons through their connection to the site of a release;[12] and in sections of the statute dealing with management of the remedial program. EPA's enforcement and response authority is keyed solely to the release itself. Arguably, therefore, EPA has authority to respond itself under

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[4]*See* discussion of RCRA mining waste exclusion, § 14:19; *see, e.g.*, Eagle-Picher Indus. v. EPA, 759 F.2d 905, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20467 (D.C. Cir. 1985). Congress ratified EPA's approach in the SARA, but required that in the future the volume of total wastes being studied under RCRA § 3001(b)(3)(A)(i) should not be considered when ranking new sites. SARA § 125 (amending CERCLA § 125, 42 U.S.C.A. § 9625).

[5]*See* CERCLA § 101(14), 42 U.S.C.A. § 9601(14).

[6]*See, e.g.*, United States v. Union Gas Co., 586 F. Supp. 1522, Envtl. L. Rep. (Envtl. L. Inst.) 20491 (E.D. Pa. 1984) ("coal tar," which had caused the response, was not a listed hazardous substance, but several of its constituents had been separately designated, which was sufficient to support EPA's response action).

[7]*See* CERCLA § 101(10), 42 U.S.C.A. § 9601(10); discussion in § 14:72 note 2.

[8]*See, e.g.*, R.R. Street & Co. Inc. v. Pilgrim Enterprises, Inc., 166 S.W.3d 232, 60 Env't. Rep. Cas. (BNA) 1885, 35 Envtl. L. Rep. 20115 (Tex. 2005) (exclusions to RCRA definition of "solid waste" do not affect definition of "hazardous substance" under CERCLA); State of N.J., Dept. of Environmental Protection and Energy v. Gloucester Environmental Management Services, Inc., 821 F. Supp. 999, 37 Env't. Rep. Cas. (BNA) 1511, 23 Envtl. L. Rep. 21420 (D.N.J. 1993) (same).

[9]*See* CERCLA § 101(10), 42 U.S.C.A. § 9601(10); discussion in § 14:72 note 2.

[10]*See* 126 Cong. Rec. H 16427 (daily ed. Dec. 12, 1980), *reprinted in* 1 Superfund: A Legislative History 37 (M. Needham & M. Menefee eds. 1984) (remarks of Sen. Randolph).

[11]*See* CERCLA § 101(9), 42 U.S.C.A. § 9601(9); *see also* § 14:109.

[12]*See* Otay Land Co. v. U.E. Ltd., L.P., 440 F. Supp. 2d 1152 (S.D. Cal. 2006) (holding that the owners of a shooting range could not recover under CERCLA from former owners because the sources of contamination on the range—iron shots and clay targets—were consumer products in consumer use and the range was not, therefore, a facility), aff'd in part, vacated in part, 338 Fed. Appx. 689 (9th Cir. 2009).

§ 104 to releases or threatened releases caused by consumer products in consumer use, and may ask a district court for an order under § 106 to abate such hazards; the Agency so far has not attempted to assert such authority, however. The exclusion for consumer products in consumer use does not imply any restriction, of course, on the Agency's authority to respond to releases at landfills and other facilities where consumer products may have been disposed of.

In the SARA, the extensive revision of CERCLA in 1986, Congress added a new category of exclusions which overlaps the exclusion of consumer products in consumer use. EPA may not respond "to a release or threat of release—"

(A) of a naturally occurring substance in its unaltered form or altered solely through naturally occurring processes, or phenomena, from a location where it is naturally found;
(B) from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures; or
(C) into public or private drinking water supplies due to deterioration of the system through ordinary use.[13]

These restrictions apply only to EPA response authority under § 104, and the Agency presumably retains authority to place these releases on the NPL and order responsible party cleanup.

In the Superfund Recycling Equity Act of 1999, Congress provided an exemption from CERCLA liability for those who arrange for recycling or who handle recyclable material.[14] The shield provision applies to recyclers of scrap metal, glass, paper, plastic, textiles, rubber (except whole tires), and spent lead-acid, nickel-cadmium batteries, and other spent batteries. Under this provision, if a party can demonstrate by a preponderance of evidence that it satisfies the conditions set forth in the statute, then a transaction involving the selling of, or otherwise arranging for, the shipping of the items listed above will be considered an arrangement for recycling.

The shield provisions do not apply if, at the time of the recycling transaction, the person has an objectively reasonable basis to believe that: (1) the material would not be recycled; (2) the material would be burned as fuel or energy recovery; or (3) the transaction occurred within 90 days from the enactment of the statute and the consuming facility was substantively not in compliance with federal, state, or local environmental laws, regulations, or orders. The shield provision also does not apply if: (1) the person has reason to believe that hazardous materials have been added to the recyclable material for purposes other than processing or recycling; (2) the person failed to exercise reasonable care with respect to management and handling of the recyclable material; or (3) the recyclable material contains PCBs at a concentration in excess of 50 parts per million or any other new federal standard.

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[13]CERCLA § 104(a)(3), 42 U.S.C.A. § 9604(a)(3). This provision notwithstanding, however, EPA may respond to such releases if they constitute a health or environmental emergency and no other agency will respond in a timely manner. CERCLA § 104(a)(4), 42 U.S.C.A. § 9604(a)(4).

[14]Superfund Recycling Equity Act of 1999 § 100a(9) of Act of Nov. 29, 1999, Pub. L. No. 106-113 (codified as amended at 42 U.S.C.A. § 127); *see* Cal. Dep't of Toxic Substances Control v. Interstate Non-Ferrous Corp., 99 F. Supp.2d 1123 (E.D. Cal. 2000) (holding that the exemption applies retrospectively but that it does not have a retroactive effect); United States v. Mountain Metal Co., 137 F. Supp.2d 1267 (N.D. Ala. 2001) (holding that plaintiffs are barred from seeking contribution from recyclers even though they consolidated their private party action with a pending government cost recovery case). *But see* United States v. Atlas Lederer, 97 F. Supp.2d 830 (S.D. Ohio 2000) (holding that the scrap recycler exemption does not apply retroactively to third-party claims and cross-claims filed as part of a government action); *see also* United States v. NL Indus., Inc., No. 91-CV-578-JLF, 2005 WL 1267419, (S.D. Ill. May 4, 2005).

Under the Small Business Liability Relief and Brownfields Revitalization Act,[15] arrangers or transporters of a *de micromis* amount of waste are exempt from CERCLA liability.[16] To be considered under this exemption, the arranger or transporter must demonstrate that the total amount of material containing hazardous substances that was arranged for disposal or accepted for transport was less than 110 gallons of liquid material or less than 200 pounds of solid materials, and that all or part of the disposal, treatment, or transport of the materials occurred before April 1, 2001. Moreover, this exemption does not apply to owners or operators or if the EPA determines that the material has contributed or could contribute significantly to the costs of response.[17] Under a limited set of circumstances, the President does have the power to determine that the exemption will not apply to a particular person.

§ 14:109 Superfund—Vessels and facilities

As noted in the previous section, EPA's authority is tied to "releases," wherever they may be. The liability of private parties, however, is established through their connection with the "vessels" or "facilities" at which releases of hazardous substances may occur.

The statute begins by distinguishing between "vessels" and "facilities." Vessels are watercraft, including any "artificial contrivance" capable of being used for transportation on water.[1] Liability for releases from "vessels" is generally governed by the Clean Water Act's spill response program and the OPA, described in the preceding section.[2] Such liability is governed by principles borrowed from maritime law, subject to limits which do not apply to onshore facilities.[3] In 1986, SARA created a third category, "incineration vessels," which includes hazardous waste incinerator ships, and which for most purposes are lumped with onshore facilities rather than vessels, presumably to avoid giving the floating incinerators an advantage over land-based competitors.[4]

CERCLA is principally concerned with onshore spills, and for these purposes the statute defines "facility" somewhat laboriously.

> "[F]acility" means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise [has] come to be located; but does not include any consumer product in consumer use or vessel.[5]

It is difficult to generalize from such a disparate catalogue of things at different levels of abstraction, but two ideas are visible. First, it is plain that a facility is

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[15]Small Business Liability Relief and Brownfields Revitalization Act of 2001, Pub. L. No. 107-118, 115 Stat. 2356.

[16]CERCLA § 107(o), 42 U.S.C.A. § 9607(o).

[17]CERCLA § 107(o)(2), 42 U.S.C.A. § 9607(o)(2).

[Section 14:109]

[1]*See* CERCLA § 101(28), 42 U.S.C.A. § 9601(28).

[2]*See* § 14:85; *see also* § 14:127.

[3]*See* CERCLA §§ 107(c), 108(a)(4).

[4]*See* § 14:85.

[5]CERCLA § 101(9), 42 U.S.C.A. § 9601(9); *see* United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985).

simply any ascertainable location, including vehicles in motion.[6] It is simply the place at which a release is threatened or occurs. Second, the catalogue shows a concern to draw this definition very broadly, despite the interaction of CERCLA with other statutes. It therefore affirmatively includes "facilities" which are granted permits to make releases or are excluded from regulation under other laws. The enumerated cases probably also show that exclusion from liability for releases in accordance with permits does not otherwise exempt facilities from liability under CERCLA for releases in violation of permits.[7]

As noted in the preceding subsection, the exclusion of "consumer products in consumer use" does not limit EPA response authority, but does limit potential private liability.[8]

§ 14:110 Superfund—Persons affected

CERCLA is not a regulatory statute and does not generally prescribe rules for behavior, but it affects several classes of people, imposes some duties, and creates substantial liabilities.

§ 14:111 Superfund—Persons affected—Responsible and potentially responsible parties

One of the principal purposes of CERCLA is to fix liability for cleanup of abandoned facilities, both to fund the cleanup and to discourage the creation of further releases. This liability is fixed on "responsible parties," the class of persons liable for the costs of response actions taken by others, and for damages to natural resources, when hazardous substances are released or there is a substantial threat of their release.[1] CERCLA provides a revolving fund for government responses; the fund is to be replenished by recoveries from responsible parties.[2]

Responsible parties may also be subject to injunctions to compel assistance in responses, even at facilities to which they have no present connection.[3]

Whether or not responsible parties may be compelled to participate in a cleanup, however, EPA will offer them an opportunity to comment before carrying out its own response, and their interest in the outcome may prompt involvement at an early stage. Responsible parties therefore are not usually passive recipients of liability, but are collaborators in the response program, sometimes over their own objections, and sometimes over EPA's objections. This adds a dimension of difficulty and conflict to an already complex program.[4]

Responsible parties and their liability are defined in § 107. The generic term

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[6]In re Port Auth. of N. Y. & N.J., Petition No. 96-5, 2001 WL 624776 (Envtl. App. Bd. May 30, 2001) (holding that the ocean bottom is a facility because "it constitutes a site where a hazardous substance came to be located").

[7]*See* § 14:105, § 14:127.

[8]*See* § 14:108.

[Section 14:111]

[1]*See* CERCLA § 107(a), 42 U.S.C.A. § 9607(a); United States v. Alcan Aluminum Corp., 49 F. Supp. 2d 96, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21379 (N.D.N.Y. 1999) (holding that the retroactive application of CERCLA is not a regulatory taking).

[2]*See* CERCLA § 107(a), 42 U.S.C.A. § 9607(a); United States v. Alcan Aluminum Corp., 49 F. Supp. 2d 96, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21379 (N.D.N.Y. 1999); *see, e.g.*, 126 Cong. Rec. H11787–88 (daily ed. Dec. 3, 1983), *reprinted in* 1 Superfund: A Legislative History 164–65 (H. Needham & M. Menefee eds. 1984).

[3]*See* United States v. Wade, 546 F. Supp. 785, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (E.D. Pa. 1982); CERCLA § 106(a), 42 U.S.C.A. § 9606(a); § 14:127.

[4]PRPs are generally required to enter a consent decree with EPA specifying the response to be

"responsible parties" is not used in this section but in § 104(a)(2), which defines EPA's response authority; the practice of referring to the parties listed in § 107 as "responsible parties" is, however, universal. Since liability is usually disputed, and some limited defenses are available, it is also common to refer to "potentially responsible parties," or PRPs, and this term is used in § 122, added in 1986.

"Owners and operators" of facilities are PRPs if they were owners or operators at the time of disposal of a hazardous substance at the facility, or if they are owners or operators at the time of the response, regardless of when the waste was disposed.[5] The U.S. government may also be considered an owner.[6]

"Owner or operator" is defined as a single phrase in a series of somewhat circular enumerations: "any person owning, operating or chartering [a] vessel; . . . any person owning or operating [a] facility," etc.[7] It includes common carriers transporting hazardous substances.[8] In the case of an abandoned facility, the phrase includes the owners and operators immediately before abandonment; it excludes mortgagees and other holders of security interests who have not foreclosed.[9] A trustee can be liable as an owner of property in the trust if it has the power to control the use of the trust property and knowingly allows the property to be used for the disposal of hazardous substances.[10] While courts have been reluctant to hold lessees liable as owners,[11] a lessee may face liability as an operator.[12] EPA has not further defined these terms under CERCLA, but it has defined "owner" and "operator" separately in its

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carried out. The procedures for entering into such "settlements" are described in great detail in CERCLA § 122, 42 U.S.C.A. § 9622, added by the SARA of 1986, Pub. L. No. 99-499, 100 Stat. 1613. *See* § 14:134.

[5]*See* CERCLA § 107(a), 42 U.S.C.A. § 9607(a). The statute is not at all clear as to which owners or operators are liable. *See* 126 Cong. Rec. H11790 (daily ed. Dec. 3, 1980), *reprinted in* 1 Superfund: A Legislative History 166 (H. Needham & M. Menefee eds. 1984).

[6]Chevron Mining Inc. v. United States, 863 F.3d 1261, 84 Env't. Rep. Cas. (BNA) 2079 (10th Cir. 2017). The Tenth Circuit ruled that the U.S. government is an "owner" and therefore potentially liable under CERCLA for cleanup costs at a former mining site located on U.S.-owned National Forest lands. The court found that the U.S. clearly held title to the land in question and was therefore an owner in the widely accepted common sense of the word, notwithstanding that it did not control or direct the mining operations that caused the contamination.

[7]*See* CERCLA § 101(20)(A), 42 U.S.C.A. § 9601(20)(A); United States v. Moore, 703 F. Supp. 455, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21272 (E.D. Va. 1988); *cf.* Tanglewood E. Homeowners v. Charles-Thomas, Inc., 849 F.2d 1568, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21348 (5th Cir. 1988). In In re Paoli R.R. Yard PCB Litig., 790 F. Supp. 94 (E.D. Pa. 1992), the court held that EPA's cleanup of a contaminated site in its regulatory capacity does not make the Agency an operator under CERCLA. *But see* Thomas v. FAG Bearings Corp., 50 F.3d 502 (8th Cir. 1995) (where government's involvement goes beyond supervision and rises to the level of "hands-on" operation, government may be liable). An owner can be liable for the full costs of remediating a facility even if he or she owns only a portion of the facility. United States v. Rohm & Haas Co., 2 F.3d 1265, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21345 (3d Cir. 1993), overruled by United States v. E.I. Dupont De Nemours & Co. Inc., 432 F.3d 161 (3d Cir. 2005). The Ninth Circuit has held that "current" owner liability is determined at the time cleanup costs are incurred, not the time of suit. Cal. Dep't of Toxic Substances Control v. Hearthside Residential Corp., 613 F.3d 910 (9th Cir. 2010).

[8]CERCLA § 101(20)(B), 42 U.S.C.A. § 9601(20)(B).

[9]CERCLA § 101(20)(A), 42 U.S.C.A. § 9601(20)(A).

[10]*See* City of Phoenix v. Garbage Servs. Co., 827 F. Supp. 600, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21314 (D. Ariz. 1993).

[11]Commander Oil Corp. v. Barlo Equipment Corp., 215 F.3d 321, 329, 50 Env't. Rep. Cas. (BNA) 1792, 30 Envtl. L. Rep. 20679 (2d Cir. 2000).

[12]In U.S. v. Bestfoods, 524 U.S. 51, 66, 118 S. Ct. 1876, 141 L. Ed. 2d 43, 46 Env't. Rep. Cas. (BNA) 1673, 28 Envtl. L. Rep. 21225, 157 A.L.R. Fed. 735 (1998), the Supreme Court held that "under CERCLA, an operator is simply someone who directs the workings of, manages, or conducts the affairs of a facility. To sharpen the definition for purposes of CERCLA's concern with environmental contamination, an operator must manage, direct, or conduct operations specifically related to pollution, that is, operations having to do with the leakage or disposal of hazardous waste, or decisions about

RCRA regulations.[13] States and municipalities may be PRPs as operators under CERCLA.[14]

Past and present owners and operators of facilities at which hazardous substances, then or later regulated as hazardous wastes, were disposed must provide notices to EPA of the facilities and the substances disposed of there.[15] Other than this, and the priority which EPA gives to their assistance in response actions, owners and operators are treated like other "responsible parties" liable for natural resource damages and the costs of response taken by others. Innocent purchasers of land on which releases are later found are responsible parties, but they may have a defense to liability if they had no reason to know of the contamination.[16] The provisions creating the "innocent landowner" defense also strip landowners of any defense

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compliance with environmental regulations."

[13]City of Phoenix v. Garbage Servs. Co., 827 F. Supp. 600, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21314 (D. Ariz. 1993). But a mortgagee who forecloses becomes a responsible party. *See* United States v. Md. Bank & Trust Co., 632 F. Supp. 573, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20557 (D. Md. 1986).

[14]An interesting twist on the notion of "operator" was unsuccessfully raised by several generator defendants in a related case, U.S. v. Dart Industries, Inc., 847 F.2d 144, 27 Env't. Rep. Cas. (BNA) 2222, 18 Envtl. L. Rep. 21084 (4th Cir. 1988). The court rejected their argument that the state of South Carolina should be a responsible party on account of the activities of the South Carolina Department of Health and Environmental Control, which closely worked with several owner/operators of the site for a number of years while it was increasingly contaminated, on the theory that it "controlled" their activities. *See also* State of N.Y. v. City of Johnstown, N.Y., 701 F. Supp. 33, 29 Env't. Rep. Cas. (BNA) 1018, 19 Envtl. L. Rep. 20578 (N.D. N.Y. 1988) (rejection a similar argument); U.S. v. Freeman, 680 F. Supp. 73, 27 Env't. Rep. Cas. (BNA) 1383, 18 Envtl. L. Rep. 20832 (W.D. N.Y. 1988); *compare* U.S. v. New Castle County, 727 F. Supp. 854, 30 Env't. Rep. Cas. (BNA) 2134, 20 Envtl. L. Rep. 20499, 130 A.L.R. Fed. 725 (D. Del. 1989) (refusing to impose liability on the state where it did not have any commercial interests at stake in regulating the site, its day-to-day actions were not "hands-on" operation, and it never owned or possessed the waste disposed of at the site), *with* U.S. v. Ottati & Goss, 694 F. Supp. 977, 28 Env't. Rep. Cas. (BNA) 1683 (D.N.H. 1988), judgment aff'd in part, vacated in part, 900 F.2d 429, 31 Env't. Rep. Cas. (BNA) 1121, 20 Envtl. L. Rep. 20856 (1st Cir. 1990). Where the state's involvement at the site goes beyond regulation or supervision and rises to the level of "hands-on" operation or control, the state may be liable as a PRP. *See, e.g.*, United States v. J.R. Stringfellow, No. CIV 83–2501JMI, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20656 (C.D. Cal. Jan. 8, 1990) (holding state liable under CERCLA as both owner and generator where state, *inter alia*, regularly visited site, hired employees, made operational decisions, arranged for disposal and treatment of hazardous substances at site after closure, and negligently failed to remediate site); CPC Intern., Inc. v. Aerojet-General Corp., 731 F. Supp. 783, 30 Env't. Rep. Cas. (BNA) 1752, 20 Envtl. L. Rep. 20712 (W.D. Mich. 1989) (state environmental agency may be held liable as owner/operator because its actions at site, including accepting control of operation of purge wells, removal of waste, and entry into a contract arranging for disposal of waste, were more extensive than were regulation of site). *See* EPA's Interim Municipal Settlement Policy, 54 Fed. Reg. 51071 (Dec. 12, 1989) (EPA clarifies that municipalities may be PRPs); B.F. Goodrich Co. v. Murtha, 754 F. Supp. 960, 32 Env't. Rep. Cas. (BNA) 1487, 21 Envtl. L. Rep. 20777 (D. Conn. 1991), judgment aff'd, 958 F.2d 1192, 34 Env't. Rep. Cas. (BNA) 1401, 22 Envtl. L. Rep. 20683 (2d Cir. 1992) (holding that a municipality may be held liable as a PRP if there is proof the trash contained hazardous substances).

[15]*See* CERCLA § 103(c), 42 U.S.C.A. § 9603(c).

[16]*See* CERCLA § 107(a), 42 U.S.C.A. § 9607(a); *see* § 14:127. The SARA clarified that innocent landowners who acquired contaminated property could assert a third-party defense. CERCLA §§ 101(35), 107(b)(3), 42 U.S.C.A. §§ 9601(35), 9607(b)(3); *see* G. Van Velson Wolf, Jr., "The CERCLA Innocent Purchaser Defense," 20 Envtl. L. Rep. (Envtl. L. Inst.) 10483 (Nov. 1990); *cf.* Westwood Pharm., Inc. v. Nat'l Fuel Gas Distrib. Corp., 964 F.2d 85, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20813 (2d Cir. 1992) (allowing an "innocent seller" defense where that same person would have been protected by the "innocent purchaser" defense); New York v. Delmonte, No. 98–CV-649, 2000 WL 432838 (W.D.N.Y. Mar. 31, 2000) (holding that a party given a property "as is" that is later found to be contaminated may not use the innocent purchaser defense against a claim of response costs if the purchaser should have been aware of the potential for contamination and failed to conduct an appropriate inquiry into the property); City of Emeryville v. Elementis Pigments Inc., No. C 99-03719, 2001 WL 964230 (N.D. Cal. Mar. 6, 2001) (holding that because the city took title to the property by virtue of its eminent domain authority and satisfied all the necessary elements of the "innocent purchaser" defense, the city was not subject to CERCLA liability); Franklin County Convention Facilities Auth. v. A. Premier Underwriters,

under CERCLA if they knowingly transfer property containing hazardous materials without notifying the purchaser.[17] Innocent purchasers that have been defrauded into purchasing contaminated property may also seek rescission of the purchase contract under state law.[18]

Under the 2002 Brownfields Liability Amendments, the innocent purchaser defense was changed by the redefinition of the term "contractual relationship."[19] To demonstrate that it does not have a "contractual relationship" with the party that caused the release, the purchaser must show that it cooperated with response actions, that it complied with land use restrictions, and that it did not have reason to know that hazardous substances were released or threatened to be released at the facility. To satisfy this standard, the purchaser must demonstrate that it made all appropriate inquiries as to the previous ownership and uses of the facility, and that it took all reasonable steps to prevent or stop the release of contaminants.[20] The new law also created a contiguous purchaser defense where if a person owns real property that is "contiguous to or otherwise similarly situated with respect to," which is or may be contaminated by a release or threatened release of a hazardous substance from a property not owned by that person, the purchaser will not be considered an owner or operator under § 107.[21] Since January 11, 2002, a similar exception has been available for "bona fide prospective purchasers."[22]

EPA will look first to owners and operators for assistance in response actions, but they are rarely major business enterprises; many Superfund sites are abandoned dumps. The government therefore often must look to the original generators of the wastes which are being cleaned up. As we saw earlier, CERCLA ratified the government's litigation theory that generators of waste could be held liable for the waste's ultimate disposition.[23] And so, like other hazardous waste laws, CERCLA comes to bear on the generators of wastes.

CERCLA does not use the term "generator," however; it provides liability for "any person" who "arranges" for transportation of hazardous substances to a facility, or who arranges for treatment or disposal of hazardous substances at a facility where

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Inc., 240 F.3d 534, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20470 (6th Cir. 2001) (holding that a sublessee that failed to exercise due care after it discovered that creosote may have impacted the soil would not qualify as an innocent landowner); Thomson Precision Ball Co. v. PSB Assoc. Liquidating Trust, No. CIV.300CV1000, 2001 WL 10507 (D. Conn. Jan. 3, 2001) (holding a plaintiff was entitled to innocent landowner status even though it knew at the time of the sale because the seller concealed the additional contamination for which the plaintiff was seeking cost recovery). A vendor of land who sells the property "as is" can still be liable under CERCLA if the land is later found to be contaminated. N. Star Co. v. ADM, No. 3–92–CV-12, 1993 WL 285942 (D. Minn. July 16, 1993).

[17]*See* CERCLA § 101(35)(C), 42 U.S.C.A. § 9601(35)(C); *see also* Fallowfield Dev. Corp. v. Strunk, No. CIV. A. 89-8644, 1993 WL 157723, at *7 (E.D. Pa. May 11, 1993).

[18]*See* Fallowfield Dev. Corp. v. Strunk, No. CIV. A. 89-8644, 1993 WL 157723, at *17–19 (E.D. Pa. May 11, 1993) (denying rescission based on Pennsylvania law).

[19]CERCLA § 101(35), 42 U.S.C.A. § 9601(35); *see* 1325 "G" St. Assocs., LP v. Rockwood Pigments NA, Inc., No. Civ. A. DKC 2002-1622, 2004 WL 2191709 (D. Md. Sept. 7, 2004) (slip opinion) (holding that since the 2001 amendments are not retroactive a party must be judged by the innocent landowner criteria that were in effect at the time that the party bought the contaminated property).

[20]The "all appropriate inquiries" standard was amended to reference ASTM International's E1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," allowing E1527-13 to be used to satisfy the standard effective December 30, 2013, and to remove the ASTM International 2005 standard E1527-05 effective October 6, 2015. 78 Fed. Reg. 79319 (Dec. 30, 2013) (adding E1527-13); 79 Fed. Reg. 60087 (Oct. 6, 2014) (removing E1527-05).

[21]CERCLA § 107(q), 42 U.S.C.A. § 9607(q).

[22]CERCLA § 101(40), 42 U.S.C.A. § 9601(40); CERCLA § 107(r); 42 U.S.C.A. § 9607(r); *see also* Voggenthaler v. Maryland Square LLC, 724 F.3d 1050, 77 Env't. Rep. Cas. (BNA) 1173 (9th Cir. 2013), amended on reh'g, (Oct. 4, 2013) (defendant failed to meet bona fide prospective purchaser exception).

[23]*See* § 14:127.

there is a response.[24] However, the person must intend to dispose of the waste and take intentional steps to do so - mere intention to sell new material for delivery or use in future processing is not sufficient to qualify a person as an arranger.[25] The generator may be liable even if the generator did not choose the disposal site and took reasonable steps to ensure safe disposal.[26] (The person need not be responsible for the substance that caused the release to be a responsible party.)[27] Municipalities are not per se exempt from being liable as "generators" under CERCLA.[28] CERCLA very bluntly discourages generators from disposing of hazardous wastes on land. Other "federally permitted releases" are excused from liability; most permitted discharges into sewer systems or into the air are excluded from the definition of releases that may create liability. But disposal of wastes at a RCRA permitted landfill is not a defense to CERCLA liability (unless the release which causes the response was expressly permitted in the facility's RCRA permit, which is unlikely).[29] If EPA later determines that a permitted landfill is a hazard, a generator who sent wastes there may be liable for part of the cleanup, even if the generator was without fault and the landfill was properly permitted.[30] There is an exception, however, for persons who are carrying out Superfund cleanups approved by EPA. Such persons may take wastes from a Superfund response site to a land disposal facility, if the facility is operating in compliance with RCRA, and if EPA has properly selected the off-site disposal remedy.[31]

The net of liability for responsible parties is cast a little wider and also includes persons who accept hazardous substances from a generator and then determine the

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[24]*See* CERCLA § 107(a)(3), 42 U.S.C.A. § 9607(a)(3).

[25]Burlington N. & Santa Fe Ry. Co. v. United States, 556 U.S. 599, 129 S. Ct. 1870, 173 L. Ed. 2d 812, 68 Env't. Rep. Cas. (BNA) 1161 (2009) (no liability as an arranger for seller of a useful product who arranges for transportation that always involves the leakage of the product); Cal. Dep't of Toxic Substances Control v. Alco Pac., Inc. 508 F.3d 930, 37 Envtl. L. Rep. (Envtl. L. Inst.) 20290 (9th Cir. 2007) (suppliers of lead slag and dross to a lead producer could be liable as arrangers because the transactions were arrangement for disposal rather than the sale of useful products); New York v. Solvent Chem. Co., Inc., 225 F. Supp. 2d 270 (W.D.N.Y. 2002) (holding that if a party merely sells a product without any additional transaction regarding the arranging of disposal of a hazardous substance, arranger liability will not be imposed); Centerior Serv. Co. v. Acme Scrap Iron & Metal, 104 F. Supp.2d 729 (N.D. Ohio 2000) (holding that oil companies are not liable as arrangers for wastes generated by an independent dealer that leased the service station from the oil company absent a showing by the plaintiff that the oil companies owned or operated the dealership); Concrete Sales & Serv., Inc. v. Blue Bird Body Co., 211 F.3d 1333 (11th Cir. 2000) (holding that customers of an electroplating operation may not be held liable as arrangers because the customers did not have enough knowledge about nor control over the electroplating company's waste disposal practices); Edward Hines Lumber Co. v. Vulcan Materials Co., 685 F. Supp. 651, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21223 (N.D. Ill. 1988), aff'd on other grounds, 861 F.2d 155, 19 Envtl. L. Rep. (Entvl. L. Inst.) 20187 (7th Cir. 1988); *But see* Jones-Hamilton Co. v. Beazer Materials & Servs., 973 F.2d 688 (9th Cir. 1992) (imposing "arranged for disposal" liability on a chemical company that sent raw materials to a pesticide formulator); United States v. Aceto Agric. Chems. Corp., 872 F.2d 1373, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21038 (8th Cir. 1989) (holding that pesticide active ingredient manufacturer may be liable for disposal of the ingredient by the pesticide formulator); In re Voluntary Purchasing Groups, Inc. Litig., No. Civ.A. 3:94-CV-2477-H, 2002 WL 31156535 (N.D. Tex. Sept. 26, 2002) (intent to dispose of waste is a relevant factor when determining arranger liability, but is not necessarily determinative).

[26]O'Neil v. Piccillo, 682 F. Supp. 706, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20893 (D.R.I. 1988).

[27]*See* United States v. Monsanto Co., 858 F.2d 160, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20085 (4th Cir. 1988), cert. denied, 490 U.S. 1106 (1989); United States v. Wade, 546 F. Supp. 785, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (E.D. Pa. 1982).

[28]N.J. Dep't of Envtl. Protection v. Gloucester Envtl. Mgmt. Servs., Inc., 23 Envtl. L. Rep. (Envtl. L. Inst.) 21420 (D.N.J. 1993).

[29]*See* CERCLA §§ 101(10), 107(b), 42 U.S.C.A. §§ 9601(10), 9607(b).

[30]CERCLA §§ 101(10), 107(b), 42 U.S.C.A. §§ 9601(10), 9607(b).

[31]*See* CERCLA §§ 121(d)(3), 122(f)(2), 42 U.S.C.A. §§ 9621(d)(3), 9622(f)(2) (added by SARA in 1986).

substance's disposition. It was formerly a common practice for truckers or disposal companies simply to receive wastes, with nothing said about the site for disposal. Transporters who choose the site of disposal under such arrangements are also responsible parties.[32] Transporters who are actively involved in site selection, but do not make the final decision, may be liable as well.[33]

Recent decisions have cast an even wider net on liability. For example, a Canadian corporation that discharged smelter slag into the Columbia River in Canada claimed that CERCLA could not be applied extraterritorially. However, the Ninth Circuit held that, because hazardous materials leached from the slag and were carried into the United States, the release occurred in the United States and that the case, therefore, involved a domestic application of CERCLA.[34] Corporate officers may be held personally liable under CERCLA if they could have prevented or significantly abated a hazardous waste discharge.[35] Successor companies can be held liable under CERCLA according to federal common law principles.[36] A secured creditor is liable under CERCLA if its involvement with the management of the facility is sufficiently broad to support the inference that it could affect hazardous waste disposal decisions.[37]

Under this standard of secured lender liability, first articulated by the Eleventh Circuit in 1990 in *United States v. Fleet Factors Corp*., a secured creditor may incur liability without being an operator if it participates in the financial management of

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[32]*See* CERCLA § 107(a)(4), 42 U.S.C.A. § 9607(a)(4); Ascon Props., Inc. v. Mobil Oil Co., No. CV 85-4253, 34 ERC (BNA) 1177, 1991 WL 340635 (C.D. Cal. Sept. 17, 1991); Alcatel Info. Sys., Inc. v. Arizona, 778 F. Supp. 1092 (D. Ariz. 1991); United States v. W. Processing, 756 F. Supp. 1416, 21 Envtl. L. Rep. (Envtl. L. Inst.) 20855 (W.D. Wash. 1991).

[33]The Third Circuit has explained that "§ 107(a)(4) applies if the transporter's advice was a *substantial contributing factor* in the decisions to dispose of hazardous waste at a particular facility. As we interpret that section, a transporter selects the disposal facility when it *actively and substantially participates in the decision-making process* which ultimately identifies a facility for disposal." Tippins Inc. v. USX Corp., 37 F.3d 87, 39 Env't. Rep. Cas. (BNA) 1321, 24 Envtl. L. Rep. 21486 (3d Cir. 1994) (emphasis added).

[34]Pakootas v. Teck Cominco Metals, Ltd., 452 F.3d 1066, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20130 (9th Cir. 2006).

[35]*See* Carter-Jones Lumber Co. v. LTV Steel Co., 237 F.3d 745, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20406 (6th Cir. 2001) (holding that a corporate officer who was the company's sole shareholder and controlled the transactions that constituted the CERCLA violations is personally liable for CERCLA cleanup costs under state common law), cert. denied, 533 U.S. 903 (2001); Riverside Market Dev. Corp. v. Int'l Bldg. Prods., Inc., 931 F.2d 327, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21025 (5th Cir. 1991) (holding that corporate officers may be liable if they direct or personally participate in improper disposal); United States v. Farber, No. 86-3736 (D.N.J. Apr. 27, 1992) (finding a major stockholder and officer not liable because no evidence proved she had exercised actual control at the facility); Kelley v. ARCO Indus. Corp., 723 F. Supp. 1214, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20264 (W.D. Mich. 1989); United States v. Mottolo, 695 F. Supp. 615, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20442 (D.N.H. 1988).

[36]*See* PCS Nitrogen Inc. v. Ashley II of Charleston LLC, 714 F.3d 161, 76 Env't. Rep. Cas. (BNA) 1683 (4th Cir. 2013), cert. denied, 134 S. Ct. 514, 187 L. Ed. 2d 366, 77 Env't. Rep. Cas. (BNA) 2096 (2013) (relying on common law to find successor is a PRP); United States v. Davis, 261 F.3d 1 (1st Cir. 2001) (holding that state contract law determines successor-in-interest liability for cleanup costs as there is no federal objective that would be frustrated); United States v. Chrysler Corp., No. 88–341, 31 ERC (BNA) 1997, 1990 WL 127160 (D. Del. Aug. 28, 1990). *But see* United States v. Gen. Battery Corp., Inc., 423 F.3d 294 (3d Cir. 2005) (holding that a federal rule of successor liability must be applied in CERCLA cases to ensure uniformity); New York v. Nat'l Servs. Indus., Inc., 352 F.3d 682 (2d Cir. 2003) (the substantial continuity test is invalid in CERCLA successor liability cases because it departs from federal common law).

[37]*See* United States v. Fleet Factors Corp., 901 F.2d 1550, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990), superseded by statute as stated in Monarch Tile Inc. v. City of Florence, 212 F.3d 1219, 1221 & n.2 (11th Cir. 2000) ("While much of *Fleet Factors*' reasoning and holding remain intact, Congress has abrogated the part of *Fleet Factors*' holding that deals with the liability of lenders who participate in the management of properties operated by polluting firms.").

a facility "to a degree indicating a capacity to influence the corporation's treatment of hazardous waste."[38] According to the Eleventh Circuit, Fleet Factors, which held indicia of ownership through a deed of trust, could be liable if it was either the operator of the facility or if it lost the benefit of the secured creditor exemption by participating in the financial management of the facility to the degree articulated by the court.[39]

The court rejected Fleet Factor's argument that its actions should not subject it to Superfund liability because they were taken to protect its security interest through foreclosure, stating that "[w]hat is relevant [for the imposition of liability] is the nature and extent of the creditor's involvement with the facility, not its motive."[40] In attempting to explain the practical significance of its standard for lenders, the court stated that its decision should not preclude a secured creditor from monitoring its debtor's business nor prohibit a lender from becoming "involved in occasional and discrete financial decisions relating to the protection of its security interest."[41]

The Eleventh Circuit's decision is a significant one for secured creditors. First, the Eleventh Circuit created a standard of liability for lenders that is lower than the standard previously articulated by the district courts. Second, the court found that the touchstone for determining whether a lender has participated in a facility's management is significant participation in *financial* management, as opposed to participation in hazardous waste management. As indicated by the court, lenders are well-advised to investigate potential borrowers' hazardous waste management practices and consider environmental risks when structuring transactions.[42]

In 1992, in response to pressure from the lending community, EPA issued a Lender Liability Rule intended to clarify and limit the extent of lender liability under CERCLA and *Fleet Factors*.[43] The Lender Liability Rule was subsequently struck down by the D.C. Circuit in Kelley v. EPA with the court additionally finding that EPA's interpretation of statutory liability should not be given judicial deference.[44] The legal impact of the *Kelley* decision was somewhat limited by the fact that several court decisions issued after the promulgation of the lender Liability Rule have found lenders to be exempt from liability under the plain language of CERCLA's secured creditor exemption.[45]

While Congress had not provided statutory clarification of the scope of the secured

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[38]United States v. Fleet Factors Corp., 901 F.2d 1550, 1557, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990).

[39]United States v. Fleet Factors Corp., 901 F.2d 1550, 1559, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990).

[40]United States v. Fleet Factors Corp., 901 F.2d 1550, 1560, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990).

[41]United States v. Fleet Factors Corp., 901 F.2d 1550, 1558, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990).

[42]United States v. Fleet Factors Corp., 901 F.2d 1550, 1558, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990). Other cases addressing the liability of secured lenders under CERCLA include Guidice v. BFG Electroplating & Mfg. Co., 732 F. Supp. 556, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20439 (W.D. Pa. 1989) (lender that foreclosed on contaminated property could be held liable for remedial costs if it participated in day-to-day operational activities at the site); United States v. Nicolet, 712 F. Supp. 1193 (E.D. Pa. 1989) (managerial participation and operational involvement must be present for mortgagee to be liable under CERCLA); United States v. Md. Bank & Trust Co., 632 F. Supp. 573 (D. Md. 1986) (bank that foreclosed on a hazardous waste site and held the property for a period of time was an owner/operator under CERCLA).

[43]57 Fed. Reg. 18344 (Apr. 29, 1992).

[44]*See* discussion of Kelley v. EPA, 15 F.3d 1100, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20511 (D.C. Cir. 1994), reh'g denied, 25 F.3d 1088, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21204 (D.C. Cir. 1994).

[45]*See, e.g.*, Waterville Indus., Inc. v. Finance Auth. of Me., 984 F.2d 549, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20752 (1st Cir. 1993) (holding that secured creditor exemption applied despite the fact that

creditor exemption in the wake of *Kelley*, several agencies, including the Federal Deposit Insurance Corporation, the Federal Reserve, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision, issued guidance documents to assist lenders and other fiduciaries in untangling the CERCLA lender liability web.

In 1996, Congress clarified the scope of the CERCLA secured creditor exemption by enacting the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act ("ACA"), which was significantly similar to the 1992 EPA Lender Liability Rule.[46] The ACA applies to any claim that had not been finally adjudicated as of the date of enactment, September 30, 1996.[47] Under the ACA, a lender who holds indicia of ownership in a vessel or facility primarily to protect its security interest and who does not actually participate in the vessel's or facility's management prior to foreclosure is not an "owner or operator" subject to CERCLA liability.[48]

The ACA broadens the protection available to secured creditors by requiring that a lender *actually* participate in the management or operational affairs of a vessel or facility and not merely have the "capacity to influence, or the unexercised right to control, vessel or facility operations."[49] A lender shall be considered to participate in management *only* if, while the borrower is in possession of the vessel or facility, the lender:

> (I) exercises decision-making control over the environmental compliance related to the vessel or facility, such that the lender has undertaken responsibility for the hazardous substance handling or disposal practices related to the vessel or facility; or
>
> (II) exercises control at a level comparable to that of a manager of the vessel or facility, such that the lender has assumed or manifested responsibility—
>
> (aa) for the overall management of the vessel or facility encompassing day-to-day decision-making with respect to environmental compliance; or
>
> (bb) over all or substantially all of the operational functions (as distinguished from financial or administrative functions) of the vessel or facility other than the function of environmental compliance.[50]

The ACA also lists activities that do *not* constitute "participation in management" and thus do not void the secured creditor exemption. Such activities include:

- Performing an act or failing to act prior to the time at which a security interest is created in a vessel or facility;
- Holding a security interest or abandoning or releasing a security interest; and
- Including in the terms of an extension of credit, or in a contract or security agreement relating to the extension, a covenant, warranty, or other term or condition that relates to environmental compliance;
- Monitoring or enforcing the terms and conditions of the extension of credit or security interest;
- Monitoring or undertaking one or more inspections of the vessel or facility;

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the secured creditor sold property without full disclosure of its contaminated nature); United States v. McLamb, 5 F.3d 69, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21500 (5th Cir. 1993) (holding that a bank was exempt from liability even though, due to lack of potential buyers at a foreclosure sale, it purchased property and owned it for several months); Ne. Doran, Inc. v. Key Bank of Me., 15 F.3d 1, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20492 (1st Cir. 1994) (same); Z&Z Leasing, Inc. v. Graying Reel, Inc., 873 F. Supp. 51, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20802 (E.D. Mich. 1995) (bank not liable under CERCLA even though it ordered environmental assessment, required removal of USTs, and contacted state authorities).

[46]Pub. L. No. 104-208, Subtitle E, 110 Stat. 3009, *codified as amended at* 42 U.S.C.A. §§ 9601(E)-(G), 9607(n), 6991b(h)(9).

[47]Pub. L. No. 104-208, § 2505.

[48]*See* CERCLA § 101(20)(E)(i), 42 U.S.C.A. § 9601(20)(E)(i).

[49]*See* CERCLA § 101(20)(F)(i), 42 U.S.C.A. § 9601(20)(F)(i).

[50]*See* CERCLA § 101(20)(F)(ii), 42 U.S.C.A. § 9601(20)(F)(ii).

- Requiring a response action or other lawful means of addressing the release or threatened release of a hazardous substance in connection with the vessel or facility prior to, during, or on the expiration of the term of the extension of credit;
- Providing financial or other advice or counseling in an effort to mitigate, prevent, or cure default or diminution in the value of the vessel or facility;
- Restructuring, renegotiating, or otherwise agreeing to alter the terms and conditions of the extension of credit or security interest, exercising forbearance;
- Exercising other remedies that may be available under applicable law for the breach of a term or condition of the extension of credit or security agreement; or
- Conducting a response action under § 9607(d) of CERCLA or under the direction of an on-scene coordinator appointed under the NCP.[51]

The ACA also provides protection to lenders who foreclose on their security interest. The term foreclosure is broadly defined, and includes any formal or informal manner by which a lender acquires, for subsequent disposition, title to or possession of a facility or vessel in order to protect its security interest.[52] A lender, after foreclosure, must seek to sell, re-lease (in the case of a lease finance transaction), or otherwise divest from the facility or vessel at the earliest practicable, commercially reasonable time, on commercially reasonable terms, in order to continue to qualify for the secured creditor exemption.[53] However, the ACA allows the lender to maintain business activities, wind-up operations, undertake a response action under CERCLA § 107(d)(1) or under the guidance of an on-scene coordinator appointed under the NCP, or take any other measure to preserve, protect, or prepare the facility prior to sale or disposition.[54] The ACA does not state a time requirement for selling the vessel or facility, or specify which activities after foreclosure would cause the secured creditor exemption to be lost.

Few courts have examined the ACA.[55] In Kelley v. Tiscornia,[56] the Sixth Circuit affirmed the district court's decision, as discussed above, that monitoring the finances of borrower, being represented on the borrower's board of directors, and pressuring the borrower to retain a specialist did not constitute participation in the management of the facility under the ACA.[57] The court also stated that the ACA ef-

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[51]*See* CERCLA § 101(20)(F)(iv), 42 U.S.C.A. § 9601(20)(F)(iv).

[52]*See* CERCLA § 101(20)(G)(iii), 42 U.S.C.A. § 9601(20)(G)(iii).

[53]*See* CERCLA § 101(20)(E)(ii), 42 U.S.C.A. § 9601(20)(E)(ii).

[54]*See* CERCLA § 101(20)(E)(ii), 42 U.S.C.A. § 9601(20)(E)(ii).

[55]*See, e.g.*, Monarch Tile, Inc. v. City of Florence, 212 F.3d 1219 (11th Cir. 2000) (holding that a city that took title to a property for the purpose of securing repayment of development bonds qualifies for the secured creditor exemption); Palmtree Acquisition Corp. v. Neely, 771 F. Supp. 2d 1186, 73 Env't. Rep. Cas. (BNA) 1393 (N.D. Cal. 2011) (complaint against trustee dismissed because his involvement was limited to role as trustee and no exceptions to the fiduciary exemption were plausibly alleged); Stearns & Foster Bedding Co. v. Franklin Holding Corp., 947 F. Supp. 790 (D.N.J. 1996) (noting that amendments are not relevant to the disposition of the case); F.P. Woll & Co. v. Fifth & Mitchell Street Corp., No. CIV. A. 96-5973, 1997 WL 535936 (E.D. Pa. July 31, 1997) (denying defendant's motion to dismiss based on the amended secured creditor exemption because plaintiff's allegation that the bank was an "operator" of the facility cannot be disregarded without inquiring into the facts); United States v. Marvin Pesses, 794 F. Supp. 151, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20076 (W.D. Pa. 1998) (holding that the lender's efforts after borrower's default was commercially reasonably and thus the lender was within the secured creditor exemption).

[56]Kelley v. Tiscornia, 104 F.3d 361 (6th Cir. 1996) (unpublished table opinion).

[57]Kelley v. Tiscornia, 104 F.3d 361 (6th Cir. 1996).

fectively codified EPA's 1992 Lender Liability Rule.[58]

The EPA has issued a policy statement regarding the similarities between the 1992 Lender Liability Rule and the ACA.[59] The Agency stated that where the rule and preamble provide additional clarification of the same or a similar term used in the ACA, the EPA intends to treat such portions of the rule and preamble as interpretative guidance.[60]

Parent corporations have been held liable under CERCLA for the activities of their subsidiaries, but the reasoning underlying these decisions has varied. In several cases, the courts have read the definition of "owner or operator" broadly to reach parent corporations whose subsidiaries were liable under the statute.[61] Other courts have refused to impose direct liability on parent corporations and instead applied traditional corporate law principles under which a parent will be liable for its subsidiary's actions only upon a showing that the subsidiary functions merely as an "alter ego" of the parent rather than a separate business entity.[62] For example, in the first reported case to discuss the CERCLA liability of a parent corporation in any depth, *Joslyn Corp. v. T.L. James & Co.*,[63] the district court refused to extend CERCLA "owner" liability to parent corporations and, applying a typical alter ego analysis, also refused to pierce the corporate veil because there was no proof that the parent had the requisite complete domination of finances, policies, and practices to render the subsidiary a "mere conduit" of the parent. Still other cases have applied a "public convenience, fairness and equity" test, which focuses less on corporate form than the alter ego doctrine and more on the purpose of the statute.[64]

The Supreme Court has addressed the proper basis for holding a parent corporation liable. In *United States v. Bestfoods*,[65] the Court held that a parent corporation may be held (1) derivatively liable as an "owner" or "operator" when (but only when) the corporate veil is pierced under the applicable state law, or (2) directly liable as

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[58]Kelley v. Tiscornia, 104 F.3d 361 (6th Cir. 1996).

[59]62 Fed. Reg. 36424 (July 7, 1997).

[60]*See* 62 Fed. Reg. 36424, 36425 (July 7, 1997).

[61]Cases extending CERCLA liability to parent corporations on the theory that they qualify as owners or operators include Colorado v. Idarado Mining Co., 707 F. Supp. 1227, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20794 (D. Colo. 1989), rev'd, 916 F.2d 1486 (10th Cir. 1990); Vermont v. Staco, Inc., 684 F. Supp. 822, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20589 (D. Vt. 1988), vacated in part, Civ. No. 86–190, 1989 WL 225428 (D. Vt. Apr. 20, 1989); Idaho v. Bunker Hill Co., 635 F. Supp. 665, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20879 (D. Idaho 1986).

[62]*See, e.g.*, New York State Elec. and Gas Corp. v. FirstEnergy Corp., 766 F.3d 212, 79 Env't. Rep. Cas. (BNA) 1041 (2d Cir. 2014).

[63]Joslyn Mfg. Co. v. T.L. James & Co., 696 F. Supp. 222, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20518 (W.D. La. 1988), aff'd, 893 F.2d 80, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20382 (5th Cir. 1990). In affirming, the Fifth Circuit concluded that veil-piercing is justified only when the subsidiary is "designed as a bogus shell." Joslyn Mfg. Co. v. T.L. James & Co., 893 F.2d 80, 84, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20382, 20383 (5th Cir. 1990); *see also* United States v. Alcan, No. 88-4970 (E.D. Pa. Nov. 6, 1989) (federal magistrate ruling that government must allege misuse of the corporate form in its complaint if it seeks to proceed against a parent corporation on an alter ego theory); Allied Corp. v. Frola, 701 F. Supp. 1084, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20624 (D.N.J. 1988) (refusing to pierce veil absent allegations of wrongdoing or fraudulent, illegal or unjust conduct).

[64]United States v. Kayser-Roth Corp., 724 F. Supp. 15, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20349 (D.R.I. 1989), aff'd, 910 F.2d 24, 20 Envtl. L. Rep. (Envtl. L. Inst.) 21462 (1st Cir. 1990). In that case, the court first found the parent corporation liable as an operator, on the grounds that it had controlled the management and operation of the facility itself. The court also found, however, that CERCLA liability based upon piercing the corporate veil is a species of owner liability and thus "public convenience, fairness and equity," as well as the overwhelming degree of control exercised by the parent over the subsidiary's corporate finances and organization, justified piercing the veil to hold the parent liable. The First Circuit affirmed the parent corporation's liability without piercing the corporate veil.

[65]United States v. Bestfoods, 524 U.S. 51, 28 Envtl. L. Rep. (Envtl. L. Inst.) 3733 (1998).

an "operator" when it actively participates in and exercises control over the operations of a subsidiary's facility. As to direct liability, the Court stated that a parent corporation "must manage, direct, or conduct operations specifically related to pollution, that is, operations having to do with the leakage or disposal of hazardous waste, or decisions about compliance with environmental regulations" in order to be held liable. The Court rejected a line of cases that held a parent corporation directly liable based on "whether it actually operated the business of its subsidiary," finding that this "actual control" test incorrectly fused direct and indirect liability. Rather, the Court reasoned, if a parent corporation is extensively involved in a subsidiary's activities, that involvement gives rise to indirect liability under the piercing doctrine; by contrast, if the parent corporation participates in the facility's activities, that involvement gives rise to direct liability.[66]

There are a few exclusions from the class of responsible parties, noted earlier: Holders of federally authorized permits are exempt from liability for most releases in accordance with permits, as are pesticide applicators.[67] While this limits their liability as responsible parties, all claims under common law or other statutes are expressly preserved.[68] Service station owners who operate a used-oil recycling service that conforms to EPA regulations will not be responsible parties when the service is abandoned.[69]

Defendants are not liable if they did not "own or possess" the hazardous substance.[70] They are also not liable if there is no evidence that their waste was shipped to the facility.[71] Defenses to liability are limited to acts of war, acts of God, and of third parties; these are discussed in Part VI, below.

§ 14:112 Superfund—Persons affected—Other persons

The "person in charge" of a vessel or facility must notify the National Response Center of any release of hazardous substance in a reportable quantity.[1] The "person in charge" is not necessarily the owner or operator; this is a concept borrowed from the oil spill program.[2]

Transporters who carried hazardous substances and chose the disposal site must give notice to EPA—not the response center—if the hazardous substance was or

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[66]*See* United States v. Bestfoods, 524 U.S. 51, 62-67, 28 Envtl. L. Rep. (Envtl. L. Inst.) 3733 (1998); IBC Mfg. Co. v. Velsicol Chem. Corp., 187 F.3d 635, (6th Cir. 1999) (holding that a successor parent corporation is not liable for its subsidiary's cleanup liability if the successor parent does not exercise control over the subsidiary's operations and the subsidiary's assets are not transferred to the successor parent).

[67]*See* CERCLA § 107(i), (k), 42 U.S.C.A. § 9607(i), (k); Cameron v. Navarre Farmers Union Coop. Ass'n, 76 F. Supp. 2d 1178 (D. Kan. 1999) (holding that a party seeking to take advantage of the pesticide exemption has to prove that the substances were registered under FIFRA and applied in the customary manner).

[68]*See* CERCLA § 107(j), 42 U.S.C.A. § 9607(j).

[69]*See* CERCLA § 114(c), 42 U.S.C.A. § 9614(c) (added by SARA § 114(a)). This subsection has no effect unless and until EPA promulgates the regulations for used oil recycling required by the 1984 RCRA. *See* § 14:31.

[70]*See* New York v. Johnstown, 701 F. Supp. 33, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20578 (N.D.N.Y. 1988) (state cannot be held in class of liable parties under § 107(a)(3) where it directs disposal in its regulatory capacity).

[71]*See* United States v. Wade, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20436 (E.D. Pa. 1984).

[Section 14:112]

[1]*See* CERCLA § 103, 42 U.S.C.A. § 9603; CERCLA §§ 102 to 103, 42 U.S.C.A. §§ 9602 to 9603.

[2]*See* § 14:95.

would later be designated a hazardous waste.[3]

§ 14:113 Superfund—Notices and records

The "person in charge" of a vessel or facility must give notice to the National Response Center of a release (other than a federally permitted release) of a hazardous substance if the release exceeds the threshold established by EPA; if the Agency has set no threshold, then releases of more than one pound must be reported.[1] The wording of the requirement is taken from § 311 of the Clean Water Act.[2]

EPA's regulations implementing this requirement are at 40 C.F.R. Part 302. The Agency established reportable quantities.

The reporting requirements interact with RCRA definitions. When a mixture is released, if it is not a hazardous waste, only the constituents which are reportable need be measured to determine the threshold. Section 302.5 provides different rules for hazardous solid wastes. For regulated wastes which contain toxic substances, the reportable quantity of the waste is the same as the reportable quantity of the substance. For wastes that exhibit other hazardous characteristics, however, the reportable quantity is 100 pounds.

Under the EPCRA, discussed in § 14:147 below, owners and operators of facilities must notify local emergency planning agencies of releases reportable under CERCLA, as well as releases of "extremely hazardous substances" listed under that statute.[3]

Persons who owned or operated waste disposal facilities at the time hazardous substances were stored, treated, or disposed of without a RCRA permit, or who transported hazardous substances to such a facility of their own choosing, must notify EPA—not the National Response Center—of the facility and the substances.[4]

This is a distinct notice provision, designed to help EPA identify potentially responsible parties and sites for remedial action. It is not tied to "reportable quantities," but is triggered by transport or disposal of even trace amounts of hazardous substances, such as a toxic contaminant mixed into some larger bulk of soil or refuse.

Beginning on December 11, 1980, persons subject to the notice requirement for owners, operators, and transporters must preserve for 50 years any records EPA requires—the Agency has not yet issued regulations.[5]

The notice requirement applies retroactively without any limit; it certainly applies to waste disposal carried out before RCRA became effective. Since most disposal facilities received hazardous substances, and it was common practice for transporters to choose their destinations, most disposal facility owners, operators, and transporters are obliged to give such notices.[6] There are criminal penalties for noncompliance.[7]

§ 14:114 Superfund—Remedial program procedures

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[3] *See* CERCLA § 107(c), 42 U.S.C.A. § 9607(c).

[Section 14:113]

[1] *See* CERCLA §§ 102 to 103, 42 U.S.C.A. §§ 9602 to 9603.

[2] *See* § 14:95.

[3] *See* § 14:158.

[4] *See* CERCLA § 103(c), 42 U.S.C.A. § 9603(c).

[5] CERCLA § 103(d), 42 U.S.C.A. § 9603(d).

[6] CERCLA § 103(c), 42 U.S.C.A. § 9603(c).

[7] CERCLA § 103(c), 42 U.S.C.A. § 9603(c).

Preceding subsections discussed issues common to the two broad subdivisions of Superfund responses—removal and remedial actions. The remedial program is by far the larger of the two, and it has complex procedures of its own that create a miniature environmental protection program for each of hundreds of abandoned dump sites across the country.

§ 14:115 Superfund—Remedial program procedures—Hazard ranking system, health assessments, and the national priorities list

Superfund authorizes remedial actions, like other responses, whenever there is a release or significant threat of release of a hazardous substance, whether or not the release poses any hazard. (Response is also authorized in cases of imminent danger from pollutants or contaminants). The language of § 104 therefore seems to give EPA extraordinarily broad authority.[1] Some limits may be found in the statute's definitions, however. The definition of "remedial" responses limits such actions to those taken "to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment."[2] In short, while EPA may investigate any release, only those releases which pose a substantial risk may be prevented or remedied.

EPA is required to rank all such releases in order of priority and must list the highest-ranked releases on the NPL. The Agency will undertake remedial actions only for releases listed on the NPL.[3]

The NPL is a risk-management system borne from a rare congressional acknowledgment that there were more environmental hazards than EPA could respond to with the resources Congress was willing to provide. The NPL must be revised at least annually.[4]

EPA takes remedial actions only at sites listed on the NPL, even when remedial-type actions (such as permanent relocation of residents) would be cost-effective dur-

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[Section 14:115]

[1]*See* CERCLA § 104(a), 42 U.S.C.A. § 9604(a); United States v. Tarkowski, 248 F.3d 596, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20572 (7th Cir. 2001) (holding that aside from the Constitutional considerations of search and seizure, Congress did not intend to confer EPA with the authority to gain access to and remove quantities of materials from private property pursuant to 104(e) without judicial review of the access order to determine whether such order was reasonable regardless of § 113(h)).

[2]*See* CERCLA § 101(24), 42 U.S.C.A. § 9406(24). The response language originated in S.1480, of which Senator Stafford said: "In many ways, the Senate bill is analogous to the natural disaster assistance programs we have enacted into law." 126 Cong. Reg. 14967 (daily ed. Nov. 24, 1980), *reprinted in* 1 CERCLA Legislative History, Section 13:1.

[3]CERCLA § 105, 42 U.S.C.A. § 9605, requires EPA to rank all releases in priority order for remedial action, but does not appear to prohibit all remedial actions at unlisted sites; the legislative history and statutory definitions seem to contemplate EPA taking some permanent remedial actions as appropriate during emergency responses. *See* CERCLA § 101(24), 42 U.S.C.A. § 9601(24) ("remedy . . . means those actions consistent with permanent remedy taken instead of or in addition to removal actions."); *see also* S. Rep. No. 848, 96th Cong., 2d Sess. 51 (1980). EPA, however, in the NCP says that "Only those releases included on the NPL shall be considered eligible for Fund-financed remedial action," 40 C.F.R. § 300.425(b). This flat rule protects EPA from ceaseless pressure to undertake large and expensive permanent remedies, including relocation of whole neighborhoods during emergency responses, when expenditures are not subject to EPA's overall Fund-balancing test for permanent remedies at priority sites. The Fund-balancing test is only required for the overall remedy selected for private sites, however. Individual remedial actions need only be cost-effective. CERCLA § 101(24), 42 U.S.C.A. § 9601(24). Private parties who perform response actions at unlisted sites therefore should be permitted to perform cost-effective remedial actions, but perhaps may claim reimbursement only from responsible parties; when EPA itself carries out an arguable "remedy" during a removal action, this is not inconsistent with the NCP so long as it is cost-effective.

[4]*See* CERCLA § 105(a)(8)(B), 42 U.S.C.A. § 9605(a)(8)(B). EPA has revised the list more frequently than this; close to 1,000 releases had been listed by mid-1986, and only four removed.

ing removal.[5] In its 1990 NCP revisions, EPA took the position that the NCP requirement that a site be listed on the NPL before fund-financed remedial action may be taken is a self-imposed restriction on governmental action that is not relevant to private actions.[6] Fund-financed remedies must be balanced against other demands on the Fund, a restriction that is not imposed on remedies financed by responsible parties.[7]

The statute sets out the criteria for ranking releases in order of priority: EPA is required to assess the "relative risk . . . taking into account to the extent possible the population at risk, the hazard potential of the hazardous substances," the risk of exposure by various routes, the potential for destruction of sensitive ecosystems, the willingness of states to participate in the cost of cleanup, and "other appropriate factors."[8] EPA may then specify the methods, techniques, and procedures for accomplishing appropriate responses.[9]

Sites evaluated for the NPL are called "releases" and are ranked by a numerical scoring system developed for EPA by the Mitre Corporation; the scoring system is formally called the Hazard Ranking System (HRS). The HRS assigns each release a score heavily weighted by the volume of hazardous substances found at the site and the number of people who may be exposed to hazardous substances by the various possible routes of release, which roughly tracks the statutory criteria.[10] Estimates are made on the basis of whatever information is available, which is often scant. There is considerable room for the exercise of judgment in the ranking. EPA takes the position that the individual HRS ranking is not a reviewable agency action.[11] EPA may apply the HRS with such imprecision, however, that its actions become arbitrary or capricious or not in accordance with law. In such cases, the D.C. Circuit can order a site deleted from the NPL.[12]

The HRS was criticized by PRPs, who found it sometimes arbitrary, and by people

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[5]*See* CERCLA § 103(c), 42 U.S.C.A. § 9603(c). Because "permanent relocations" are defined as remedial measures, CERCLA § 101(24), 42 U.S.C.A. § 9601(24), this self-imposed rule kept EPA from permanently relocating people in the face of a health-threatening emergency, even where permanent relocation was in the best interests of all concerned. The Agency has established a procedure for expeditious "listing" of such emergencies to circumvent the difficulty. *See* § 14:102.

[6]*See* 55 Fed. Reg. 8666, 8793 n.29 (Mar. 8, 1990).

[7]*See* 40 C.F.R. § 300.425(b).

[8]CERCLA § 105(a)(8)(A), 42 U.S.C.A. § 9605(a)(8)(A).

[9]CERCLA § 105, 42 U.S.C.A. § 9605. EPA has described cleanup measures only in the most general terms. *See* 40 C.F.R. § 300 Subpart D (oil spills); 40 C.F.R. § 300.415 (removals); 40 C.F.R. § 303.430 (remedies); 40 C.F.R. § 300.430, App'x D (list of methods to be considered for remedy); *see also* 40 C.F.R. § 300 Subpart J ("Use of Dispersants and other Chemicals" in oil spills). Courts grant EPA deference on NPL listing decisions. *See, e.g.*, Northside Sanitary Landfill, Inc. v. Thomas, 849 F.2d 1516, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21032 (D.C. Cir. 1988), cert. denied, 489 U.S. 1078 (1989); CTS Corp. v. E.P.A., 759 F.3d 52, 79 Env't. Rep. Cas. (BNA) 1676 (D.C. Cir. 2014) (denying petition for review of EPA's NPL listing).

[10]*See* Eagle-Picher Indus. v. EPA, 759 F.2d 905, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20467 (D.C. Cir. 1985); 40 C.F.R. § 300.66(b)(2) & app. A. *But see* 40 C.F.R. § 300.66(b)(4) (health hazards listed on NPL when certified by the ATSDR); *see* § 14:113; *see* this section note 3.

[11]*See, e.g.*, U.S. Ecology, Inc. v. Carlson, 21 Env 2009 (C.D. Ill. Oct. 3, 1984); Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 6. It appears that the NPL as a whole is a rule to be reviewed, if at all, in the United States Court of Appeals for the D.C. Circuit. However, courts have allowed some public participation and comment on the HRS process. *See* Ohio v. EPA, 838 F.2d 1325, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20479 (D.C. Cir. 1988); *see also* 40 C.F.R. § 300.515(c)(1)-(2) (Mar. 8, 1990), requiring EPA to consult with states "as appropriate" on the information to be used in developing HRS scores for releases and to provide the state, "to the extent feasible," 30 working days to review releases that were scored by the EPA and that will be considered for the NPL. *See also* Tex Tin Corp. v. EPA, 935 F.2d 1321 (D.C. Cir. 1991) (requiring EPA to explain further why it placed a company's facility on the NPL, even though EPA already cited potential releases of arsenic into the air).

[12]*See, e.g.*, Tex Tin Corp. v. EPA, 992 F.2d 353, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20823 (D.C. Cir.

who lived near dump sites, who felt the HRS did not give sufficient weight to their concerns about health hazards from contaminated groundwater. In the SARA of 1986, Congress directed EPA to reconsider the HRS, reemphasizing that the ranking is to be based on relative risk, and directing the Agency to give a high priority to health risks caused by contamination of drinking water.[13] Existing rankings need not be revised, except in the case of sites where contaminated drinking water supplies required higher rankings.[14] On March 14, 1991, the revised HRS took effect, addressing surface water contamination and potential, as well as actual, ambient air contamination and giving priority to contaminated drinking water wells.[15]

Congress also created a parallel system of evaluations, health assessments to be carried out by the Agency for Toxic Substances and Disease Registry (ATSDR) within the Department of Health and Human Services.[16] ATSDR listed the 22575 hazardous substances posing the most significant threat at NPL listed sites. The list is regularly expanded.[17] ATSDR prepared "toxicological profiles" of each substance.[18] Furthermore, ATSDR performed a "health assessment" of 951 sites listed on the NPL by December 10, 1988, or within a year after its inclusion on the NPL.[19] On petition, or on the basis of information it acquires, ATSDR will perform a preliminary health assessment of a release that has not been placed on the NPL, in what amounts to an appeal from EPA neglect.[20] The stated purpose of these assessments is to assist EPA in preparing appropriate responses, but they undoubtedly are useful to plaintiffs preparing personal injury actions against potentially responsible parties.

§ 14:116 Superfund—Remedial program procedures—Procedure at priority sites—Remedial investigation/feasibility study

After a release is placed on the NPL, remedial actions may begin. Measures to secure the site and removing any immediate hazard—surface cleanup, building

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1993).

[13]The United States District Court for the District of Columbia gives EPA leeway in applying the HRS. *See* City of Staughton, Wis. v. EPA, 858 F.2d 747, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20054 (D.C. Cir. 1988); *see also* Jones & McSlarrow, "But Were Afraid to Ask: Superfund Case Law, 1981–1989," 19 Envtl. L. Rep. (Envtl. L. Inst.) 10430 (Oct. 1989).

[14]*See* CERCLA §§ 105(c), 118, 42 U.S.C.A. §§ 9605(c), 9618. The 1986 amendments to § 105 required a substantive performance standard (the model must "accurately assess relative risks to human health and the environment"). The Conference Report, H.R. Rep. No. 962, 99th Cong., 2d Sess. (1986), places a gloss on the statutory requirement in several ways. First, it refers to S. Rep. No. 848, 96th Cong., 2d Sess. 60 (1980), which purports to have expressed the original legislative intent with respect to hazard ranking, and then suggests that EPA evaluate the Department of Defense "preliminary pollutant limit value system" as a possible alternative to the Mitre Model.

[15]55 Fed. Reg. 51532 (Dec. 14, 1990).

[16]*See* Johnson, "Implementation of Superfund's Health-Related Provisions by the Agency for Toxic Substances and Disease Registry," 20 Envtl. L. Rep. (Envtl. L. Inst.) 10277 (July 1990).

[17]As of 2019, 275 hazardous substances were listed were on the Priority List of Hazardous Substances, http://www.atsdr.cdc.gov/spl/index.html (last visited Dec. 22, 2021).Jan. 6, 2022) The list is relatively stable and revisions are made every two years.

[18]The toxicological profiles are found at ATSDR, Toxilogical Profiles, https://www.atsdr.cdc.gov/toxprofiledocs/index.html (last visited Jan. 18, 2022).

[19]*See* CERCLA § 104(i), 42 U.S.C.A. § 9604(i); *see also* Johnson, "Implementation of Superfund's Health-Related Provisions by the Agency for Toxic Substances and Disease Registry," 20 Envtl. L. Rep. (Envtl. L. Inst.) 10277, 10278 (July 1990).

[20]*See* CERCLA § 104(i)(6)(B), 42 U.S.C.A. § 9604(i)(6)(B). ATSDR must "consider the National Priorities List schedules and the needs of the Environmental Protection Agency and other federal agencies" in setting priorities for assessments, however, CERCLA § 104(i)(6)(C), 42 U.S.C.A. § 9604(i)(6)(C), and for NPL sites the assessment must be available in time for use in remedial investigations and feasibility studies. CERCLA § 104(i)(6)(D), 42 U.S.C.A. § 9604(i)(6)(D).

fences, posting signs—are usually taken during the removal phase. The remedial action therefore usually begins with a series of elaborate studies, and further activity on the site may be delayed for years. The studies are needed to allow EPA to choose a remedy which is complete, permanent, and cost-effective, and to allow wide participation by interested parties in its formulation of the remedy.

The first study is a "Remedial Investigation" (RI), which considers the nature of the pollution problem and the threat it poses. This is followed by a "Feasibility Study" (FS) in which possible remedies are evaluated. These two studies are usually performed concurrently by a single contractor, and are often discussed together as the "RI/FS."[1]

The RI/FS may take years to prepare. The remedial investigation portion begins with a scoping study, followed by preparation of a plan for carrying out the investigations which follow. During the scoping stage, EPA generally attempts to identify responsible parties who may have shipped wastes to the sites, and explores any records that may show what hazardous substances are present. In most cases, the Agency's contractor will then proceed to a more detailed characterization of the site. The Agency's guidance manual provides that at this stage, the contractor collect data on "the nature and extent of contamination [that] may be of concern in five media: ground water, soil, surface water, sediments, and air."[2] Since the contamination may be underground, this requires drilling wells, exploring and sampling groundwater, and learning the patterns of underground flow.

The final objective of the field investigation is to characterize the nature and extent of contamination such that informed decisions can be made as to the level of risk perfected by the site and the appropriate type(s) of remedial response.[3]

Since seasonal variations usually must be assessed, the collection of this data necessary to accomplish this task rarely can be accomplished in less than a year. Bench scale or pilot studies may be needed to select the remedial alternatives for consideration. These laboratory and pilot studies may address the treatability of wastes, may test innovative technology, or evaluate the effectiveness of alternative treatment methods at the site.[4]

Part of the remedial investigation involves the preparation of a site-specific baseline risk assessment to characterize the current and potential threats to human health and the environment posed by the presence or movement of contaminants.[5] The results of the risk assessment establish acceptable exposure levels used in developing remedial alternatives.[6] At sites requiring removal action, the NCP provides for the lead agency to conduct an "engineering evaluation/cost analysis"

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[1]*See* the NCP, 59 Fed. Reg. 47383 (Sept. 15, 1994); 55 Fed. Reg. 8698 (Mar. 8, 1990); 54 Fed. Reg. 13298 (Mar. 31, 1989); 52 Fed. Reg. 27622 (July 22, 1987).

[2]EPA, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, OSWER Directive 9355.3-01, at 3-13 (Oct. 1988); *see also* EPA, RI/FS and Treatability Studies Overview, http://www.epa.gov/superfund/policy/remedy/sfremedy/rifs/overview.htm; EPA, A Guide to Developing and Documenting Cost Estimates During the Feasibility Study, EPA 540-R-00-002, OSWER Directive 9355.0-75 (Aug. 10, 2000), http://www.epa.gov/superfund/policy/remedy/pdfs/93-55075.pdf; EPA, Scoper's Notes: An RI/FS Costing Guide, EPA/540/G-90/002 (Feb. 1990), http://www.epa.gov/superfund/policy/remedy/pdfs/540g-90002-s.pdf.

[3]EPA, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, OSWER Directive 9355.3-01, at 3-13 (Oct. 1988).

[4]EPA, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, OSWER Directive 9355.3-01, at 5-5 to 5-8 (Oct. 1988).

[5]*See* EPA, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, OSWER Directive 9355.3-01, at 3-20 to 3-23 (Oct. 1988).

[6]*See* 40 C.F.R. § 300.430(e)(2)(i).

(EE/CA), the purpose of which is to provide an analysis of response alternatives similar to that contained in a RI/FS.[7]

As data are produced by the remedial investigation, EPA's contractor will begin the feasibility study. In this portion of the work, the contractor identifies specific methods for responding to the release, and screens them by applying broad criteria and rough estimates of cost.[8] For those methods which pass the screening stage, the contractor proceeds to a detailed technical analysis. Each of the alternatives must be evaluated for its ability to achieve applicable, or relevant and appropriate, environmental quality standards. The cost and feasibility of each must be evaluated in detail, and the results of all these analyses assembled in a report.[9] Much of the complexity and difficulty of these studies is imposed by the requirement that remedies be cost-effective.

State governments, and in some cases PRPs, as discussed below, may provide input to the RI/FS. The public will be offered an opportunity to comment on the reports, and they will then serve as the basis of EPA's choice of remedy. The administrative record supporting this choice, "the record of decision" (ROD), is the sole basis of review in federal court.[10]

EPA presumably will include in its record of decision all contacts with persons outside the agency which contribute to its decision. Such *ex parte* contacts are not forbidden by CERCLA or by principles of administrative law, but the administrative record must be complete.

§ 14:117 Superfund—Remedial program procedures—Procedure at priority sites—State participation

State governments play a subordinate role in Superfund. In other environmental protection programs—even the similar cleanup fund for leaking underground petroleum storage tanks—EPA may delegate the management of environmental protection to state agencies. Not so in Superfund. To compensate for this lack of direct authority, the states are given an effective veto over EPA remedial actions within their borders. EPA must consult a state before choosing its remedy, and EPA regulations must provide for "meaningful involvement" in the decision process. More importantly, before EPA can carry out a remedial action, the state must agree to provide 10% (50% or more for certain state-owned sites) of the initial cost, and to assume responsibility for maintenance costs (except the first 10 years of groundwater treatment).[1] Since 1989, the states must also provide assurances that an off-site disposal facility will be available if needed.[2] The leverage provided by the state veto is the state's strongest assurance of participation in the Superfund remedial program, but there are several other ways in which the state can—or must—become involved. The 1990 revisions to the NCP created a new Subpart F to consolidate the NCP pro-

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[7]40 C.F.R. § 300.415(b)(4).

[8]U.S. EPA Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA 4-3 to 4-5 (1988).

[9]U.S. EPA Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA 4-5 to 4-20 (1988).

[10]*See* CERCLA § 113(j)-(k), 42 U.S.C.A. § 9613(j)-(k) (added by SARA in 1986).

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[1]*See* CERCLA §§ 104(c)(2)-(3), 122(f)(1), 42 U.S.C.A. §§ 9604(c)(2)-(3), 9622(f)(1). In 1986, responsibility for the first ten years of groundwater treatment was shifted to Superfund, easing a serious source of friction between EPA and the states. States were also relieved of the burden of paying 50 percent or more at passively owned sites.

[2]*See* CERCLA § 104(c)(9), 42 U.S.C.A. § 9604(c)(9).

visions pertaining to state involvement in hazardous substance response.[3] In the 1990 NCP revisions, EPA relies heavily on the early communication of potential federal and state "applicable or relevant and appropriate requirements" (ARARs) to satisfy the state participation requirements, allowing the state only 10 to 15 days to review and comment on the RI/FS, ROD, ARAR, other advisories, criteria, or guidance "to be considered" (TBC), and remedial design, and five to 10 days to review and comment on the proposed plan.[4] As part of the process of selecting the remedy under the revised NCP, however, state and community feedback of the proposed remedy are "modifying criteria" which EPA is obligated to consider in selecting the remedy.[5]

Ranking and Remedy Selection. Each state may designate one site within its borders for inclusion on the NPL. States participate in the NPL process, but are not able to ensure listing of more than one of their sites nor to determine the priority given to them when listed. States may and do provide much of the information on which EPA relies in compiling its list of potential sites.

States have more control over the endpoint of the cleanup than its beginning. State environmental quality standards, if more stringent than the federal, may determine the endpoint of the cleanup.[6] If EPA chooses a remedy which does not achieve state standards, the state may challenge this decision at several points, and the state may compel any additional remedy required by its standards, so long as the state pays the added cost.[7] Finally, if EPA believes it has cleaned up a site and proposes to remove it from the NPL, a state may veto EPA's proposed deletion.[8]

Cooperative Agreements. A state or "political subdivision" may apply to EPA to carry out any remedial action. EPA may enter into contracts or "cooperative agreements" with such state or local agencies if EPA determines that the agency has the capability to carry out the action. In 1986, SARA added the requirement that the state or local agency have the capacity to carry out both the response action and any related "enforcement actions."[9] EPA retains oversight authority and responsibility for seeing that the state carries out its contract, and may enforce the agreement in federal district court.[10]

Enforcement and Liability. As noted earlier, states must agree to contribute 10% of the cost of the remedial action before EPA can begin. Section 104(c)(3)(C) of CERCLA as first enacted required that whenever the facility was owned by a state or political subdivision, the state share would increase to at least 50%. Some reme-

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[3]40 C.F.R. Parts 300 et seq. (Mar. 3, 1990), as amended by 59 Fed. Reg. 47416 (Sept. 15, 1994). Many of the provisions of the NCP dealing with state involvement in remediation were upheld in Ohio v. EPA, 997 F.2d 1520, 23 Envtl. L. Rep. (Envtl. L. Inst.) 21157 (D.C. Cir. 1993).

[4]40 C.F.R. § 300.515(e), (g).

[5]*See* 40 C.F.R. § 300.430(f)(1)(i)(C).

[6]*See* CERCLA § 121(d)(2)(A)(ii), 42 U.S.C.A. § 9621(d)(2)(A)(ii).

[7]In Fund-financed cleanup, the state presumably may bring an action under § 310 to compel performance of a nondiscretionary duty, and when responsible parties are carrying out the cleanup, under § 121(f)(2). This provision of the statute is implemented in a more general manner in the NCP, which provide that any time a state desires changes in or expansions of a remedial action (called "enhancement of the remedy"), EPA may agree to integrate the change or expansion into the remedy if it finds it would not conflict with or be inconsistent with the remedy *and* the state agrees to fund the incremental cost *and* the state agrees to assume the lead for supervising that component of the remedy. *See* 40 C.F.R. § 300.515(f)(1).

Moreover, the NCP explicitly states that state concurrence on an ROD is not a prerequisite to EPA's selecting a remedy, and that a state may not proceed with a fund-financed response action unless EPA has first concurred in and adopted the ROD. 40 C.F.R. § 300.515(e)(2)(ii).

[8]*See* CERCLA § 121(f)(1)(C), 42 U.S.C.A. § 9621(f)(1)(C).

[9]*See* CERCLA § 104(d)(1)(A), 42 U.S.C.A. § 9604(d)(1)(A).

[10]*See* CERCLA § 104(d)(2), 42 U.S.C.A. § 9604(d)(2).

dial action sites proved to be county and municipal landfills, others were commercial dumps on land leased from state or local government, and others were unauthorized dumps on publicly owned land. Through bankruptcy or tax-foreclosures or escheat, states would acquire land that had been used for dumping and then abandoned. The states' 50% share of costs at all these sites became a stumbling block to progress in cleanup, as states were sometimes unwilling or unable to assume the hundreds of millions of dollars of liability at state owned sites. EPA was helpless to compel the states to appropriate funds and could not proceed without a state's agreement to pay its share. SARA eased the friction somewhat by providing that states were liable for the 50% minimum cost-sharing only in those cases where the state or a political subdivision had operated the site, directly or through a contractor, at the time of disposal.[11] Furthermore, when states acquire property through bankruptcy or foreclosure, they will not be considered responsible parties solely for that reason.[12]

When states are not themselves responsible parties, EPA and the Justice Department have been reluctant to allow them to participate in EPA enforcement actions under CERCLA. But SARA added the requirements that states be allowed to participate in enforcement discussions and in settlements, to enforce consent decrees governing private party cleanup in federal court, and to collect stipulated penalties.[13]

§ 14:118 Superfund—Remedial program procedures—Procedure at priority sites—Tribal participation

The SARA of 1986 clarified CERCLA to provide that Indian tribes are treated like state governments for most purposes, except that they are relieved of the cost-sharing and maintenance requirements.[1] Perhaps inadvertently, the statute distinguishes Indian tribes in one way. Although tribes may carry out cleanup under contracts or cooperative agreements, EPA—which may indemnify other private party and state contractors—does not have express authority to indemnify contractors working for Indian tribes.[2]

In 2011, EPA issued a policy document on "Consultation and Coordination with Indian Tribes," which established national guidelines for interaction between the agency and federally recognized tribes by outlining processes, roles, and responsibilities.[3] EPA is to consult with tribes on a government-to-government basis and to consider the respective tribes' interest when EPA makes decisions and actions that would have an impact. In 2014, EPA issued another policy document entitled, "EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples."[4] This policy document had 17 principles that were to be used by the agency when dealing with the tribes. Most of the principles were generic in nature and not specific to tribal lands or interaction with tribes, such as compliance with existing with laws.

In 2016, the agency issued a "Policy on Consultation and Coordination with

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[11] *See* CERCLA § 104(c)(3)(C)(ii), 42 U.S.C.A. § 9604(c)(3)(C)(ii).

[12] *See* CERCLA § 101(20)(A)(ii), 42 U.S.C.A. § 9601(20)(A)(ii) ("owner or operator").

[13] *See* CERCLA § 121(e)-(f), 42 U.S.C.A. § 9621(e)-(f).

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[1] *See* CERCLA § 126(a), 42 U.S.C.A. § 9626(a); *see also* CERCLA §§ 101(16), (36), 107(a)(4)(A), (f)(1), 111(b)(1), 42 U.S.C.A. §§ 9601(16), (36), 9607(a)(4)(A), (f)(1), 9611(b)(1).

[2] *See* CERCLA § 119(c)(2), 42 U.S.C.A. § 9619(c)(2).

[3] EPA, Consultation and Coordination with Indian Tribes (May 2011).

[4] EPA, EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples (July 2014).

Indian Tribes: Guidance for Discussing Tribal Treaty Rights." This guidance states that there are three questions that the agency needs to examine: "(1) Do treaties exist within a specific geographic area? (2) What treaty rights exist in, or what treaty-protected resources rely upon, the specific geographic area? (3) How are treaty rights potentially affected by the proposed action?"[5] This is a site specific and complex examination because of differences in treaty language, cultural practices, unique tribal sensitivity, as well as availability of environmental resources.

In 2017, EPA's Office of Land and Emergency Management issued a memorandum entitled "Considering Traditional Ecological Knowledge during the Cleanup Process."[6] As the agency defines "traditional ecological knowledge" as "an accumulating body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmissions, about the relationship of living beings (human and non-human) with one another and with the environment. It encompasses the world view of indigenous people which includes ecology, spirituality, human and animal relationships, and more."[7] Among the issues that the agency needs to examine is whether there are tribal laws or policies regarding the use of traditional ecological knowledge, what are the implications of using traditional ecological knowledge, and what are the applicable traditional ecological knowledge to the particular case. During the RI/FS process, EPA examine traditional ecological knowledge in the context of the "formulation of sampling and analysis plans, conceptual site models, human and ecological risk assessments, remedial action objectives remedial alternatives, and other analyses."[8]

§ 14:119 Superfund—Remedial program procedures—Procedure at priority sites—Public participation

The people who live near dump sites and drink water which may be contaminated by wastes have been a moving force behind Superfund. Their outrage ensured its passage and their relentless pressure for complete cleanup is felt throughout the program. Citizens' groups have become well organized and politically adept and are represented by able counsel. Until 1986, however, CERCLA allowed very little formal public participation in the remedial process. EPA did carry out National Environmental Policy Act (NEPA)-equivalent public notice and comment procedures in its RI/FS process and adopted "community relations plans" at cleanup sites.[1] But citizens largely made themselves felt through informal lobbying and through their congressional representatives. CERCLA was not a regulatory statute; there was no equivalent of the permit procedures of earlier statutes in which citizens could intervene and no provision for citizens' enforcement actions.

In the SARA of 1986, EPA's NEPA-equivalent community participation procedures were codified, with some significant additions. EPA was required to publish a notice of its final remedial action plan, make the plan available for public comment, provide an opportunity for a public meeting, and publish a notice of its finally-adopted plan and of any significant changes during implementation. These final notices must

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[5]EPA, Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussing Tribal Treaty Rights (2016) at 3.

[6]EPA, Considering Traditional Ecological Knowledge during the Cleanup Process, OLEM 9200.2-177 (Jan. 2017).

[7]EPA, Considering Traditional Ecological Knowledge during the Cleanup Process, OLEM 9200.2-177 (Jan. 2017) at 3.

[8]EPA, Considering Traditional Ecological Knowledge during the Cleanup Process, OLEM 9200.2-177 (Jan. 2017) at 4–5.

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[1]*See* 40 C.F.R. § 300.67.

contain an explanation of changes and responses to comments.[2]

EPA incorporated the § 117 requirements and existing agency community relations policies into its 1990 revision and restructuring of the NCP. Rather than having their own subpart, as in the 1985 NCP, the community relations requirements are now integrated into the regulations corresponding to the response phase to which the requirements apply.[3]

SARA also authorized EPA grants of up to $50,000 to assist "any group of individuals which may be affected by a release or threatened by a release" at a listed facility in dealing with technical issues in interpreting information concerning the nature of the hazard, RI/FS, ROD, remedial design, remedial action, removal action, or O&M.[4] Such groups may petition EPA for a preliminary assessment of sites not listed on the NPL. In a similar vein, ATSDR, which must perform a health assessment of every NPL site, on petition by interested persons, may perform a preliminary health assessment of sites not on the NPL.[5] The ATSDR may conduct studies of particular groups of exposed individuals,[6] and may provide counsel on health issues to individuals under cooperative agreements with the states.[7] Whenever ATSDR makes a finding that there is a "significant risk to human health," EPA is required to respond to abate the risk.[8]

Finally, and perhaps most significantly, CERCLA was amended to authorize citizen suits when an agency fails to perform a mandatory duty or when any person is in "violation" of CERCLA's requirements, including the provisions of agreements under which private parties carry out cleanups.[9] This parallels citizen suit provisions of earlier laws, but falls far short of what citizens groups had sought—a federal cause of action for personal injuries and the right to bring suits to abate imminent hazards.

As noted above, ATSDR studies and EPA grants may indirectly provide assistance to citizens in preparing their personal injury actions.[10] CERCLA also was amended to provide a uniform federal commencement date for state statutes of limitation covering actions for personal injury or property damage arising from exposures resulting from Superfund releases.[11] Effective retroactively to December 11, 1980, the uniform commencement trigger is the date the plaintiff knew or reasonably should have known that the injury or damage was caused or contributed to by the substance released.[12] While CERCLA generally preempts conflicting state

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[2]*See* CERCLA § 117, 42 U.S.C.A. § 9617.

[3]40 C.F.R. § 300.415(n) (procedures for removal actions); 40 C.F.R. § 300.430(c) (procedures for the RI/FS phase); 40 C.F.R. § 330.435(c) (procedures for the remedial design phase). EPA has made most of the public participation requirements "potentially applicable" to response actions undertaken by private parties. *See* 40 C.F.R. § 300.700(c)(6); *see also* Reg'l Airport Auth. v. LFG, LLC, 460 F.3d 697, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20166 (6th Cir. 2006) (holding that a cleanup that did not comply with the public participation requirements was not in substantial compliance with the NCP).

[4]*See* CERCLA § 117(e), 42 U.S.C.A. § 9617(e).

[5]*See* CERCLA §§ 104(i)(6), 105(d), 42 U.S.C.A. §§ 9604(i)(6), 9605(d).

[6]*See* CERCLA §§ 104(i)(7), 104(i)(9), 42 U.S.C.A. §§ 9604(i)(7), 9604(i)(9).

[7]*See* CERCLA § 104(i)(4), 42 U.S.C.A. § 9604(i)(4).

[8]*See* CERCLA § 104(i)(11), 42 U.S.C.A. § 9604(i)(11).

[9]*See* CERCLA § 310(a), 42 U.S.C.A. § 9659(a).

[10]*See* Johnson, "Implementation of Superfund's Health-Related Provisions By the Agency for Toxic Substances and Disease Registry," 20 Envtl. L. Rep. (Envtl. L. Inst.) 10277 (July 1990).

[11]*See* CERCLA § 309(a)(1), 42 U.S.C.A. § 9658(a)(1).

[12]*See* CERCLA § 309(b)(4), 42 U.S.C.A. § 9658(b)(4). This is the result of a study carried out under § 301(e) of CERCLA of 1980.

statutes of limitations related to such tort claims,[13] the Supreme Court has held that state statutes of repose are not preempted by CERCLA.[14]

Finally, whenever ATSDR makes a finding of significant risk to health, EPA's response is mandatory and presumably can be enforced by citizen suit under § 310(a)(2).

§ 14:120 Superfund—Remedial program procedures—Procedure at priority sites—Potentially responsible parties

PRPs may, of course, participate in the remedial procedure as members of the public. In the interests of avoiding public stigma, and of reducing the costs of cleanup which they will ultimately bear, responsible parties may also carry out or participate in carrying out the cleanup at Superfund sites. At lower ranked or unranked sites, there is no particular difficulty or formality involved, and some uncounted number of sites have simply been cleaned up before EPA has turned its attention to them.

At facilities ranked on the NPL, however, EPA has long required a more formal procedure, largely ratified by the SARA of 1986. Early in its study of a site, EPA will identify responsible parties and make some assessment of whether they should be asked to carry out each of the successive "operable units" (OUs) of the remedial action, beginning with the remedial investigation/feasibility study. After the RI/FS is complete, responsible parties may again be asked to assist in performance of the remedy and, when the remedial action is broken into operable units, the same process may be repeated at each stage. Facilities at which PRPs are permitted or required to carry out a portion of the remedial action are classified by EPA as "enforcement" sites, and it has been the long-standing practice of the Agency to require that such cleanups only be carried out under a judicial consent decree.[1]

SARA ratified this procedure and added some further statutory enforcement authority to it. CERCLA § 122(e)(6) now prohibits any PRP from undertaking without EPA authorization any remedial action at a facility where EPA "or [another] potentially responsible party pursuant to an administrative order or consent decree" has "commenced a remedial action and feasibility study."[2]

New § 122 formalized the procedure by which EPA gives notice to potentially responsible parties for negotiations at "windows" in the remedial process.[3] It also

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[13]CERCLA § 309, 42 U.S.C.A. § 9658.

[14]CTS Corp. v. Waldburger, 134 S. Ct. 2175, 189 L. Ed. 2d 62, 78 Env't. Rep. Cas. (BNA) 1505, 86 A.L.R. Fed. 2d 665 (2014).

[Section 14:120]

[1]On June 21, 1991, EPA issued model consent decree language in an attempt to speed up Superfund cleanup negotiations. EPA has since issued other model documents for such purposes. *See* EPA, Guidance: 2014 CERCLA RD/RA CD and SOW, https://19january2021snapshot.epa.gov/enforcement/2014-cercla-rdra-cd-and-sow-model-documents_.html.

[2]In Atlantic Richfield Company v. Christian, 140 S. Ct. 1335, 206 L. Ed. 2d 516 (2020), the Supreme Court determined that the landowners are PRPs, even if they might have an affirmative defense to liability and even though they would no longer be subject to CERCLA liability by virtue of the lapsed six-year statute of limitations.

[3]In the 1990 NCP, EPA merely states that "where the responsible parties are known, an effort initially shall be made, to the extent practicable, to determine whether they can and will perform the necessary removal action promptly and properly." 40 C.F.R. § 300.415(a)(2). The NCP also provides that for all removal actions and CERCLA enforcement actions to compel removal response, a spokesperson will be appointed to inform the community of actions taken, respond to inquiries, and provide information concerning the release. Pre-removal solicitation of public comment on the administrative record file and engineering evaluation/cost analysis is required only when the lead agency has determined that a planning period of at least six months exists prior to the initiation of the

clarified EPA's authority to enter into partial settlements and releases, which may or may not expedite the negotiation process. Some PRPs may wish to settle with EPA and extricate themselves from the remedial process by making a cash settlement at the first opportunity; others may wish to participate in the cleanup itself, while still others may wish to wait and pay up—or contest the remedy—when it is complete. Section 122 allows EPA to grant releases and enter partial settlements and creates an expedited procedure for *de minimis* settlements. It also requires Justice Department approval of settlements in excess of $500,000. Citizens and state and tribal governments are given substantially the same rights to participate in PRP remedial actions as in those conducted directly by EPA. PRP participation procedures are discussed in more detail in § 14:134, below.

§ 14:121 Superfund—Remedial program procedures—Procedure at priority sites—Federal agencies and federal facilities

Many federally owned facilities are contaminated by chemical and radioactive wastes, the refuse of nuclear power development, military activities, and the myriad industrial and commercial enterprises of the federal government. CERCLA generally applies to federally owned facilities as it does to other sites: federal agencies may be responsible parties, and are subject to the requirements of CERCLA (except financial responsibility requirements) as are other persons.[1]

Remedies at federal facilities, however, may not be financed by Superfund.[2] To comply with the statute, therefore, federal agencies must dip into otherwise appropriated funds or obtain cleanups by other responsible parties. Neither was an attractive prospect, and until 1986 there was little cleanup activity at federally owned sites. EPA could not bring suit against another part of the executive branch of government, and federal agencies claimed sovereign immunity to suit by others.

SARA added § 120 to CERCLA, reaffirming that the statute applied to federal agencies and establishing an oversight and enforcement scheme to ensure cleanup at federally owned sites. EPA was required to establish a docket of potential federally owned remedial sites.[3] Agencies are obliged to carry out RI/FSs and a remedial action approved by EPA, at each listed site, on a tight schedule and under an enforceable agreement with EPA.[4] Sites which are not included on the NPL are made subject to state law by § 120(a)(4), which contains safeguards against discriminatory application of state law against federal facilities.

Federal agencies may not draw on Superfund to finance their compliance, but are obliged to submit annual reports of progress to Congress, including their estimates

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on-site removal actions. *See* 40 C.F.R. §§ 300.415(m), 300.820(a).

[Section 14:121]

[1]*See* CERCLA § 120(a)(1)-(2), 42 U.S.C.A. § 9620(a)(1)-(2), added by the SARA, Pub. L. No. 99-499, 100 Stat. 1613 (1986); *see also* CERCLA § 101(21), 42 U.S.C.A. § 9601(21) (definition of "person"); CERCLA § 107(a), 42 U.S.C.A. § 9607(a) (persons liable for response costs).

[2]*See* CERCLA § 111(e)(3), 42 U.S.C.A. § 9611(e)(3). SARA amended this section allowing Superfund expenditures to provide alternate water supplies where groundwater contamination reaches beyond the boundaries of a federal facility.

[3]A list of federally owned and non-federally owned NPL sites may be found at EPA. Superfund: National Priorities List (NPL), https://www.epa.gov/superfund/superfund-national-priorities-list-npl (last visited at Jan. 18, 2022).

[4]*See* CERCLA § 120, 42 U.S.C.A. § 9620. The Conference Report states that the agreements between EPA and the heads of other federal agencies are "enforceable documents," that EPA may assess civil penalties against the agencies for violating terms of the agreements, and that citizen suits for violations of the agreements are authorized by § 310. *See* 132 Cong. Rec. H9032, H9101 (daily ed. Oct. 3, 1986).

of costs and "budgetary proposals" for needed funds.[5] For most agencies, this presumably puts the ball back in the congressional court. The Department of Defense, with the largest inventory of sites and the greatest flexibility in reallocating appropriated funds, was required to set up its own "superfund," the Department of Defense Environmental Restoration Program, with a revolving fund (the "Defense Restoration Transfer Account") replenished by reallocations from other appropriations through annual National Defense Authorization Acts and recoveries from other responsible parties.[6]

§ 14:122 Superfund—Remedial methods and goals—The NCP

Under the amended NCP, EPA outlined nine factors that would be considered during the development and screening of remedial action alternatives: overall protection of health and the environment, compliance with applicable, relevant and appropriate standards (ARARs,) long-term effectiveness and permanence, reduction of toxicity, mobility and volume, short-term effectiveness, implementability, cost, state and tribal acceptance of the selected remedy, and community acceptance.

The final remedy is selected from among the alternatives that survive the screening stage by applying the same nine factors a second time according to a three-tiered, balancing approach.[1] All possible cleanup alternatives must meet the threshold criteria of overall protection of health and the environment and compliance with ARARs.

EPA also lists six "expectations" or biases that it will use in developing remedial action alternatives: treatment for wastes that are liquid, highly toxic, or highly mobile; engineering controls for waste that poses a relatively low long-term threat or where treatment is impracticable; a combination of methods as appropriate to protect human health and the environment; institutional controls such as water use and deed restrictions to supplement engineering controls, but not as a substitute for active response measures unless the latter are impracticable; innovative technology when it offers treatment advantages, fewer adverse impacts, or lower costs when compared with demonstrated technologies; and return of groundwaters to their beneficial use whenever practicable.[2]

In the 1990 NCP revisions implementing the ARAR requirements, EPA essentially codified the framework set forth in the 1987 guidance. ARARs are to be initially identified during the scoping process and subsequently screened using data collected during the RI/FS process.[3] Applicable requirements are to be identified "based upon an objective determination of whether the requirement specifically addresses a

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[5] *See* CERCLA § 120(e)(5), 42 U.S.C.A. § 9620(e)(5).

[6] SARA added a new Chapter 160, "Environmental Restoration," to defense-authorizing legislation. *See* 42 U.S.C.A. §§ 2701 to 2707. The "environmental restoration account" is set out in § 2703.

[Section 14:122]

[1] *See* 40 C.F.R. § 300.430(e)-(f).

[2] 40 C.F.R. § 300.430(a)(1)(iii).

[3] 40 C.F.R. § 300.430(d)-(e). ARARs are also applicable to Fund-financed removal actions under § 104 and to removal actions under § 106 "to the extent practicable, considering the exigencies of the situation," 40 C.F.R. § 300.415(i), as well as to the implementation of the remedial action, 40 C.F.R. § 300.435(b)(2). Applicable requirements are defined at 40 C.F.R. § 300.5 as follows:

> those cleanup standards, standards of control, or other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable.

The preamble states that "there is generally little discretion in determining whether the circumstances at a site match those specified in a requirement." 55 Fed. Reg. 8666, 8742 (Mar. 8, 1990).

hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site."[4] EPA lists eight comparison factors which are to be used in determining whether an inapplicable requirement nevertheless addresses problems or situations sufficiently similar to circumstances of the release or the remedial action contemplated, and whether the requirement is well-suited to the site, and therefore is both relevant and appropriate.[5]

During the RI/FS process, the lead agency must establish remedial action objectives specifying contaminants and media of concern, potential exposure pathways, and remediation goals, and then identify potentially suitable technologies and assemble them into alternative remedial actions.

Remediation goals are initially developed using readily available information such as chemical-specific ARARs and are subsequently modified using information developed during the RI/FS. Final remediation goals, which must establish acceptable exposure levels that are protective of human health and the environment,[6] are to be developed by considering ARARs, including technical limitations on detecting and quantifying contaminants and factors related to uncertainty, Safe Drinking Water Act's Maximum Contaminant Levels (MCLs) and MCL goals (MCLGs), water quality standards, RCRA's "alternate concentration levels" (ACLs,)[7] and evaluations of threats to the environment.

The regulations also contain specific requirements for developing and screening alternatives at sites where source control and groundwater response actions are required and where innovative treatment technologies and a no-action alternative are potentially appropriate.[8] As the final step in developing remediation alternatives, the lead agency must consider the short- and long-term aspects of the three criteria of effectiveness, implementability, and cost.[9]

Once the lead agency has completed its development and screening of alternatives according to the procedures and standards described above, it must select those alternatives that represent "viable approaches to remedial action" and undertake a detailed assessment of the degree to which each of them satisfies the nine evaluation criteria. The remedy is then selected by applying the same criteria in their weighted form as threshold criteria, balancing criteria, and modifying criteria.[10]

There are several caveats to this remedial selection scenario, however. On-site remedial actions selected in the ROD must either attain those ARARs that were identified at the time the ROD was signed or qualify for a waiver as provided in § 121(d)(4) of the statute.[11] In addition, remedies characterized by long-term effectiveness, reduction of toxicity, mobility or volume through treatment, and on-site

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[4]40 C.F.R. § 300.400(g)(2).

[5]*See* 40 C.F.R. § 300.430(e).

[6]The use of RCRA ACLs for CERCLA remedies is substantially curtailed by § 121(d)(2)(B)(ii), which effectively forecloses their use where there is projected human exposure beyond the facility, except in very limited circumstances. The critical inquiry for ACLs is the point of human exposure. The statute arguably precludes the use of ACLs except where contaminated groundwater discharges to a river. Unfortunately, the 1990 NCP revisions do not elaborate on the statutory requirements. *See* 40 C.F.R. § 300.430(e)(2)(i)(F).

[7]40 C.F.R. § 300.430(e)(3)-(4); *see also* Memorandum from James E. Woolford & John E. Reeder to Superfund National Policy Managers, Regions 1 - 10, Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration, OSWER Directive 9283.1-33 (June 26, 2009), http://www.epa.gov/superfund/health/conmedia/gwdocs/pdfs/9283_1-33.pdf.

[8]40 C.F.R. § 300.430.

[9]40 C.F.R. § 300.430(e)(9).

[10]40 C.F.R. § 300.430(f). Requirements governing documentation of the decision are found at 40 C.F.R. § 300.430(f).

[11]40 C.F.R. § 300.430(f)(1)(ii)(B). Requirements promulgated or modified after the ROD is signed

treatment are to be given extra weight in selecting among alternatives that satisfy the two threshold requirements.[12] Any attempts by municipalities to impose more stringent remedies will likely be preempted by CERCLA.[13]

Once the ROD is adopted, if the action taken differs significantly from the remedy selected in the ROD with respect to scope, performance, or cost, the lead agency must either publish an explanation of the significant differences or, if the differences fundamentally alter the basic features of the selected remedy, propose an amendment to the ROD.[14]

§ 14:123 Superfund—Reimbursement

"Responsible parties" are jointly and severally liable for natural resource damages and response costs, without regard to fault.[1] When EPA carries out the response, it will first draw on the CERCLA Fund, but when a large segment of the work is complete, the Agency will call on responsible parties to reimburse the Fund.[2] If the call is not answered voluntarily, suit in district court may follow.[3] Federal and state agencies and Indian tribes who are trustees for natural resources may recover the value of damaged natural resources or the costs of restoring natural resources threatened with irreversible loss under CERCLA § 111(b)(i). Trustees of natural resources must first attempt to recover from responsible parties, however, and even if unsuccessful they will be reimbursed by Superfund only if there is a surplus in the Fund that year not required for EPA responses under CERCLA § 111(d)(2), which is not likely to happen for many years.

Persons other than state, tribal, or federal governments who incur response costs may also request reimbursement from the Fund, which will be subrogated to their claims.[4] The persons who incur response costs also may recover directly from the responsible parties themselves.[5]

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must be attained or waived in two circumstances: at any time if the agency finds that they are applicable or relevant and appropriate and necessary to ensure that the remedy is adequately protective, or if the ROD is amended and they constitute ARARs. 40 C.F.R. § 300.430(f)(1)(ii)(B).

[12]40 C.F.R. § 300.430(f)(1)(ii)(E). In the preamble to the 1990 NCP, EPA establishes a "guideline" that treatment as part of CERCLA remedies should generally achieve reductions of 90 to 99 percent in the concentration or mobility of individual contaminants of concern at Superfund sites. *See* 55 Fed. Reg. 8666, 8721 (Mar. 8, 1990).

[13]*See, e.g.*, Town of Acton v. W.R. Grace & Co.-Conn. Techs., Inc., No. 13-12376 (D. Mass. Sept. 22, 2014) (local bylaw preempted because it purportedly required continued groundwater treatment, while remedial plan under CERCLA did not).

[14]40 C.F.R. § 300.435(c)(2).

[Section 14:123]

[1]*See* CERCLA § 107(a), 42 U.S.C.A. § 9607(a); *see* § 14:127; Stever, *Law of Chemical Regulation and Hazardous Waste* Ch. 6.

[2]United States v. Occidental Chem. Corp., 200 F.3d 143 (3d Cir. 1999) (holding that a PRP remains liable to EPA for response costs even though another PRP, the owner of the site, has committed to the government that it will clean up the site and will reimburse the Superfund for past response costs).

[3]United States v. Union Gas Co., 586 F. Supp. 1522, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20491 (E.D. Pa. 1984); *see* § 14:127.

[4]*See* CERCLA § 112(b), 42 U.S.C.A. § 9612(b).

[5]*See* City of Phila. v. Stepan Chem. Co., 544 F. Supp. 1135, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20915 (E.D. Pa. 1985), superseded by statute as stated in E.I. DuPont De Nemours & Co. v. United States, 460 F.3d 515 (3d Cir. 2006) (explaining SARA's effect on contribution rights). The plaintiffs may elect whether to claim against the Fund or responsible parties, but they may not do both; there is a three-year statute of limitations for all such claims. CERCLA § 112(d), 42 U.S.C.A. § 9612(d).

Government response costs must be "not inconsistent" with the NCP.[6] In the NCP, EPA provides that "[a] private party response action will be considered 'consistent with the NCP' if the action, when evaluated as a whole, is in substantial compliance with [listed NCP requirements] and results in a CERCLA-quality cleanup[.]."[7] Private party response costs must be approved beforehand by EPA as consistent with the NCP.[8] Under the NCP, to be eligible to recover from the Fund, private parties must receive preauthorization prior to taking a response action.[9] This requirement extends beyond a private party's statutory potential liability.[10] EPA will consider preauthorization only for removal actions, § 104(b) activities, and remedial actions at NPL sites,[11] however, and will grant preauthorization to PRPs only in accordance with a § 106 order or a consent decree.[12] In order to receive prior approval, a private party must demonstrate the capability of responding properly to the release and establish that the action will comply with specified provisions of the revised NCP.[13] For these purposes, municipalities are considered agencies of the state and need not secure EPA's prior approval; their actions must only be "not inconsistent" with the NCP. They are also entitled to direct reimbursement for the services they provide—typically security and fire-fighting—in EPA cleanups.

Persons who, pursuant to a § 106(a) order, complete remedial action at a facility may seek reimbursement from the Superfund, of all or a part of their remedial expenditures, plus statutory interest pursuant to authority contained in § 106(b)(2).[14] Section 300.700 of the NCP does, however, set forth a list of NCP provisions that EPA believes are "potentially applicable" to all private party response actions,[15] and cautions private parties that they should provide an opportunity for public comment

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[6]*See* CERCLA § 107(a)(4)(A), 42 U.S.C.A. § 9607(a)(4)(A), *see* Versatile Metals, Inc. v. Union Corp., 693 F. Supp. 1563, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20473 (E.D. Pa. 1988); United States v. Ne. Pharm. & Chem. Co. (NEPACCO), 810 F.2d 726, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20603 (8th Cir. 1986), cert. denied, 484 U.S. 848 (1987); United States v. Northernaire Plating Co., 685 F. Supp. 1410, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21338 (W.D. Mich. 1988).

[7]*See* 40 C.F.R. § 300.700(c)(3).

[8]CERCLA § 107(a)(4)(B), 42 U.S.C.A. § 9607(a)(4)(B); *see* Martin, Way & Green, "Private Cost-Recovery Actions Under CERCLA § 307," 1 Envtl. Claims J. 377 (1989).

[9]40 C.F.R. § 300.700(d)(2).

[10]In Atlantic Richfield Company v. Christian, 140 S. Ct. 1335, 206 L. Ed. 2d 516 (2020), the Supreme Court determined that the landowners are PRPs, even after the six-year statute of limitations had passed. ("A property owner can be a potentially responsible party even if he is no longer subject to suit in court. As we have said, '[E]ven parties not responsible for contamination may fall within the broad definitions of PRPs. . . .' ') *Id*. at 14.

[11]40 C.F.R. § 300.700(d)(3).

[12]40 C.F.R. § 300.700(d)(5). This provision implements § 122(e)(6) of the 1986 amendments, which prohibits a PRP from undertaking without preauthorization any remedial action at a facility at which EPA, or a PRP pursuant to an administrative order or consent decree, has commenced an RI/FS.

[13]40 C.F.R. § 300.700(d)(4). Those provisions include compliance with worker health and safety, documentation, ARAR, site evaluation, permit, RI/FS, remedial design/remedial action, and public participation requirements. *See* 40 C.F.R. § 300.700(c)(5)-(8). EPA must certify that the costs were necessary and consistent with the preauthorization decision document in order for the claimant to recover under Section 111. 40 C.F.R. § 300.700(d)(8).

[14]The provision was added by § 106 of Pub. L. No. 99-499, 100 Stat. at 1628. The interest rate, as in other CERCLA interest payments, is the same as the rate specified for investment of the Superfund, under Chapter 98 of the Internal Revenue Code.

[15]40 C.F.R. § 300.700(c)(5) provides: The following provisions are potentially applicable to private party's response actions:

(i) Section 300.150 (on worker health and safety);

(ii) Section 300.160 (on documentation and cost recovery);

(iii) Section 300.400(c)(1), (4), (5), and (7) (on determining the need for a Fund-financed action); (e) (on permit requirements) except that the permit waiver does not apply to private party

on the selection of the response action.[16] In one of the more significant and potentially controversial 1990 modifications to the NCP, EPA also offers a substantive standard against which consistency is to be measured in § 107(a)(4)(B) private cost recovery actions, stating that a private party response action will be considered "consistent with the NCP" if the action, "when evaluated as a whole," is in "substantial compliance" with the applicable requirements specified in the regulation and results in a "CERCLA-quality cleanup."[17] Moreover, the regulations now provide that neither federal nor private cost recovery actions will be defeated by "immaterial or insubstantial deviations" from the NCP.[18] EPA contends in the preamble to the provisions that the decision to define a substantial compliance standard for private party cost recovery actions is within its discretion, and that the standard adopted will further EPA's interests in promoting CERCLA-quality cleanups and encouraging private party cleanups by removing unnecessary obstacles to private party recoveries from responsible parties.[19] It remains to be seen whether the courts will feel bound by EPA's pronouncements,[20] however, and the wiser course for the present may be compliance with the full set of requirements identified by the Agency as potentially relevant to private actions.[21]

In order to recover, the claimant must be able to demonstrate by a preponderance of the evidence either that she or he is not a potentially responsible party under § 107,[22] or that ROD he was required to implement by the order was, on the basis of its administrative record, arbitrary and capricious or was not otherwise in accordance with law.[23] The first class of claimant may recover only costs that are reasonable in light of the requirements of the order. The second may recover only such

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response actions; and (g) (on identification of ARARs) except that applicable requirements of federal or state law may not be waived by a private party;

(iv) Section 300.405(b), (c), and (d) (on reports of releases to the NRC);

(v) Section 300.410 (on removal site evaluation) except paragraphs (e)(5) and (6);

(vi) Section 300.415 (on removal actions) except paragraphs (a)(2), (b)(2)(vii), (b)(5), and (f); and including § 300.415(i) with regard to meeting ARARs where practicable except that private party removal actions must always comply with the requirements of applicable law;

(vii) Section 300.420 (on remedial site evaluation);

(viii) Section 300.430 (on RI/FS and selection of remedy) except paragraph (f)(1)(ii)(C)(6) and that applicable requirements of federal or state law may not be waived by a private party; and

(ix) Section 300.435 (on RD/RA and operation and maintenance).

Section 300.700(b)(7) also provides that when selecting the appropriate remedial action, the methods of remedying release listed in Appendix D of Part 300 might also be appropriate to a private party response action.

[16]40 C.F.R. § 300.700(c)(6).

[17]40 C.F.R. § 300.700(c)(3)(i). A "CERCLA-quality cleanup" is defined in the preamble as a cleanup that satisfies the three basic remedy selection requirements of § 121(b)(i)—that the remedial action must be protective of human health and the environment, utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and be cost effective—and that attains ARARs and provides for meaningful public participation. *See* 55 Fed. Reg. 8666, 8793 (Mar. 8, 1990). EPA has revised its policy linking deletion from the NPL with the requirement under § 121(c) that remedial sites be reviewed five years after initiation of a cleanup. Sites on the NPL that are otherwise eligible to be deleted but remain on the list solely because they await the five-year review will now be removed. 56 Fed. Reg. 66601 (Dec. 24, 1991).

[18]40 C.F.R. § 300.700(c)(4).

[19]55 Fed. Reg. 8666, 8793 (Mar. 8, 1990).

[20]*See, e.g.*, County Line Inv. Co. v. Tinney, 933 F.2d 1508 (10th Cir. 1991).

[21]*See* 40 C.F.R. § 300.700(c)(5)-(7).

[22]Such claimants will likely be limited, as a practical matter, to innocent good faith purchasers of the property or adjacent property owners who volunteered to clean up the site.

[23]CERCLA § 106(b)(2)(D), 42 U.S.C.A. § 9606(b)(2)(D).

costs to the extent that her or his expenditures exceed those costs that would have been incurred under an ROD for the facility that was not arbitrary and capricious.

The statute creates a cause of action in the federal district courts for a § 106(b)(2) claimant whose claim has been rejected by the Fund manager. Costs and fees may be sought under 28 U.S.C.A. §§ 2712(a) and (d).

§ 14:124 Cleanup at RCRA facilities

RCRA requires owners and operators of hazardous waste management facilities and underground storage tanks to clean up contamination at their facilities and, in some cases, contamination beyond facility boundaries.[1]

§ 14:125 Cleanup at RCRA facilities—Hazardous waste management facilities

Under RCRA § 7003, EPA retains general authority to require abatement of imminent hazards at active or abandoned solid waste facilities.[1] While some older litigation continues to generate opinions, the Agency rarely relies on this authority since RCRA now provides more easily manageable administrative procedures for requiring cleanup at active sites, while CERCLA supplies more authority for responding to abandoned sites.[2] Section 7003 still has some theoretical utility in any case where solid wastes, but not hazardous substances, are the source of a threat and EPA wishes to conserve scarce CERCLA funds which cannot be recovered in such a case.[3]

EPA has published regulations which set the threshold for cleanup at hazardous waste management facilities.[4] Generally speaking, any statistically significant increase in groundwater contamination by a long list of designated pollutants, or any hazardous waste managed at the site, will trigger cleanup.[5] Once required, cleanup must continue until background levels of contamination are restored.[6] Where local conditions make complete restoration impractical, EPA may set alternate groundwater quality standards, called ACLs which are incorporated into the facility permit.[7]

Owners and operators of land disposal facilities, and some storage facilities which are classified as "disposal" facilities for this purpose, must take corrective actions even beyond their facility boundaries where necessary to protect human health and

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[Section 14:124]

[1]*See* 40 C.F.R. Part 264, Subpart F; RCRA § 9003, 42 U.S.C.A. § 6991b; *and* RCRA § 3004(c), 42 U.S.C.A. § 6924(c).

[Section 14:125]

[1]RCRA § 7003, 42 U.S.C.A. § 6973; *see* Stever, *Law of Chemical Regulation and Hazardous Waste* Ch 6; *see* § 14:127.

[2]In Colorado v. U.S. Dep't of the Army, 707 F. Supp. 1562, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20815 (D. Colo. 1989), the court held that a CERCLA cleanup of an entire federal facility does not preempt a state RCRA enforcement action directed toward the only portion of the site not listed on the NPL.

[3]RCRA § 7003, 42 U.S.C.A. § 6973, applies generally to "solid wastes," not only hazardous wastes and hazardous substances which are the only basis for injunctions or recovery of response costs under CERCLA. The range of hazardous substances is so broad, however, that the authority is rarely needed.

[4]*See* 40 C.F.R. Part 264 Subpart F; 55 Fed. Reg. 30798 (July 27, 1990) (proposing major substantive changes in EPA's corrective action program); 64 Fed. Reg. 54604 (Oct. 7, 1999) (withdrawing proposed changes).

[5]*See* § 14:57.

[6]*See* § 14:57.

[7]*See* § 14:57.

the environment unless, after making best efforts, the owner or operator cannot obtain permission to take such action.[8]

These requirements for cleanup are also to be incorporated in facility permits, discussed above.[9]

§ 14:126 Cleanup at RCRA facilities—Underground storage tanks

In 1988, EPA replaced its interim UST regulations with final regulations that contain corrective action requirements.[1] These provisions are discussed in § 14:78.

State plans for regulating USTs must contain provisions requiring owners and operators of USTs to maintain leak-detection systems and to take corrective action when contamination is found.[2] EPA must administer programs directly until states submit approvable plans.[3] Beginning in December 1986, a miniature version of Superfund, the LUST Fund, was established to allow EPA or state cleanup of petroleum leaks from buried tanks, where owners or operators were not available, were unwilling, or unable to perform the cleanup. Unlike Superfund, the LUST cleanup program may be administered by states under cooperative agreements with EPA.[4]

VI. ENFORCEMENT AND LIABILITY*

§ 14:127 RCRA enforcement

The RCRA enforcement scheme involves five separate components, three of which are related. First, the RCRA permit program is the cornerstone of the Act's enforcement structure.[1] Related to the permit program are the basic compulsory information gathering provisions[2] and the Subtitle C administrative and judicial enforcement provisions,[3] including a citizen suit provision.[4]

The RCRA imminent hazard provision, § 7003,[5] and a complementing compulsory information gathering provision[6] is functionally separate from the regulatory enforcement provisions, and is actually more closely linked to the imminent hazard provision of CERCLA.[7]

The fifth RCRA enforcement element involves administrative authority to order

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[8]RCRA § 3004(u), 42 U.S.C.A. § 6924(u); *see* 55 Fed. Reg. 30798 (July 27, 1990).

[9]*See* § 14:44.

[Section 14:126]

[1]40 C.F.R. Part 280, Subparts A to G (1988); 53 Fed. Reg. 37082 (Sept. 23, 1988).

[2]*See* RCRA § 9004(a)(4), 42 U.S.C.A. § 6991c(a)(4).

[3]*See* RCRA § 9004, 42 U.S.C.A. § 6991c.

[4]*See* § 14:80.

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[Section 14:127]

[1]*See generally* § 14:44.

[2]RCRA § 3007, 42 U.S.C.A. § 6927.

[3]RCRA § 3008, 42 U.S.C.A. § 6928.

[4]RCRA § 7002, 42 U.S.C.A. § 6972; *see also* Hallstrom v. Tillamook County, 493 U.S. 20, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (1989) (sixty-day notice provision in § 7002(b) is jurisdictional), reh'g denied, 493 U.S. 1037 (1990).

[5]RCRA § 7003, 42 U.S.C.A. § 6973, is discussed jointly with CERCLA § 106, 42 U.S.C.A. § 9606.

[6]RCRA § 3013, 42 U.S.C.A. § 6934.

[7]CERCLA § 106(a), 42 U.S.C.A. § 9606(a).

site remediation at RCRA-regulated sites, added to the statute in 1984 by Pub. L. No. 98-616.[8]

The UST program, created by Pub. L. No. 96-616, and contained within Subtitle I of RCRA, has its own self-contained enforcement scheme.[9]

§ 14:128 RCRA enforcement—Information gathering

Section 3007 provides the EPA with broad, albeit not unlimited, authority to secure information from persons subject to regulation under Subtitle C and from a limited class of persons not subject to Subtitle C regulation.[1] Information demands under § 3007(a) may be initiated by EPA or state agency personnel or their "representatives."[2]

The statute authorizes formal, written demands for information relating to the recipient's hazardous waste-related activities, access to the recipient's premises for the purpose of inspecting and copying records,[3] and forced entry into the site for inspection and to "obtain samples from any person" of wastes, containers, and labels.[4] EPA most frequently has employed § 3007's authority to compel regulated entities to disgorge written information by sending written information requests to the targets, which are framed somewhat like interrogatories in civil litigation.

EPA may use information derived through § 3007 for the purpose of developing Subtitle C regulations or policies, or for RCRA civil or administrative enforcement purposes.[5]

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[8]RCRA § 3004(t)-(u), 42 U.S.C.A. § 6924(t)-(u) (corrective action orders); RCRA § 3008(h), 42 U.S.C.A. § 6928(h) (interim status corrective action).

[9]*See generally* § 14:80. The LUST provisions were amended in 1986 by § 205 of the SARA, Pub. L. No. 99-499, 100 Stat. 1613. These amendments established a trust fund to provide resources for cleaning up contaminated groundwater and established a corrective action enforcement and recoupment scheme for petroleum tank leaks.

[Section 14:128]

[1]The statute authorizes EPA to compel information from any person who "has handled" hazardous waste. The past tense language, added by Pub. L. No. 96-482, 94 Stat. 2334 (1980), appears to encompass inadvertent waste handlers and people who actually handled hazardous waste in the past, although it does not appear broad enough to cover past site owners who did not actively engage in hazardous waste-related activity. *Cf.* RCRA § 3013(b), 42 U.S.C.A. § 6934(b), which contains specific language relating to previous owners and operators.

[2]The phrase "representatives" was added by Pub. L. No. 96-482, 94 Stat. 2334 (1980) to overcome ambiguity in the previous language as to whether it encompassed contract enforcement personnel. Information considered confidential by the recipient of a § 3007 demand must be declared as such by the person seeking to protect it. If properly so declared under EPA's confidentiality regulations, such information is protected from unauthorized disclosure by § 3007(b), and is subject to protection under 18 U.S.C.A. § 1905.

[3]The NCP provides for EPA to designate PRPs, as well as other third parties, as its representative for the purpose of access, and to exercise its § 104(e) authority to obtain access for them, but limits this authority in the case of PRPs to parties who have agreed to conduct response activities pursuant to an administrative order or consent decree. 40 C.F.R. § 300.400(d)(3).

[4]Nonconsensual entry requires a search warrant. Marshall v. Barlows, Inc., 436 U.S. 307, 8 Envtl. L. Rep. (Envtl. L. Inst.) 20434 (1978). *But cf.* Dow Chem. Co. v. United States, 476 U.S. 227, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20679 (1986) (holding that a warrant is not required by EPA to fly over an industrial facility and take photographs with sophisticated equipment). The language of the statute does not, moreover, clearly authorize the digging of soil, extraction of groundwater, and the like, since it seems to assume that the samples will be in the possession of the regulated entity. EPA does not read the provision so narrowly, however, and its reading has been upheld. *See* National-Standard Co. v. Adamkus, 881 F.2d 352, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21144 (7th Cir. 1989) (also holding that the Agency may inspect and sample for any hazardous waste within the RCRA scheme and may inspect even where a release has not occurred).

[5]Although EPA has tended to use RCRA § 3007, 42 U.S.C.A. § 6927, to gain information relevant

An interesting side issue concerns whether internal audits may be protected from mandated disclosure. Since 1993, several states have passed audit protection laws.[6] In response, EPA has issued guidance identifying principles that the Agency intends to use in judging whether an audit protection law interferes with a state's enforcement authority with respect to federally delegated programs under RCRA, the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act, and whether to delegate a new program or approve a modification to an existing program in a state with an audit protection law.[7] EPA has also stated that it will not request or use audit reports to initiate civil or criminal investigations.[8]

Section 3013 was added to the statute in 1980.[9] It authorizes EPA, but apparently not delegated states,[10] to order past or present site owners or operators to undertake "monitoring, testing, analysis and reporting" as the Agency deems reasonable to "ascertain the nature and extent" of the hazard posed by the site.[11] Prior to issuing such an order, the Agency official (ordinarily the Regional Administrator) is required

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to Superfund investigations, such use is arguably not authorized. One reported case in which the owner of a site subject to CERCLA activity challenged a RCRA § 3007 order held that the order was within EPA's authority, without discussing this issue. United States v. Liviola, 605 F. Supp. 96, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20452 (N.D. Ohio 1985). In that case, EPA had also sent the plaintiff an information demand under § 104(e) of CERCLA, 42 U.S.C.A. § 9604(e). *See also* United States v. Charles George Trucking Co., 642 F. Supp. 329, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20495 (D. Mass. 1986). EPA's need to use RCRA § 3007 for CERCLA purposes ended with the significant broadening of § 104(e) of CERCLA in the 1986 amendments to that statute.

The use of § 7003-derived information for criminal enforcement purposes is limited by constitutionally derived criminal procedure proscriptions. Although such information collected prior to the determination that a crime may have been committed may be used, subsequent use of § 7003 is probably limited to parallel civil or criminal investigations.

[6]*See, e.g.*, Colo. Rev. Stat. § 13.25–126.5; Ind. Code §§ 13-28-4-1 to 13-28-4-9; Ky. Rev. Stat. Ann. § 224.01-040; Or. Rev. Stat. § 468.963; Va. Code. Ann. § 10.1-1198; *see also* Reichhold Chems., Inc. v. Textron, Inc., 157 F.R.D. 522, 527, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20307, 20309 (N.D. Fla. 1994) (applying self-critical analysis privilege to "reports . . . prepared after the fact for the purpose of candid self-evaluation and analysis of the cause and effect of past pollution").

In addition, several states have passed legislation providing for immunity from penalties for violations discovered through environmental audits. *E.g.*, Colorado (Colo. Rev. Stat. §§ 13-25-126.5, 25-1-114.5); Kansas (Kan. Stat. Ann. § 60-3338); Kentucky (Ky. Rev. Stat. Ann. § 224.01-040); Michigan (Mich. Comp. Laws Ann. §§ 324.14801 to 324.14809); New Jersey (N.J. Stat. Ann. 13:1D-125 to 13:1D-130); Ohio (Ohio Rev. Code Ann. §§ 3745.70 to 3745.72); South Carolina (S.C. Code Ann. §§ 48-57-10 to 48-57-100); South Dakota (S.D. Codified Laws §§ 1-40-33 to 1-40-37); Utah (Utah Code Ann. §§ 19-7-101 to 19-7-109); Virginia (Va. Code Ann. §§ 10.1-1198 to 10.1-1199); Wyoming (Wyo. Stat. Ann. §§ 35-11-1105 to 35-11-1106).

[7]*See* Memorandum from Steven A. Herman et al. to EPA Regional Administrators, Statement of Principles: Effect of State Audit Immunity/Privilege Laws on Enforcement Authority for Federal Programs (Feb. 14, 1997). According to EPA, state audit protection laws must permit regulators to retain the information-gathering authority needed to carry out federal programs and should avoid making the privilege applicable to criminal investigations, grand jury proceedings, and prosecutions. Such laws must protect the public right to obtain information regarding noncompliance and reporting violations and to bring citizen suits for such violations. In addition, for EPA to delegate a federal environmental program in a state with a penalty-immunity statute, state regulators must have the ability to obtain immediate and complete injunctive relief against violators, regardless of whether the violators conduct environmental audits. States must also retain the ability to collect civil fines for significant economic benefit gained through violations, repeat violations, violations of judicial or administrative orders, serious harm, and actions that may pose an imminent and substantial danger to health or the environment.

[8]U.S. EPA, Final Policy Statement, Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 60 Fed. Reg. 66706, 66711 (Dec. 22, 1995); *see also* § 8:45.

[9]Pub. L. No. 96-482, 94 Stat. 2334 (1980).

[10]Specific language authorizing states to use RCRA § 3007 is lacking in RCRA § 3013. *Compare* 42 U.S.C.A. § 6927 *with* 42 U.S.C.A. § 6934.

[11]RCRA § 3013(a)-(b), 42 U.S.C.A. § 6934(a)-(b).

to make a formal finding that the presence or release of hazardous waste from the site or facility "where hazardous waste is, or has been, stored, treated or disposed of . . . may present a substantial hazard to human health or the environment."[12] This formal determination appears to be final Agency action that is reviewable by a federal district court; there is some judicial authority confirming this.[13]

Failure to comply with an order issued under § 3007 subjects the recipient to enforcement under § 3008. Section 3013, however, contains its own enforcement provision,[14] giving rise to an issue as to the applicability of § 3008 remedies to § 3013.

§ 14:129 RCRA enforcement—Civil and administrative enforcement

The majority of RCRA enforcement authority emanates from § 3008 of the statute, which is generally similar in its structure to the enforcement provisions of other federal environmental laws.

Section 3008(a) provides for both judicial and administrative enforcement of Subtitle C regulatory requirements.[1] To redress a violation of a Subtitle C requirement, EPA may issue a compliance order, which may in turn include levy of a penalty and/or suspension or revocation of a permit.[2] The Agency may also seek injunctive relief and civil penalties in an action brought in the district court.[3] Failure to comply with a compliance order makes the recipient liable for compound violations.[4] EPA is required to offer the recipient of a compliance order or administrative penalty an adjudicatory hearing within 30 days of service of the or-

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[12]RCRA § 3013(a), 42 U.S.C.A. § 6934(a). Arguably, the purpose of such a self-monitoring effort is limited to identifying what is at the site, the distribution of wastes in the soil and groundwater, the direction and rate of migration and other information relative to ascertaining human or environmental exposure. A § 3013 order requiring the site owner/operator to ascertain the source of the contaminants would appear not to be within EPA's authority.

[13]*See* DuPont v. Daggett, 610 F. Supp. 260 (W.D.N.Y. 1985) (opining that judicial review is available but denying review on the facts). Section 104(e) of CERCLA, 42 U.S.C.A. § 9604(e), is another information gathering provision. Review of § 104(e) orders has generally been denied. See discussion below.

[14]RCRA § 3013(e), 42 U.S.C.A. § 6934(e), authorizes a civil action initiated by EPA in the federal district court and judicially imposed civil penalties of up to $5000 per day for each day such failure or refusal occurs.

[Section 14:129]

[1]RCRA § 7003, 42 U.S.C.A. § 6973, the imminent and substantial endangerment provision, contains its own penalty provision, and is thus not governed by enforcement under § 3008, 42 U.S.C.A. § 6928.

[2]RCRA § 3008(a), (c), 42 U.S.C.A. § 6928(a), (c). The amount of any administratively levied penalty is that which EPA determines to be "reasonable" taking into account the seriousness of the violation and good faith efforts to comply, and is probably upwardly bounded by § 3008(g)'s $25,000 per day limit. 42 U.S.C.A. § 6928(g). EPA sets penalty amounts by means of its formal RCRA penalty policy, which it adopted as non-rulemaking guidance in 1984. *See* United States v. Vineland Chem. Co., 931 F.2d 52, 33 ERC (BNA) 1316 (3d Cir. 1991).

A penalty levy is not dependent upon the issuance of a compliance order, and penalties may be levied in the absence of a showing of willfulness. *See* United States v. Liviola, 605 F. Supp. 96, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20452 (N.D. Ohio 1985).

For EPA's permit suspension policies and procedures, see generally 40 C.F.R. Part 270, Subpart D.

[3]RCRA § 3008(a), (g), 42 U.S.C.A. § 6928(a), (g). EPA is represented by the Environmental Enforcement Section of the Land and Natural Resources Division in the Department of Justice in its RCRA enforcement litigation.

[4]*See* RCRA § 3008(a)(3), 42 U.S.C.A. § 6928(a)(3).

der or levy.[5]

Relatively little civil enforcement of Subtitle C requirements occurred between 1980, when EPA really started the RCRA program, and 1984, when Congress amended the statute significantly.[6] In the 1984 amendments, Congress required EPA to conduct mandatory biannual inspections of TSD facilities.[7] Congress also required compulsory termination of land disposal facilities on November 8, 1985, that had not filed a Part B permit application and certified compliance with the applicable Part 265 groundwater monitoring and financial responsibility requirements, as modified by several provisions of the new amendments.[8]

The amendments also added § 3008(h), specifically authorizing EPA to order corrective remedial action at interim status sites where a release of hazardous waste into the environment has occurred,[9] and § 3004(u), requiring permits to require clean-up of "all releases of hazardous waste *or constituents* from any solid waste management unit . . . regardless of time at which waste was placed in such unit."[10]

Finally, § 3004(v) legislatively overruled EPA's previous practice of requiring corrective action by permitted facilities only within the facility boundary, requiring corrective action to extend to offsite areas in the absence of a showing of impossibility.[11] Sections 3004(u) and (v) are enforced primarily through the Part 270 permit process, and the ordinary § 3008 enforcement scheme. Section 3008(h) is a separate order-issuing authority that does not contain an explicit hearing requirement, and EPA determined that the adjudicatory hearing provisions of Part 22 were inapplicable to it. The Agency promulgated separate hearing rules in 1988.[12] Section 3008(h) contains its own administrative penalty authority.[13]

EPA's enforcement scheme is largely irrelevant in states that have taken delegation of the RCRA program. Section 3006 requires that state programs be "adequate," and that, in general, state programs be "equivalent" to the EPA program.[14] State enforcement programs delegated under this scheme demonstrate a divergence

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[5]RCRA § 3008(b), 42 U.S.C.A. § 6928(b). EPA's hearing procedures are set forth in 40 C.F.R. Part 22. The constitutionality of the § 3008 penalty provisions has been unsuccessfully challenged. United States v. Vineland Chem. Co., 692 F. Supp. 415, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20160 (D.N.J. 1988).

[6]There were, of course, a number of § 7003 cases, which are discussed in § 14:134.

[7]*See* RCRA § 3007(e), 42 U.S.C.A. § 6927(e) (version in force 1984). The mandatory inspection requirement does not apply to states that have been given authority to operate the RCRA program.

[8]RCRA § 3005(e), 42 U.S.C.A. § 6925(e); *see* §§ 14:54 and 14:56.

[9]EPA's guidance on § 3008(h), 42 U.S.C.A. § 6928(h), stated that it applied as well to hazardous constituents as well as identified and listed hazardous wastes, except for releases from underground storage tanks, which are separately regulated. The Agency also interpreted the provision as being applicable to *solid* waste management units as well as hazardous waste cells at facilities handling both solid and hazardous waste, and to apply to all illegal interim status facilities as well as lawfully operating ones. Finally, EPA took the position that § 3008(h) can be used to address all releases, not just those stemming from violations of RCRA. EPA v. Envtl. Waste Control, Inc., 917 F.2d 327, 21 Envtl. L. Rep. (Envtl. L. Inst.) 20007 (7th Cir. 1990), cert. denied, 499 U.S. 975 (1991).

[10]Inclusion of "constituents" within the statutory language makes such actions applicable to breakdown or reaction products of hazardous wastes. The phrase "solid waste management unit" was construed by EPA in its December 1985 guidance document to limit § 3004(u), 42 U.S.C.A. § 6924(u), permit-imposed remedial requirements only to releases from units that are subject to RCRA regulation, and not to releases from units that had been closed prior to the onset of RCRA regulation.

[11]42 U.S.C.A. § 6924(v). Refusal of offsite landowners to give permission to the permittee to enter their land is the sole basis for exception.

[12]53 Fed. Reg. 12256 (Apr. 13, 1988). Generally these procedures are less formal than those for the full adjudicatory hearings previously required by 40 C.F.R. Part 22. The new regulations were upheld in Chem. Waste Mgmt., Inc. v. EPA, 869 F.2d 1526, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20641 (D.C. Cir. 1989).

[13]RCRA § 3008(h)(2), 42 U.S.C.A. § 6928(h)(2) (up to $25,000 per day of noncompliance).

[14]The Eighth Circuit has held that generally EPA does not have the authority to enforce state

in enforcement procedures and sanctions among the states.

§ 14:130 RCRA enforcement—Citizen enforcement

Section 7002 of RCRA allows any "person" to commence a civil action in a federal district court on his own behalf against any other person,[1] including the United States or any other governmental entity,[2] who is alleged to be in violation of any requirement or prohibition under the Act.[3] A citizen suit must allege continuing violations.[4] Suits against EPA are authorized to compel the performance of nondiscretionary actions.

There is a 60-day prior notice requirement,[5] which the Supreme Court held is a mandatory precondition to suit.[6] District courts that have considered the requisite specificity of citizen suit notices have held that such notices need only be sufficiently specific to permit the violator and the government to identify the violations complained of, and that citation to specific regulations is not required.[7]

Citizen suits are barred if the United States has commenced and is diligently

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requirements. However, EPA can initiate an enforcement action if EPA (1) determines that the state's enforcement action is inadequate and provides the state with a written notice to that effect; or (2) withdraws its authorization after providing the state with an opportunity to correct the deficiency. *See* Harmon Indus., Inc. v. Browner, 191 F.3d 894, 29 Envtl. L. Rep. (Envtl. L. Inst.) 21412 (8th Cir. 1999). *Contra* United States v. Power Eng'g Co., 125 F. Supp.2d 1050, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20335 (D. Colo. 2000) (holding that the EPA has the authority to bring an enforcement action against a company under RCRA even if the state has already initiated an action for the same violations). EPA has developed "model language" that may be incorporated into state RCRA programs, which indicates that EPA retains the right to take enforcement actions regardless whether the state takes its own action. However, states subject to the jurisdiction of the Eighth Circuit may not use the model language in their RCRA programs.

[Section 14:130]

[1]Venue lies in the district where the alleged violation or endangerment may occur. RCRA § 7002(a)(2), 42 U.S.C.A. § 6972(a)(2).

[2]This is subject to constraints of U.S. Const. amend. XI, which limits suits against states.

[3]The "prohibition" language was added in 1984 by Pub. L. No. 98-616, 98 Stat. 3221, in part to clearly authorize citizen imminent hazard suits under § 7003.

[4]Ascon Props., Inc. v. Mobil Oil Co., 866 F.2d 1149, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20374 (9th Cir. 1989) (adopting the holding regarding citizen suits under the Clean Water Act in Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc., 484 U.S. 49, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20142 (1987)); *see also* Dydio v. Hesston Corp., 887 F. Supp. 1037, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20312 (N.D. Ill. 1995); Singer v. Bulk Petroleum Corp., 9 F. Supp. 2d 916 (N.D. Ill. 1998) (permitting a suit under § 6972(a)(1)(B) against a former tenant to proceed on the basis of "imminent and substantial endangerment" even though some courts have limited RCRA liability, in other instances, to current operators).

[5]*See* RCRA § 7002(b)(1), 42 U.S.C.A. § 6972(b)(1). For citizen imminent and substantial endangerment actions, the waiting period is 90 days unless a Subtitle C violation is also alleged. RCRA § 7002(b)(2), 42 U.S.C.A. § 6972(b)(2).

[6]Hallstrom v. Tillamook County, 493 U.S. 20, 110 S. Ct. 304, 107 L. Ed. 2d 237, 20 Envtl. L. Rep. 20193 (1989). Subsequent cases have treated the notice requirement as jurisdictional. *See, e.g.*, Garcia v. Cecos Intern., Inc., 761 F.2d 76, 82, 15 Envtl. L. Rep. 20528 (1st Cir. 1985); Natural Res. Def. Council v. Sw. Marine, Inc., 236 F.3d 985, 995, 31 Envtl. L. Rep. 20329 (9th Cir. 2000); *see* Coplan, Is Citizen Suit Notice Jurisdictional and Why Does it Matter?, 10 Widener L. Symp. J. 49 (2003). *see also* Aiello v. Town of Brookhaven, 136 F. Supp.2d 81 (E.D.N.Y. 2001) (holding that a citizen suit that involved allegations regarding violations of subchapter III of RCRA were sufficient to bring the entire complaint under the exception to RCRA's delay requirement, even if the hazards found to present no imminent and substantial endangerment).

[7]Fishel v. Westinghouse Elec. Corp., 617 F. Supp. 1531, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20001 (M.D. Pa. 1985); *see also* Williams v. Allied Automotive, 704 F. Supp. 782, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20689 (N.D. Ohio 1988).

prosecuting a civil or criminal enforcement action in court.[8] An enforcement action pursuant to state law, however, is not a bar to a RCRA citizen suit.[9] Citizens may obtain injunctive relief[10] and, since the 1984 amendments, civil penalty awards, along with costs and expert witness or attorney fees.[11] In order to obtain attorney's fees, the private plaintiff must be pursuing some public benefit, rather than a purely private remedy.[12] Recovery of monetary damages, however, is generally not permitted.[13] Government agencies, such as EPA, can also utilize RCRA's citizen suit provision.[14]

The citizen suit provision applies in states authorized to implement RCRA.[15] In other words, a citizen suit can be brought based on the state law implementing RCRA.[16] However, a plaintiff cannot assert a federal cause of action under state law

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[8]42 U.S.C.A. § 6972(b)(2)(B). Citizens have a right of permissive intervention in government Subtitle C enforcement actions pending in federal courts. For a brief period, between the adoption date of the 1984 amendments and the date of enactment of the 1986 SARA amendments to CERCLA, which contain a curative provision (§ 113(i)), there was apparently no right of citizen intervention in RCRA § 7003 actions. *Compare* RCRA § 7002(b)(1), 42 U.S.C.A. § 6972(b)(1) (version in force 1984) *with* RCRA § 7002(b)(2), 42 U.S.C.A. § 6972(b)(2) (version in force 1984). Presently, the right of intervention is applicable to all government-initiated RCRA litigation. Historically, courts have held that administrative enforcement actions do not qualify as "diligent prosecution" and, therefore, do not bar citizen suits. *See* Morris v. Primetime Stores of Kansas, Inc., No. 95-1328-JTM, 43 ERC (BNA) 1762, 1996 WL 563845 (D. Kan. Sept. 5, 1996); City of Toledo v. Beazer Materials & Servs., Inc., 833 F. Supp. 646 (N.D. Ohio 1993); Lykins v. Westinghouse Elec. Corp., 715 F. Supp. 1357 (E.D. Ky. 1989). Section 7002, 42 U.S.C.A. § 6972(b)(2)(B) (version in force in 2011), provides a limited bar to citizen suit prosecution for administrative enforcement actions under CERCLA section 106, 42 U.S.C.A. § 9606, or RCRA section 7003, 42 U.S.C.A. § 6973, pursuant to which a responsible party is diligently conducting a removal action, RI/FS, or proceeding with a remedial action.

[9]Murray v. Bath Iron Works Corp., 867 F. Supp. 33, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20547 (D. Me. 1994).

[10]RCRA § 7002(a)(2), (e), 42 U.S.C.A. § 6972(a)(2), (e). There are two statutory limitations. Citizens may not seek to enjoin the siting of a new TSD facility nor enjoin the issuance of a permit. RCRA § 7002(b)(2)(D), 42 U.S.C.A. § 6972(b)(2)(D). Suits to enjoin railroads are limited to suits alleging negligence. RCRA § 7002(g), 42 U.S.C.A. § 6972(g). There are also specific limitations on citizen imminent and substantial endangerment actions, which are discussed below. Citizens may obtain injunctions requiring the defendant to participate in monitoring and investigating the contamination that is the subject of the suit. *See* Lincoln Props., Ltd. v. Higgins, 23 Envtl. L. Rep. (Envtl. L. Inst.) 20665 (E.D. Cal. Jan. 21, 1993).

[11]RCRA § 7002(a)(2), (e), 42 U.S.C.A. § 6972(a)(2), (e). Only "prevailing or substantially prevailing" parties may be awarded attorney fees.

[12]Fallowfield Dev. Corp. v. Strunk, No. CIV. A. 89-8644, 1993 WL 157723, at *15–17 (E.D. Pa. May 11, 1993); *see also* Interfaith Community Organization v. Honeywell Intern., Inc., 726 F.3d 403, 76 Env't. Rep. Cas. (BNA) 2092, 85 Fed. R. Serv. 3d 1564 (3d Cir. 2013), as amended, (July 11, 2013) and as amended, (July 22, 2013) (addressing a multi-million dollar fee award and holding that offers of judgment under Federal Rule of Civil Procedure 68 are applicable to RCRA citizen suits).

[13]The Supreme Court has held that § 7002 does not authorize a private cause of action to recover prior costs of cleaning up waste that does not, at the time of suit, continue to pose an endangerment to health or the environment. Meghrig v. KFC Western, Inc., 516 U.S. 479, 116 S. Ct. 1251, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20820 (1996). For the purposes of § 7002, it does not matter whether the past cleanup costs are labeled as "damages" or "equitable restitution." *See also* Furrer v. Brown, 62 F.3d 1092 (8th Cir. 1995) (holding that RCRA's citizen suit provision does not contain a private right of action for response costs), cert. denied, 116 S. Ct. 1567 (1996); Avondale Fed. Savings Bank v. Amoco Oil Co., 997 F. Supp. 1073 (N.D. Ill. 1998) (a party cannot recover remediation costs under the RCRA citizen suit provision), aff'd, 170 F.3d 692 (7th Cir. 1999).

[14]El Paso Natural Gas Co. v. U.S., 750 F.3d 863, 78 Env't. Rep. Cas. (BNA) 1281 (D.C. Cir. 2014) (governmental agencies can bring citizen suit because definition of "person" includes governmental agencies).

[15]*See* § 14:45.

[16]Lutz v. Chromatex, Inc., 725 F. Supp. 258, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20345 (M.D. Pa.

in a RCRA-authorized state.[17]

One significant difference between RCRA and the Clean Water Act program, where a great deal of citizen suit activity has occurred in recent years,[18] is the degree of self-monitoring and reporting required. Unless EPA significantly increases the self-monitoring and reporting obligations under Parts 264 and 270, citizen suits will necessarily involve hands-on surveillance and proof, an element lacking in Clean Water Act enforcement due to the pervasive requirement of discharge monitoring reporting by water polluters.[19] Section 7002 also provides for prohibitions on ocean dumping of solid and hazardous waste in Part 4005.

§ 14:131 RCRA enforcement—Criminal liability and enforcement

Sections 3008(d) and 3008(e) of RCRA contain the statute's criminal liability provisions. The first of these contains a list of six substantive criminal violations that are tailored to specific regulated conduct. Application of the § 3008(d) scienter requirement is continuing to evolve. In *United States v. Hoflin*,[1] the Ninth Circuit upheld a conviction for illegal disposal of hazardous waste, even in the absence of proof that the defendant knew he did not have the required RCRA permit. The court reasoned that because RCRA violators without permits pose a potentially greater threat to public health than those who attempt to comply with RCRA requirements, proof only of knowledge of the hazardous nature of the waste in illegal disposal cases is consistent with congressional intent.[2] However, the Ninth Circuit subsequently refused to follow *Hoflin*. In *United States v. Speach*,[3] the court held that a federal jury had improperly convicted a company president of knowingly transporting hazardous waste to an unpermitted facility even though the individual claimed that he did not know the facility lacked a permit. Unlike *Hoflin*, *Speach* stressed that knowledge is an essential element. Section 3008(e) is a "knowing endangerment" provision that, as applied via some scienter rules set forth in § 3008(f), imposes heavier penalties for the types of conduct it covers.

Criminal defendants have questioned federal jurisdiction to enforce RCRA violations when EPA has approved state hazardous waste programs. In California, defendants charged with the unauthorized treatment and storage of hazardous wastes moved to dismiss the indictment because EPA authorized the state to undertake its own hazardous waste program. They contended that as a result, the RCRA criminal penalty provisions could not apply and the Department of Justice's

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1989).

[17]Williamsburgh Around the Block Ass'n v. Jorling, 30 ERC (BNA) 1188 (N.D.N.Y. 1989).

[18]*See* Babich & Hensen, Opportunities for Environmental Enforcement and Cost Recovery by Local Governments and Citizen Organizations, 18 Envtl. L. Rep. (Envtl. L. Inst.) 10165 (Aug. 1988).

[19]Citizen suits have targeted both permitted facilities and generators. *See, e.g.*, Environmental Defense Fund, Inc. v. City of Chicago, 727 F. Supp. 419, 30 Env't. Rep. Cas. (BNA) 1624, 20 Envtl. L. Rep. 20375 (N.D. Ill. 1989); Environmental Defense Fund, Inc. v. Wheelabrator Technologies Inc., 725 F. Supp. 758, 30 Env't. Rep. Cas. (BNA) 1609, 20 Envtl. L. Rep. 20326 (S.D. N.Y. 1989). These were suits to determine whether municipal solid waste incinerator ash that exceeds EP toxicity limits defining a hazardous waste is within the scope of the § 3001(i) exclusion added by HSWA. *See* City of Chicago v. Envtl. Def. Fund, 511 U.S. 328, 114 S. Ct. 1588, 128 L. Ed. 2d 302, 24 Envtl. L. Rep. 20810 (1994), for a resolution of this issue.

[Section 14:131]

[1]United States v. Hoflin, 880 F.2d 1033, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21140 (9th Cir. 1989), cert. denied, 493 U.S. 1083 (1990).

[2]*See also* United States v. Laughlin, 10 F.3d 961, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20221 (2d Cir. 1993), cert. denied, 114 S. Ct. 1649 (1994); United States v. Wagner, 29 F.3d 264, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21353 (7th Cir. 1994).

[3]United States v. Speach, 968 F.2d 795, 22 Envtl. L. Rep. (Envtl. L. Inst.) 21498 (9th Cir. 1992).

enforcement authority effectively diminished. The District Court disagreed and held that this authority did not narrow the scope of federal enforcement under RCRA.[4]

§ 14:132 RCRA enforcement—Criminal liability and enforcement—Regulatory offenses

All of the RCRA regulatory offenses involved *knowing* conduct. The degree of proof required to satisfy the scienter requirement varies with the circumstances. Although the government must prove that the defendant "knew" each fact constituting an element of the offense, in many RCRA-regulated scenarios the requisite degree of knowledge may be imputed to individual defendants by virtue of their employment in such a closely regulated industry,[1] or by virtue of their managerial responsibilities within a corporation.[2]

One faces criminal responsibility for knowingly transporting or causing the transportation of regulated waste to a facility not authorized to treat, store, or dispose of it,[3] if one knowingly treats, stores, or disposes of regulated waste without a permit or in "knowing violation of" any material condition of a permit or interim status regulation or standard,[4] or knowingly dumps any RCRA-regulated waste into the ocean without a permit under the Marine Protection Research and Sanctuaries Act.[5]

The statute also imposes criminal responsibility for knowing violations of the information and paper trail requirements.[6] Thus, one is subject to criminal penalties for knowingly making false material statements or representations, or omitting material information in documents filed, maintained or used for the purpose of comply-

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[4]United States v. Flanagan, 126 F. Supp. 2d 1284 (C.D. Cal. 2000).

[Section 14:132]

[1]*See* United States v. Johnson & Towers, Inc., 741 F.2d 662, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20634 (3d Cir. 1984) (holding that yard employees might be imputed with knowledge that corporate employer needed a RCRA permit to store and dispose of hazardous waste). *Accord* United States v. Hayes Int'l Corp., 786 F.2d 1499, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20717 (11th Cir. 1986); *see also* United States v. Greer, 850 F.2d 1447, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21387 (11th Cir. 1988) (reversing lower court judgment setting aside criminal conviction, finding sufficient evidence of knowing disposal of hazardous waste), reh'g denied, 860 F.2d 1092 (11th Cir. 1988) (en banc); United States v. Kelly, 167 F.3d 1176 (7th Cir. 1999) (affirming conviction of a company president because he knowingly allowed the transport of substances that he knew fit within the definition of hazardous waste).

[2]*See* United States v. MacDonald & Watson Waste Oil Co., 933 F.2d 35, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21449 (1st Cir. 1991) (holding that a jury can infer knowledge based on circumstantial knowledge). *But see* United States v. White, 766 F. Supp. 873, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20050 (E.D. Wash. 1991) (holding that the government must show that a corporate officer has actual knowledge of the violations or aided and abetted the employees who committed the violations).

[3]The penalties for the following substantive violations are a maximum $50,000 per day fine and imprisonment of not more than five years, or both for the first offense, with a doubling of the sanctions for the second offense. RCRA § 3008(d), 42 U.S.C.A. § 6928(d). *See also* RCRA § 3008(d)(1), 42 U.S.C.A. § 6928(d)(1). United States v. Cunningham, 194 F.3d 1186 (11th Cir. 1999) (affirming a 56-month prison sentence for a company salesman who conspired to illegally dispose of hazardous substances, and who transported and disposed of hazardous substances), cert. denied, 531 U.S. 831 (2000).

[4]RCRA § 3008(d)(2)(A)-(C), 42 U.S.C.A. § 6928(d)(2)(A)-(C); Southern Union Co. v. U.S., 132 S. Ct. 2344, 183 L. Ed. 2d 318, 74 Env't. Rep. Cas. (BNA) 1609 (2012) (reversing and remanding $38.1 million fine based on 762 days of violation of RCRA for unlawfully storing liquid mercury without a permit because Sixth Amendment precedent required jury to decide the duration of the violation for purposes of criminal fines).

[5]Such conduct would also be a violation of the Marine Protection, Research, and Sanctuaries Act. *See generally* Ch. 13.

[6]The maximum penalties for the following violations are a fine of $50,000 per day plus imprisonment of not more than two years, or both, for the first offense, with a doubling of the sanctions for the second offense.

ing with EPA or state hazardous waste regulations,[7] if one knowingly conceals, destroys, alters, or fails to file any required document,[8] knowingly transports hazardous waste without a manifest,[9] or knowingly exports hazardous waste to a foreign country in violation of the RCRA export restrictions.[10]

§ 14:133 RCRA enforcement—Criminal liability and enforcement—Knowing endangerment

The knowing endangerment provision addresses the situation in which a transporter or TSD facility owner/operator commits a substantive § 3008(d) offense and "knows" at the time the offense is committed "that he thereby places another person in imminent danger of death or serious bodily injury."[1] One "knows" an existing circumstance if "he is aware or believes that the circumstance exists,"[2] and "knows" that a given result will follow his conduct if "he is aware or believes that his conduct is substantially certain to cause danger of death or serious bodily injury."[3]

Application of this statutory language to specific RCRA-related facts in the context of § 3008(e) prosecutions will be required to flesh out precisely what conduct will satisfy the rather complex scienter rules of § 3008(f). The statute provides, for example, that knowledge of facts may be imputed to an organization, but may not be imputed to an individual,[4] although "circumstantial evidence . . . including evidence that the defendant took affirmative steps to shield himself from relevant information" may be relied upon.[5] Although the statutory language appears to preclude a *Johnson & Towers*-type analysis from being employed in a knowing endangerment prosecution,[6] it is far from clear just what type of circumstances will serve to lighten the prosecution's burden. The Environmental Crimes unit of the Justice Department commenced its first knowing endangerment prosecution in 1985; the first conviction of a company under this provision was upheld by the Tenth Circuit in *United States v. Protex Industries*.[7]

§ 14:134 Liability for abatement of imminent hazard situations—Statutory provisions

Section 7003 of RCRA and § 106(a) of CERCLA, which contain similar, though not

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[7]RCRA § 3008(d)(3), 42 U.S.C.A. § 6928(d)(3).

[8]RCRA § 3008(d)(4), 42 U.S.C.A. § 6928(d)(4).

[9]RCRA § 3008(d)(5), 42 U.S.C.A. § 6928(d)(5).

[10]RCRA § 3008(d)(6), 42 U.S.C.A. § 6928(d)(6).

[Section 14:133]

[1]United States v. Elias, No. 98-0070-E-BLW, 2000 WL 1099977 (D. Idaho Apr. 26, 2000) (based on the penalty provision of § 3008(d), ordering the owner of a fertilizer company to serve seventeen years in prison and pay nearly $6 million in restitution for ordering an employee to clean out a storage tank contaminated with cyanide without proper safety equipment), aff'd in part, vacated in part, 269 F.3d 1003 (9th Cir. 2001) (finding that the charges against the defendant did not support the order for restitution), cert. denied, 537 U.S. 812, (2002).

[2]RCRA § 3008(f)(1)(B), 42 U.S.C.A. § 6928(f)(1)(B).

[3]RCRA § 3008(f)(1)(C), 42 U.S.C.A. § 6928(f)(1)(C).

[4]RCRA § 3008(f)(2), 42 U.S.C.A. § 6928(f)(2).

[5]RCRA § 3008(f)(2), 42 U.S.C.A. § 6928(f)(2) (Proviso).

[6]*See* U.S. v. Johnson & Towers, Inc., 741 F.2d 662, 21 Env't. Rep. Cas. (BNA) 1433, 14 Envtl. L. Rep. 20634 (3d Cir. 1984) (holding that yard employees might be imputed with knowledge that corporate employer needed a RCRA permit to store and dispose of hazardous waste).

[7]United States v. Protex Indus., 874 F.2d 740, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21061 (10th Cir. 1989) (provision is not unconstitutionally vague).

identical, language, address direct private sector responsibility for abatement of imminent hazard situations. Section 7003 provides for lawsuits and administrative abatement orders against RCRA-regulated entities to restrain activities or abate conditions where evidence in EPA's possession indicates that the past or present handling, storage, treatment, or disposal of "any solid or hazardous waste may present an imminent and substantial endangerment to health or the environment."[1] Section 106(a) authorizes the government to sue to abate an "imminent and substantial endangerment to the public health or welfare or the environment" caused by "an actual or threatened release of a hazardous substance from a facility."

Section 106(a) is in several respects the broader of the two provisions.[2] Unlike § 7003, it is not limited to a specific class of defendants, and it applies to a broader class of substances.[3] Although § 7003 might be argued to apply to a potentially broader class of hazards since it is not limited to "release" situations, the case law that has developed around the government's burden of proof under § 7003 has all but eliminated any such distinction.[4] Both statutes address situations in which actual or threatened spills or off-site migration of pollutants or the physical consequences of on-site conflagration may adversely affect humans or the natural environment. At least since the 1984 amendment to § 7003, both statutes apply to either presently active areas or inactive sites.[5]

In the 1990 NCP revisions, EPA reorganized the provisions applicable to § 106 response actions. Under 40 C.F.R. § 300.700(d)(3), EPA requires preauthorization for removal actions, § 104(b) activities, or remedial actions at NPL sites. Preauthorization is conditioned upon a demonstration of technical and other capabilities to respond safely and effectively to the release, and a showing that the action will be "consistent with the NCP."[6] Further, 40 C.F.R. § 300.415(j) of the revised regulations provides that § 106 removal actions must attain ARARs "to the extent

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[Section 14:134]

[1]RCRA § 7002, 42 U.S.C.A. § 6972. The provision for abatement orders was added in 1980. Pub. L. No. 96-482, § 25, 94 Stat. 2348 (Oct. 21, 1980). An amendment to the statute in 1984 authorized § 7003 actions against past or present generators, transporters, or site owner/operators who contributed to the handling of hazardous waste at a problem site. Pub. L. No. 98-616, Title IV, §§ 402, 403(a), 404 98 Stat. 3271, 3273 (Nov. 8, 1984). *See also* RCRA § 7003(a), 42 U.S.C.A. § 6973(a).

[2]Since the government regularly pleads both statutes, their differences are usually of no practical consequence. Nevertheless, since Congress failed in the reauthorization statute, Pub. L. No. 99-499, 100 Stat. 1613 (1986), to amend CERCLA to provide for direct citizen suits in CERCLA § 106, 42 U.S.C.A. § 9606 (it limited citizens to suing to enforce final orders), the differences are important to citizens, who must act, if at all, under RCRA § 7003, 42 U.S.C.A. § 6973.

[3]The CERCLA definition of "hazardous substance" encompasses a broader universe of substances than the RCRA definitions of "hazardous waste" and "solid waste." *Compare* 42 U.S.C.A. § 9601(14) (CERCLA) *with* 42 U.S.C.A. § 6903(5), (27) (RCRA).

[4]*See, e.g.*, United States v. Waste Indus., Inc., 734 F.2d 159, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20461 (4th Cir. 1984).

[5]By the time Congress amended RCRA § 7003(a), 42 U.S.C.A. § 6973(a) by Pub. L. No. 96-616, 98 Stat. 3221, the government had convinced at least one court of appeals that § 7003 applied to completed past conduct. *See* United States v. Waste Indus. Inc., 734 F.2d 159, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20461 (1984), rev'g, 556 F. Supp. 1301, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20286 (E.D.N.C. 1982). *See generally* United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20763 (D.N.H. 1985) (section 7003 may be used for events which took place at some time in the past but which continue to present a threat to the public health or environment). *But see* United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985) (RCRA § 7003); United States v. Ne. Pharm. Chem. Corp., 579 F. Supp. 823, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20212 (W.D. Mo. 1984), aff'd in part, rev'd in part, 810 F.2d 726 (8th Cir. 1986) (CERCLA § 106).

[6]*See* 40 C.F.R. § 300.700(d)(4). Pursuant to 40 C.F.R. § 300.700(c)(3)(ii), however, any response action carried out in compliance with the terms of a § 106 order or a § 122 consent order will be considered consistent with the NCP.

practicable considering the exigencies of the situation."

Although the 1984 amendments to § 7002 of RCRA made at least limited citizen enforcement of § 7003 available, CERCLA was adopted without a general citizen suit provision, and § 106 has been held to be unavailable even to state governments.[7] Section 310, added to CERCLA by Pub. L. No. 99-499, however, provides for limited citizen enforcement. Under the new citizen suit provision, though citizens are still not permitted to bring direct § 106 actions, they may sue to enforce § 106(a) orders that have become final.

States are, by virtue of § 121(f)(2),[8] given the right to participate in EPA's § 106 settlement negotiations, and to "nonconcur" in the federal settlement. A state that nonconcurs is permitted to intervene in the federal enforcement suit to attempt to convince the judge not to enter the consent decree.[9]

§ 14:135 Liability for abatement of imminent hazard situations—Standard of proof and the nature of liability and remedy

RCRA § 7003 and CERCLA § 106(a) both impose strict liability once a finding is made that an imminent and substantial endangerment is present.[1] The government has continuously urged joint and several liability on the courts, with mixed results, primarily due to the fact that the imminent hazard statutes provide only for injunctive relief; those courts that have concluded that joint and several liability is inappropriate have viewed the concept as one limited to actions for money.[2]

The nature of the showing required to support a court's finding that an imminent and substantial endangerment exists was first addressed in an early § 7003 decision, *United States v. Vertac Chemical Corp.*,[3] in which the court relied heavily upon case law developed under § 504 of the Clean Water Act, which was a model for § 7003.[4] In *Vertac*, the court stated that the elements required to be considered are the degree and nature of the toxicity of the substances involved, and the likelihood of human or environmental exposure in the event the condition is not remedied.[5]

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[7]New York v. Shore Realty, 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985).

[8]Also added by Pub. L. No. 99-499, 100 Stat. 1613 (1986). The statutory language clearly limits its applicability to judicial enforcement under § 106(a). *See* 40 C.F.R. § 300.515(f)(2).

[9]This procedure is not available for states who are not satisfied with CERCLA § 106(a), 42 U.S.C.A. § 9606, administrative orders.

[Section 14:135]

[1]*See* Waste Inc. Cost Recovery Group v. Allis Chalmers Corp., 51 F. Supp 2d 936 (N.D. Ind. 1999) (holding that a group of plaintiffs may not seek contribution under RCRA if they are required to conduct a cleanup pursuant to a CERCLA § 106 order); United States v. Wade, 546 F. Supp. 785, 12 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (E.D. Pa. 1982) (§ 7003); United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20763 (D.N.H. 1985) (§ 106).

[2]*Compare* United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20763 (D.N.H. 1985) *with* United States v. Stringfellow, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20385 (C.D. Cal. 1984). For a detailed discussion of this issue, see Stever, *Law of Chemical Regulation and Hazardous Waste*.

[3]United States v. Vertac Chem. Corp., 489 F. Supp. 870, 10 Envtl. L. Rep. (Envtl. L. Inst.) 20709 (E.D. Ark. 1980).

[4]The leading § 504 decision is Reserve Mining Co. v. EPA, 514 F.2d 492, 5 Envtl. L. Rep. (Envtl. L. Inst.) 20596 (8th Cir. 1975) (en banc), cert. denied, 426 U.S. 941 (1976), in which the Eighth Circuit construed the term "endangerment" to include a potential for harm less than a certainty.

[5]More recently, the court in B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20357 (D. Conn. 1988) equated "endangerment" with "potential harm." Though risk must be imminent, the harm need not be realized for years. *See* Jones & McSlarrow, 19 Envtl. L. Rep. (Envtl. L. Inst.) at 10437.

The § 7003 case law has regularly been applied to § 106.[6]

With EPA's development of the CERCLA § 104 program, questions arose as to the proper relationship between RCRA § 7003/CERCLA § 106 and CERCLA § 104. The government initially sought to use the imminent hazard authority as part of its remedial strategy to secure direct third party clean-up to a level beyond that to which § 104 would permit.[7] By 1985, EPA's staff had developed a sufficient aversion to imminent hazard litigation that referrals of new § 7003/§ 106 cases had slowed to a trickle.

These statutes afford prohibitive or mandatory injunctive relief from the conditions giving rise to the cause of action. Although there is scant case law on the subject,[8] the language of both statutes appears to limit the relief to elimination of the conditions creating the imminent and substantial endangerment. Although in some cases such remedial action may approach a § 104 level of clean-up, it will not in all cases do so. However, the provisions of the Superfund reauthorization require the remedies selected under § 106 and those under § 104 to achieve the same standard.[9]

§ 14:136 Liability for abatement of imminent hazard situations—Administrative § 106 orders

Section 106 authorizes the government to issue administrative orders "as may be necessary to protect public health and welfare and the environment."[1] The scope of this authority has not been delimited. EPA has not generally sought to use the administrative § 106 order as a vehicle for securing site remediation. It has more frequently employed the authority to force access to a suspect site, or to secure immediate protective action.

The few courts that have considered the issue have held § 106 orders not to be subject to judicial review in advance of EPA's seeking to enforce the order in court.[2] Whether EPA must provide opportunity for a hearing prior to issuance of a § 106 or-

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[6]*See, e.g.*, United States v. Ne. Pharm. Chem. Corp., 579 F. Supp. 823, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20212 (W.D. Mo. 1984), aff'd in part, rev'd in part, 810 F.2d 726 (8th Cir. 1986).

[7]*See, e.g.*, United States v. Reilly Tar & Chem. Co., 546 F. Supp. 1100, 12 Envtl. L. Rep. (Envtl. L. Inst.) 20954 (D. Minn. 1982); *cf.* United States v. Ne. Pharm. Chem. Corp., 579 F. Supp. 823, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20212 (W.D. Mo. 1984), aff'd in part, rev'd in part, 810 F.2d 726 (8th Cir. 1986).

[8]United States v. Stringfellow, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20385 (C.D. Cal. 1984) contains a discussion of the degree of remedy.

[9]CERCLA § 121, 42 U.S.C.A. § 9621. The remedy must be a "permanent" remedy and provide that any residual pollution at the site meet "applicable or relevant and appropriate" environmental standards or criteria. For EPA's position on the role of § 106(a) in the Superfund cleanup process, see Office of Enforcement and Compliance Monitoring, Guidance on CERCLA Section 106 Judicial Actions (Feb. 24, 1989).

[Section 14:136]

[1]CERCLA § 106, 42 U.S.C.A. § 9606. Authority is vested in the President, who delegated the authority to EPA and other agencies. *See* Exec. Order No. 13016, 61 Fed. Reg. 45871 (Aug. 28, 1996). Under a Memorandum of Understanding, federal resource managers, empowered under Executive Order 13016, may not use their authority to compel the performance of "natural resource damage assessment or restoration activities, if those activities are outside the definition of response action." *See* 118 Daily Env't Rep. (BNA) A-10 (June 19, 1998) (reporting on the Summary of Changes to Final Memorandum on Executive Order on CERCLA Cleanup Orders by Federal Agencies, 118 Daily Env't Rep. (BNA) E-1 (June 19, 1998)).

[2]*See* United States v. Reilly Tar & Chem. Corp., 606 F. Supp. 412 n.2, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20348 n.2 (D. Minn. 1985); Wagner Elec. Corp. v. Thomas, 612 F. Supp. 736, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20977 (D. Kan. 1985); Solid State Circuits, Inc. v. EPA, 23 Env 1758 (W.D. Mo. 1985).

der is another significant issue that has spawned litigation.[3] The argument for a prior hearing is prompted because CERCLA imposes potentially draconian penalties on recipients who fail or refuse to comply with a § 106 order.[4] The developing majority view seems to be that, though a hearing is not required for due process, a defendant may interpose a good faith defense and challenge any such order in a subsequent judicial enforcement action predicated on it.[5]

§ 14:137 Liability for abatement of imminent hazard situations—Public and state participation

Section 106 contains no provision for public notice or any public participation in the litigation or settlement of actions brought under it. Section 117, added by the SARA in 1986, changed this, and requires EPA to provide notice and opportunity for informal public participation in connection with its selection of remedial action under § 106, as well as under § 104. EPA has implemented these requirements in Subpart I of the 1990 NCP.[1] As discussed above, states and tribes are provided with additional rights with respect to settlement negotiations.

In the 1984 amendments to RCRA, there is a requirement that public notice be given by EPA "upon receipt of information that there is hazardous waste at any site which has presented an imminent and substantial endangerment."[2] A second provision was added requiring EPA to provide opportunity for a public meeting and public comment on any proposed settlement of a § 7003 action.[3]

A final § 106-related provision, whose lineage is traced to the 1986 amendments, is § 106(b)(2). This section allows qualifying persons who have completed remedial action pursuant to a § 106(a) order to seek reimbursement of the expenditures, plus statutory interest, from the Superfund. To qualify, one must either not be a § 107 PRP, or have been required to implement an ROD that has been found to have been

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[3]Since an administrative order under § 106 is not self-executing and the government would have to pursue judicial action to implement the order if the PRP does not comply, the administrative order does not constitute unconstitutional deprivation of property. Gen. Elec. Co. v. Johnson, 362 F. Supp. 2d 327 (D.D.C. 2005), aff'd, 610 F.3d 110 (D.C. Cir. 2010), cert. denied, 131 S. Ct. 2959 (2011). At least one circuit court of appeals has held that an administrative order is not enforceable via a permanent injunction, although preliminary injunctive relief might be appropriate. U.S. v. P.H. Glatfelter Co., 768 F.3d 662, 79 Env't. Rep. Cas. (BNA) 1177 (7th Cir. 2014) (vacating permanent injunction).

[4]CERCLA § 106(b), 42 U.S.C.A. § 9606(b), provides a $25,000 per day penalty for a willful violation of an order, but EPA periodically adjusts this and other penalty amounts to account for inflation in its Civil Monetary Penalty Inflation Adjustment Rules. *See, e.g.*, 61 Fed. Reg. 69360, 69362 (Dec. 31, 1996) (increasing the maximum penalty amount allowed under CERCLA § 106(b) to $27,500, effective January 30, 1997); 78 Fed. Reg. 66643 (Nov. 6, 2013) (adjusting penalties under environmental laws). The maximum for a CERCLA § 106(b) violation has been adjusted to $37,500. 40 C.F.R. § 19.4 (penalty adjustment and table). 61 Fed. Reg. 69360, 69362 (Dec. 31, 1996). CERCLA § 107(c)(3), 42 U.S.C.A. § 9607(c)(3), provides punitive damages of up to three times the remedial costs if one fails "without sufficient cause" to take remedial action ordered under § 106(a).

[5]*See* United States v. Reilly Tar & Chem. Corp., 606 F. Supp. 412, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20348 (D. Minn. 1985); Wagner Elec. Corp. v. Thomas, 612 F. Supp. 736, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20977 (D. Kan. 1985); Solid State Circuits, Inc. v. EPA, 23 Env 1758 (W.D. Mo. 1985). *But see* Indus. Park Dev. Co. v. EPA, 604 F. Supp. 1136, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20573 (E.D. Pa. 1985).

[Section 14:137]

[1]40 C.F.R. §§ 300.800 to 300.825.

[2]RCRA § 7003(c), 42 U.S.C.A. § 6973(c). The use of the words "is" and "has presented" are curiously different from the "may present" language in § 7003(a), and could form the basis of a restrictive interpretation of the public notice requirement by EPA.

[3]RCRA § 7003(d), 42 U.S.C.A. § 6973(d).

arbitrary or capricious, or otherwise unlawful.[4]

States must be provided "substantial and meaningful involvement" in the "initiation, development and selection of remedial actions" undertaken within their borders.[5] States must be allowed to participate in "decisions whether to perform a preliminary assessment and site inspection" and allocated "responsibility for hazard ranking system scoring."[6] They must be provided an opportunity for concurrence in the "deletion" of sites from the NPL, and invited to participate in the "long-term planning process for all remedial sites" within their borders.[7]

§ 14:138 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—The CERCLA Section 107 scheme in general

Section 107(a) of CERCLA imposes liability without proof of fault (*i.e.*, strict liability)[1] upon the covered classes of entities (who are termed "responsible parties") for: (1) federal or state government response costs undertaken pursuant to § 104 of CERCLA, provided such costs are "not inconsistent with" the NCP adopted pursuant to § 105; (2) any "other necessary costs of response incurred by any other person consistent with" the NCP;[2] and (3) damages for injury to, destruction of, or loss of

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[4]CERCLA § 106(b)(2), 42 U.S.C.A. § 9606(b)(2). The latter type of claimant may recover only excessive costs. If the Fund denies payment, the claimant has a cause of action in federal district court to seek payment. *See* 118 Daily Env't Rep. (BNA), June 19, 1997, at A-3 (reporting the first CERCLA § 106(b) reimbursement ever in a settlement approved by the EPA Environmental Appeals Board in In re Envtl. Waste Control, Inc., CERCLA 106(b) Petition No. 94-21 (Envtl. App. Bd. June 16, 1997)).

[5]CERCLA § 121(f), 42 U.S.C.A. § 9621(f); *see* 40 C.F.R. §§ 300.500, 300.515.

[6]CERCLA § 121(f)(1)(A)-(B), 42 U.S.C.A. § 9621(f)(1)(A)-(B).

[7]CERCLA § 121(f)(1)(A)-(B), 42 U.S.C.A. § 9621(f)(1)(A)-(B); *see* 40 C.F.R. §§ 300.425(e), 300.515(c)(3), requiring EPA to consult with the state on proposed deletions prior to developing the notice of intent to delete and to provide the state 30 working days to review and concur in the notice. Releases may not be deleted until the state has concurred. 40 C.F.R. §§ 300.425(e), 300.515(c)(3); *see also* 40 C.F.R. § 300.515(e), (h) (long-term planning during annual consultations).

[Section 14:138]

[1]CERCLA § 107(a); 42 U.S.C.A. § 9607(a). New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985); J.V. Peters & Co. v. Adm'r, 767 F.2d 263, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20646 (6th Cir. 1985).

[2]The limitations that government recovery be for actions "not inconsistent with," but that private recovery be for costs "consistent with" the NCP are intentionally different, the heavier burden of proof resting on the shoulders of private claimants, who must plead and prove that their response costs were not only necessary but affirmatively demonstrate that they were consistent with the NCP. *See* Versatile Metals, Inc. v. Union Corp., 693 F. Supp. 1563, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20473 (E.D. Pa. 1988); United States v. Ne. Pharm. Chem. Corp., 579 F. Supp. 823, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20212 (W.D. Mo. 1984), aff'd in part, rev'd in part, 810 F.2d 726 (8th Cir. 1986). In government response actions, the burden of showing inconsistency with the NCP lies with the defendants. *See* United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20127 (E.D.N.C. 1985). A party must show that the expense was "arbitrary and capricious." United States v. Northernaire Plating Co., 685 F. Supp. 1410, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21338 (W.D. Mich. 1988).

One federal district court in New York has allowed a property owner seeking damages under a nuisance theory in addition to CERCLA response costs to show proof of stigma as part of its proof of damages for diminution in property value remaining after remediation. Noting that the release or threat of release of hazardous waste into the environment is a public nuisance under New York law, the court found that the response costs incurred by the plaintiff constituted the "special harm" that was necessary to confer standing to bring a public nuisance action and the damages available in such an action would not be limited to those response costs if the plaintiff's property could not be returned to its precontamination value. Nashua Corp. v. Norton Co., No. 90-CV-1351, 1997 WL 204904 (N.D.N.Y. Apr. 15, 1997); *see also* Scribner v. Summers, 138 F.3d 471, 46 Env't. Rep. Cas. (BNA) 1573, 28 Envtl. L. Rep. 21072 (2d Cir. 1998) (remanding case related to whether damages were recoverable for any stigma remaining after cleanup of the property).

natural resources, including the costs of assessing the loss,[3] and, subsequent to 1986, the costs of health assessments performed at the site by the ATSDR.[4]

Responsible parties are those listed in CERCLA § 107(a), including present or past[5] owners and operators of vessels[6] and facilities,[7] as defined by CERCLA,[8] most

[3]CERCLA § 107(a)(4)(A)-(C), 42 U.S.C.A. § 9607(a)(4)(A)-(C). The regulations implementing these subsections were struck down and remanded in Ohio v. Dep't of the Interior, 880 F.2d 432, 19 Envtl. L. Rep. (Envtl. L. Inst.) 21099 (D.C. Cir. 1989); *see* 54 Fed. Reg. 39016 (Sept. 22, 1989). NOAA has also initiated proceedings under § 107(F). *See* United States v. Montrose Chem. Corp. of Cal., 883 F. Supp. 1396, 25 Envtl. L. Rep. 20809 (C.D. Cal. 1995), rev'd, 104 F.3d 1507, 27 Envtl. L. Rep. 20508, 144 A.L.R. Fed. 669 (9th Cir. 1997); United States v. City of Seattle and the Mun. of Metro. Seattle, No. 90-395 (W.D. Wash. filed Mar. 19, 1990).

In March 1994, the Department of the Interior (DOI) published a final rule amending the regulations for assessing natural resource damages to comply with the court order in Ohio v. Dep't of the Interior at 59 Fed. Reg. 14262 (Mar. 25, 1994). This rule establishes a procedure for calculating natural resource damages based on the costs of restoring, rehabilitating, replacing, and/or acquiring the equivalent of the injured resources and the services those resources provide, and allows for the assessment of all use values of the resources. DOI plans to promulgate a rule regarding the calculation of nonuse values. The United States Court of Appeals for the D.C. Circuit upheld the March 1994 DOI final rule against a series of procedural and substantive challenges by industry and the state of Montana, with the exception of provisions interpreting CERCLA's statute of limitations and using "resources and services" as the measure of damages. Kennecott Utah Copper Corp. v. U.S. Dep't of the Interior, 88 F.3d 1191, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21489 (D.C. Cir. 1996). In Coeur D'Alene Tribe v. Asarco Inc., 280 F. Supp. 2d 1094, 57 Env't. Rep. Cas. (BNA) 1610 (D. Idaho 2003), modified in part, 471 F. Supp. 2d 1063 (D. Idaho 2005), the court held that cultural "uses of water and soil by a tribe are not recoverable as natural resource damages." Id at 1107.

[4]CERCLA § 107(a)(4)(D), 42 U.S.C.A. § 9607(a)(4)(D).

[5]Liability of past owner/operators may be limited to those during whose tenure hazardous substances were placed on the site. *See* ABB Indus. Sys., Inc. v. Prime Tech., Inc., 120 F.3d 351 (2d Cir. 1997) (prior owners and operators are not liable under CERCLA for "mere passive migration"); United States v. CDMG Realty Co., 96 F.3d 706, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21589 (3d Cir. 1996) (refusing to hold a past owner liable for the "passive" migration of contaminants that occurred during its ownership). Current owners are also not liable under CERCLA for the passive migration of hazardous substances that migrated to their property from an adjacent site. Niagara Mohawk Power Corp. v. Jones Chem., Inc., 315 F.3d 171 (2d Cir. 2003).

[6]Vessel-related CERCLA problems are almost exclusively spills; as to vessels, CERCLA functions virtually identically to § 311 of the Clean Water Act. 33 U.S.C.A. § 1321. In 1986, the statutory definition of "vessel" was amended to exclude hazardous waste incinerator vessels, which are thereafter treated as facilities.

[7]Current operators may be strictly liable although they have not engaged in pollution-causing activities. *See, e.g.*, Litgo New Jersey Inc. v. Commissioner New Jersey Dept. of Environmental Protection, 725 F.3d 369, 76 Env't. Rep. Cas. (BNA) 2057 (3d Cir. 2013) (involvement in remediation efforts, including conducting tests and hiring contractors to perform remediation, supported that appellants were liable as current operators).

[8]CERCLA § 107(a)(1), 42 U.S.C.A. § 107(a)(1). The terms are defined in CERCLA § 101, 42 U.S.C.A. § 9601. In practical terms, most PRPs falling within this category are owners or operators of hazardous waste disposal, storage, or treatment facilities. A facility has been held to include any place where hazardous substances have "come to be located." New York v. Gen. Elec. Co., 592 F. Supp. 291, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20719 (N.D.N.Y. 1984) (drag strip).

The concept of "owner" embraces innocent owner/lessors whose lessees caused the conditions, sublessors, and even innocent purchasers of already contaminated property of a debtor's estate. *See, e.g.*, New York v. Shore Realty Corp, 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985); United States v. S.C. Recycling & Disposal, Inc., 653 F. Supp. 984, 14 Envtl. L. Rep. 20272, 14 Envtl. L. Rep. 20895, 17 Envtl. L. Rep. 20843, 17 Envtl. L. Rep. 20845, 17 Envtl. L. Rep. 20847 (D.S.C. 1984), judgment aff'd in part, vacated in part, United States v. Monsanto Co., 858 F.2d 160, 19 Envtl. L. Rep. 20085 (4th Cir. 1988); United States v. Mirabile, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20992 (buyers), 15 Envtl. L. Rep. (Envtl. L. Inst.) 20994 (creditors) (E.D. Pa. 1985); In re T.P. Long Chem. Inc., 45 Bankr. 278, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20635 (Bankr. N.D. Ohio 1985). One court has held that inheritors of contaminated property are not liable for Superfund cleanup costs. Snediker Devs. Ltd. P'ship v. Evans, 773 F. Supp. 984 (E.D. Mich. 1991). *But see* ASARCO LLC v. Goodwin, 756 F.3d 191, 78 Env't. Rep. Cas. (BNA) 2085 (2d Cir. 2014), cert. denied, 135 S. Ct. 715 (2014) (state law

persons who generated hazardous substances found at a facility "containing such hazardous substances,"[9] including individual corporate officers,[10] shareholders,[11] lessors, or employees involved in the handling of hazardous substances at a facility,[12] and transporters who convey hazardous substances to sites chosen by them rather than by the generators whose substances they are carting.[13] A secured creditor may also be liable under CERCLA if its involvement with the management of the facility is sufficiently broad to support the inference that it could affect hazardous waste

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controls whether beneficiaries of PRP's estate could be liable for CERCLA contribution). Congress amended § 101(20) in 1986 to exclude municipal and state entities who acquire contaminated property under certain circumstances.

[9]CERCLA § 107(a)(3), 42 U.S.C.A. § 9607(a)(3). A three-part test, enunciated in United States v. S.C. Recycling & Disposal, Inc., 653 F. Supp. 984, 20 Env't. Rep. Cas. (BNA) 1753, 21 Env't. Rep. Cas. (BNA) 1577, 24 Env't. Rep. Cas. (BNA) 2015, 14 Envtl. L. Rep. 20272, 14 Envtl. L. Rep. 20895, 17 Envtl. L. Rep. 20843, 17 Envtl. L. Rep. 20845, 17 Envtl. L. Rep. 20847 (D.S.C. 1984), judgment aff'd in part, vacated in part, United States v. Monsanto Co., 858 F.2d 160, 28 Env't. Rep. Cas. (BNA) 1177, 19 Envtl. L. Rep. 20085 (4th Cir. 1988), has been fairly consistently applied to generators. What must be shown is that: (1) the generator's hazardous substances were, at some point in the past, shipped to a facility; (2) the generator's hazardous substances or ones like those of the generator are present at the site; and (3) that there was a release or threatened release of *any* hazardous substance at the site that caused a response. *See also* Dana Corp. v. Am. Standard, Inc., 866 F. Supp. 1481, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21051 (N.D. Ind. 1994) (allowing plaintiff to use circumstantial evidence to prove that defendant produced a continuous and predictable waste stream that included hazardous waste found at the site, and that a significant portion of the waste stream was disposed of at the site); United States v. Alcan Aluminum Corp., 990 F.2d 711 (2d Cir. 1993), aff'd, 315 F.3d 179 (2d Cir. 2003), cert. denied, 540 U.S. 1103, 124 S. Ct. 1039 (2004); United States v. Monsanto Co., 858 F.2d 160, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20085 (4th Cir. 1988), cert. denied, 490 U.S. 1106 (1989).

It is not a defense that the generator sold his substances to a third party who disposed of them. United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20127 (E.D.N.C. 1985). *But see* United States v. Farber, No. 86–3736, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20854 (D.N.J. Mar. 16, 1988) (mere sale of hazardous chemicals does not expose seller to liability; issue is whether seller arranged for their treatment or disposal). It is also not a defense that the generator shipped the waste to another location than the one where they ended up, or that they were transported from their original disposal site to the one at issue. *See* United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20127 (E.D.N.C. 1985); Missouri v. Indep. Petrochem. Corp., 610 F. Supp. 4, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20161 (E.D. Mo. 1985); *see also* Nurad, Inc. v. William E. Hooper & Sons Co., 966 F.2d 837 (4th Cir. 1992) (holding two former owners liable even though they did not actively dispose of the wastes, on the basis that liability attaches for ownership at a time when hazardous wastes are passively migrating). Finally, the fact that the generator sent a *de minimis* amount of a substance does not relieve her or him from liability. *See* United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985).

[10]*See* Kelley v. ARCO Indus. Corp., 723 F. Supp. 1214, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20264 (W.D. Mich. 1989).

[11]Although shareholders are not considered "owners" for CERCLA purposes solely on the basis of their ownership of stock, they may be derivatively liable if the requirements for piercing the corporate veil are satisfied. It is unsettled whether the standard for veil-piercing in a CERCLA case is a matter of state or federal law. Browning-Ferris Industries of Illinois, Inc. v. Ter Maat, 195 F.3d 953, 959, 49 Env't. Rep. Cas. (BNA) 1449, 30 Envtl. L. Rep. 20135 (7th Cir. 1999); Carter Jones Lumber Co. v. LTV Steel Co., 237 F.3d 745, 746 n.1, 51 Env't. Rep. Cas. (BNA) 1897, 31 Envtl. L. Rep. 20406, 2001 Fed. App. 0025P (6th Cir. 2001).

[12]*See* Weyerhaeuser Corp. v. Koppers Co., 771 F. Supp. 1420 (D. Md. 1991) (holding both the lessee, who treated wood, and the property owner, who knew and acquiesced, liable for costs of cleaning contamination caused by chemicals spilled during treatment operations); *see also* New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985); Vermont v. Staco, Inc., 684 F. Supp. 822, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20589 (1988), vacated in part on other grounds, No. Civ. 86-190, 1989 WL 225428 (D. Vt. Apr. 20, 1989); United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985); United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20127 (E.D.N.C. 1985); United States v. Mottolo, 605 F. Supp. 898, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20444 (D.N.H. 1985).

[13]CERCLA § 107(a)(4), 42 U.S.C.A. § 9607(a)(4).

disposal decisions.[14]

Following the 1986 amendments to CERCLA, the Supreme Court held in *Pennsylvania v. Union Gas Co.*[15] that states may be held liable for cleanup costs "along with everyone else." However, the Supreme Court overturned this ruling in *Seminole Tribe of Florida v. Florida*,[16] holding instead that the Eleventh Amendment prevents Congress from authorizing private parties to sue nonconsenting states in federal court. In the first federal appeals court ruling on the liability of local governments for the landfill disposal of household waste, the United States Court of Appeals for the Second Circuit in *B.F. Goodrich Co. v. Connecticut Municipal Gov't Agency*,[17] held that there is no automatic exemption from CERCLA liability for municipal solid waste. This means that if household trash transported to landfills or other contaminated sites can be shown to have hazardous constituents, local governments—and therefore local taxpayers—must share cleanup costs with manufacturers, industry, and other generators of hazardous waste.

Notwithstanding the strict liability scheme, courts have formulated different standards for a causation element under CERCLA § 107(a). Although CERCLA is generally silent regarding "causation," CERCLA § 107(a)(4) is somewhat ambiguous in imposing liability for a release or threatened release "which causes the incurrence of response costs."[18] Therefore, liability in certain situations will depend upon whether the expenditure of response costs was caused by the release from the facility for which the defendant is a responsible person. Courts have employed various standards for this causation element, apparently depending on the factual circumstances in the given case. Some have applied a burden-shifting approach that places the burden on the defendant to disprove causation after the plaintiff has established a prima facie case.[19] Others have required the plaintiff to prove that the defendant's contamination contributed to or was a "substantial factor" in the plaintiff's incurrence of response costs.[20]

There are only three statutory defenses to § 107 liability, all of which are derived from § 311 of the Clean Water Act.[21] They are that the sole cause of the release was

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[14]United States v. Fleet Factors Corp., 901 F.2d 1550, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20832 (11th Cir. 1990). For further discussion, see § 14:111.

[15]Pennsylvania v. Union Gas Co., 491 U.S. 1, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20974 (1989).

[16]Seminole Tribe of Fla. v. Florida, 517 U.S. 44, 116 S. Ct. 1114 (1996).

[17]B.F. Goodrich Co. v. Conn. Mun. Gov't Agency, 958 F.2d 1192, 22 Envtl. L. Rep. (Envtl. L. Inst.) 20683 (2d Cir. 1992).

[18]CERCLA § 107(a)(4), 42 U.S.C. § 9607(a)(4). This issue has arisen in situations where one responsible party seeks contribution or recovery of response costs from the owner or operator of an adjacent site from which pollutants could have migrated. *See, e.g.*, Asarco LLC v. Cemex, Inc., 21 F. Supp. 3d 784 (W.D. Tex. 2014) (assuming that liability arises only when a release causes the incurrence of response costs and holding that a plaintiff must demonstrate that a similar contaminant is present at both sites and has a plausible migration pathway, which shifts the burden to defendant to prove it was not the source of contamination); *see also* U.S. v. P.H. Glatfelter Co., 768 F.3d 662, 79 Env't. Rep. Cas. (BNA) 1177 (7th Cir. 2014) (noting but refusing to resolve the ambiguity in CERCLA § 107(a)(4)).

[19]*See, e.g.*, Westfarm Associates Ltd. Partnership v. Washington Suburban Sanitary Com'n, 66 F.3d 669, 41 Env't. Rep. Cas. (BNA) 1321, 33 Fed. R. Serv. 3d 579, 25 Envtl. L. Rep. 21587, 147 A.L.R. Fed. 747 (4th Cir. 1995) (defendant must come forward with evidence to show that it was not the source of the contamination to survive summary judgment).

[20]*See, e.g.*, ITT Industries, Inc. v. Borgwarner, Inc., 700 F. Supp. 2d 848, 71 Env't. Rep. Cas. (BNA) 2050 (W.D. Mich. 2010) (plaintiff established that defendants' contamination which migrated toward Superfund site was a "substantial factor" in causing plaintiff to incur response costs).

[21]For a detailed discussion of case law affecting these defenses, see the discussion of § 311 in Ch. 13.

an act of God, an act of war,[22] or the act or omission of a third party.[23] Some courts have also permitted responsible parties to plead equitable defenses.[24] There are also limitations on the amount of liability in the case of spills from vessels, motor carriers, aircraft, pipelines, and several other classes of facilities.[25] The liability limitations can be avoided, however, where the government is able to show that the release or threat was the result of "willful misconduct or willful negligence within the privity or knowledge" of the actor, where the primary cause of the release was a violation "(within the privity or knowledge of such person) of applicable safety, construction, or operating standards or regulations," and in cases where the actor has been uncooperative with response authorities.[26]

§ 14:139 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Joint and several liability

Liability of all responsible parties connected with a CERCLA facility is joint and several, a principle first enunciated in *United States v. Chem-Dyne Corp*.[1] and fol-

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[22]In re September 11 Litigation, 751 F.3d 86, 78 Env't. Rep. Cas. (BNA) 1865 (2d Cir. 2014), cert. denied, 83 U.S.L.W. 3119 (U.S. Aug. 27, 2014) (911 terrorist attacks fell within "act of war" defense).

[23]CERCLA § 107(b)(1)-(3), 42 U.S.C.A. § 9607(b)(1)-(3). The third-party defense is, realistically, the one most often asserted. A person with whom one has a contractual relationship is not a third party as to such person (unless it happens to be a railroad), and the defense is further limited by a requirement that the claimant show that she or he exercised due care with respect to the substances and took precautions against "foreseeable acts or omissions of such third party and the consequences that could foreseeably result from such acts or omissions." CERCLA § 107(b)(3), 42 U.S.C.A. § 9607(b)(3). "Due care" requires that the person take responsible steps after discovery of the contamination to contain it. *See, e.g.*, Franklin County Convention Facilities Authority v. American Premier Underwriters, Inc., 240 F.3d 534, 548, 51 Env't. Rep. Cas. (BNA) 2125, 31 Envtl. L. Rep. 20470, 2001 Fed. App. 0041P (6th Cir. 2001). Congress modified the contractual relationship scheme in 1986 by adopting a definition of "contractual relationship" in CERCLA § 101(35), 42 U.S.C.A. § 9601(35), which specifically *includes* property transfers as contractual relationships, but also exempts innocent purchasers of already contaminated property. For a discussion of the term "contractual relationship," see United States v. Monsanto Co., 858 F.2d 160, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20085 (4th Cir. 1988), cert. denied, 490 U.S. 1106 (1989). The third-party defense is generally construed narrowly. Chatham Steel Corp. v. Brown, 858 F. Supp. 1130, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20061 (N.D. Fla. 1994).

For some discussion of CERCLA-related, third-party defenses, compare New York v. Lashins Arcade Co., 91 F.3d 353 (2d Cir. 1996) (holding that purchaser of contaminated property established third-party defense, because allegedly offending third-party conduct did not occur in connection with a contractual relationship with purchaser, and because purchaser exercised "due care" with respect to the hazardous substance concerned even though he did not investigate the property prior to purchase) with New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985) (rejecting the defense raised by a developer who bought already contaminated property on the grounds that it had a contractual relationship with the owner who caused the contamination, and that it bought the property with knowledge of the conditions). *See also* United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20127 (E.D.N.C. 1985).

[24]*See* Town of Munster v. Sherwin-Williams Co., 27 F.3d 1268, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21108 (7th Cir. 1994) (allowing defense of laches).

[25]For a listing of the limitations and facilities, see CERCLA § 107(c)(1), 42 U.S.C.A. § 9607(c)(1). The maximum potential CERCLA liability for any facility is $50 million.

[26]CERCLA § 107(c)(2), 42 U.S.C.A. § 9607(c)(2).

[Section 14:139]

[1]United States v. Chem-Dyne Corp., 572 F. Supp. 802, 13 Envtl. L. Rep. (Envtl. L. Inst.) 20986 (S.D. Ohio 1983). CERCLA does not, however, require joint and several liability in every situation because the harm might be divisible. Defendants have the burden to prove that there is a reasonable basis to apportion the harm based on common law standards, particularly Restatement (Second) of Torts § 433A. *See, e.g.*, Burlington Northern and Santa Fe Ry. Co. v. U.S., 556 U.S. 599, 129 S. Ct. 1870, 173 L. Ed. 2d 812, 68 Env't. Rep. Cas. (BNA) 1161 (2009); U.S. v. NCR Corp., 688 F.3d 833, 75

lowed by virtually every federal court to address the issue.[2] Consequently, EPA's remedial investigations make little effort to ascertain the universe of responsible parties connected with a site, nor does the Agency make any attempt at determining the relative contributions of individual PRPs with a high degree of accuracy. The Agency simply moves against a few relatively large contributors, and leaves the allocation of individual responsibility and enlargement of the class of PRPs to those entities.[3]

An important issue for PRPs is whether there is a right of contribution among the jointly and severally liable entities. Early versions of the bills that became CERCLA contained a statutory right of contribution that disappeared from the final bill, along with early references to joint and several liability.[4] Obviously, the absence of such a right would pose significant barriers to settlement, and thus the existence and source of a right of contribution has been an issue in virtually every CERCLA action that has involved litigation. The emerging majority view prior to the 1986 amendments held that there is a federal right of contribution, although the source of the right is unclear. There is some authority that the courts must look to state law for a right of contribution.[5]

Congress effectively ended the debate in 1986 by creating a statutory right of con-

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Env't. Rep. Cas. (BNA) 1001 (7th Cir. 2012) (defendant failed to meet burden of showing that harm was capable of apportionment).

[2]*See, e.g.*, O'Neil v. Picillo, 883 F.2d 176, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20115 (1st Cir. 1989); United States v. Monsanto Co., 858 F.2d 160, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20085 (4th Cir. 1988), cert. denied, 490 U.S. 1106 (1989); United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20763 (D.N.H. 1985); New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985); United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (E.D.N.C. 1985); United States v. Shell Oil Co., 605 F. Supp. 1064, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20337 (D. Colo. 1985).

Generally, federal courts have held that CERCLA liability is retroactive as well. *See, e.g.*, United States v. Ne. Pharm. & Chem. Co., Inc., 810 F.2d 726, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20603 (8th Cir. 1986), cert. denied, 484 U.S. 848 (1987). One federal district court held that CERCLA liability is not retroactive. *See* United States v. Olin Corp., 927 F. Supp. 1502, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21303 (S.D. Ala. 1996), but the ruling was overturned on appeal. Applying the Supreme Court's analysis of the retroactive applicability of statutes that is set forth in Landgraf v. USI Film Prods., 511 U.S. 244 (1994), the district court in *Olin* concluded that: (1) neither the language nor the legislative history of CERCLA indicates Congress' clear intent that CERCLA liability be retroactive; (2) CERCLA liability has "retroactive effect"; and (3) absent clear congressional intent, the traditional presumption against retroactivity should apply to § 107(a) liability, as linked to § 106(a) liability in *Olin*. In addition, the district court held that CERCLA's application to the facts at issue, which involved the cleanup of a locally contained aquifer, violated the Commerce Clause. Reversing the district court's ruling on the statutory and constitutional issues, the Eleventh Circuit found clear congressional intent supporting the retroactive application of CERCLA's liability provisions in the statute's language, structure, purpose, and legislative history. With respect to the constitutional issue, the Eleventh Circuit held that even the narrowest class of activities that is regulated under CERCLA—which the court found to be "the regulation of intrastate, on-site waste disposal"—is a valid element of Congress' efforts to protect interstate commerce from pollution. United States v. Olin Corp., 107 F.3d 1506, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20778 (11th Cir. 1997).

[3]United States v. Hercules, Inc., 247 F.3d 706, 31 Envtl. L. Rep. (Envtl. L. Inst.) 20567 (8th Cir. 2001) (holding that the proper standard for divisibility includes not only "distinct harms" but also a reasonable basis for apportioning for single harm through "volumetric, chronological, or other types of evidence"); United States v. Occidental Chem. Corp., 200 F.3d 143, 49 Env't. Rep. Cas. (BNA) 1737, 30 Envtl. L. Rep. 20274 (3d Cir. 1999) (holding that a PRP remains liable to EPA for response costs even though another PRP, the owner of the site, has committed to the government that it will clean up the site and will reimburse the Superfund for past response costs).

[4]*See* Colorado v. ASARCO, Inc., 608 F. Supp. 1484, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20523 (D. Colo. 1985).

[5]The state law theory was espoused in United States v. Ne. Pharm. Chem. Corp., 579 F. Supp. 823, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20212 (W.D. Mo. 1984), aff'd in part, rev'd in part, 810 F.2d 726 (8th Cir. 1986).

tribution among persons who are "liable or potentially liable under § 107(a)."[6] The legislative history of this provision indicates an intention to approve, as one method of apportioning liability, application of the so-called "Gore Factors."[7] Several courts had concluded that a federal right of contribution was implicit in § 107.[8] One thread of authority argued for apportionment of response costs based on comparative fault principles premised on the factors contained in an amendment to CERCLA proposed by Congressman Gore and adopted by the House but dropped from the final bill. The so-called "Gore Amendment" factors consider such things as relative toxicity and volume, differing migratory potentials, and the effect of settlements on non-settling parties.[9] Courts may consider any number of the Gore Factors, but are not bound to consider all of them and are not limited to considering only them.[10]

For a time, the federal courts were divided about whether a PRP may bring a cost recovery action against other PRPs under § 107(a)(4)(B) or whether a PRP is limited to a contribution action under § 113(f). The majority view in the circuit courts was that a "culpable" PRP is limited to an action against other "culpable" PRPs under § 113(f) that is governed by the joint operation of §§ 107 and 113.[11] Courts adopting this view have generally interpreted the inclusion of a statutory right of contribution in CERCLA as evidence that Congress intended § 113(f) to be a culpable PRP's only means of recovery of cleanup costs, and have reasoned that a claim for the equitable apportionment of costs among responsible parties is by its nature a claim for contribution.[12] By contrast, courts finding a separate cause of action under § 107(a)(4)(B) in support of their decisions have cited the clear statutory language,

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[6]CERCLA § 113(f)(1), 42 U.S.C.A. § 9613(f)(1). The statute states that the governing law is federal law, and that the courts should use "equitable factors" in apportioning costs. EPA is authorized, though not required, by the provisions of CERCLA § 122, 42 U.S.C.A. § 9622, to prepare nonbinding allocation reports (NBARs) for the use of the parties in fashioning settlements. In Smith Land & Improvement Corp. v. Celotex Corp., 851 F.2d 86, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21026 (3d Cir. 1988), cert. denied, 488 U.S. 1029 (1989), the court allowed the buyer of contaminated land to seek contribution from the seller even if the buyer was aware of the contamination prior to purchase, the buyer's knowledge being one of the equitable factors to be considered in determining the amount, rather than the existence, of liability.

[7]H.R. Rep. No. 99-253, Part 3, at 19 (1986).

[8]*See* Colorado v. ASARCO, Inc., 608 F. Supp. 1484, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20523 (D. Colo. 1985); Wehner v. Syntex Agribusiness, Inc., 616 F. Supp. 27, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20346 (E.D. Mich. 1985); Mola Dev. Corp. v. United States, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21029 (C.D. Cal. 1985); Kelley v. United States, 618 F. Supp. 1103, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20080 (W.D. Mich. 1985); *cf.* United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985) (holding that a right of contribution exists for recovery of response costs, but not for injunctive relief).

[9]*See* United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985). There is also a lengthy discussion in United States v. A & F Materials, Inc., 578 F. Supp. 1249, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20105 (S.D. Ill. 1984).

[10]*See, e.g.*, Litgo New Jersey Inc. v. Commissioner New Jersey Dept. of Environmental Protection, 725 F.3d 369, 76 Env't. Rep. Cas. (BNA) 2057 (3d Cir. 2013).

[11]Some courts have suggested that an "innocent" PRP may bring a § 107(a) cost recovery action against other PRPs. *See, e.g.*, Rumpke of Ind., Inc. v. Cummins Engine Co., 107 F.3d 1235, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20596 (7th Cir. 1997) (landowner PRP may bring a § 107(a) cost recovery action against other PRPs if it alleges to have contributed nothing to the hazardous conditions on its property); AM Int'l, Inc. v. Datacard Corp., 106 F.3d 1342, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20503 (7th Cir. 1997) (landowner PRP who purchased contaminated property may bring a cost recovery action under § 107(a) against another PRP even if the landowner knew of the contamination at the time of purchase and presumably paid less for the property to reflect that fact); Akzo Coatings, Inc. v. Aigner Corp., 30 F.3d 761, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21254 (7th Cir. 1994) (implying that "a landowner forced to clean up hazardous materials that a third party spilled onto its property or that migrated there from adjacent lands" may bring a cost recovery action under § 107(a)).

[12]*See, e.g.*, Sun Co. v. Browning-Ferris, Inc., 124 F.3d 1187 (10th Cir. 1997), cert. denied, 522 U.S. 1113 (1998); Pinal Creek Group v. Newmont Mining Corp., 118 F.3d 1298 (9th Cir. 1997), overruled by

the legislative history, and CERCLA's objective of imposing liability for cleanup costs on responsible parties.[13]

In December 2004, the Supreme Court decided in *Cooper Industries, Inc. v. Aviall Services, Inc.* that unless a PRP's cleanup costs were associated with an EPA enforcement action, that PRP may not seek contribution from other PRPs through § 113.[14] Thus, if a PRP voluntarily elects to cleanup a site, and the cleanup costs are not associated with an EPA action of § 106 or § 107, that PRP cannot sue for contribution. More recently in *United States v. Atlantic Research Corp.*,[15] the Supreme Court revisited the claims available to PRPs under CERCLA. It held, unanimously, that a PRP may bring a claim for cost recovery under § 107(a). This means that PRPs that have voluntarily incurred cleanup costs have an avenue to recover those costs from other parties. Since *Atlantic Research*, several circuit courts of appeals have held that a CERCLA § 113(f)(3)(B) contribution action serves as the exclusive remedy for parties that incur response costs under administratively or judicially approved settlements pursuant to CERCLA §§ 106 or 107.[16] The courts are split, however, concerning whether § 113(f) provides a contribution claim where a party seeks contribution after settling state law liability (as opposed to federal CERCLA liability).[17]

A PRP's standing to bring suit under § 107(a) or § 113(f) is procedurally significant. A § 107(a)(4)(B) action is governed by a six-year statute of limitations,

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Kotrous v. Goss-Jewett Co. of N. Cal., Inc., 523 F.3d 924, 933 (9th Cir. 2008); In re Reading Co., 115 F.3d 1111, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21075 (3d Cir. 1997); New Castle County v. Halliburton NUS Corp., 111 F.3d 1116, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21159 (3d Cir. 1997); Rumpke of Ind., Inc. v. Cummins Engine Co., 107 F.3d 1235, 1235, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20596, 20596 (7th Cir. 1997); Redwing Carriers, Inc. v. Saraland Apartments, 94 F.3d 1489, 27 Envtl. L. Rep. (Envtl. L. Inst.) 20028 (11th Cir. 1996); United States v. Colo. & E. R.R. Co., 50 F.3d 1530, 25 Envtl. L. Rep. (Envtl. L. Inst.) 20309 (10th Cir. 1995); Akzo Coatings, Inc. v. Aigner Corp., 30 F.3d 761, 761, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21254, 21254 (7th Cir. 1994); United Techs. Corp. v. Browning-Ferris Indus., Inc., 33 F.3d 96, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21356 (1st Cir. 1994), cert. denied, 513 U.S. 1183 (1995).

[13]*See, e.g.,* Adhesives Research, Inc. v. Am. Inks & Coatings Corp., 931 F. Supp. 1231 (M.D. Pa. 1996).

[14]Aviall Servs., Inc. v. Cooper Indus., Inc., No. Civ.A.397CV1926D, 2000 WL 31730 (N.D. Tex. Jan. 13, 2000), rev'd, 263 F.3d 134 (5th Cir. 2001), cert. granted, 540 U.S. 1099, 124 S. Ct. 981 (2004), rev'd & remanded, 543 U.S. 157, 125 S. Ct. 577 (2004). Some courts have held that PRPs that voluntarily cleanup contaminated sites are still able to pursue cost recovery actions under § 107 of CERCLA. *See* Consol. Edison Co. of N.Y., Inc. v. UGI Utils., Inc., 423 F.3d 90 (2d Cir. 2005); Metro. Water Reclamation Dist. of Greater Chicago v. Lake River Corp., 365 F. Supp. 2d 913 (N.D. Ill. 2005); Vine St., LLC v. Keeling, 361 F. Supp. 2d 600 (E.D. Tex. 2005). *But see* Elementis Chems., Inc. v. T.H. Agric. & Nutrition, LLC, 373 F. Supp. 2d 257 (S.D.N.Y. 2005) (holding that PRPs that voluntarily cleanup contaminated sites are not able to sue for contribution or for cost recovery).

[15]United States v. Atlantic Research Corp., 551 U.S. 128, 127 S. Ct. 2331, 37 Envtl. L. Rep. (Envtl. L. Inst.) 20139 (2007).

[16]*See, e.g.*, Solutia, Inc. v. McWane, Inc., 672 F.3d 1230, 74 Env't. Rep. Cas. (BNA) 1225 (11th Cir. 2012) (consent decree); Bernstein v. Bankert, 733 F.3d 190, 77 Env't. Rep. Cas. (BNA) 1212 (7th Cir. 2013), cert. denied, 134 S. Ct. 1024, 188 L. Ed. 2d 120, 78 Env't. Rep. Cas. (BNA) 1428 (2014) (administrative order by consent); Hobart Corp. v. Waste Management of Ohio, Inc., 758 F.3d 757, 79 Env't. Rep. Cas. (BNA) 1012 (6th Cir. 2014) (administrative settlement agreement and order on consent); NCR Corp. v. George A. Whiting Paper Co., 768 F.3d 682, 79 Env't. Rep. Cas. (BNA) 1241 (7th Cir. 2014) (consent decree, administrative order of consent, and unilateral administrative order).

[17]*Compare* Trinity Industries, Inc. v. Chicago Bridge & Iron Co., 735 F.3d 131, 76 Env't. Rep. Cas. (BNA) 2145 (3d Cir. 2013) (holding that § 113(f)(3)(B) does not require settlement specifically under CERCLA to trigger contribution eligibility and concluding that consent decree pursuant to state statutes sufficed) *with* W.R. Grace & Co.-Conn. v. Zotos Intern., Inc., 559 F.3d 85, 68 Env't. Rep. Cas. (BNA) 1481 (2d Cir. 2009) (consent order resolving state claims did not trigger contribution eligibility under § 113(f)(3)(B)).

while a § 113(f) action is governed by a three-year statute of limitations.[18] Furthermore, § 113(f) grants contribution protection to settling parties and allows the assertion of equitable defenses that may not be asserted under § 107(a)(4)(B).

By contrast, RCRA still does not provide a statutory right to contribution. The Supreme Court held in *Meghrig v. KFC Western, Inc.*,[19] that § 7002 does not authorize a private cause of action to recover the prior cost of cleaning up waste that does not, at the time of suit, continue to pose an endangerment to health or the environment. The Court reasoned that § 7002(a), which refers only to injunctive relief, does not contemplate the award of past cleanup costs, whether such costs are referred to as "damages" or "equitable restitution." The Court further found that § 7002(a)(1)(B) allows a private party to bring suit only on an allegation that a contaminated site presently poses an "imminent and substantial endangerment to health or the environment," not on an allegation that a site posed such an endangerment at some point in the past. The Court noted that other aspects of RCRA's enforcement scheme, which differ from CERCLA's cost recovery provisions, support its decision.[20]

§ 14:140 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Section 107 procedures

The 1986 amendments to CERCLA added significant verbiage to the statute, establishing the explicit extent of remedy requirements[1] and elaborate settlement procedures.[2] Although much of the statute changed, what was done to the basic § 107 remedial scheme was to codify, and thus essentially freeze, EPA's 1985 NCP process.[3] One significant addition, however, is the imposition of mandatory public participation procedures on the § 107 decisionmaking process.[4]

In the ordinary § 107 case, EPA will, following a preliminary assessment and listing of the site on the NPL, either initiate an RI/FS at a priority list site and notify the PRPs uncovered by the investigation or, if a critical mass of PRPs is identified early enough, the Agency will notify them in advance of commencing the RI/FS and

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[18]*See* § 113(g)(3). It has been held, however, that a PRP's § 113(f) contribution action that is the *initial* action for recovery of costs incurred under § 107 is governed by the six-year statute of limitations set forth in § 113(g)(2). *See, e.g.*, Sun Co. v. Browning-Ferris, Inc., 124 F.3d 1187 (10th Cir. 1997), cert. denied, 522 U.S. 1113 (1998).

[19]Meghrig v. KFC Western, Inc., 516 U.S. 479, 116 S. Ct. 1251, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20820 (1996); *see also* Furrer v. Brown, 62 F.3d 1092, 25 Envtl. L. Rep. (Envtl. L. Inst.) 21450 (8th Cir. 1995), cert. denied, 517 U.S. 1167 (1996).

[20]Meghrig v. KFC Western, Inc., 516 U.S. 479, 483–88, 116 S. Ct. 1251, 1254–56, 26 Envtl. L. Rep. (Envtl. L. Inst.) 20820, 20821–22 (1996). Relying on the Supreme Court's reasoning in *Meghrig*, one federal district court has held that a citizen suit plaintiff may not use RCRA to recover "even those response costs that it 'will continue to incur' when remediation systems or activities are in place or substantially in place at the time of suit," even when it is possible that the contamination at issue continues to pose an imminent and substantial endangerment at that time. Express Car Wash Corp. v. Irinaga Bros., 967 F. Supp. 1188, 1193 (D. Or. 1997). The court suggested in dicta, however, that such a plaintiff may use RCRA to seek to require defendants to undertake work in connection with a remediation that was underway at the time of the suit.

[Section 14:140]

[1]CERCLA § 121, 42 U.S.C.A. § 9621.

[2]CERCLA § 122, 42 U.S.C.A. § 9622.

[3]The NCP was substantially revised in 1990. 55 Fed. Reg. 8666 (Mar. 8, 1990).

[4]CERCLA § 117, 42 U.S.C.A. § 9617.

attempt to persuade them to do the investigation privately.[5]

The relationship between EPA and PRP groups was significantly formalized by § 122 of the 1986 SARA amendments. Section 122, which governs both administrative and judicial settlements, governs both the procedures leading to settlements and some aspects of the substantive terms thereof.[6]

EPA's information gathering includes use of § 104(e) information demands and occasionally § 3007 of RCRA.[7] EPA has the right to compel access to a site on which it believes hazardous substances are present,[8] or in order to determine the need for or the extent of response action,[9] and may force a site owner to allow EPA to occupy uncontaminated portions of the site.[10]

EPA typically makes a formal demand on the group of the most significant PRPs, usually selecting generators by rough volumetric calculations,[11] after completing the RI/FS and sometimes before selecting the remedy. It will also frequently initiate cost recovery litigation if it does not appear that settlement is likely prior to completing, or even prior to initiating, remedial action at the site, and seek a declaratory judgment that its list of PRPs is responsible for the site.[12]

PRP groups who wish to avoid litigation will form a PRP committee and negotiate with EPA and among themselves. EPA negotiations will often be undertaken by a steering committee, usually dominated by the large generators, but almost always open to participation by any interested PRP, which is represented by a common or "liaison" counsel. Settling parties will sometimes seek to do the RI/FS (if EPA has not already completed one), will always negotiate the scope of the remedial plan,

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[5]*See* 40 C.F.R. § 300.700 (allowing a person to volunteer to investigate). PRPs may elect to undertake investigative work in order to have greater influence over the recommendations, and to be able to do the work unconstrained by the Davis-Bacon Act.

[6]CERCLA § 122, 42 U.S.C.A. § 9622. For a detailed treatment of this, see Stever, *Law of Chemical Regulation and Hazardous Waste*.

[7]Section 104(e) was broadened significantly by SARA, Pub. L. No. 99-499, 100 Stat. 1613. The amended statute more closely resembles § 3007 of RCRA, 42 U.S.C.A. § 6927, in providing both broad authority for seeking information and for access to premises where information may be found. The amendments cured some defects in the prior statute. Information may be demanded for the purpose of determining the need for and the extent of the remedy, or for the purpose of enforcement, including information about a person's ability to pay. Broad authority is provided for entry onto private property, and provision is made for exercising the power of eminent domain, overruling Outboard Marine Corp. v. Thomas, 773 F.2d 883, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21094 (7th Cir. 1985), vacated by 479 U.S. 1002 (1986).

[8]*See* United States v. Fisher, 864 F.2d 434, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20233 (7th Cir. 1988); United States v. Charles George Trucking Co., 682 F. Supp. 1260, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20886 (D. Mass. 1988); B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20357 (D. Conn. 1988); United States v. United Nuclear Corp., 610 F. Supp. 527, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20442 (D.N.M. 1985).

[9]CERCLA § 104(e)(3), 42 U.S.C.A. § 9604(e)(3).

[10]*See* CERCLA § 104(j), 42 U.S.C.A. § 9604(j) (1986) (overruling Outboard Marine Corp. v. Thomas, 773 F.2d 883, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21094 (7th Cir. 1985), which held that CERCLA does not expressly or implicitly authorize forced access to uncontaminated property).

[11]EPA's generator volumetric calculations are potentially unreliable, since the Agency has no incentive to be accurate in light of the joint and several liability regime. Although § 122's Non-Binding Preliminary Allocations of Responsibility (NBAR), 52 Fed. Reg. 19919 (May 28, 1987), process may produce somewhat more reliable nonbinding allocations for settlement purposes, it is not likely that the Agency will produce allocations that a majority of PRPs will have confidence in.

[12]This practice, which was codified in CERCLA § 113(g)(2)(B), 42 U.S.C.A. § 9613(g)(2)(B) (1986), had, prior to the 1986 reauthorization, been sanctioned by a clear preponderance of the federal district courts addressing it. *See, e.g.*, United States v. Conservation Chem. Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985); United States v. A & F Materials, Inc., 578 F. Supp. 1425, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20105 (S.D. Ill. 1984).

and sometimes negotiate a private remedial undertaking.[13]

An important question that always arises in CERCLA negotiations is preauthorization. Settling parties always feel more comfortable if EPA blesses their response action by formally stating that it is consistent with the NCP, since such a determination simplifies subsequent contribution actions against non-settling parties, who would otherwise be able to raise a defense that the settlers' response action failed to satisfy the statutory criteria.[14] EPA initially resisted preauthorization, and inserted a provision in the NCP stating that preauthorization was not a prerequisite to consistency.[15] It seems to have softened its position in practice, however, under pressure from settling parties in a number of cases and after several courts indicated that government preauthorization is a necessary prerequisite to a private cost recovery action.[16] Nevertheless, preauthorization of private remedial action remained the exception rather than the rule up to the point of the 1986 amendments, in which the § 122 remedial settlement scheme effectively mandates EPA approval of all private remedies for NPL listed sites.[17]

Settling PRPs often establish a separate allocation committee to work out the respective cost contributions of the members. In many cases allocations are agreed to informally, usually on the basis of an agreed volumetric formula. Other factors, such as migratory potential and inordinate response costs affecting a class of substance and other "Gore factors," have been relied upon in agreed allocation. PRPs have begun, in addition, to experiment with alternative dispute resolution mechanisms to resolve intra-group disputes that would otherwise result in a breakdown of negotiations and resulting multi-party litigation.[18]

One potential problem facing PRPs who undertake remedial action at a Superfund site is resistance by an owner/operator that is not a settling party. Amendments to § 104 and the provisions of new § 119 have alleviated this problem somewhat since 1986.[19]

§ 14:141 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Pre-enforcement review

It is now reasonably well settled that there was no legal basis under the original CERCLA for judicial review of an EPA remedial decision or of an EPA refusal to ac-

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[13]It is generally believed that EPA remedial actions cost 30 to 35% more than private undertakings.

[14]United States v. W. Processing Co., 761 F. Supp. 725 (W.D. Wash. 1991).

[15]40 C.F.R. § 300.271. These provisions were not revised in the 1990 revisions, *see* 55 Fed. Reg. 8666 (Mar. 8, 1990), but do not appear to be included in the 1994 NCP Amendment. 59 Fed. Reg. 47452 (Sept. 15, 1994).

[16]*See, e.g.*, Artesian Water Co. v. New Castle County, 605 F. Supp. 1348, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20577 (D. Del. 1985); Bulk Distrib. Ctrs., Inc. v. Monsanto Co., 589 F. Supp. 1437, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20151 (S.D. Fla. 1984). These courts have not predicated their rulings on any nexus between § 112's requirement of mandatory preauthorization as a prerequisite to making a claim against the fund, *see* Fishel v. Westinghouse Elec. Corp., 617 F. Supp. 1531, 23 Env't. Rep. Cas. (BNA) 1329, 16 Envtl. L. Rep. 20001 (M.D. Pa. 1985), but rather, as stated by the court in *Bulk Distribution*, as the only practical way to ensure that the public's interests are being served.

[17]*See* CERCLA § 122(e)(6), 42 U.S.C.A. § 9622(e)(6) (prohibiting any private action at an NPL listed site by a PRP where EPA and/or other PRPs are proceeding under § 121 and/or 122, without EPA preauthorization).

[18]Examples of alternative dispute resolution mechanisms are the evaluation and mediation services of Clean Sites, Inc., an industry-environmental group jointly sponsored entity, and arbitration services provided by the Center for Public Resources, a chemical industry-sponsored entity.

[19]*See, e.g.*, B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20357 (D. Conn. 1988) (issuing a preliminary injunction authorizing access).

cept a remedial plan proffered by PRPs, or for enjoining EPA from commencing remedial action at a site listed on the NPL.[1] CERCLA also bars judicial review of an EPA cleanup plan before it is completed.[2] Once EPA sues to recover its costs, however, a court has jurisdiction to review allegations that continuance of the remedy will cause irreparable harm.[3] In addition, there is some authority implying that a defendant in a § 107 cost recovery action may be able to obtain a reduction in the amount of the recovery if able to show that EPA wrongfully refused to adopt a PRP-sponsored less costly remedial plan.[4]

On the former point, §§ 113(h) to 113(j), added to the statute in 1986, codify EPA's position, limiting review of EPA's decision on a remedy to an on-the-record appeal of its ROD. The latter issue was also addressed in 1986. For judicially approved settlements, the issue has been mooted by the provisions of §§ 122 and 113, discussed above. Administrative order recipients are given a right to seek reimbursement of unlawfully imposed expenditures from the Superfund. Section 113(h) effectively bars challenges that interfere with removal or remedial actions, including RCRA claims, at least until those actions are concluded.[5]

§ 14:142 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Costs recoverable

Section 107(a) imposes liability for "all costs of removal or remedial action" incurred by either EPA or a state.[1] Recoverable costs include actual removal or remedial expenditures (provided they are not inconsistent with the NCP), preliminary site assessment, and the costs of undertaking the RI/FS.[2] Punitive damages have

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[Section 14:141]

[1]*See generally* Lone Pine Steering Comm. v. EPA, 777 F.2d 882, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20009 (3d Cir. 1985); J.V. Peters & Co. v. Adm'r, 767 F.2d 263, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20646 (6th Cir. 1985); United States v. United Nuclear Corp., 610 F. Supp. 527, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20442 (D.N.M. 1985); Wheaton Indus. v. EPA, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20959 (D.N.J. 1985), aff'd, 781 F.2d 354, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20260 (3d Cir. 1986); Barmet Aluminum Corp. v. EPA, 927 F.2d 289, 21 Envtl. L. Rep. (Envtl. L. Inst.) 20850 (6th Cir. 1991). *But see* Gen. Elec. Co. v. EPA, 360 F.3d 188, 34 Envtl. L. Rep. (Envtl. L. Inst.) 20020 (D.C. Cir. 2004) (holding that § 113 does not bar pre-enforcement review of facial constitutional challenges to CERCLA).

[2]Schalk v. Reilly, 900 F.2d 1091, 20 Envtl. L. Rep. (Envtl. L. Inst.) 20669 (7th Cir.), cert. denied sub nom. Frey v. Reilly, 498 U.S. 981 (1990), reh'g denied, 498 U.S. 1074 (1991).

[3]United States v. Princeton Gamma-Tech, Inc., 31 F.3d 138, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21243 (3d Cir. 1994), overruled in part on different grounds by Clinton County Comm'rs v. EPA, 116 F.3d 1018 (3d Cir. 1997). By contrast, a federal court lacks subject matter jurisdiction over all CERCLA citizen suits challenging incomplete EPA remedial actions under CERCLA, even where such suits allege irreparable harm. Clinton County Comm'rs v. EPA, 116 F.3d 1018, 1018 (3d Cir. 1997), cert. denied, 522 U.S. 1045 (1998).

[4]*See* United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20763 (D.N.H. 1985).

[5]El Paso Natural Gas Co. v. U.S., 750 F.3d 863, 78 Env't. Rep. Cas. (BNA) 1281 (D.C. Cir. 2014) (holding that § 113(h) barred RCRA claims, but refusing to decide whether RCRA claims could be renewed once removal and remedial actions are completed and recognizing that there is "no easy answer"); *see also* Frey v. E.P.A., 403 F.3d 828, 60 Env't. Rep. Cas. (BNA) 1097, 35 Envtl. L. Rep. 20076 (7th Cir. 2005); Frey v. E.P.A., 751 F.3d 461, 78 Env't. Rep. Cas. (BNA) 1473 (7th Cir. 2014), cert. denied, 135 S. Ct. 494 (2014) (where EPA supplements remediation plan after some work is complete, Section 113(h) bars review of claims related to old plan only to the extent it overlaps with the new, unfinished plan).

[Section 14:142]

[1]CERCLA § 107(a)(4)(A), 42 U.S.C.A. § 9607(a)(4)(A).

[2]Pennsylvania Department of Environmental Protection v. Trainer Custom Chemical, LLC, 906

also been held within the ambit of recoverable costs.[3]

In *Key Tronic Corp. v. United States*, the Supreme Court held that CERCLA § 107 does not provide for the award of a private litigant's attorney fees associated with bringing a cost recovery action. The Court indicated, however, that a private litigant may recover attorney fees incurred both in identifying other PRPs and during the course of remedial work.[4] However, the Ninth Circuit has held that pursuant to § 107(a)(4)(A), the EPA may recover reasonable attorney fees as part of its response costs.[5]

Costs incurred prior to the enactment of CERCLA at sites subsequently placed on the NPL have been held recoverable by some courts, and rejected by others.[6] The costs incurred by the government in overseeing a remediation effort paid for by a private party pursuant to RCRA are recoverable response costs.[7]

§ 14:143 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Private cost recovery actions

Section 107(a)(1)-(4)(B) permits recovery of response costs by persons other than the federal and state governments if such costs are consistent with the NCP.[1] Examples of such plaintiffs are "innocent" site owners,[2] neighboring property own-

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F.3d 85 (3d Cir. 2018). In this case, the Pennsylvania Department of Environmental Protection (PADEP) had spent nearly a million dollars in carrying out a response actions at a certain property which was subsequently purchased by Trainer at a tax sale for just $20,000. PADEP sued Trainer for cost recovery. In 2016, the District Court held that Trainer was liable only for response costs incurred after it purchased the property. On appeal, the Third Circuit Court of Appeals held that CERCLA does not differentiate between response costs expended before and after the purchase of the property. CERCLA means precisely what it says: a current owner/operator is responsible for all response costs incurred by the government, irrespective of when they are expended. *See also*, Pakootas v. Teck Cominco Metals, Ltd., 905 F.3d 565 (9th Cir. 2018). There, the Ninth Circuit upheld a district court decision awarding an Indian tribe nearly $4.9 million in costs incurred in connection with an investigation of a Superfund site. Relying on CERCLA's "all costs" language, the court found that plaintiff's expert consultants' fees were recoverable even though many of the activities carried out by the consultants "played double duty supporting both cleanup and litigation efforts."

[3]United States v. Parsons, 936 F.2d 526 (11th Cir. 1991) (holding that § 107(c)(3) permits recovery of punitive damages equivalent to three times the cleanup costs).

[4]Key Tronic Corp. v. United States, 511 U.S. 809, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20955, on remand, 30 F.3d 1105, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21282 (9th Cir. 1994).

[5]*See* United States v. Chapman, 146 F.3d 1166 (9th Cir. 1998).

[6]*Compare* United States v. Shell Oil Co., 605 F. Supp. 1064, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20337 (D. Colo. 1985); United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20127 (E.D.N.C. 1985) *with* United States v. Ne. Pharm. Chem. Corp., 579 F. Supp. 823, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20212 (W.D. Mo. 1984), aff'd in part, rev'd in part, 810 F.2d 726 (8th Cir. 1986); United States v. Wade, Civil Action No. 79-1426, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20437 (E.D. Pa. Mar. 23, 1984).

[7]U.S. v. E.I. Dupont De Nemours & Co. Inc., 432 F.3d 161, 61 Env't. Rep. Cas. (BNA) 1673, 35 Envtl. L. Rep. 20258 (3d Cir. 2005); *see* 40 C.F.R. § 300.400(h) ("EPA will provide oversight when the response is pursuant to an EPA order or federal consent decree."). The regulations governing private party voluntary cleanups are now set forth at Subpart H of the revised NCP. *See* 40 C.F.R. § 300.700. Pursuant to Subpart H and 40 C.F.R. § 300.430(d)(1), which provides for the preparation of a baseline risk assessment, PRPs are in a position to influence the development of remedial alternatives and thus the selection of a no-action alternative.

[Section 14:143]

[1]*See* Channel Master Satellite Sys., Inc. v. JFD Electronics Corp., 748 F. Supp. 373, 21 Envtl. L. Rep. (Envtl. L. Inst.) 20297 (E.D.N.C. 1990). Whether EPA preauthorization is required for any such expenditures to be "consistent" with the NCP is a disputed issue that is addressed in § 14:140.

[2]*See* Tanglewood E. Homeowners v. Charles-Thomas, Inc., 849 F.2d 1568, 18 Envtl. L. Rep.

ers adversely affected by a release of hazardous substances from a facility,[3] and generators or implicated site owners.[4] Parties that are not directly liable for response costs, such as subcontractors hired to perform a cleanup or subrogees required to reimburse a party for response costs under an insurance policy, have attempted to use CERCLA § 107(a) to recover debts related to a cleanup, generally without success.[5]

In addition to the requirement that a private cost recovery plaintiff's response actions have been "necessary"[6] and consistent with the NCP,[7] private cost recovery plaintiffs are less likely to be able to secure a declaratory judgment for future costs than is the government and may not be able to recover as broad a spectrum of pre-response expenditures as the government.[8] However, a private plaintiff does not have to wait until the entire remedial action is complete before recovering incurred

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(Envtl. L. Inst.) 21348 (5th Cir. 1988) (purchasers of contaminated subdivision parcels); *cf.* New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985) (not-so-innocent developer who purchased with knowledge held to be a responsible party). *See* G. van Velsor Wolf Jr., Emerging Contours of the CERCLA 'Innocent Purchaser' Defense, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10483 (Nov. 1990).

Innocent site owners were provided with two forms of relief in the 1986 amendments to CERCLA. Property owners who purchased contaminated property without knowledge of its condition are not barred from making a third party defense under CERCLA § 107, 42 U.S.C.A. § 9607. *See* CERCLA § 101(35), 42 U.S.C.A. § 9601(35). In addition, § 122 provides for an expedited "de minimis buyout" by innocent owners. *See* CERCLA § 122(g), 42 U.S.C.A. § 9622(g) (the "de minimis" settlement is also available to small quantity, low toxicity generators).

[3]*See* Walls v. Waste Res. Corp., 761 F.2d 311, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20438 (6th Cir. 1985) (nearby property owners); Artesian Water Co. v. New Castle County, 605 F. Supp. 1348, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20577 (D. Del. 1985), aff'd, 851 F.2d 643, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (3d Cir. 1988) (polluted wells).

[4]*See* Bulk Distrib. Ctrs., Inc. v. Monsanto Corp., 589 F. Supp. 1437, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20151 (S.D. Fla. 1984).

[5]*See* Price Trucking Corp. v. Norampac Industries, Inc., 748 F.3d 75, 78 Env't. Rep. Cas. (BNA) 1133 (2d Cir. 2014) (subcontractor did not have a right to recovery under CERCLA against landowner where landowner paid general contractor but general contractor failed to pay subcontractor); Chubb Custom Ins. Co. v. Space Systems/Loral, Inc., 710 F.3d 946, 76 Env't. Rep. Cas. (BNA) 1445 (9th Cir. 2013), cert. denied, 134 S. Ct. 906, 187 L. Ed. 2d 833, 78 Env't. Rep. Cas. (BNA) 1132 (2014) (subrogee lacked standing to assert claim under CERCLA § 107(a) because it was not itself liable for response costs under CERCLA).

[6]Reg'l Airport Auth. v. LFG, LLC, 460 F.3d 697, 36 Envtl. L. Rep. (Envtl. L. Inst.) 20166 (6th Cir. 2006) (the costs of a cleanup are not "necessary" when they are no greater than the costs of the work that would have been done if there had not been any contamination); United States v. Newmont USA, Ltd., 504 F. Supp. 2d 1050, 37 Envtl. L. Rep. (Envtl. L. Inst.) 20234 (E.D. Wash. 2007) (unnecessary and duplicative sampling may be inconsistent with the NCP).

[7]As discussed above, the burden of demonstrating that costs are consistent with the NCP rests with the plaintiff, as an element of her or his case, in contrast to the situation in government cost recovery actions, in which inconsistency with the NCP is viewed as a defense that must be raised by the defending parties. Failure to provide for public comment on a proposed CERCLA cleanup can bar claims for recovery of the costs of that cleanup. *See* Gussin Enters., Inc. v. Rockola, No. 89 C4742, 1993 WL 114643 (N.D. Ill. Apr. 13, 1993).

[8]*See* Levin Metals Corp. v. Parr-Richmond Term. Co., 608 F. Supp. 1272, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20791 (N.D. Cal. 1985), rev'd on other grounds, 799 F.2d 1312 (9th Cir. 1986) (refusing certain investigative costs and holding that the plaintiff must demonstrate that it actually incurred necessary response costs before seeking damages or declaratory relief). *But see* Foster v. United States, 922 F. Supp. 663, 26 Envtl. L. Rep. (Envtl. L. Inst.) 21336 (D.D.C. 1996) (plaintiff's claim for declaratory relief to fix liability for future costs does not require that plaintiff have incurred recoverable past costs); Southland Corp. v. Ashland Oil, Inc., 696 F. Supp. 994, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20733 (D.N.J. 1988) (allowing purchaser of plant to maintain declaratory judgment action for contribution for future response costs from prior owner that had disposed of substances on site).

response costs.[9] CERCLA does not address whether a private cost recovery action may be asserted with respect to a site that is not listed on the NPL. Although there is authority on both sides of the issue, the better argument seems to be that advanced by the Second Circuit in *New York v. Shore Realty Corp.*[10] that the NPL is not a part of the NCP, and the listing prerequisite relates only to the expenditure of federal moneys whether under § 104 or § 112.

Private claimants are limited to monetary remedies under § 107, and thus may not secure ancillary injunctive relief, except pursuant to pendent common law or state statutory authority.[11] In addition, the U.S. Supreme Court has ruled that because attorney fees are not "necessary costs of response," they are not recoverable in a private CERCLA cost recovery or contribution action.[12] The Court gave three reasons for its holding: (1) there is no express reference to recovery of attorneys fees in either § 107 or § 133 of CERCLA; (2) Congress specifically included a provision for recovery of attorney fees in other CERCLA provisions, including the citizen suit provision; and (3) "enforcement action" is not sufficiently explicit to embody a private cost recovery action.[13] The Court did not, however, prohibit recovery of all attorney fees. Fees paid to an attorney for work "closely tied to the actual cleanup," such as the costs associated with the identification of other PRPs, were carved out as fees that may be recovered as necessary response costs.[14] Attorney fees specifically not recoverable include fees associated with the negotiation of a consent order and the prosecution of a cost recovery action.

§ 14:144 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Miscellaneous issues

Several litigation-related issues have arisen under § 107. One potentially important problem under the original statute was the absence of provision for nationwide service of process. This fact limited EPA's ability to sue some PRPs in several cases, although expansive interpretation of the long-arm statutes of the states in which the sites lie has mitigated the problem somewhat.[1] The defect was

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[9]Fallowfield Dev. Corp. v. Strunk, No. CIV.A. 89-8644, 37 Envtl. Rep. Cas. (BNA) 1076, 1993 WL 157723, at *29 (E.D. Pa. May 11, 1993), aff'd, 96 F.3d 1432 (3d Cir. 1996).

[10]New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985).

[11]New York v. Shore Realty Corp., 759 F.2d 1032, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (2d Cir. 1985).

[12]Key Tronic Corp. v. United States, 511 U.S. 809, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20955 (1994), on remand, 30 F.3d 1105, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21282 (9th Cir. 1994).

[13]Key Tronic Corp. v. United States, 511 U.S. 809, 819, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20955, 20957 (1994), on remand, 30 F.3d 1105, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21282 (9th Cir. 1994).

[14]Key Tronic Corp. v. United States, 511 U.S. 809, 819, 24 Envtl. L. Rep. (Envtl. L. Inst.) 20955, 20957 (1994), on remand, 30 F.3d 1105, 24 Envtl. L. Rep. (Envtl. L. Inst.) 21282 (9th Cir. 1994).

[Section 14:144]

[1]*See* Violet v. Picillo, 613 F. Supp. 1563, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20331 (D.R.I. 1985) (prohibiting nationwide service of process, but concluding that the long-arm statute reached out-of-state generators who gave their wastes to transporters without participating in the disposal site selection or knowing where the wastes were destined); Wehner v. Syntex Agribusiness, Inc., 616 F. Supp. 27, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20346 (E.D. Mo. 1985); Missouri v. Independent Petrochem. Corp., 16 Envtl. L. Rep. (Envtl. L. Inst.) 20352 (E.D. Mo. 1986). United States v. Conservation Chemical Co., 619 F. Supp. 162, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20193 (W.D. Mo. 1985) is in accord with Violet v. Picillo, 613 F. Supp. 1563, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20331 (D.R.I. 1985), on the long-arm statute issue.

cured by an amendment to the statute in 1986.[2]

CERCLA did not contain a general statute of limitations on actions brought under it, although there was a three-year statute of limitations contained in § 111(d) and another in § 112(d). It has uniformly been held that these statutes of limitations do not apply to § 107 cost recovery suits,[3] although there was a split of authority on the applicability of the § 112(d) statute of limitations to lawsuits brought by states seeking natural resource damages.[4] Section 113(g), added in 1986, took care of this problem by providing separate statutes of limitation for cost recovery actions, contribution actions, natural resource damages actions,[5] and several other types of CERCLA premised actions.[6]

Private sector PRPs are frequently involved with sites that were also contributed to by municipal or state entities.[7] There is limited authority for the proposition that CERCLA preempts state law-premised sovereign immunity for municipalities.[8] The Supreme Court held in *Pennsylvania v. Union Gas Co.*[9] that CERCLA, as amended by SARA, clearly expresses an intent to hold states liable to private parties in damages in federal court, and that the Commerce Clause authorized Congress to enact a statute with that effect, notwithstanding the principle of state sovereign immunity found in the Eleventh Amendment. The Supreme Court subsequently overruled the constitutional holding of *Union Gas*, however, in *Seminole Tribe of Florida v. Florida*, concluding that the Eleventh Amendment prevents congressional authorization of suits by private parties against nonconsenting states, even where the Constitution grants Congress complete lawmaking authority over a particular area.[10] The *Seminole* decision calls into question the status of state PRPs at Superfund sites. The decision suggests that state PRPs may be immune from contribution actions

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[2]CERCLA § 113(e), 42 U.S.C.A. § 9613(e).

[3]*See* Kelley v. United States, 23 Env 1503 (W.D. Mich. 1985); United States v. Mottolo, 605 F. Supp. 898, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20444 (D.N.H. 1985); New York v. Gen. Elec. Co., 592 F. Supp. 291, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20719 (N.D.N.Y. 1984); Colorado v. ASARCO, Inc., 608 F. Supp. 1484, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20523 (D. Colo. 1985).

[4]*Compare* United States v. Mottolo, 605 F. Supp. 898, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20444 (D.N.H. 1985) *with* Colorado v. ASARCO, Inc., 616 F. Supp. 822, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20046 (D. Colo. 1985).

[5]One court has since held that the time limitations in CERCLA § 113(g) do not apply retroactively to actions involving the recovery of response costs under § 107 incurred prior to SARA's enactment. United States v. Moore, 763 F. Supp. 455, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21272 (E.D. Va. 1988); *see also* Merry v. Westinghouse Elec. Corp., 684 F. Supp. 852, 18 Envtl. L. Rep. 21220 (M.D. Pa. 1988). Another court held that § 113(a)(2)(A) did not begin to run until SARA was enacted. T&E Indus. v. Safety Light Corp, 680 F. Supp. 696, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20926 (D.N.J. 1988).

[6]In general, the limitation period for resource damages is three years from the date of discovery; for removal costs is three years following completion of removal action or six years following a determination under § 104 to waive the removal action limitations in favor of continued response action; for remedial actions is three years from the date of commencement of on-site response action (and, for follow-up collection actions, up to three years following completion of all response actions); and for contribution actions, is three years from the date a judgment or a consent decree is entered in the government's cost recovery action.

[7]Federal facilities, of course, also often turn up on CERCLA generator lists. They are treated essentially as though they were private entities. *See* CERCLA §§ 107(g), 120, 42 U.S.C.A. §§ 9607(g), 9620; 50 Fed. Reg. 47931 (Nov. 20, 1985); 53 Fed. Reg. 4280 (Feb. 12, 1988).

[8]Artesian Water Co. v. New Castle County, 605 F. Supp. 1348, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20577 (D. Del. 1985), aff'd, 851 F.2d 643, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21012 (3d Cir. 1988); *see also* United States v. Seymour Recycling Corp., 686 F. Supp. 696, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20523 (S.D. Ind. 1988) (no immunity from contribution claims).

[9]Pennsylvania v. Union Gas Co., 491 U.S. 1, 19 Envtl. L. Rep. (Envtl. L. Inst.) 20974 (1989); *see also* Slavitt, Jury Trial Rights under CERCLA: The Effects of Tull v. United States, 18 Envtl. L. Rep. (Envtl. L. Inst.) 10127 (Apr. 1988).

[10]Seminole Tribe of Fla. v. Florida, 517 U.S. 44, 116 S. Ct. 1114 (1996).

brought in federal court under CERCLA by other PRPs.[11] Thus, PRPs seeking to bring such actions against state PRPs may be limited to state statutes, where available.

It is generally accepted that defendants in CERCLA cost recovery actions are not entitled to a jury trial.[12] The theory of these cases is that the government's remedy is essentially an equitable one (in the nature of restitution). Arguably, claims for natural resources damages should not be viewed as equitable, and thus § 107(a)(4)(C) claims should be sent to a jury, if the defendant seeks one.[13]

A number of trial practice issues peculiar to CERCLA cases have arisen. These include issues relating to third party practice and case management,[14] principally whether and on what terms there should be bifurcation of liability and remedy trials, and the appropriate role of a special master.[15]

Finally, PRPs and their insurance carriers have continuously litigated the question of insurance coverage under the CGL policy. The issues are whether property damage "occurs" as of the date leaking begins or the date such leaking is discovered,[16] whether CERCLA liability falls within the pollution exclusion (in policies containing such an exclusion), and whether coverage for "sudden occurrences" embraces CERCLA-covered events.[17]

§ 14:145 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—CERCLA enforcement

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[11] *See, e.g.*, Ninth Ave. Remedial Group v. Allis-Chalmers Corp., 962 F. Supp. 131, 27 Envtl. L. Rep. (Envtl. L. Inst.) 21307 (N.D. Ind. 1997) (granting Indiana's motion to dismiss a CERCLA action brought by PRPs for lack of subject matter jurisdiction on the grounds that the State had not waived its Eleventh Amendment immunity in CERCLA suits by judicial decision, statute, or conduct).

[12] United States v. Lang, 870 F. Supp. 722 (E.D. Tex. 1994); City of Phila. v. Stepan Chem. Co., 748 F. Supp. 283, 21 Envtl. L. Rep. (Envtl. L. Inst.) 20760 (E.D. Pa. 1990); United States v. Mottolo, 605 F. Supp. 898, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20444 (D.N.H. 1985); Missouri v. Indep. Petrochem. Corp., 16 Envtl. L. Rep. (Envtl. L. Inst.) 20352 (E.D. Mo. 1986); Mola Dev. Corp. v. United States, 15 Envtl. L. Rep. (Envtl. L. Inst.) 21029 (C.D. Cal. 1985); United States v. Ward, 618 F. Supp. 884, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20358 (E.D.N.C. 1985).

[13] *See* United States v. Reilly Tar & Chem. Co., 13 Envtl. L. Rep. (Envtl. L. Inst.) 20897 (D. Minn. 1983); *cf.* United States v. Wade, 653 F. Supp. 11 (E.D. Pa. 1984); *compare* U.S. v. Viking Resources, Inc., 607 F. Supp. 2d 808, 69 Env't. Rep. Cas. (BNA) 1663, 174 O.G.R. 502 (S.D. Tex. 2009) (relying on cases interpreting CERCLA to hold that at least one component of natural resource damages under the OPA was not equitable in nature and ordering entire case to be heard by a jury) *with* In re Acushnet River & New Bedford Harbor Proceedings re Alleged PCB Pollution, 712 F. Supp. 994, 29 Env't. Rep. Cas. (BNA) 1259, 19 Envtl. L. Rep. 21198 (D. Mass. 1989) (holding that natural resource damages under CERCLA § 107(a)(4)(C) are not equitable in nature, but defining such damages narrowly). A similar fate should befall pendent state law damages claims.

[14] *See, e.g.*, Kelley v. United States, No. G83-630, 23 Env 1500 (W.D. Mich. Sept. 19, 1985).

[15] *See, e.g.*, United States v. Moore, 703 F. Supp. 460, 18 Envtl. L. Rep. (Envtl. L. Inst.) 21272 (E.D. Va. 1988); In re Armco, Inc., 770 F.2d 103, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20774 (8th Cir. 1985); United States v. Mottolo, 23 Env 1293 (D.N.H. 1985).

[16] *See, e.g.*, Mraz v. Canadian Universal Ins. Co., 804 F.2d 1325, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20372 (4th Cir. 1986) (holding that the date of an "occurrence" is judged by the date of discovery of environmental contamination).

[17] An interesting decision, Maryland Casualty Co. v. Armco, Inc., 643 F. Supp. 430, 17 Envtl. L. Rep. (Envtl. L. Inst.) 20143 (D. Md. 1986), held that an insurer's liability under a CGL policy is only for "damages," and since CERCLA response costs have been argued successfully by the government to be in the nature of restitution, which is an equitable remedy, they are not damages, and are thus not recoverable. *But see* Indep. Petrochem. Corp. v. Aetna Cas. & Sur. Co., 944 F.2d 940, 21 Envtl. L. Rep. (Envtl. L. Inst.) 21483 (D.C. Cir. 1991) (holding that "damages" under CGL policies include environmental cleanup costs), cert. denied sub nom. Certain Underwriters at Lloyd's, London v. Indep. Petrochem. Corp., 503 U.S. 1011 (1992). For more detailed discussion of environmental insurance coverage, see § 14:157.

Until adoption of the SARA of 1986, there was little to talk about in terms of regulatory enforcement since the 1980 CERCLA did not have a general penalty scheme.[1] Section 109 was amended by SARA to add general criminal sanctions and an elaborate (if not bizarre) set of civil penalties.

Civil sanctions are available to address violations of § 103, the financial responsibility provisions of § 108, orders issued under the amended § 122, and for failure to carry out the terms of a settlement agreement entered under § 122 or, for federal facilities, § 120 interagency agreements between the facility and EPA providing for remedial action. There are two tiers of penalties, Class I penalties, which apply per *violation*, and Class II penalties, which apply per violation *per day*. What is bizarre about this scheme is that there are different administrative procedures and different appeal rights (to different courts) depending upon which class of penalty the Agency assesses.[2]

SARA also increased the penalties associated with criminal violations of §§ 103(b), 103(c), and 112(b), and added a bounty provision.[3]

§ 14:146 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—Citizen enforcement

The SARA amendments inserted a limited citizen suit into CERCLA,[1] and provide for citizen petitions seeking preliminary site assessments,[2] along with a limited grant funding for technical assistance to local groups who are affected by a release or threatened release from a facility.[3]

The citizen suit provision allows a lawsuit to be brought in federal district court against any person (other than EPA or the ATSDR) who is alleged to be in violation "of any standard, regulation, condition, requirement, or order which has become effective" under CERCLA, including interagency agreements affecting federal facilities.[4] As a practical matter, citizen suits appear to be limited to enforcement of executed settlement agreements and § 106(a) orders. States appear to have slightly

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[Section 14:145]

[1]The original statute provided sanctions for violating § 106(a) orders and for submitting false information under § 103.

[2]CERCLA § 109(a)-(c), 42 U.S.C.A. § 9609(a)-(c). Class I penalties must be calculated pursuant to a relatively rigid penalty formula, while Class II penalties are apparently not bound by it. EPA's Civil Monetary Penalty Inflation Adjustment Rules increased the maximum penalty amount available under CERCLA § 109(a)-(c). 40 C.F.R. § 19.4. The Environmental Appeals Board holds delegated authority from EPA to hear and decide appeals of administrative penalties under §§ 109 and 325. 57 Fed. Reg. 5320 (Feb. 13, 1992). The Board may also hear permit appeals, and its procedural rules related to such appeals were revised effective March 26, 2013. 78 Fed. Reg. 5281 (Jan. 25, 2013).

[3]CERCLA § 109(d), 42 U.S.C.A. § 9609(d); 53 Fed. Reg. 16086 (May 5, 1988); 53 Fed. Reg. 23394 (June 22, 1988). The bounty is $10,000 for information leading to the arrest and conviction of someone for criminal violations of CERCLA.

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[1]*See* Breen, Citizen Suits for Natural Resource Damages: Closing a Gap in Federal Environmental Law, 24 Wake Forest L. Rev. 851 (1989) (recommending citizen suit provisions for recovery for natural resource damages).

[2]Citizen initiatives for preliminary assessment are provided for by CERCLA § 105(d), 42 U.S.C.A. § 9605(d).

[3]*See* 53 Fed. Reg. 9736 (Mar. 24, 1988).

[4]CERCLA § 310(a)(1)-(2), 42 U.S.C.A. § 9659(a)(1)-(2). The usual prior notice and other bar provisions common to federal environmental citizen suits are applicable. In one of the first cases to examine the scope of § 310, the court held that the section does not give private citizens a right to recover cleanup costs. Regan v. Cherry Corp., 706 F. Supp. 145 (D.R.I. 1989).

broader rights to sue in federal court.[5]

Suits against EPA and the ATSDR are available only to compel performance of a nondiscretionary duty,[6] and the general ban on preenforcement review has been found applicable.[7]

VII. SARA TITLE III—THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT*

§ 14:147 Introduction

Title III of the 1986 SARA, also known by its somewhat unwieldy but official designation, the Emergency Planning and Community Right-to-Know Act (EPCRA),[1] is the federal response to the 1984 Bhopal, India, chemical disaster in which an accidental release of methyl isocyanate from a Union Carbide pesticide manufacturing plant killed several thousand people. A release of aldicarb oxime a short time later from a facility in Institute, West Virginia, demonstrated that the United States was not immune to a Bhopal-like disaster, and was unprepared to meet one.

Tucked away in SARA as a freestanding statute (not as an amendment to the Superfund law), Title III was almost completely overshadowed by the protracted battle over the reauthorization of CERCLA that year.[2] Since that time the law has assumed a higher profile, even though it does not actually regulate the use or disposal of hazardous chemicals.

The reason for Title III's increased visibility is twofold. First, state and local officials, as well as members of the public, have become actively involved in chemical emergency response and accident prevention. This greater level of responsibility and awareness has tended to increase the local importance and visibility of these issues. Second, the law's more influential right-to-know provisions have made detailed information about the chemicals present in local communities generally available. As a result, the chemical handling and disposal practices of industry are now laid out for public scrutiny.

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[5] *See* CERCLA § 121(e)(2), 42 U.S.C.A. § 9621(e)(2).

[6] CERCLA § 310(b)(2), 42 U.S.C.A. § 9621(b)(2).

[7] *See* Neighborhood Toxic Cleanup Emergency v. Reilly, 716 F. Supp. 828 (D.N.J. 1989) (holding that Congress intended to preclude review of a site remedy until at least part of the cleanup is completed); *Cf.* Cabot Corp. v. EPA, 677 F. Supp. 823, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20835 (E.D. Pa. 1988) (mere development of a remedial plan by EPA may be enough to trigger judicial review).

* By **John P.C. Fogarty. Updated by Stephen J. Matzura.** The author wishes to acknowledge the assistance of **Jon J. Jacobs, Cindy Fournier, Rhonda Norton,** and **Barbara Reilly,** all with the Toxics and Pesticides Enforcement Division of EPA's Office of Regulatory Enforcement, and **Kim Orr** and **Mary Hanley** with the Information Management Division of EPA's Office of Pollution Prevention and Toxics, in preparing some of the updates to this section. The views expressed here are not necessarily those of the Environmental Protection Agency.

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[1] SARA, Pub. L. No. 99-499, tit. III, 100 Stat. 1729 (1986) (codified at 42 U.S.C.A. §§ 11001 to 11050).

[2] The Senate's version of what was to become Title III would have amended CERCLA, 42 U.S.C.A. §§ 9601 to 9675, but the House's version would have established the emergency planning and right-to-know program as a freestanding statute. H.R. Conf. Rep. No. 962, 99th Cong., 2d Sess. 281 (1986). The Conference Report does not explain why it was considered preferable to create a new law rather than to merely amend CERCLA. The distinction is largely academic, because most of the law is implemented on the federal level by the same office that is responsible for Superfund. However, there are some obvious gaps in Title III that would not have been present had it been part of CERCLA. The authority to inspect covered facilities is an example. *See* § 14:151. In general, the Conference Report is a poor indicator of the intent behind the ultimate choices shaping Title III and is not a particularly illuminating document; it does little more than recite the House and Senate amendments and describe the conference substitutes.

This second factor is significant because of the leveraging effect of public opinion: companies are becoming increasingly aware that their images as toxic polluters can be public relations impediments in an era of heightened sensitivity to environmental issues.[3] A company's reputation can be a greater incentive toward improved environmental practices than a mere set of technical regulations. The Monsanto Corporation, for example, pledged a voluntary 90% reduction in emissions of toxic pollutants from its facilities worldwide as a result of the publication of its Title III Toxic Chemical Release Inventory reports in 1988.[4]

An additional impact of Title III is not immediately obvious, and may have been unintentional since it is nowhere noted in the legislative history. The law's requirements for an annual cataloging of the amounts of chemicals present at, used at, and emitted from facilities effectively force companies to conduct rudimentary environmental audits. A well-constructed environmental auditing program provides an array of economic and other benefits,[5] and many forward-looking companies had already implemented environmental management programs prior to Title III's enactment. To the extent that an audit identifies and targets for correction a company's wasteful practices, it provides economic as well as incidental environmental benefits.[6] Title III should act as a catalyst for companies that have not yet done so to establish formal auditing programs.

Title III represented a fundamental change in this country's approach to toxic and hazardous chemicals. The law operates not by adding to the labyrinth of regulations, but by attempting to alter the traditional regulatory equation. The public—on which EPA had traditionally relied for support—had never really been involved in the difficult job of environmental protection in any significant and ordered way; citi-

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[3]One part of Title III, the § 313 Toxic Chemical Release Inventory program, documents the controlled and uncontrolled release of toxic chemicals from plant sites into surrounding neighborhoods (*i.e.*, releases directly into the surrounding environment). Concern, even outrage, by the surrounding community is a natural result and undoubtedly fuels the "NIMBY" (Not In My Back Yard) syndrome. *See* Steinzor & Smith, The Toxic Combat Zone, Envtl. F., July/Aug. 1988, at 5. As neighborhoods and others have fought against development, chemical plants, and other industrial intrusions into residential areas, a slew of jargon has been concocted to describe the anti-development sentiments. In addition to NIMBY, commonplace terms now include NIMFYE (Not In My Front Yard Either), PITBY (Put It In Their Back Yard), BANANA (Build Absolutely Nothing Anywhere Near Anybody), LULU (Locally Unpopular Land Use), and NOPE (Not On Planet Earth). Currently unused and unsightly industrial areas are referred to as TOADS (Temporarily Obsolete Abandoned Derelict Site). And, quite naturally, the jargon has apparently influenced the political strategies of elected officials: NIMEY (Not In My Election Year) and NIMTOO (Not In My Term Of Office).

[4]Monsanto has acted aggressively to counter the potentially harmful adverse public reaction to its release of chemical hazard information. As was expected, some Monsanto facilities reported very high release numbers; one Monsanto facility in Texas released about 175 million pounds of toxic chemicals into the environment (seventh highest in the nation), which was by itself more than the total released by all facilities in 23 states. *See* EPA, The Toxics-Release Inventory: A National Perspective 70 (1989); Wildlife Federation Says Alcoa No. 1 Polluter of Top 500, Right-to-Know Planning Guide, Aug. 17, 1989, at 4, col. 2. Although the company's focused public relations efforts began shortly after the Bhopal incident, anticipation of the wide dissemination of toxic pollutant information under the § 313 program prompted the pledge, which was issued on the eve of the first § 313 deadline. *See* Monsanto Announces Program to Reduce Air Emissions by 90 Percent, Monsanto General Bulletin No. 626, June 30, 1988. For a description of the Toxic Release Inventory program, see § 14:158.

[5]*See* Chapter 8 (environmental auditing).

[6]An environmental audit may reveal, for example, that large quantities of a chemical that is used as a solvent are being lost. This means higher operating costs from the purchase or production of additional solvent, in addition to the payment of increased, but avoidable, waste disposal costs. Tightened facility practices or installment of solvent recovery equipment will in the long run reduce costs by reducing the amount purchased and wasted. Waste reduction efforts are both cost effective and environmentally beneficial. *See generally* Ch. 8 (environmental audits); F. Friedman, Practical Guide to Environmental Management (1988) (Monograph of the Environmental Law Institute—expands on program outlined in Ch. 8 of this treatise).

zen participation in environmental policy and decisionmaking had been limited largely to lobbying and litigation. Title III attempted to change this dynamic. By arming communities with the information and the authority they needed to improve chemical safety, the law forces a dialogue among federal and state regulators, local communities that had often been complacent about the chemical hazards in their neighborhoods, and "the industries who place them at risk."[7] Title III was among the first major federal programs to systematically involve all three communities affected by environmental regulations: the regulators, the regulated, and those who must ultimately shoulder both the benefits and the burdens of regulatory decisions—the public.

§ 14:148 Overview and structure of Title III

Title III has four principal components:

(1) Emergency planning for accidents (§§ 301 to 303)
(2) Hazardous spill notification (§ 304)
(3) Regular disclosure of chemical inventories (§§ 311 to 312)
(4) Disclosure of annual toxic emissions (§ 313)

The first two components are the backbone of the statute's emergency response system, and the latter two are the cornerstones of its right-to-know program.

Section 301 establishes state and local committees whose purpose is to develop and implement chemical emergency response plans for their local areas using information collected primarily under §§ 302 and 303. Section 302 obligates facilities handling one or more specifically listed "extremely hazardous substances"[1] above designated "threshold quantities" to notify these planners that these substances are present at their sites. The local committees use this information to identify the core facilities around which they must plan. Committees may supplement this bare notice information by using their § 303 authority to request additional specific information about the facilities and the chemicals present there.

An emergency response under a local plan may be triggered by receipt of a § 304 notice. Section 304 obligates facilities to notify designated local response authorities immediately in the event of a spill or release of a CERCLA "hazardous substance" or an "extremely hazardous substance."[2] The universes of facilities covered by the notification requirements of §§ 302 and 304 overlap, but are not identical. This is

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[7]Millar, The Beginnings of Chemical Control, Envtl. Forum, Oct./Nov. 1988, at 26, 32. Union and community activists, using data from § 313 reports, *see* § 14:158, made a company's use of methylene chloride a bargaining chip in contract negotiations, and won a pledge from the company to reduce its emissions 90% by 1993. Reportedly, the union had attempted to put the issue on the table for eight years prior to the company's concession, and what finally turned the tide in favor of the union and the community was TRI data showing that the company was one of the largest emitters of the chemical in the country. Pesticide & Toxic Chem. News, vol. 18, no. 37, at 12 (July 18, 1990).

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[1]These are listed at 40 C.F.R. Part 355, apps. A & B. Substances are added and deleted periodically. *See* 53 Fed. Reg. 7757 (Mar. 10, 1988) (adding substances); 53 Fed. Reg. 13382, 13389 (Apr. 22, 1988) (deleting substances).

[2]The § 304 requirement applies to any facility that has a "hazardous chemical," a "hazardous substance," or an "extremely hazardous substance." However, such a facility need only report a release of a "hazardous substance" or an "extremely hazardous substance." "Hazardous chemicals" is a broader category; all "hazardous substances" and "extremely hazardous substances" are "hazardous chemicals," but the converse is not true. A "hazardous chemical" is one that is so defined by its characteristics under the OSHA Hazard Communication Standard, 29 C.F.R. § 1910.1200(c); a "hazardous substance" is one that is defined and listed under CERCLA § 101(14), 42 U.S.C.A. § 9601(14); an "extremely hazardous substance" is one that is defined and listed under EPCRA § 302(a), 42 U.S.C.A. § 11002(a). *See* 40 C.F.R. § 355.61 (definitions for emergency planning and notification).

because a § 302 planning notification is required only for those "extremely hazardous substances" listed under the authority of that section, while a § 304 spill or release notification is required for a broader range of chemicals, including all § 302 listed chemicals and CERCLA hazardous substances. In addition, the amount of a substance that requires a § 304 notification because it is *released* from a facility is generally less than the amount of the same substance that requires a § 302 planning notification merely because it is *present* at a facility. Therefore, more facilities are subject to Title III's emergency notification provisions than to its planning provisions. This is but one example of how the community affected by Title III's various reporting sections shifts according to each section's objectives.

Sections 311 and 312, part of the right-to-know segment of Title III, actually serve dual purposes. First, they give emergency planners and responders detailed information concerning the amount, location, and hazards of chemicals present at facilities. These data supplement the information obtained under §§ 302 and 303, thereby theoretically enhancing response capabilities.[3] Second, wide dissemination within the community and the state of information obtained under §§ 311 and 312 is essential to achievement of the law's right-to-know objective. The universes of facilities covered by these sections once again overlap, but are not identical to, those covered by §§ 302 to 304: §§ 311 and 312 potentially apply to all facilities covered by the Occupational Safety and Health Act of 1970 (OSHA) Hazard Communication Standard (HCS).

The § 313 Toxic Chemical Release Inventory (TRI) primarily serves the law's right-to-know ends, and is related only tangentially to its emergency planning objective. The TRI is designed as an annual catalog of the specific use and disposal pathways of certain listed toxic chemicals at individual facilities. Only partially overlapping the communities covered by the balance of Title III, the § 313 population is limited to the country's industrial manufacturing sector. TRI data are expected to provide a more accurate understanding of toxics use in this country, and because a computer database of TRI information has been developed and made available to the public, TRI data are the most broadly disseminated of all information gathered under Title III.[4]

The four parts of Title III are distinct, but not entirely discrete. Each serves its own unique purpose, but all are interdependent. As best evidenced by §§ 311 and 312, the planning and right-to-know goals of the law are complementary and work in tandem.

The multiple purposes served by the law mean that not all facilities or chemicals are treated equally. Different provisions of Title III use different jurisdictional "triggers" for obligating facility action. The determination of whether a facility must file reports with federal, state, or local officials, and what information it must provide, is dependent upon the specifications of the reporting requirement in question. A fa-

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[3]Emergency response capabilities are only theoretically enhanced by this information because those who must respond to chemical emergencies have found the sheer volume of paper generated by these two sections essentially unusable. *See, e.g.*, Right-to-Know Laws Burden Fire Departments, Right-to-Know Planning Guide, Apr. 13, 1989, at 4; *see also* Fire and Explosion in Kansas City, Second Report by the Committee on Government Operations, H.R. Rep. No. 124, 101st Cong., 1st Sess. (1989). One state's response to the paper morass is a pilot project to create a single manual providing information on the proper neutralization of specific chemicals, the location of industry response equipment to supplement that of emergency responders, and other information. Connecticut Businesses Assume Greater Role in Emergency Planning and Response, Community and Worker Right-to-Know News, vol. 4, no. 7, at 6 (Jan. 26, 1990). The Connecticut effort is a good example of how Title III has fostered a dialogue between industry and their neighbors on topics of mutual concern, resulting in greater benefits than regulation alone would provide.

[4]*See* EPA, Toxics Release Inventory (TRI) Program, http://www2.epa.gov/toxics-release-inventory-tri-program (last visited Dec. 23, 2021).

cility may be covered by §§ 311 or 312, for example, and therefore need to file chemical inventory reports with various state and local authorities. At the same time, it may not be covered by § 313, and therefore not be required to file reports on its annual chemical emissions with a different set of state and federal authorities. Similarly, a chemical may be simultaneously subject to one or several reporting requirements because it exhibits certain hazardous characteristics or appears on one or more of a variety of chemical lists and is present at a facility in an amount above one or more defined threshold quantities.

Consequently, it is not safe for a facility to assume that just because it is not required to file a report under one part of the law, it is also not subject to another part. To ensure compliance and to avoid the sometimes heavy fines for failing to file Title III chemical information reports, it is incumbent upon the facility manager or appropriate company official to check the specific requirements of every reporting section.[5]

The questions of who must report, what must be reported, and when and to whom the various reports must be submitted are discussed in detail in § 14:152.

§ 14:149 Emergency planning and preparedness—Development of emergency response plans

Title III provides a mechanism for state and local authorities to construct and implement strategies to adequately address chemical accidents or emergencies. Industry and government representatives are expected to work very nearly hand-in-glove to design these emergency plans. Industry must routinely and periodically give state and local officials (as well as the general public) detailed information on the amount, location, and hazards of chemicals present at covered facilities. An amalgam of local industry representatives, government officials, and citizens' groups then use this information to develop the community's local response plan.[1]

Several layers of planning organizations are set up to create what amounts to an emergency response system for the nation. Section 301 requires each state (including the District of Columbia, Indian tribes, and the several territories) to establish a central State Emergency Response Commission (SERC), appointed by the governor, to administer its Title III program overall. The SERC must designate one or more "emergency planning districts" within the state and must perform other organizational tasks. The SERC appoints a local emergency planning committee (LEPC) for each planning district to develop the district's emergency response plan.[2] The SERC

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[5]*See, e.g.*, In re Murry's, Inc., No. EPCRA-III-001 (complaint filed Dec. 1, 1988) (seeking $25,000 for multiple violations of Title III); In re Riverside Furniture Corp., No. EPCRA 88-H-VI-4065 (Sept. 28, 1989) ($75,000 penalty for violation of § 313). However, Title III, except for § 304, does not apply to transportation or to storage incident to transportation. EPCRA § 327, 42 U.S.C.A. § 11047.

[Section 14:149]

[1]EPCRA §§ 301 to 303, 42 U.S.C.A. §§ 11001 to 11003 (establishing and defining membership of state emergency response commissions and local emergency planning committees).

[2]Section 301 directs each SERC to designate appropriate emergency planning districts within the state and to establish an LEPC for each district. These planning districts may or may not be formed along city, county, or other traditional jurisdictional lines. While a few states have designated the entire state as the relevant planning district, most states have established planning districts according to traditional municipal boundaries (cities, counties, and so on). A state is not strictly limited to responding to and planning for only those chemical emergencies that are entirely within the state. Because a chemical emergency may not be contained entirely within the political borders of a single state, emergency planning districts are permitted to cross state lines, if this is necessary for adequate planning and response. For example, if the boundaries of a facility cross state lines so that it is partially located in two states, the SERCs of the affected states may agree to designate a single district that encompasses the facility as a whole.

is intended to oversee and coordinate the LEPCs within the state,[3] while the LEPC is intended to serve as the primary point of contact for the local community and the regulated facilities within its district.

EPA implements EPCRA in Indian country, and the role of tribes is much like states for planning purposes under EPCRA. In 1990, EPA promulgated a rulemaking, codified at 40 C.F.R. Parts 355 and 370, to designate Indian tribes and their chief executive officers as the implementing authority on all Indian lands for purposes of EPCRA.[4] To accomplish this, a SERC is defined to include "the Emergency Response Commission for the Tribe under whose jurisdiction the facility is located."[5] These tribal SERCs are also known as Tribal Emergency Response Commissions (TERCs), and are responsible for carrying out EPCRA in the same manner as SERCs.[6] Similarly, Tribal Emergency Planning Committees (TEPCs) have the same responsibilities as LEPCs in the tribal region.[7] For purposes of this Chapter, references to SERCs include TERCs as they do in the regulations, and LEPCs include TEPCs.

EPA maintains a list of SERC contacts[8] and TERC contacts online. Besides the emergency planning function, LEPCs and SERCs also serve important right-to-know functions by making the emergency plans as well as the various chemical reports received from facilities available to the general public.[9] Facilities are subject to Title III's emergency planning provisions if they have one or more extremely hazardous substances (EHSs) on site above a designated threshold planning quantity (TPQ). Section 302 requires these facilities to identify themselves to the state's planning authorities. The governor or SERC may also specially designate a facility for participation in emergency response planning, even though it would not otherwise be covered under § 302.[10]

Under § 303(a), each LEPC must prepare a comprehensive emergency response plan for the area within its jurisdiction, giving special consideration to facilities at

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[3]The SERC is appointed by the governor and is expected to be composed of emergency response professionals. EPCRA § 301(a), 42 U.S.C.A. § 11001(a) (SERC may be "one or more existing emergency response organizations," and persons appointed should have "technical expertise in the emergency response field"). LEPC membership is intended to be a representative cross-section of the relevant community and emergency response professionals, to include elected and law enforcement officials; health and first aid, environmental, and firefighting personnel; industry representatives; and members of the media. EPCRA § 301(c), 42 U.S.C.A. § 11001(c). The LEPC is responsible for actually developing the emergency plan for its district, and input from the groups that will be involved in responding to a chemical emergency is needed for creation of a realistic and workable plan. The SERC, on the other hand, is more of an oversight body, intended to provide supervisory assistance on a statewide basis.

[4]55 Fed. Reg. 30632 (July 26, 1990).

[5]40 C.F.R. § 355.61 ("In the absence of a SERC for a State or Indian Tribe, the Governor or the chief executive officer of the tribe, respectively, shall be the SERC. Where there is a cooperative agreement between a State and a Tribe, the SERC shall be the entity identified in the agreement."); see also 40 C.F.R. § 370.66 (defining "SERC").

[6]See EPA, EPCRA implementation on Tribal Lands, https://www.epa.gov/epcra/epcra-implementation-tribal-lands.

[7]See EPA, How to Better Prepare Your Community for a Chemical Emergency A Guide for State, Tribal and Local Agencies, 550-F-14-001 (Nov. 2014), https://www.nrt.org/sites/37/files/How%20to%20Better%20Prepare%20Your%20Community%20for%20a%20Chemical%20Emergency.pdf.

[8]EPA, State Emergency Response Commissions Contacts, https://www.epa.gov/epcra/state-emergency-response-commissions-contacts. EPA advises that LEPCs can be identified by contacting the SERC. EPA, Local Emergency Planning Committees, https://www.epa.gov/epcra/local-emergency-planning-committees.

[9]EPCRA § 324, 42 U.S.C.A. § 11044.

[10]EPCRA § 302(b)(2), 42 U.S.C.A. § 11002(b)(2) (also requiring notice and comment of the intent to include the facility).

which EHSs are present.[11] Facilities subject to these plans are expected to participate in their development; § 303(d)(1) requires that a facility designate a "facility emergency coordinator" for this purpose. Section 303 also provides a mechanism for an LEPC to gather additional data about a facility in order to develop its plan.[12]

To ensure that each emergency plan is appropriate for its district, the statute specifies that each LEPC comprise a representative cross-section of its community, including local elected leaders; law enforcement officials; health, environmental, and firefighting personnel; industry representatives; and members of the media.[13] Clearly, in order to create a workable and realistic emergency plan, those who are actually involved in responding to an emergency must be part of the planning process.

Plans are supposed to be uniquely developed for each planning district. Accordingly, EPA has resisted developing a "model" or "fill in the blanks" plan for committees to follow; this is probably prudent because of the temptation to merely create a paper plan without regard to a community's actual needs or abilities. EPA has, however, provided examples of successful planning programs and practices expected to be transferable to other programs in similar communities.[14]

At a minimum, the response plan must consider the likely or probable emergencies that the community may face, and it should define in some detail the procedures the community will follow in any such situation. A minimally adequate plan will detail how particular chemical emergencies will be addressed and how and when areas are to be evacuated; specifically identify and coordinate the response and medical personnel needed for anticipated emergencies at various facilities; identify the equipment necessary to respond properly to different situations; and specify and provide for the training of emergency responders.[15] In the event of a spill or release of a hazardous chemical or substance, § 304 (along with other authorities) requires that the facility provide an "emergency release notification" to various state and local officials. These officials are intended to work together to determine an appropriate response, ideally in accordance with the plan that has been developed for the facility's district.

A source of difficulty with the § 304 emergency notification provision is that it borrows from and builds on other environmental and right-to-know laws. Because a number of different legal authorities must be consulted to determine whether a notification is required, it is often not immediately clear that a notification must be given. What constitutes a "release" and a "hazardous substance," as well as several exceptions to each, are determined by reference to CERCLA.[16] "Extremely hazardous substances," however, are defined under Title III.[17] In many important respects the § 304 notice parallels the spill notice requirement of CERCLA § 103, and

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[11]EPCRA § 303(c)(1), 42 U.S.C.A. § 11003(c)(1).

[12]These reports, under § 303(d)(2)-(3), 42 U.S.C.A. § 11003(d)(2)-(3), are discussed in § 14:154.

[13]EPCRA § 301(c), 42 U.S.C.A. § 11001(c).

[14]*See, e.g.*, EPA, Office of Solid Waste and Emergency Response, Successful Practices in Title III Implementation (Jan. 1989) (Technical Assistance Bulletin 6, No. 1, Chemical Emergency Preparedness and Prevention). EPA's Regional Response Teams will also provide optional reviews of plans.

[15]EPCRA § 303(c), 42 U.S.C.A. § 11003(c).

[16]EPCRA § 304(a), 42 U.S.C.A. § 11004(a); 40 C.F.R. § 355.30(b). Both the statute and the regulation cite and rely on CERCLA definitions, particularly CERCLA §§ 101(22) ("release"), 103, and 40 C.F.R. Part 302. Several exemptions from filing a § 304 notification are also defined by reference to CERCLA; *see* EPCRA § 304(a)(2), (4), 42 U.S.C.A. § 11004(a)(2), (4); 40 C.F.R. § 355.31. Additionally, applicability of the EPCRA § 304 requirement at all is dependent on the OSHA HCS. *See* 40 C.F.R. § 355.30(a), § 355.61 ("hazardous chemical").

[17]EPCRA § 304(a), 42 U.S.C.A. § 11004(a); 40 C.F.R. § 355.10 (requiring reporting of EHSs designated under EPCRA § 302(a)). The list of EHSs is found at 40 C.F.R. Part 355, apps. A & B.

notification is almost always required under both laws.[18] Because these notices must be given immediately upon occurrence of the release, it is not practical or possible to both respond to the emergency and sift through the regulations to determine what must be reported to whom.[19] Consequently, a facility must undertake comprehensive advance planning for a spill that could result in a chemical emergency; this was probably intended, but the law does not specifically require it.[20]

Significantly, the federal role in emergency planning and response is intentionally limited; the federal view is that states must take the lead in emergency planning. EPA and the Federal Emergency Management Agency, under the authority of § 305(a), generally provide only technical training and monetary support, and on the whole have maintained a low profile at the state level.[21]

Some states have been critical of this approach, calling for a much increased federal presence in the overall administration of this federally mandated program.[22] One of the commonly cited problems is that direct federal input almost never reaches the local level because EPA, under an internal agreement known as the "Delta Accord,"[23] prefers to work through the SERCs, which are viewed as the central organizations for all Title III operations. This approach is at least consistent with the statute's structure, as it is the SERCs, not the federal government, that are primarily responsible for managing the LEPCs. These lines of communication have not always proven to be effective or reliable, however.[24]

Nonetheless, local primacy in planning is probably most appropriate because the state and local authorities will be the first to respond to an emergency. A realistic response plan is one that is uniquely tailored to the community's needs, and that adequately reflects local conditions and capabilities. State, tribal, and local agencies are in the best position to determine the appropriate response action for a community, based on the situation presented there.

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[18]*See* § 14:155. The extensive overlap of substances covered by both the CERCLA and Title III spill notifications means that most violations of § 304 are also violations of CERCLA § 103. *See, e.g.*, In re All Regions Chemical Labs, Inc., No. CERCLA-I-88-1089 (complaint filed Sept. 30, 1988). But the two are distinct and independent; the provision of one notice does not discharge the obligation for the other.

[19]EPA regulations attempt to clarify this matter by presenting a table providing notification instructions. 73 Fed. Reg. 65452, 65466 (Nov. 3, 2008) (codified at 40 C.F.R. § 355.60).

[20]As Title III explicitly requires communities to specially plan for the dangerous chemicals located at local facilities, the law indirectly requires the facilities to plan and act more responsibly. In order to comply with EPCRA's multiple reporting requirements, facilities are essentially required to draw up their own emergency response plans, although the law does not mandate these plans or define their content. This contrasts markedly with the traditional prescriptive approach of most federal environmental laws, such as the requirement in 40 C.F.R. Part 112 that facilities develop oil SPCC plans.

[21]Both the statute and EPA policy provide the basis for this low profile. Under EPCRA § 305(a), 42 U.S.C.A. § 11005(a), FEMA has distributed millions to the states for Title III training and education programs, and has provided funding for and participated in reviewing various state proposals in connection with Title III implementation. Under § 305(b), EPA has reviewed the states' "emergency systems" and reported its findings to Congress. *See* EPA Office of Solid Waste and Emergency Response, Review of Emergency Systems: Report to Congress (June 1988). The statute requires no more in the way of an active federal role for implementation of Title III at the state level. EPA policy has also reinforced its inclination to play a supporting role.

[22]*See* Berkowitz, The Law and the Promise, Envtl. Forum, Sept./Oct. 1988, at 24, 28.

[23]The "Delta Accord," so named because it first took shape aboard a Delta Air Lines flight, is an agreement between the Office of Toxic Substances and the Office of Solid Waste and Emergency Response, the two EPA offices responsible for implementing EPCRA. The Accord has three major tenets: first, that local action is the basis for all of Title III; second, that state coordination of Title III's mandates is essential to its success; and third, that successful future regulatory initiatives will be driven by locally generated sentiment.

[24]*See, e.g.*, H.R. Rep. No. 124, 101st Cong., 1st Sess. (1989).

§ 14:150 Emergency planning and preparedness—The role of Right-To-Know in emergency planning

As noted previously, §§ 311, 312, and 313 serve dual purposes. In general, they provide for the wide public dissemination of data concerning the identity, amounts, hazards, and disposal of chemicals present in a community, as well as related information. In addition, information provided under the authority of these sections, particularly §§ 311 and 312, augments and supplements emergency response.[1]

Reporting under §§ 311 and 312 is triggered if a facility is covered by OSHA HCS requirements: anyone who must prepare and maintain a Safety Data Sheet (SDS) (formerly known as a Material Safety Data Sheet (MSDS))[2] at a facility must provide copies of the SDSs or a list of all hazardous chemicals present at the facility to local planning and response officials.[3] An SDS provides information on the hazards associated with the chemical and on how it should be handled in an emergency. Section 312 reports provide additional specific information on the amount and location of chemicals within the facility.

SDSs and § 312 reports provide detailed chemical-specific information on the facilities in an LEPC's district. Besides identifying the chemicals present at each facility, SDSs contain instructions on how to contain spills or fires involving these chemicals. SDSs also provide information that will more quickly enable health professionals to diagnose and treat those exposed to chemicals. Section 312 data further facilitate emergency responses by specifying how much of a chemical is at a facility at any given time, and where it is located. By knowing ahead of time what substances are involved, in what amounts, and where, fire departments can respond more intelligently to an emergency at the facility. LEPCs should also find this information useful in designing overall response plans.

Section 313 is focused more intently on Title III's right-to-know ends. It is intended to collect information concerning the manufacturing sector's actual uses and disposal pathways of over 600 toxic chemicals. As an inventory, it bears more than a passing resemblance to that required by the Toxic Substances Control Act (TSCA) program,[4] but it moves beyond the parameters of the original federal toxics control law. Never before has such extensive, facility-specific information been made generally available. The § 313 program identifies precisely who manufactures, uses, and processes toxic chemicals in the United States, and in what amounts. It provides much additional information, such as data about the waste management practices of covered facilities and specific data on the various disposal routes (direct discharges to the environment, disposal via landfills and publicly owned water treatment works, and so on). Local planning and response officials should be able to use these data both to cross-check data submitted under other sections and to further supplement emergency plans by, for example, identifying how a chemical is used at a facility (if this information is not already obtained under § 303).[5]

§ 14:151 Emergency planning and preparedness—Chemical safety audits

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[Section 14:150]

[1]Sections 311 to 313 are discussed in detail in §§ 14:156 to 14:158.

[2]77 Fed. Reg. 17574, 17577, 17693 (Mar. 26, 2012).

[3]EPCRA §§ 311(a), 312(a), 42 U.S.C.A. §§ 11021(a), 11022(a); 73 Fed. Reg. 65452 (Nov. 3, 2008).

[4]TSCA § 8(b), 15 U.S.C.A. § 2607(b) (TSCA inventory); *see* Stever, *Law of Chemical Regulation and Hazardous Waste*.

[5]Several data elements are repeated across the various reporting sections, such as the specific chemicals (for example, EHSs and various hazardous chemicals reportable under § 311 are also reportable as toxic chemicals under § 313), and the amount on site (reportable under both § 312 and § 313). LEPCs can cross-check these data to confirm their accuracy or to indicate changes at a facility about which the LEPC was not informed under § 303. In addition, reporting under one section may indicate

A major emergency preparedness initiative, although it lacks explicit statutory authority, is EPA's program for "voluntary" chemical safety audits of facilities. Safety audits are part of a larger Agency effort to enhance chemical accident prevention among the regulated community. This effort stands in contrast to the overall thrust of Title III, which is response to accidents after the fact.

EPA may target a facility for a chemical safety audit following a release of more than a reportable quantity of a CERCLA hazardous substance.[1] The audit is conducted preferably with the consent of the facility, and is designed to identify practices, designs, and equipment that may contribute to a future release. A completed inspection report includes suggestions for alternatives and other measures that a facility might take to reduce the likelihood of a chemical emergency. Although a safety audit provides a benefit for an audited facility, it is as much intended to identify for EPA the likelihood or threat of a future hazardous substance release.[2]

Chemical safety audits are an outgrowth of the Title III program. Section 305(b) required EPA to review "emergency systems" for detecting and preventing releases of EHSs from domestic facilities and to report its findings to Congress. Seven facilities were inspected as part of this review, and the Agency's final report recommended further studies into the causes of chemical accidents and ways to prevent them.[3] The safety audit program is EPA's formal follow-up to this recommendation.

EPA's legal authority to conduct such inspections is debatable, however. Title III contains no explicit grant of authority permitting EPA access to a site to conduct an inspection, or even to gather general information about or from a covered facility.[4] The Agency has sought to address this problem by first seeking to obtain a facility's consent for a chemical safety audit. It has further asserted that an audit is conducted under CERCLA authority,[5] despite the program's roots in Title III and even though audit results are shared with SERCs and LEPCs. This solution solves the right of entry and information access concerns, but breeds new problems. As a CERCLA-based action the safety audit is technically a CERCLA § 104 response, which means that its costs are theoretically recoverable from the facility under

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that reporting under another is required; for example, a facility reporting under § 313 should also have provided SDSs and Tier I or Tier II reports to the LEPC and SERC.

[Section 14:151]

[1]A notification of such a release must therefore be provided in accordance with CERCLA § 103(a), 42 U.S.C.A. § 9603(a).

[2]It is this aspect of the program that gives EPA the apparent authority on which it relies to conduct these safety audits. Under CERCLA § 104(b), 42 U.S.C.A. § 9604(b), EPA has authority to "undertake such investigations, monitoring, surveys, testing, and other information gathering" as it deems necessary to determine the extent or threat of a release. CERCLA § 104(e), 42 U.S.C.A. § 9604(e), further permits access to the facility site, and to other information located at the facility, to determine the extent and nature of the release or threat.

[3]EPA Office of Solid Waste and Emergency Response, Review of Emergency Systems: Report to Congress iv, A 9-1 to A 9-9 (June 1988).

[4]Neither EPA nor the states are explicitly given the authority to conduct inspections to determine compliance with EPCRA. As a result, most inspections have been either consensual or combined with inspections under other authorities, such as TSCA. *See* EPA v. Alyeska Pipeline Serv. Co., 836 F.2d 443, 18 Envtl. L. Rep. (Envtl. L. Inst.) 20491 (9th Cir. 1988) (EPA has broad authority to inspect facilities for all aspects of chemical use under TSCA). EPA has explored options of basing an inspection right on the general regulatory authority of § 328, which authorizes promulgation of "all necessary regulations to implement" the law. In addition, in May 1994 the U.S. District Court for the Western District of Arkansas issued an administrative search warrant allowing EPA to inspect a facility to determine its compliance with §§ 311 and 312, based on implicit authority contained in the statute. EPA is also looking to Congress to supply this authority explicitly in its proposed amendments to EPCRA. This legislative oversight has been partially cured by regulation under the § 313 TRI program. *See* § 14:158.

[5]CERCLA § 104(b), (e), 42 U.S.C.A. § 9604(b), (e).

CERCLA § 107. Although EPA prefers to carry out an audit with a facility's permission and has not sought recovery of audit costs, a facility's refusal to grant access for one of these "consensual" inspections under CERCLA would be expected to force the issue of whether the audits are truly voluntary.[6]

Related to the audit initiative is the Agency's Accidental Release Information Program (ARIP), instituted in 1987. ARIP is intended to establish a national database that details the causes and circumstances of chemical accidents, as well as the actions taken by facilities following accidents. This database is intended to fill some significant information gaps on this topic, and is expected to give the Agency a better understanding of both chemical accidents and industry accident prevention practices.

The ARIP program differs from the chemical safety audit program in that it is primarily an information gathering exercise (although the audit program can also trace its roots to this effort). As under the safety audit program, a facility may be targeted for an ARIP questionnaire if it reports to the National Response Center a release of a hazardous substance in excess of its reportable quantity. A facility should anticipate receiving a questionnaire if it has experienced four or more hazardous substance releases within the last 12 months, or if it reports an extremely large release (of several orders of magnitude above the reportable quantity for the chemical), or if a release has resulted in death or injury. The questionnaire seeks to collect detailed information about the release, including what types of release prevention measures were in place and used, what actions were immediately taken in response to the release, and what short-term cleanup measures and other long-term measures were taken to prevent a future release. Again like the safety audit program, the apparent authority to collect such information can be found in CERCLA § 104(e). However, the information parallels that which § 304 requires a facility to provide in the follow-up report to an emergency release.[7]

§ 14:152 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know

Facilities subject to Title III are obligated to file various regular and intermittent reports on the hazardous and toxic chemicals that they use. Whether the reports are primarily intended to serve the law's emergency planning and response or right-to-know ends, they give the public raw data about the chemicals used, present, and disposed of in local communities and in the nation at large.

§ 14:153 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Section 302 emergency planning notifications

Section 302 (in tandem with § 303) gives state and local governments the information they need to develop and implement emergency response plans by identifying the facilities and hazardous chemicals in their planning areas. "Owners and operators" of "facilities" at which EHSs are present in amounts above designated "threshold planning quantities," as these terms are defined, are covered by the emergency planning notification provisions of Title III, and must notify their SERCs

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[6]Presumably, a facility could legitimately refuse the safety audit if a release required only a § 304 notice and not a CERCLA § 103 notice. The two notices, while substantially similar, are not coterminous. *See* EPCRA § 304(a)(2), 42 U.S.C.A. § 11004(a)(2) (specifying instances in which a § 304 notice, but not a CERCLA § 103 notice, is required).

[7]While the notices required by CERCLA § 103 and EPCRA § 304 are substantially the same, EPCRA § 304(c) additionally requires that a facility provide a follow-up notice detailing the actions taken in response to the emergency release, any known health risks associated with the release, and any advice regarding the medical attention required for exposed individuals.

under § 302(c).

The notification is not complex, and the information disclosed is minimal. The purpose of the notification is simply for the facility to stand up and be counted: all that is required is a written notice to the SERC that identifies the facility and indicates that it is subject to § 302. The notice need not list the EHSs present at the facility above their TPQs.[1]

The owner or operator of a covered facility must have given the SERC the initial § 302 notification by May 17, 1987. Thereafter, the SERC must be notified that an EHS is present at a facility no later than 60 days after the facility first acquires the substance in an amount equal to or exceeding its TPQ or first becomes subject to Title III.[2]

It is up to the "owner or operator" to ensure that the planning notification is filed with the LEPC and SERC. "Owner or operator" is not defined, but a "person" who must report is; the definition is sufficiently broad that only facilities owned and operated by the federal government are exempt from reporting.[3]

A covered facility is defined as all buildings, equipment, structures, and other stationary items located on a single site, or on contiguous or adjacent sites, that are owned or operated (*i.e.*, controlled) by the same individual or entity.[4] The definition is very broad and is intended to capture almost all establishments at which an EHS is present in quantity. Normally, it is easy to determine whether a particular site is a covered facility, although it may be difficult to determine the appropriate reporting unit for a large, multiple-establishment operation. The definition of a "facility" under the emergency planning sections is largely the same as that under other reporting sections of Title III, although there are differences. For planning purposes, for example, but not for § 313 purposes, a facility includes the motor vehicles, aircraft, and rolling stock present at the site.[5]

An EHS is one that is specifically so designated and is listed in the Appendices to 40 C.F.R. Part 355. A chemical substance is designated as an EHS because of its short- or long-term toxicity, reactivity, volatility, dispersibility, combustibility, or flammability.[6] The EHS list is not static: EPA revises the list and thresholds periodically, and has done so frequently. The initial listing of EHSs was designated by Congress.[7] EPA immediately amended this listing by adding several chemicals upon implementation of the § 302 reporting rule.[8] The first deletions from the list were of four chemicals that had been listed as the result of clerical error, and took place in

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[Section 14:153]

[1]States like New Jersey may provide example notifications online. See, e.g., NJDEP, EPCRA Section 302/303 Emergency Planning and Notification, https://www.nj.gov/dep/enforcement/opppc/section302notificAB.pdf.

[2]40 C.F.R. § 355.10, § 355.20.

[3]EPCRA § 329(7), 42 U.S.C.A. § 11049(7); 40 C.F.R. § 355.20. Note that a "facility" is an entity owned or operated by a "person." EPCRA § 329(7), 42 U.S.C.A. § 11049(7); 40 C.F.R. § 355.61 ("facility").

[4]EPCRA § 329(7), 42 U.S.C.A. § 11049(7); 40 C.F.R. § 355.61 ("facility"). Note that the statutory definitions operate to exclude federal facilities but to cover state and municipally owned facilities. *See* EPCRA § 329(4), (7), 42 U.S.C.A. § 11049(4), (7). The term "person" is also broad enough to encompass Indian Country because the regulations define "State" to include "any other territory or possession over which the United States has jurisdiction and Indian Country." 40 C.F.R. § 355.61.

[5]40 C.F.R. § 355.61; *cf.* 40 C.F.R. § 372.3.

[6]EPCRA § 302(a)(4), 42 U.S.C.A. § 11002(a)(4). Currently only acutely toxic chemicals are on the EHS list.

[7]The initial list was designated as those chemicals listed in Appendix A of EPA's Chemical Emergency Preparedness Program Interim Guidance (Nov. 1985). EPCRA § 302(a)(2), 42 U.S.C.A. § 11002(a)(2).

[8]52 Fed. Reg. 13378, 13388 (Apr. 22, 1987) (adding four chemicals).

late 1987 in response to a court order.[9] A short time later, 36 more chemicals were delisted for the same reason.[10] The EHS list, like other Title III lists, will likely be amended with some frequency.

The TPQ assigned to an EHS will likewise vary according to the particular substance's characteristics and is set at the amount of the substance that is considered significant for planning purposes. The TPQ is not an indication of the overall risk posed by the substance. But the more likely it is that some particular amount of an EHS would cause hazardous problems if released, the lower its TPQ.[11] For example, toxic gases, volatile liquids, and readily dispersible solids will have lower TPQs than will substances that are less toxic or less likely to be easily dispersed.

TPQs range from 1 pound to 10,000 pounds. In addition, each EHS solid is assigned two TPQs: If it is present as a solid, it will have a higher TPQ; if it is present in solution or as a powder, it will be assigned a lower TPQ because it is more readily dispersible.[12] All forms of an EHS present at a facility must be included, and their amounts aggregated, when determining whether the relevant TPQ is exceeded. However, EHSs present in mixtures or solutions in concentrations of less than 1% need not be counted.[13] Special rules govern mixtures containing solid EHSs in their various forms; some technical expertise is necessary to determine the *de minimis* concentrations of such substances.[14]

§ 14:154 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Section 303 notices

Facilities covered by § 302 are also obligated to provide more specific information under three separate provisions of § 303. First, § 303(d)(1) requires that a facility designate an "emergency coordinator" as its representative to the LEPC for local emergency planning activities.[1] Second, § 303(d)(2) requires that a facility notify the LEPC of any changes at the facility that would affect emergency planning for the area.[2] Finally, § 303(d)(3) requires that a facility give the LEPC any information requested for emergency planning purposes.[3] The provisions of § 303 build on the information obtained under § 302. Section 303 reports are designed to enable planning committees to gather the additional data they require for development of their

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[9]A.L. Laboratories, Inc. v. EPA, 826 F.2d 1123, 17 Envtl. L. Rep. (Envtl. L. Inst.) 21093 (D.C. Cir. 1987).

[10]53 Fed. Reg. 5573 (Feb. 25, 1988).

[11]*See* 52 Fed. Reg. 13378, 13389 to 13390 (Apr. 22, 1987).

[12]52 Fed. Reg. 13378, 13403 (Apr. 22, 1987) (preamble to final rule); 40 C.F.R. § 355, apps. A & B. For example, a solid's TPQ may be listed as 100/10,000 lbs. The lower figure applies if the solid is in powder form and has a particle size of less than 100 microns, or is handled in molten or solution form, or is given an NFPA reactivity rating of 2, 3, or 4. If the solid does not meet any of these requirements, the higher TPQ applies. The rule specifies additional requirements.

[13]40 C.F.R. § 355.13.

[14]40 C.F.R. § 355.16. On March 22, 2012, EPA adopted amendments to raise the way the regulated community applies the TPQ's for EHSs that are non-reactive solid chemicals in solution form. EPA proposed these amendments because available data shows less potential for the solid chemical in solution to remain airborne in the event of an accidental release. The potentially affected chemicals are identified in Appendix C of the TSD for the Revised TPQ Method for EHS Solids in Solution, in the docket to the rule. 77 Fed. Reg. 16679 (Mar. 22, 2012).

[Section 14:154]

[1]42 U.S.C.A. § 11003(d)(1); 40 C.F.R. § 355.20(b); *see* § 14:149 (description of emergency planning).

[2]42 U.S.C.A. § 11003(d)(2); 40 C.F.R. § 355.20(c).

[3]42 U.S.C.A. § 11003(d)(3); 40 C.F.R. § 355.20(d).

plans. By involving facilities directly in the planning process, however, the section seems aimed less at simply giving the public access to additional information about a facility than at establishing a continuing dialogue between the community and its facilities. Its loose and open-ended reporting structure recognizes that each planning committee will likely have different information needs, that a rigid set of reporting requirements could not possibly cover every situation, and that plans would be incomplete for lack of needed information if rigid reporting parameters were set by statute or regulation. By defining reportable information as that which is relevant and necessary for emergency planning, this free-form structure allows LEPCs to tailor facility-specific reporting to meet precise needs.[4]

Because both a § 302 notification and the name of the facility emergency coordinator designated under § 303(d)(1) must be provided to the LEPC within 60 days following the facility's acquisition of an EHS above its TPQ, both can be combined in a single written notice.[5] No time period is established for reporting changes at the facility, or for responding to an LEPC's request for information. The statute only demands that such reports be filed "promptly," which would seem to allow for variations depending on the information involved. In addition, although a facility is always free to provide information that is not technically relevant or necessary, only information that is "relevant" or "needed" *must* be provided. The exact meaning of these terms is unknown and will have to be determined on a case-by-case basis.[6]

§ 14:155 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Section 304 emergency notifications

Section 304 accidental release reports are closely related to CERCLA § 103 reports. In the event of a release of an EHS or a CERCLA hazardous substance in an amount greater than its "reportable quantity" (RQ), § 304 of Title III requires the facility owner or operator to "immediately" notify the SERCs and LEPCs likely to be affected by the release.[1] Because of the extensive overlap between the EHSs listed under § 302 and CERCLA "hazardous substances," a chemical release will ordinarily require notification to both Title III authorities under § 304 and to the National Response Center under CERCLA § 103.[2] The overlap is not complete, however.

Section 304 applies to many more facilities than § 302. The RQ for an EHS is ordinarily less than its TPQ, and many RQs are set at one pound. This means that

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[4]For example, facilities must report on "relevant" changes, and an LEPC may request data that are "needed" for planning purposes, although these terms are undefined. Additionally, the statute specifies no time period in which this information must be provided, only an admonishment that it be provided "promptly." EPCRA § 303(d), 42 U.S.C.A. § 11003(d). Decisions as to what constitutes "relevant" or "needed" information, and whether it was provided "promptly," will probably be made on a case-by-case basis, and as a practical matter will be left to the discretion of the LEPC. Because facilities that are required to report under § 302 have representatives on the LEPC, facilities will be able to participate actively in this process.

[5]*See* Orloff & Sakai, *Community Right-to-Know Handbook* 2-1, 3–5 (1988) (example of combining §§ 302 and 303 notices).

[6]*See* this section note 4. Section 326(a)(2)(B), 42 U.S.C.A. § 11046(a)(2)(B), authorizes the SERC or LEPC to commence a civil action against a facility owner or operator for failing to provide information requested pursuant to § 303(d). *See* § 14:167.

[Section 14:155]

[1]42 U.S.C.A. § 11004(a)(1); 40 C.F.R. §§ 355.42, 355.43.

[2]For an explanation of the CERCLA notification, see § 14:151. *Compare* CERCLA § 103(a), 42 U.S.C.A. § 9603(a), 40 C.F.R. § 302.6 *with* EPCRA § 304(b), 42 U.S.C.A. § 11004(b), 40 C.F.R. § 355.40, § 355.42; *see also* In re All Regions Chem. Labs, No. CERCLA-I-88-1089 (EPA initial decision Dec. 1, 1989), aff'd by the Chief Judicial Officer, July 2, 1990.

a facility that may not have to provide a planning notice under § 302 because it handles only a small amount of a hazardous substance may nevertheless have to provide a § 304 notice if it releases just a small amount of the substance. In addition, the "transportation exemption" in § 327, which excludes from Title III's regulatory ambit any "transportation-related releases,"[3] does not apply to § 304. Therefore, a facility that only provides storage incident to transportation must report a release of a covered chemical or substance, even if it is not otherwise covered by Title III.

Under § 304, "release" is given its ordinary meaning: any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, or dumping of a substance into the environment is included.[4] This generally means any discharge of a chemical that is not specifically permitted under state or federal law. Excluded from reporting under § 304 are federally permitted releases, "continuous" releases, releases from a facility that does not purchase or store hazardous chemicals, releases to an approved disposal facility, and releases that result in exposure solely within the facility site or are otherwise exempted under CERCLA.[5]

Primary among these exemptions are those for "federally permitted" or "continuous" releases. A federally permitted release is one that occurs in compliance with certain state or federal discharge permits.[6] A continuous release is one that is stable in rate and quantity such that it is subject to annual reporting under CERCLA. Disposal at a facility is exempt, but a spill or release occurring in connection with such disposal is not. Less common exemptions include releases from facilities that do not use, produce, or store "hazardous chemicals" (commonly research labs),[7] and those that are exempt under CERCLA § 101(22).[8]

Section 304 actually requires two related notifications: an initial notification at the time of the release and a written follow-up report. The initial report may be given orally (by telephone, in person, or by other similar means) to the LEPC's community emergency coordinator and to the SERC. The notification, which must be given "immediately," must include the identity and amount of the chemical released, the duration of the release, any information concerning the health hazards posed by the release, and other relevant information.[9] Most (but not all) releases are reportable under CERCLA § 103, so essentially the same notification must be given to the

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[3]42 U.S.C.A. § 11047.

[4]EPCRA § 329(8), 42 U.S.C.A. § 11049(8); 40 C.F.R. § 355.61.

[5]EPCRA § 304(a)(2), 42 U.S.C.A. § 11004(a)(2); 40 C.F.R. § 355.31. EPA's Environmental Appeals Board, interpreting EPCRA § 304(a)(4), held that actual exposure to harmful levels of a hazardous substance did not have to be shown to establish a reporting violation. In re Genicom Corp., No. 92-2 (EPA final decision Dec. 15, 1992).

[6]*See* CERCLA § 101(10), 42 U.S.C.A. § 9601(10). EPA has attempted to clarify the exemption. *See* 55 Fed. Reg. 30166 (July 24, 1990) (amending 40 C.F.R. Parts 302 and 355); *see* In re Borden Chem. and Plastics Co., No. EPCRA-003-1992 (EPA partial accelerated decision Feb. 18, 1993) (releases of vinyl chloride from a relief valve are not federally permitted releases and are, therefore, reportable).

[7]EPCRA § 311(e)(4), 42 U.S.C.A. § 11021(e)(4).

[8]Releases exempt from a § 103(a) report under CERCLA § 101(22) are also exempt under EPCRA § 304. These include (1) releases solely within a workplace; (2) exhaust emission releases (from motor vehicles, rolling stock, etc.); (3) releases covered by the Atomic Energy Act and Uranium Mill Tailings Radiation Control Act; and (4) releases from the normal application of fertilizer. In addition, petroleum releases are excluded because petroleum is not a hazardous substance under CERCLA.

[9]40 C.F.R. § 355.40 details the specific contents of an emergency notification. No specific time is provided for submission of a § 304 report, but a timely notification is one that will allow emergency personnel to respond adequately. A notice more than a few hours following the release will likely be viewed as insufficient, and will ordinarily draw a penalty. *See* In re Genicom Corp., No. CERCLA III-006, EPCRA-III-057 (EPA initial decision July 16, 1992) (notification two hours after the occurrence of a release was not "immediate"). In In re Mobil Oil Corp., No. EPCRA-91-0120 (EPA initial decision Dec. 27, 1993), an ALJ held that a notification 10 days after a release was not "immediate," even though the respondent maintained that this amount of time was necessary to determine that a release

National Response Center.[10] A written follow-up notification must be provided to the LEPC and SERC as soon as practicable after the initial notice. The follow-up report should essentially update the initial notification, but it must also describe the actions taken in response to the release and any known or reasonably anticipated health risks associated with the release. If appropriate, it should also provide advice regarding medical treatment for exposed individuals.[11] The fact that information concerning the release becomes publicly available does not alleviate the owner's or operator's responsibility to submit the required follow-up report.[12]

§ 14:156 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Section 311 (SDS) reporting

Nowhere is Title III's relationship to the OSHA HCS more evident than in § 311. This section obligates facilities that are required to maintain and have available an SDS for each hazardous chemical on site above a certain threshold quantity to file copies of the SDS (or a list of SDSs) with state and local authorities. An SDS is a multi-page document that discloses the identity of a chemical, describes its physical and health hazards, identifies the manufacturer, and details safe handling and emergency practices. The definition of an SDS, the chemicals for which SDSs are required, and the facilities that are required to have them are all set by the HCS (with minor variations provided in § 311); consequently, the universe of covered facilities once again differs, as it does among very nearly all sections of Title III.[1]

Chemicals requiring SDSs are identified not by reference to a list, but by their hazardous characteristics.[2] Under the OSHA HCS, a hazardous chemical is any element, chemical compound, or mixture of compounds that is a physical or health hazard. A chemical is considered a physical or health hazard if it is a carcinogen, a reproductive toxin, a toxic or highly toxic agent, or a sensitizer; if it is corrosive; or if it damages the skin, eyes, or mucous membranes. Both the HCS and Title III punctuate this broad definition with a number of specific exemptions based primarily on the intended use of the substance.[3]

Any facility that manufactures or imports such a chemical is required to prepare

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in excess of the federally permitted amount had occurred, and therefore that a notification was required.

[10]*See* § 14:113.

[11]EPCRA § 304(c), 42 U.S.C.A. § 11004(c); 40 C.F.R. § 355.40(b).

[12]Center for Biological Diversity, Inc. v. BP America Production Co., 704 F.3d 413, 76 Env't. Rep. Cas. (BNA) 1017, 2013 A.M.C. 221 (5th Cir. 2013) (holding that failure to submit written notification was a continuing violation of EPCRA).

[Section 14:156]

[1]The universe of facilities is different for almost every section of Title III. Facilities covered by §§ 302 and 303 are those that have an EHS present above its TPQ; § 304 is broader, covering any facility that may release either an EHS or a CERCLA hazardous substance above a defined threshold amount. All facilities covered by §§ 302 and 303 are completely included within § 304's ambit, but the converse is not true. The coverage of §§ 311 and 312 is broader still, applying to all manufacturing and nonmanufacturing facilities that must have SDSs for chemicals present above certain threshold quantities. The universe of facilities covered by these sections does not completely overlap with those covered by §§ 302 to 304 because chemicals for which SDSs are required may or may not also be EHSs or CERCLA hazardous substances. The universe of § 313 facilities is a subset of those covered by §§ 311 and 312; § 313 applies only to certain chemicals made or used above certain thresholds by larger manufacturing sector facilities. Thus, it is entirely possible to be covered by all of the law's sections, or only some, in almost any combination.

[2]"Hazardous chemicals" are defined according to standards set by the OSHA HCS, 29 C.F.R. § 1910.1200(c). There are some exceptions. *See* 40 C.F.R. § 370.13; *see also* note 3.

[3]The OSHA HCS does not require that SDSs be prepared for substances regulated as wastes

an SDS for it. In addition, the HCS requires that an employer maintain an SDS for any chemical to which workers will be exposed in the workplace. A "facility" for § 311 SDS reporting purposes is defined as any buildings, equipment, or other stationary structures located on a single contiguous site or on adjacent sites owned or operated by the same person. Note that trucks, other shipping vehicles (including pipelines), and subsurface operations are considered to be "facilities" under this definition.[4] The initial round of § 311 SDS reporting, in October 1987, applied only to facilities in the manufacturing sector (those within Standard Industrial Classification (SIC) Codes 20–39). The HCS has since been expanded to include the nonmanufacturing sector, and now encompasses nearly all facilities in which hazardous chemicals are likely to be present in quantity.[5] The application of the HCS expansion to construction sites was delayed for a time by an industry lawsuit. The basis for the suit and temporary stay was that it would be difficult, if not impossible, to determine who was responsible for complying with the HCS requirements at construction sites, which commonly have a large number of contractors and subcontractors.[6] The suit was subsequently dismissed.

So-called "downstream users" of hazardous chemicals are not required to prepare SDSs, but they are required to have them available for hazardous chemicals known to be present at the worksite; if the supplier does not provide an SDS, the user must request one. Some "downstream users," such as warehousing or retail sales establishments, are subject only to abbreviated HCS requirements, but are still bound to Title III reporting.[7]

If a facility is required to maintain an SDS on site, and if certain poundage thresholds are exceeded, it must provide copies of the SDS to its SERC, LEPC, and local fire department within three months after the time the HCS requires it to have the SDS on site. Reporting thresholds and reporting dates are phased in over a three-year period. For the first two years that a facility is subject to Title III, SDSs must be reported for all non-EHS hazardous chemicals present at the facility in amounts of 10,000 pounds or more. The threshold would have dropped to zero pounds in the third year, but this final threshold was delayed for a year and has since been finalized at the interim levels.[8] The threshold for the first two years is

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under RCRA; for tobacco or tobacco products; for wood or wood products; for "articles" as defined in 29 C.F.R. § 1910.1200; for foods, drugs, cosmetics, or alcoholic beverages for retail sale or used by employees on the worksite; for consumer products or hazardous substances, as defined under the Consumer Product Safety Act; or for drugs in final form regulated by the Federal Food, Drug, & Cosmetic Act for direct consumption by patients. Additional exemptions are contained in § 311(e) of Title III (exempting from SDS reporting requirements all food, additives, and drugs regulated by the FDA; substances present as solids in manufactured items for which no exposure occurs under normal use; substances sold for personal use; substances used in research and by hospitals; and substances used as fertilizers). 29 C.F.R. § 1910.1200(b)(6).

[4]Note that this differs from the definition of "facility" for emergency notification under § 304, and for TRI reporting under § 313. *Compare* 40 C.F.R. §§ 355.61, 370.66 *with* 40 C.F.R. § 372.3.

[5]52 Fed. Reg. 31852 (Aug. 24, 1987).

[6]Associated Builders & Contrs., Inc. v. Brock, 862 F.2d 63 (3d Cir. 1988), cert. denied, 490 U.S. 1064 (1989).

[7]29 C.F.R. §§ 1900.1200(g)(6) to (10). Sections 311 and 312 apply to anyone who is required to prepare or "have available" an SDS.

[8]The reporting threshold was to have dropped to zero pounds on October 17, 1989; however, on October 12, 1989, EPA extended for one year the interim thresholds that apply to manufacturing facilities, *see* 54 Fed. Reg. 41904, 41906 (Oct. 12, 1989) (interim final rule revising 40 C.F.R. § 370.20, effective October 17, 1989), and finalized them on July 26, 1990. 55 Fed. Reg. 30632 (July 26, 1990) (final thresholds at 10,000 pounds for SDS reporting, and TPQs 500 pounds for EHSs). The final thresholds are now codified at 40 C.F.R. § 370.10.

lower for § 302 EHSs: 500 pounds or a substance's TPQ, whichever is less.[9] The final zero-pound threshold for EHSs was also extended for a year, but has also been finalized at the interim level of 500 pounds.[10] The phase-in was also facility-specific; that is, it depended on when the facility became subject to SDS requirements and when it acquired a hazardous chemical in an amount exceeding the chemical's planning threshold. The final thresholds are now codified at 40 C.F.R. § 370.10.

Section 311 also permits facilities to supply only a list of the SDSs that they maintain on site in lieu of supplying the individual SDSs. If the list option is selected, which may be desirable if the facility has many different chemicals on site, the chemicals must be grouped according to their health and physical hazards; EPA has consolidated the 23 OSHA hazard categories into just five for this purpose.[11] The chemicals must be listed according to their common names. The list must include any hazardous component, as provided on the SDS (except in the case of mixtures).[12]

Although reporting by list is intended to be a less burdensome alternative to full SDS reporting, it does not completely excuse the facility from providing SDSs to the public. An LEPC may request any SDS maintained by a covered facility, which the facility must provide within 30 days.[13] Anyone may obtain an SDS from the LEPC.[14] Mixtures present special reporting problems. An SDS may be prepared for the mixture as a whole or individual SDSs may be prepared for each of its hazardous components.[15] If the SDS is prepared for the mixture as a whole, its contents will vary according to what is known about the mixture. If the mixture has been tested as a whole for its hazardous characteristics, the SDS need list only those components that actually contribute to its hazardous nature. If the mixture has not been tested as a whole, the SDS must list each hazardous component present in the mixture.[16] Thus, a facility has a number of options when reporting mixtures. It can supply a single SDS for each mixture, which may or may not include all of the mixture's ingredients, or it may supply an SDS for each individual component of the mixture, which will not indicate to others that the components are present in a mixture. These options can help companies protect trade secrets.[17]

§ 14:157 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Section 312 chemical inventory reporting

Section 312 chemical inventory reporting supplements the § 311-generated chemical hazard information, and is triggered by the same OSHA HCS requirements. Facilities required to file SDSs under § 311 are also required to file with their SERC, LEPC, and fire department annual reports detailing the amounts and locations of chemicals present at the facilities. These inventory reports must be filed by March 1 of each year using either of the two federally prescribed forms ("Tier I" and "Tier

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[9] 40 C.F.R. § 370.10(a)(1). Five hundred pounds is the approximate weight of one 55-gallon drum.

[10] 55 Fed. Reg. 30632 (July 24, 1990); 54 Fed. Reg. 41904 (Oct. 12, 1989) (interim levels).

[11] Two of these are health hazard categories— immediate or acute hazards and delayed or chronic hazards. Three are physical health hazard categories—fire hazards, sudden release of pressure hazards, and reactivity hazards. 52 Fed. Reg. 38344, 38354 (Oct. 15, 1987).

[12] 40 C.F.R. § 370.14, § 370.30.

[13] 40 C.F.R. § 370.30(b).

[14] EPCRA § 324, 42 U.S.C.A. § 11044(a).

[15] 40 C.F.R. § 370.14.

[16] 29 C.F.R. § 1910.1200 app. D.

[17] *See* § 14:159.

II") or a state-approved reporting form that contains the same information.[1] On July 13, 2012, EPA revised these forms to add new data elements and revise some existing data elements for use starting in the 2013 reporting year; for example, the forms require the reporting facilities to specify the latitude and longitude of the facility, whether the facility is staffed or not, an estimate of the number of occupants, range codes for quantities of hazardous chemicals, and whether the facility is subject to the EPCRA § 302 notification for EHSs.[2]

Section 312 reporting tracks § 311 reporting closely: the requirements on thresholds and phased-in reporting apply to both. In addition, a chemical should ordinarily be reported under § 312 in the same manner as under § 311. The options for reporting mixtures under § 311 are also available under § 312; mixtures should be reported consistently under both sections, where practicable.[3] Section 312 establishes a two-tier reporting structure. The minimum reporting requirement is satisfied by a "Tier I" report, which is simply an estimate of the amount of hazardous chemicals present at the facility during the preceding year, the average daily amount of each chemical present, and their general location within the facility.[4] Single chemicals and mixtures are not reported individually, but aggregated and reported according to the five hazard categories defined by EPA under § 311.

Tier II reporting is chemical-specific. A Tier II report must include the chemical name or common name as provided on the SDS, an estimate of the maximum amount of the chemical present on site at any one time, an estimate of the average daily amount present, a brief description of the manner of storage, and a description of the location of the chemical at the facility. Tier II reports must be provided upon request by a SERC, an LEPC, any other state official, or a member of the public.[5] If a facility has opted to file only Tier I reports, it must prepare a Tier II report in response to the request; however, if it has already filed the Tier II report, the SERC or LEPC must provide it to the requestor.

Although Tier I reporting is intended to facilitate and ease the reporting burden, little is actually gained by submitting Tier I forms instead of Tier II forms. Tier II reports must be prepared promptly upon demand, and Tier II forms on individual chemicals are used as "worksheets" for calculating the overall amounts and hazards reported on Tier I forms.

Congress has established some special considerations regarding the provision of information to the public under § 312. Members of the public must submit requests for Tier II information in writing to the SERC or LEPC and must specify the facility for which they are requesting information.[6] If the request for Tier II information is made for a chemical present at a facility in an amount less than 10,000 pounds, it must be accompanied by a statement of need for the information. The SERC or LEPC is not required to request this information from the facility, but if it does, the facility must give the information to the requesting party.[7] The SERC or LEPC has 45 days to respond to a request for Tier II data; this time limit seems intended to allow the SERC or LEPC an opportunity to acquire the information from the facil-

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[Section 14:157]

[1]EPCRA § 312(a)(2), 42 U.S.C.A. § 11022(a)(2); 40 C.F.R. §§ 370.40 to 370.42.

[2]77 Fed. Reg. 41300 (July 13, 2012).

[3]40 C.F.R. § 370.14.

[4]EPCRA § 312(d), 42 U.S.C.A. § 11022(d); 40 C.F.R. § 370.40, § 370.41.

[5]EPCRA § 312(e)(1), 42 U.S.C.A. § 11022(e)(1); 40 C.F.R. § 370.30(b).

[6]EPCRA § 312(e)(3), 42 U.S.C.A. § 11022(e)(3).

[7]EPCRA § 312(e)(3), 42 U.S.C.A. § 11022(e)(3).

ity, if it does not have it on file.[8] Finally, the specific location information provided with Tier II reports may be claimed confidential and is not available to the public.[9]

Section 312 gives fire departments limited authority to inspect facilities that have filed reports. However, the section somewhat curiously omits a right of access to determine whether a facility has complied with the reporting requirement in the first instance.[10]

Together, §§ 311 and 312 generate much detailed information on the chemicals present and in use at manufacturing and nonmanufacturing facilities. Although they serve primarily Title III's right-to-know ends, they are also important for fleshing out emergency response plans. Information on the amounts, locations, and physical and health hazards of all hazardous chemicals, not just EHSs, is necessary and integral to a fully comprehensive response plan. By and large, however, for most planning purposes the hazard information provided by § 311 reports is adequately captured by § 312 Tier II forms.

Title III emergency planning would be much improved if the sheer volume of paper regularly provided to emergency responders were cut back. There were persistent reports of fire departments being overwhelmed by vast numbers of multi-page SDS reports, and unconfirmed anecdotes that they have been accordingly assigned to the trash bin. Use of electronic information should ease prior concerns and facilitate access.

§ 14:158 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Section 313 reporting of annual toxic emissions

If the provisions of Title III discussed in the preceding sections focus upon current concerns with chemical usage in the United States, the TRI program looks to the future. The testimony of the data gathered by the § 313 TRI program will likely predict the coming course of chemical regulation in this country. How well these inventory data are understood by EPA, industry, and the public will determine the extent to which toxic chemicals remain an ubiquitous and persistent health and environmental threat.

The TRI inventory fills a gap left by the original TSCA inventory.[1] The TSCA inventory was intended to be a complete compilation of all chemicals manufactured in this country and their intended uses.[2] However, this rudimentary information does not provide a full picture of actual toxic chemical usage and disposal practices. TRI fills this gap by collecting significantly more accurate and complete data than has previously been available. Despite the shortcomings of the TRI data,[3] EPA for the first time has available information specifying precisely which facilities

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[8]EPCRA § 312(e)(3)(D), 42 U.S.C.A. § 11022(e)(3)(D). A citizen may sue the SERC (or governor) for failing to provide § 312(e)(3)-requested information. EPCRA § 326(a)(1)(D), 42 U.S.C.A. § 11046(a)(1)(D). A SERC may sue a facility for failing to provide a Tier II form upon a request under § 312(e)(1). EPCRA § 326(a)(2)(B), 42 U.S.C.A. § 11046(a)(2)(B). No suit is authorized against an LEPC for failing to provide the requested information.

[9]EPCRA § 312(e)(2)(F), 42 U.S.C.A. § 11022(d)(2)(F).

[10]EPCRA § 312(f), 42 U.S.C.A. § 11022(f).

[Section 14:158]

[1]The similarity to TSCA has not gone unnoticed. Stever, Law of Chemical Regulation and Hazardous Waste.

[2]TSCA § 8(b), 15 U.S.C.A. § 2607(b); *see* § 16:29.

[3]TRI discharge data may or may not represent actual amounts. Discharge data may be estimates only; Title III does not require that facilities monitor actual discharges, only that they use "reasonably available" data. EPCRA § 313(g)(2), 42 U.S.C.A. § 11023(g)(2). Estimates may be calculated using a va-

manufacture, process, and use certain listed toxic chemicals, in what amounts, and by which pathways these chemicals exit the facilities. This information should enable EPA to regulate more wisely, and by involving the public, § 313 is expected to act as a catalyst for changes in this country's response to toxic pollution.

The history of environmental regulation in the 1970s had been primarily a bilateral contract between the regulators and the regulated. The right-to-know provisions of Title III, particularly § 313, were part of a trend in the 1980s toward making this a more evenly balanced three-way deal. The TRI program's contribution was to publicly broadcast raw chemical release information by several means, including a computer database network accessible by anyone with the internet.[4] This let the public at large—always the driving, if somewhat sporadic, force behind significant environmental reforms—in on the information guiding environmental regulatory choices.

The TRI is essentially a survey of chemical usage by the United States manufacturing sector. Each covered facility must report its name and location, its principal economic activities, the identity, uses, and maximum amount of the toxic chemicals present at any time during the year, the waste treatment and disposal methods it employs (along with an estimate of their efficiency), and the amounts of the chemicals it discharges to each environmental medium, as well as the amounts and destinations of off-site shipments (such as to landfills and incinerators). The report in which this information is submitted is known as "Form R."

The Pollution Prevention Act of 1990 (PPA)[5] has added to the inventory of chemical information to be supplied by facilities subject to the TRI reporting requirements.[6] Pursuant to the PPA, each owner or operator of a TRI-covered facility must submit new data covering source reduction and recycling data for each toxic chemical reported.[7] The PPA reporting requirements cover the quantity of the toxic chemical entering the wastestream (or otherwise released into the environment), the quantity entering recycling processes both at the facility and off-site, and the quantity treated on-site and off-site during the calendar year.[8] In addition, the PPA requires data that is designed to track a facility's waste reduction achievements: The percentage change from the previous year—and for the following two years—of the amounts entering any wastestream and being recycled must be reported for each covered chemical.[9] The percent change from the previous year must also be reported for the

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riety of methods, including "mass balance" calculations. *See generally* EPA Office of Pesticides and Toxic Substances, Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form (1987); *see also* this section notes 41-42 and accompanying text (accuracy of mass balance calculations).

[4]EPCRA § 313(j), 42 U.S.C.A. § 11023(j). There were some difficulties with the initial accessibility of the TRI database. For example, while the data could be accessed directly, they were difficult to manipulate, criticized as not user-friendly, and not available for downloading to home systems. Despite these initial problems, the ability to acquire this information directly remained a tremendous improvement over traditional methods of accessing EPA data (*e.g.*, through the Freedom of Information Act).

[5]Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, § 6607, 104 Stat. 1388–321 (1990) (codified at 42 U.S.C.A. §§ 13101 to 13109).

[6]Pollution Prevention Act § 6607(a), 42 U.S.C.A. § 13106(a).

[7]Pollution Prevention Act § 6607(a), 42 U.S.C.A. § 13106(a). The Pollution Prevention Act added to the reporting requirements of Form R. EPA was permitted (but not required) to modify Form R to include the mandated pollution prevention data, which it elected to do. Pollution Prevention Act § 6607(c), 42 U.S.C.A. § 13106(c). The pollution prevention data were required beginning with calendar year 1991.

[8]*See* Pollution Prevention Act § 6607(b)(1)-(2), (8), 42 U.S.C.A. § 13106(b)(1)-(2), (8).

[9]Pollution Prevention Act § 6607(b)(1)-(2), (4), 42 U.S.C.A. § 13106(b)(1)-(2), (4).

amount of the chemical that is treated.[10] For the first year of pollution prevention data reporting, however, a comparison with the previous year is required only if the information is available.[11]

Further, the PPA requirements include reporting of the source reduction practices used with regard to the chemical, the techniques used to identify source reduction opportunities, and a ratio of production in the reporting year to production in the previous year.[12] Reporting is also required of the amount released into the environment as a result of a catastrophic event, remedial action, or other one-time event not associated with production processes.[13]

The owner or operator of a manufacturing facility is obligated to file an individual "Form R"[14] report on each of the almost 800 listed toxic chemicals that the facility manufactures, processes, or otherwise uses above a designated threshold quantity. In addition to these specifically listed chemicals, there are currently 20 whole categories of chemical compounds to which these reporting requirements apply. There are special rules for mixtures, which must be reported by their individual constituents and not as wholes, as is commonly attempted. Form R reports must be filed by July 1 of each year, and must cover chemical usages during the prior calendar year. Duplicate original copies of each Form R report must be filed with both state and federal authorities. The state recipient is not necessarily the same as that for § 311 and § 312 reports; the federal recipient is EPA headquarters.[15] Since April 19, 2012, EPA has required facilities located in Indian country to report to EPA and the appropriate tribal government instead of to the state.[16]

On November 30, 1994, EPA announced the addition of approximately 300 chemicals and chemical categories to the list of toxic chemicals required to be reported under § 313.[17] The addition of these chemicals and chemical categories is based on any or all of their acute human health effects, carcinogenicity or other chronic human health effects, or their environmental effects. The expansion almost doubled the number of chemicals that are required to be reported under § 313, from 337 to 648, and it now stands at almost 800 chemicals.[18] Congress and EPA have listed some chemicals for which it may be difficult for the regulated industry to determine applicability, particularly for per- and polyfluoroalkyl substances (PFAS), due to potential lack of information in SDSs.[19]

All manufacturing facilities (primarily facilities in SIC Codes 20–39) with more

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[10]Pollution Prevention Act § 6607(b)(8), 42 U.S.C.A. § 13106(b)(8).

[11]Pollution Prevention Act § 6607(b)(8), 42 U.S.C.A. § 13106(b)(8).

[12]Pollution Prevention Act § 6607(b)(3), (5)-(6), 42 U.S.C.A. § 13106(b)(3), (5)-(6).

[13]Pollution Prevention Act § 6607(b)(7), 42 U.S.C.A. § 13106(b)(7).

[14]In 1994, EPA introduced a streamlined form, "Form A," and has been expanding its use to reduce the reporting burden on covered facilities.

[15]The state recipient is usually the SERC or the state's department of environmental protection. EPA offers guidelines and instructions for reporting on its TRI Program website at TRI Program: GuideMe, Reporting Forms and Instructions, https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:rfi-home.

[16]77 Fed. Reg. 23409 (Apr. 19, 2012) (adding 40 C.F.R. § 372.20 and revising §§ 372.3, 372.27, and 372.30). The definition of "state" no longer includes "Indian country," which is separately defined in 40 C.F.R. § 372.3.

[17]59 Fed. Reg. 61432 (Nov. 30, 1994).

[18]See EPA, TRI Program: GuideMe, Chemical List, https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:chemical-list-basic-search.

[19]See, e.g., National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116-92 § 7321, 133 Stat. 1198 (amending EPCRA § 313, 42 U.S.C. § 11023); 86 Fed. Reg. 29698 (July 6, 2021).

than ten full-time employees, or the equivalent,[20] are potentially required to file TRI reports.[21] EPA has issued comprehensive TRI guidance online through its "GuideMe" webpage, which covers reporting forms and instructions, detailed questions and answers, and information about all three threshold TRI criteria (covered industry sectors; employing 10 or more full-time equivalent employees; and manufacturing, processing, or otherwise using TRI-listed chemicals above threshold levels in a given year).[22] In 2006, EPA began transitioning from using exclusively SIC codes to also using corresponding North American Industry Classification System (NAICS) codes for purposes of TRI reporting.[23] EPA has since required facilities to use NAICS codes for TRI reporting.[24] Several different codes may apply to the various economic activities at a facility, but only the facility's "primary" activity is critical to determining coverage.[25] A facility ordinarily determines its codes for itself, although in cases of dispute EPA must determine, in its discretion, the facility's appropriate classification.[26] In the first year of TRI reporting, the vast majority of reported releases of toxic chemicals into the environment came from facilities in major SIC Code 28 (chemical products), followed by major SIC Codes 26 (paper products) and

[20]"Equivalent" employees refers to the number of part-time workers. In addition, on August 3, 1993, President Clinton signed Executive Order No. 12856, entitled "Federal Compliance with Right-To-Know Laws and Pollution Prevention Requirements." The Executive Order requires federal facilities to comply with all provisions of EPCRA and the Pollution Prevention Act, regardless of SIC Code.

[21]The 10-employee requirement is functionally a small-business exemption. However, a facility satisfies this requirement even if, for example, it has only eight full-time employees and four who work part-time. The determination is based on the total hours worked by all employees—the standard is the "full time equivalent" of ten employees. A facility calculates this figure by totaling the hours worked by all employees and dividing by 2,000 hours, the "full time equivalent" for a "full time employee." 40 C.F.R. § 372.3 ("full time employee"); EPA, TRI Program: GuideMe, Guidance § 2.3, https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:gd:::::gd:spray_2#spray_2_3 (last visited Dec. 23. 2021).

[22]EPA, TRI Program: GuideMe, https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme%3Ahome (last visited Dec. 23. 2021).

[23]71 Fed. Reg. 32464 (June 6, 2006). The SIC codes and corresponding NAICS codes are listed in 40 C.F.R. § 372.23.

[24]Facilities have been required to report NAICS codes since the 2006 reporting year (for forms due since July 1, 2007). 71 Fed. Reg. 32464 (June 6, 2006). EPA has continued to update the regulations to reflect revisions by the White House Office of Management and Budget (OMB) to the NAICS codes, which typically occur every five years. *See, e.g.*, 78 Fed. Reg. 42875 (July 18, 2013).

[25]The "primary" code is that which describes the activity that predominates in terms of the economic value of the products manufactured or shipped from the facility. *See generally* Office of Management and Budget, Standard Industrial Classification Manual (1987). A "multi-establishment" facility, which is a single manufacturing facility with several different "establishments" or discrete economic units, must determine the primary code that applies to each establishment, then calculate which establishment contributes most in overall value to the facility as a whole; this yields the primary code for the entire facility. 40 C.F.R. § 372.22(b)(2)–(3); TRI Program: GuideMe, Reporting Forms and Instructions § B.2.b. (Multi-establishment Facilities), https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:rfi:::::rfi:2_2 (last visited Dec. 23, 2021).

[26]OMB has issued a policy directive to this effect, requiring each federal agency to determine for itself whether the application of a particular SIC code meets its regulatory objectives, and granting the agency the authority to modify SIC code descriptions accordingly. *See also* EPCRA § 313(b)(1)(B), 42 U.S.C.A. § 11023(b)(1)(B); H.R. Conf. Rep. No. 962, 99th Cong., 2d Sess. 292–93 (1986) (EPA has authority to address SIC code coverage issues for "borderline" facilities). SIC Codes were developed for statistical purposes, in order to describe the economic activities of the United States, and not for regulatory purposes. As a result, OMB, which was responsible for developing SIC code descriptions, has directed agencies using SIC codes for regulatory purposes to evaluate for themselves the appropriate SIC code in any given case; OMB clearly does not intend to become the arbiter of EPA-facility code disputes. In 1997, OMB adopted NAICS codes to replace SIC codes, and EPA has since adjusted accordingly by using them for TRI reporting purposes. *See* 61 Fed. Reg. 4524 (Feb. 6, 1996) (OMB proposal to use NAICS codes).

33 (primary metals).[27] EPA makes TRI data available online by year, facility, industry, chemical, and other criteria.[28] EPA occasionally expands the list of covered SIC and NAICS Codes in 40 C.F.R. § 372.23, including in response to public petitions and pressure. For example, in November 2021, EPA added natural gas processing (NGP) facilities (also known as natural gas liquid extraction facilities), which are within SIC Code 1321 and NAICS Code 211130, to the scope of the industrial sectors covered by the reporting requirements of both Section 313 of EPCRA and Section 6607 of the PPA.[29]

Section 313 defines "facility" slightly differently than other sections of Title III: it includes all buildings, equipment, structures, and other *stationary* items on a single site, or on contiguous and adjacent sites under common control or ownership.[30] The chief difference is that under §§ 302 to 304 and 311 to 312, the definition of "stationary" includes rolling stock, motor vehicles, and aircraft present at the site, whereas the § 313 definition does not consider stationary those items that are movable to other sites.[31]

A single facility may be comprised of multiple "establishments," or discrete economic units that are part of the whole operation. These different establishments are not considered individual facilities, although separate reports can be submitted for each establishment.[32]

Industrial parks, warehousing operations, and other similar operations present some difficulties for determining who must report and what must be reported. The owner of an industrial park, in which space is leased and the owner has only a real estate interest, is not considered to be the operator of the site and is therefore not primarily obligated to report. The lessee, as the facility operator controlling the activities at the leased portion of the site, is responsible for reporting so long as it satisfies all the other § 313 reporting requirements.[33] However, note that because both the owner and the operator are subject to § 313, if no report is received from a covered facility, both could be held liable for nonreporting penalties.

The determination of who is primarily responsible for reporting ordinarily depends on who controls the facility grounds. For example, if a manufacturer sells a product such as crude oil stored in tanks, and also leases the storage area to the purchaser, the manufacturer/lessor is still the facility operator and must report any releases from the tanks because they are releases from its facility, even though the facility owner no longer owns the oil and has leased the property on which the oil is stored. Similarly, however, a company that has contracted with a warehouse for transshipment, in which products are not repackaged or otherwise processed but are only stored for reloading for later transit, does not need to report because it neither owns the warehouse nor controls the warehousing operations. And because a warehousing operation is not a manufacturing process, the warehouse owner and operator is also

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[27]The chemical products manufacturing industry, as might be expected, was far and away the largest emitter of toxic chemicals, discharging over 12 million pounds into all environmental media. The second largest emitter was the paper products manufacturing industry, far behind with over 2.8 million pounds discharged. EPA, The Toxics-Release Inventory: A National Perspective 14–15 (1989).

[28]EPA, TRI Explorer, https://enviro.epa.gov/triexplorer/tri_factsheet_search.searchfactsheet?.

[29]86 Fed. Reg. 66964 (Nov. 24, 2021).

[30]40 C.F.R. § 372.3.

[31]*Compare* 40 C.F.R. § 372.3 (facility definition for § 313) *with* 40 C.F.R. § 355.61 (facility definition for §§ 302 to 304) *and* 40 C.F.R. § 370.66 (facility definition for §§ 311 and 312).

[32]40 C.F.R. § 372.30(c). If one part of the facility reports separately, however, all establishments must file separately, and then only for the chemicals for which they are responsible (*e.g.*, one establishment cannot report the waste shipped offsite by the entire facility, but only the waste shipped off-site by that one establishment).

[33]40 C.F.R. § 372.38(e) to (f).

not required to report. However, the owner of a building leased by another company for food preparation would be required to report the chemicals used for refrigeration (ordinarily ammonia), if the building owner provides refrigeration services to the lessee.

The obligation to report is keyed to specific amount thresholds, which vary according to the activities associated with the chemical at the facility; these thresholds are discussed in detail below. TRI reporting is not, as is often mistakenly asserted, keyed to the amount *released* from the facility.[34] Another potential source of reporting error is that the list of reportable chemicals is not static, and a chemical that a facility did not have to report one year may have to be reported the next.[35] The periodic additions and deletions mean that a potentially covered facility must keep track of what chemicals are covered well before the July 1 deadline to avoid having to hastily pull together the needed information from the previous year's records.

One of the most troublesome reporting terms is the requirement that facilities report 20 whole categories of chemicals and compounds. Listed categories cover any chemical that has one of the listed compounds present as part of its infrastructure. Category reporting therefore has the potential to balloon significantly the number of chemicals that must be reported. For example, a chemical containing nickel chloride must be reported as a nickel compound, even though nickel chloride is not a specifically listed TRI chemical. All nickel compounds must be aggregated and reported using a single Form R, rather than each being reported separately. A further complication is the overlap of specific listed chemicals and categories; for example, both nickel and nickel compounds are subject to reporting. When a specific listed chemical is also covered by a compound category, the chemical and compound must be considered and reported separately (*i.e.*, pure nickel is not included with any nickel compounds when determining whether and how to report). If a mixture contains both a listed chemical and a listed compound, separate determinations for reporting both the chemical and the compound are required.

Whether a report needs to be filed for any listed toxic chemical present at a covered facility depends both on the amount used and the activity associated with the chemical. The reporting obligation is triggered at a higher threshold for a chemical that is "manufactured" than for one that is simply "used" at the facility.

As noted previously, a covered facility must file a Form R report for each listed chemical that it "manufactures," "processes," or "otherwise uses." A chemical is "manufactured" if it is produced, imported, or incidentally produced (*e.g.*, as a byproduct or an impurity).[36] A chemical is "processed" if it is prepared in some way, following its initial manufacture, for later distribution in commerce. Processing covers primarily the incorporation of the chemical into an article or a mixture, and does not include changes in the form or chemical state of the raw chemical.[37] A chemical is "otherwise used" by a facility for all other activities that are not manufacturing or processing; this is a catch-all category, that is defined by exclusion. The object is to capture for reporting the varied uses of a chemical, either alone or in trade name products or mixtures. Common uses covered by this category are as a

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[34]Several non-EPA guidance documents advise that reporting is keyed to the amount released. *See, e.g.*, ALI-ABA Course of Study: Environmental Law, at 41 (Washington, D.C. Feb. 16–18, 1989). This serious misperception has even crept into the so-far sparse decisional law on § 313. *See* In re Riverside Furniture Corp., No. EPCRA-88-H-VI-4065, slip op. at 10 (final order Sept. 28, 1989).

[35]Chemicals can be added or deleted from the list based on their toxicity, health, and environmental effects. EPCRA § 313(d), 42 U.S.C.A. § 11023(d). Because a change to the list is a change to the rule itself, list additions and deletions are published in the *Federal Register*. *See, e.g.*, 54 Fed. Reg. 25850 (June 20, 1989).

[36]40 C.F.R. § 372.3 ("manufacture"); 53 Fed. Reg. 4504 (Feb. 16, 1988).

[37]40 C.F.R. § 372.3 ("process"); 53 Fed. Reg. 4504, 4504 to 4505 (Feb. 16, 1988).

catalyst, a lubricant, a degreaser, and a refrigerant, as well as any other use that supports the facility's activities without intentionally making the chemical part of the final product.[38] Not every incidental use of a chemical at a facility is covered, however; simple redistribution or relabeling is not covered, and there are other exceptions for uses that do not directly support the facility's manufacturing activities.[39]

A quantity threshold is assigned to each of these activities; whether reporting of a particular chemical is required depends on whether the facility manufactures, processes, or uses the chemical in an amount greater than the applicable threshold. The manufacturing threshold dropped in each of the first three years of the program, thereby phasing in smaller facilities. The permanent threshold, starting with reports covering the 1989 calendar year (due July 1, 1990), is 25,000 pounds of a listed chemical that is either manufactured or processed by the facility; the use threshold is 10,000 pounds.[40]

A facility that both manufactures and uses a listed chemical must calculate the amounts separately. However, if any threshold is crossed, all activities associated with the chemical must be reported. In other words, only the amount manufactured should be considered when determining whether the manufacturing threshold is exceeded; the amount used should not be added to this, but calculated separately to determine whether the use threshold is crossed. However, if either the manufacturing or use threshold is exceeded, the total amount of the chemical must be factored into the release quantities and all other reporting elements for the chemical.[41]

Mixtures present special reporting problems, as most users of mixtures and trade name products are not ordinarily aware of their constituents; indeed, manufacturers consider the makeup of many trade name products a confidential trade secret, and the SDSs for the products include no information on the constituents. When a mixture's constituents are known, however, it is a relatively straightforward process to determine whether it must be factored into the facility's overall TRI reporting calculations.

In general, only the toxic chemical component of the mixture should be considered when calculating amounts for § 313 reporting; the total amount of the mixture (both § 313 and non-§ 313 chemicals) should not be used. The SDS should provide both the identity of the chemical constituents and their proportional amount in the solution or mixture. If a facility knows the total amount of the mixture used and the percentage of the mixture that is a listed TRI chemical, it can determine the total amount of the chemical used. However, it need not consider *de minimis* concentrations of a chemical in making this determination.[42] Sometimes the SDS provides only a percentage range of a constituent, instead of a precise figure. In such cases, the highest figure or upper bound percentage should be used as a "worst case"

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[38]40 C.F.R. § 372.3 ("otherwise use"); 53 Fed. Reg. 4504, 4506 (Feb. 16, 1988).

[39]These include use of the chemical as a "structural component" of the facility, use for janitorial and routine facility and grounds maintenance, personal use by employees (including use in a cafeteria, store, or infirmary located in the facility), use for maintenance of motor vehicles, use when present in process and non-contact cooling water, and use when present in air either as a result of combustion or in compressed air. 40 C.F.R. § 372.38(c).

[40]40 C.F.R. § 372.25(a)-(b). For reports covering the 1987 calendar year, the manufacturing/importing threshold was 75,000 pounds. For 1988, the amount dropped to 50,000 pounds. For 1989 the amount dropped to 25,000 pounds.

[41]40 C.F.R. § 372.25(c). When calculating whether the threshold is crossed for a chemical compound, all forms of the compound must be aggregated. 40 C.F.R. § 372.25(d).

[42]If the amount of the listed chemical present in a mixture is less than 1 percent, or 0.1 percent if an OSHA HCS-defined carcinogen, the reporting facility does not have to consider the chemical in determining its threshold and release quantities. 40 C.F.R. § 372.38(a).

assumption.[43] Section 313 requires only that "reasonable estimates" be used when calculating amounts,[44] so the lack of a precise figure is not necessarily an impediment to proper reporting.

The difficulties presented by trade name products and secret mixtures are offset somewhat by the rule's "supplier notification" requirement, which did not apply until the second year of reporting.[45] Suppliers of mixtures and trade name products to facilities covered by § 313 are required to identify the specific § 313 listed components, their Chemical Abstracts Service (CAS) numbers, and their percentage by weight. If the mixture's components are considered a trade secret,[46] the notice must identify the mixture or trade name product as containing a chemical that is subject to § 313 and provide a generic name that is structurally descriptive of the trade secret chemical constituent, along with the maximum concentration of the chemical in the mixture. The chemical is reported on the TRI Form R using this generic name, and the threshold and release calculations are based on this concentration level. The supplier must provide this notice with the first shipment of the product in each calendar year and must attach the notice to the SDS if one is required.

The information reported to EPA and to states is made publicly available by a variety of means, the most visible of which is the computer database.[47] The "TOXMAP" database was previously administered by the National Library of Medicine, and contained the raw information reported by facilities, in much the same way that legal research databases contain the text of cases. EPA has since increased the functionality of data online with a number of tools, including databases, analysis, and search features.[48]

The scale and specificity of the information gathered under § 313 are unprecedented in federal environmental law, yet one of the recurring criticisms of the TRI program is that it does not gather enough data, and that the information describing annual aggregate releases of chemicals into the environment is insufficient to measure the risk posed by these releases. TRI release data do not indicate whether the releases were steady over the course of the year or were released in short-term "bursts" or "peaks." Largely for technical reasons, EPA put off determining whether these peaks should be reported when it published the final § 313 rule.[49]

On August 27, 2013, EPA required that facilities submitting non-trade-secret TRI forms must use EPA's online software, called "TRI-MEweb," effective January 21,

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[43]40 C.F.R. § 372.30(b)(3)(ii).

[44]EPCRA § 313(g)(2), 42 U.S.C.A. § 11023(g)(2). As a corollary to this provision, the regulation requires that the facility maintain for three years the records it uses to arrive at the various calculations and estimates reported on a TRI Form R, and that it provide those records to EPA upon request. 40 C.F.R. § 372.10. This recordkeeping requirement partially fills the gap left by the lack of any authority for compliance inspections under Title III.

[45]40 C.F.R. § 372.45.

[46]The trade secret standards that apply in this case are not those used under Title III, but those used under the OSHA HCS. 40 C.F.R. § 372.45(e).

[47]The provisions of SARA Title III that require EPA to make TRI data publicly available also apply to the pollution prevention data collected under the Pollution Prevention Act of 1990. *See* Pollution Prevention Act § 6607(e), 42 U.S.C.A. § 13106(e); EPCRA § 313(h), (j), 42 U.S.C.A. § 11023(h), (j).

[48]EPA, TRI Data and Tools, https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools (last visited Mar. 21, 2022). Several citizen organizations, including the National Wildlife Federation and the Natural Resources Defense Council, have analyzed and interpreted TRI data and EPA has published reports summarizing the data. *See* EPA, Toxics in the Community: The National and Local Perspectives (1990); EPA, The Toxics-Release Inventory: A National Perspective (1989); NWF, The Toxic 500 (1989); NRDC, A Who's Who of American Toxic Air Polluters (June 1989).

[49]53 Fed. Reg. 4500, 4514 (Feb. 16, 1988).

2014.[50] Trade secret information must still be submitted in paper form.[51]

§ 14:159 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Trade secrets

SARA imposes new and demanding constraints on the regulated community's ability to keep confidential information secret. Consonant with its public disclosure mission, Title III makes the withholding of information as confidential more difficult than has traditionally been the case under other federal environmental laws. While limited protection is available in certain circumstances, there are situations in which a company may not withhold information that would otherwise qualify for trade secret protection.[1] As a result, it is extremely difficult for businesses to justifiably withhold any information required to be reported under Title III.

Under most environmental laws, an exceedingly broad category of information, generally referred to as confidential business information (CBI), is protected from public disclosure.[2] CBI is any information that a company considers sensitive; bid terms, production figures or processes, and similar information is usually protected from public disclosure.[3] Often, for example, when a manufacturer submits to EPA its notice of intent to produce a new chemical, the notice's public version does not disclose the name of the company, the name of the chemical to be produced, its intended or expected uses, or the amount proposed to be produced.[4]

Title III protection for private business information is wholly different. Only trade secrets are protected. Although somewhat incapable of any precise definition, a trade secret is usually understood to be information that is continuously used in a business, and that gives the business an advantage over competitors that do not know of or use the information.[5] This definition is narrower than that of CBI: while a trade secret clearly qualifies as CBI, not all CBI is a trade secret. The chief differences between trade secret information and CBI are that trade secret information must be used *continuously* in a business (as opposed to temporal or ephemeral information, such as the terms of a bid); that it must provide an advantage over *competitors* (as opposed to protection from all business entities, such as from a supplier that may increase the price of critical goods); and above all, that it must be truly *secret* and unknown by others in the industry. Secret formulas and novel processing or manufacturing methods are common trade secrets.

To gain protection, a claimant must be able to prove that the information is a trade secret *at the time the claim is filed with EPA*. The criteria used by the Agency to ensure the validity of a claim are derived from the common law definition: that the information has not been disclosed to anyone not already bound by a confidentiality agreement and that reasonable measures to protect its confidentiality have been taken; that the information has not been and is not required to be

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[50]78 Fed. Reg. 52860 (Aug. 27, 2013) (codified at 40 C.F.R. § 372.85(c)).

[51]EPA, TRI Program: GuideMe, Reporting Forms and Instructions, A.3 Trade Secret Claims, https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:rfi:::::rfi:1_3.

[Section 14:159]

[1]Confidentiality protection is not available for the identity of a chemical that is the subject of an emergency release and is reported under § 304, and limited disclosure to "health professionals" in "medical emergencies" is mandated. *See* § 14:155 (§ 304 emergency release notifications); § 14:159 (disclosure to health professionals).

[2]*See generally* 40 C.F.R. Part 2 (EPA's confidential business information regulations).

[3]*See* Restatement First, Torts § 759 (1939).

[4]*See, e.g.*, 54 Fed. Reg. 29778, 29778 to 29779 (July 14, 1989) (TSCA PMNs).

[5]*See* Restatement of Torts § 757, comment b (1939); R. Milgrim, Trade Secrets § 2.02 (1986).

disclosed under some other state or federal law; that public disclosure is likely to cause substantial competitive harm; and that the specific chemical identity is not readily discoverable through reverse engineering.[6] However, the functional definition of a trade secret under Title III is more restrictive than that developed under the common law.[7] This is a result of the most significant barrier to protection for information submitted under Title III: the provision that of all the information a company must disclose, only the chemical identity—the specific chemical name and CAS Registry number (if any)—may be withheld from a report. The trade secrecy provisions of Title III are applied to data gathered under the Pollution Prevention Act as well, so that all data required to be reported must be disclosed on the report.[8] EPA's experience with trade secret claims in the first several rounds of reporting indicates that the regulated community has so far had a difficult time grasping the concept of a Title III trade secret as well as determining when it is appropriate to file a claim. The complex requirements for filing and initially justifying a claim have also caused some difficulty. For example, in the first year of reporting, nearly 200 trade secret claims were filed for § 313 TRI reports. Most of these proved to be unnecessary, however, and following an effort by the Agency to weed out claims that were inappropriately filed, the number dropped to just 45.[9] An increased awareness of the reporting requirements was evidenced during the second and third years of reporting when the number of claims dropped to approximately 100 per year. EPA again weeded out a large majority of these claims (80–90 per year) that were inappropriately filed. Most of the remaining claims that were reviewed for substantive validity were found to be legally insufficient.[10] In light of the stiff $25,000 penalty for filing a "frivolous" trade secret claim (there is no discretion to adjust the penalty

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[6]EPCRA § 322(b), 42 U.S.C.A. § 11042(b).

[7]The generally accepted definition of a trade secret is that of Restatement of Torts § 757, comment b (1939), and it has been adopted for use under Title III. *See* 40 C.F.R. Part 350, app. A. The statute's additional restrictions, however—particularly the limitation on what can be claimed as a trade secret (only the chemical identity)—so cuts back on what may be withheld for business confidentiality reasons that relatively few trade secret claims have been successful. *See* this section notes 9-10 and accompanying text. One other significant restriction of the Title III standard is that the harm caused by disclosure must be *substantial*, as opposed to merely being of "value" to the trade secret owner. In addition, the statute gives special emphasis to the potential for discovery of the trade secret chemical information by "reverse engineering," beyond the Restatement's general consideration of the "ease or difficulty" of determining the trade secret from available information. EPCRA § 322(c), 42 U.S.C.A. § 11042(c); H.R. Conf. Rep. No. 962, 99th Cong., 2d Sess. 304 (1986). These provisions result in Title III trade secrets being something of a subset of all trade secrets.

[8]Pollution Prevention Act § 6607(c), 42 U.S.C.A. § 13106(c).

[9]Because the final trade secrecy rule was published nearly a month after the July 1, 1988, deadline for § 313 TRI reports, every submitter of a trade secret claim in connection with a TRI report was provided with a copy of the final rule and given the opportunity to conform its claim to the final rule's requirements. *See* 53 Fed. Reg. 28788 (July 29, 1988). It was after the completion of this effort, in December 1988, that EPA's Office of Toxic Substances began the first reviews of the substantive validity of Title III trade secrecy claims.

[10]Of the more than 50 claims reviewed, only one was found to have satisfied all the trade secrecy criteria. *See* In re Americal Corp., No. TS-313-87-5 (final approval granted May 16, 1989). Many of the trade secrecy claims for chemicals reported under § 313 were denied because the chemicals had been released to air or water media. Under the Clean Air and Clean Water Acts, data concerning discharges to air and water are not eligible for confidential treatment as a matter of law because they are considered "emission" or "effluent" data. Because such data is by statute designated as public information, no legally sustainable trade secrecy claim can be made when it is reported under SARA Title III. *See* EPCRA § 322(b)(3), 42 U.S.C.A. § 11042(b)(2) (information may not be withheld as a trade secret if it is "required to be disclosed . . . to the public under any . . . Federal or State law"). Accordingly, pursuant to 40 C.F.R. § 2.207, EPA's Office of General Counsel issued a "class determination" that all air or water release data reported under § 313 constituted emission or effluent data under the Clean Air Act or Clean Water Act, respectively, and therefore could not be claimed trade secret when reported under SARA Title III. *See* Class Determination 7-89: Disclosure of Effluent and Emission Data

amount), companies must file trade secret claims with care.

It is not always necessary to file a trade secret claim with EPA in order to preserve a trade secret, and there are good business reasons to avoid filing a claim if at all possible. A "trade secret" designation acts as a kind of red flag for competitors to examine the chemical report more closely in an attempt to determine the secret matter. In addition, EPA's policy of reviewing claims regularly jeopardizes a trade secret claim's continuing viability.[11] And because of the cumbersome and time-consuming requirements for fully justifying a trade secret, protection should be claimed only for the "crown jewels" of a company; marginal claims should be avoided.[12]

True secrecy is best maintained if no claim needs to be filed. Therefore, it is prudent to structure reporting of trade secret-related information so as to avoid the need to file a claim; in other words, one should only be filed as a last resort.

The ability to effectively hide a trade secret in plain sight will most often be presented in the context of a chemical mixture in which the critical information is the particular combination of chemicals in the mixture (*i.e.*, the proportions, not necessarily the identity, of the mixture's constituents). Instead of reporting the mixture as a whole on a single SDS, which could trigger the need to file a protective claim, a company can report each of the mixture's ingredients individually (one SDS per chemical constituent). This method provides no indication that the individual chemicals are components of a secret mixture, much less an indication of the proportions of the ingredients in the mixture. This manner of reporting can also work for § 312 Tier II reports and § 313 TRI reports.[13] It works especially well when a facility reports multiple chemicals, only some of which are present in the secret mixture; the SDSs for the secret mixture's constituents are effectively buried among all the SDSs reported by the facility. It also works well when a chemical has multiple uses at a facility, both secret and non-secret. If the chemical is reported using a single filing (as opposed to multiple SDSs or Tier II reports for each mixture in which it is present), there is no indication that it is present in any particular mixture or in any particular proportion.

Section 311/312 reports regarding mixtures may also avoid the need for trade secret claims as the result of a loophole created by the various OSHA HCS and Title III reporting requirements. Under OSHA requirements, a mixture's trade secret components need not be listed on the SDS;[14] the mixture may be reported as a whole, by common or trade name only. EPA has therefore taken the position that no trade secret substantiation needs to be filed for the mixture's trade secret components withheld from the SDS. A significant percentage of first-year trade secret claims for SDS reports were subsequently withdrawn as unnecessarily filed as a result of this loophole.[15]

Nevertheless, there will be instances in which chemical reports, however

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Obtained Under Title III of SARA, the Emergency Planning and Community Right-to-Know Act. EPA indicated its intention to develop this "class determination" in the preamble of the final rule on trade secrecy. *See* 53 Fed. Reg. 28772, 28776 (July 29, 1988). The class determination has since been challenged in administrative appeals of six cases in which it was used to deny trade secrecy claims. *See* In re Dixie Chem. Co., Nos. TS-313-87-22, TS-313-88-09, TS-313-88-10; In re Kaneka Tx Corp., No. TS-313-87-25; In re BASF Corp., No. TS-313-87-26, TS-313-88-16.

[11]*See* 53 Fed. Reg. 28772, 28775 (July 29, 1988).

[12]Industry, EPA Speak on Trade Secret Compliance, Community Right-to-Know News, July 8, 1987, at 9.

[13]Indeed, this manner of reporting is required under § 313. Chemicals must be reported individually; it is a violation of reporting requirements to report on a mixture as a whole. *See* § 14:158.

[14]29 C.F.R. § 1910.1200(i).

[15]*See* Horn, How the Environmental Protection Agency Handles Trade Secrecy Claims Under the Community Right-to-Know Law, BNA Chemical Regulation Reporter, Mar. 3, 1989, at 1747, 1748.

structured, will disclose trade secret information (for example, where the secret relates to a mixture's *use* rather than its composition). In such cases, it is necessary to file a trade secret claim with EPA.

Trade secret claims are permitted for reports filed under §§ 303, 311, 312 (Tier II only), and 313. Claims are not permitted for any chemical that is the subject of a § 304 emergency release notification, and claims are not necessary for § 312 Tier I filings because those reports do not disclose chemical identities.

In every case, the claim must be justified or explained "up front," that is, when the chemical report is filed. Failure to justify a claim when it is filed may result in a penalty or even denial of the claim for failure to document entitlement to trade secret protection. This "up front" showing is not unlike an offer of proof: essentially, a claimant must briefly make out a prima facie case of trade secrecy.

EPA has devised a summary reporting form, generally referred to as the "substantiation form,"[16] for this purpose. It contains several questions that a claimant must answer, and it is designed to provide sufficient information for EPA to make a threshold determination of whether the claim qualifies as a bona fide trade secret under the statutory and regulatory criteria.[17] The substantiation form is intended to be sufficiently straightforward that a facility manager will be able to complete it adequately along with the underlying chemical report, although in some of the more complex cases legal counsel will be needed.[18]

Ordinarily, both "sanitized" (public) and "unsanitized" (confidential) versions of both the underlying chemical report and the substantiation form must be prepared. A "sanitized" filing is one in which the chemical identity is deleted and replaced with a generic name.[19] An "unsanitized" filing is the version that contains the chemical identity claimed to be a trade secret. Both the sanitized and unsanitized versions are sent to EPA; sanitized versions *only* are sent to the state or local authorities that receive the underlying chemical reports.

Since January 21, 2014, reporting that does not involve trade secrets must be made electronically using EPA's TRI-MEweb.[20] EPA has posted instructions online related to reporting,[21] along with instructions specific to submitting trade secret information.[22] The following discussion briefly details when and how to file a complete trade secrecy claim under each of the five reporting sections. Original copies of each reporting form—both versions of the chemical report and the substantiation form—must bear an original signature. In light of the heavy fine for a frivolously filed claim, EPA views this requirement as protecting the reporting company by

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[16]The original form was published at 53 Fed. Reg. 28889 (Aug. 1, 1988), and the electronic form and instructions are now available online. EPA, EPCRA Trade Secret Forms and Instructions, https://www.epa.gov/epcra/epcra-trade-secret-forms-and-instructions (last visited Dec. 23, 2021).

[17]*See* EPCRA § 322(b)(1)-(4), (c), 42 U.S.C.A. § 11042(b)(1)-(4), (c).

[18]In general, the information on the substantiation form must explain and describe the trade secret, what measures have been taken to protect it from disclosure, how disclosure of the chemical name on the underlying chemical report would disclose the trade secret, and how disclosure would cause competitive harm to the claimant. *See* 40 C.F.R. §§ 350.7, 350.13.

[19]A substantiation form may contain additional confidential information needed to fully explain the claim, which may be deleted from the form's sanitized version. EPCRA § 322(f), 42 U.S.C.A. § 11042(f); 40 C.F.R. § 350.7(d); 53 Fed. Reg. at 28772, 28787 to 28788 (July 29, 1988).

[20]78 Fed. Reg. 52860 (Aug. 27, 2013) (codified at 40 C.F.R. § 372.85(c)).

[21]*See, e.g.*, EPA, TRI Program: GuideMe, Reporting Forms and Instructions, https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:rfi-home (last visited Dec. 23, 2021).

[22]*See, e.g.*, EPA, Instructions for Completing the EPCRA Trade Secret Substantiation Form, EPA 550-B-14-001 (Jan. 2014), http://www2.epa.gov/sites/production/files/2014-01/documents/trade_secret_instructions.pdf; EPA, EPCRA Trade Secret Forms and Instructions, https://www.epa.gov/epcra/epcra-trade-secret-forms-and-instructions (last visited Dec. 23, 2021).

ensuring that the senior management official responsible for the report and the claim has actual knowledge of their contents. The requirement also has obvious advantages for EPA in an enforcement context.

§ 14:160 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Trade secrets—Section 303 reports

Both § 303 reports are covered by the trade secrecy provisions: the § 303(d)(2) report to the LEPC of any changes occurring at the facility that are relevant for emergency planning purposes, and the § 303(d)(3) response to the LEPC's request for particular information about the facility. No particular format is prescribed for § 303 reports, and the information is usually provided in a letter to the LEPC.[1]

Trade secrecy claims are expected to be rare for § 303 reports, as it is usually possible to provide the pertinent information without specifically identifying a chemical. In the unlikely event that the information provided to the LEPC does include trade secret information, a trade secrecy claim must be filed with EPA.

For a claim accompanying a § 303 report, the facility should prepare the letter report to the LEPC in the normal fashion,[2] but substituting a generic name for the specific chemical identity. No unsanitized or confidential version of the § 303 letter needs to be prepared. Both sanitized and unsanitized substantiation forms must be prepared, however. The letter and sanitized substantiation form must be sent to the appropriate LEPC; all three documents must be sent to EPA.

§ 14:161 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Trade secrets—Section 311 SDS or list reports

There are several options for reporting under § 311; the option selected dictates the form of the trade secrecy claim. When reporting by list, it is usually not necessary to file a claim because a mere list of chemicals present at a facility does not ordinarily disclose trade secret mixture or process information. The common exception to this rule of thumb is where a trade secret is disclosed by the linkage of the chemical and the reporting facility. Even so, because § 311 allows reporting by common name, no claim is usually required.

When disclosure of chemical information on a § 311 list does jeopardize a facility's trade secret, substantiation forms need to be filed for each chemical that is claimed trade secret. Sanitized versions of the list and substantiation forms must be prepared (again substituting generic names for chemical identities), and both versions of the list and all substantiations must be sent to EPA headquarters. Sanitized versions of the list and substantiations must be provided to the SERC, LEPC, and local fire department.

When reporting by SDS, there is no need to create an unsanitized version because if prepared according to OSHA specifications, an SDS for a trade secret chemical or mixture will not contain any trade secret information. A copy of the SDS and both sanitized and unsanitized substantiations must be sent to EPA headquarters, and the SDS and sanitized substantiation sent to the SERC, LEPC, and fire department.

[Section 14:160]

[1]*See* § 14:154.

[2]*See* § 14:154.

§ 14:162 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Trade secrets—Section 312 Tier II reports

Section 312 Tier II reports are handled very much like § 311 reports. Both sanitized and unsanitized versions of these chemical reports and substantiation forms must be prepared and sent to the same federal, state, and local authorities as under § 311. The unsanitized version must disclose both the chemical name and CAS number, while the sanitized version must use a generic name in its place. A claim is indicated on the face of the Tier II form by a check in the designated box; both sanitized and unsanitized versions of a trade secret submission should be checked "trade secret" to avoid confusion.

No claim needs to be filed with EPA regarding the *location* of chemicals at a facility. Confidential location information should not even be sent to EPA, but only to the state or local entity that requested it.

§ 14:163 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Trade secrets—Section 313 TRI reports

Trade secret claims for § 313 TRI reports are handled somewhat differently than claims for other Title III chemical reports. Sanitized and unsanitized versions of both the Form R report and the substantiation form must be prepared. All four documents must be sent to EPA, and sanitized versions must be sent to the designated § 313 recipient in the state in which the facility is located; this may or may not be the SERC.

A trade secrecy claim is indicated on a Form R report in two different ways, depending on the version of the Form R being used. The first year's Form R contained places in which to indicate a claim on both the first and third pages (the latter page being where the chemical identity was reported). This caused some difficulties, and Form R was modified in its second year so that a trade secrecy claim is indicated only on the first page. It is best to use the most current version of the reporting form because it will decrease the likelihood of inadvertent reporting errors that a facility would need to later correct.

A facility completing a Form R for a chemical claimed to be a trade secret should check the box on page one indicating a claim on both the sanitized and unsanitized versions,[1] and should check, as appropriate, the box indicating a sanitized or unsanitized version. On the first year's form, the box on page three indicating a trade secret chemical should be checked on both the sanitized and unsanitized versions; on the revised form, this box does not exist. The unsanitized version of either the original or revised Form R should include the chemical name, CAS number (unless a category chemical), and generic name; the sanitized version should provide only the generic name.

Special consideration must be given to claims accompanying § 313 filings reporting discharges to air and water media. EPA has issued a "class determination" identifying fugitive and point discharges to air that are reported on Form R as "emission" data under the Clean Air Act, and identifying point and non-point discharges to water that are reported on Form R as "effluent" data under the Clean

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[Section 14:163]

[1]Many sanitized versions have been erroneously, but understandably, checked "no" because they technically do not contain trade secret information.

Water Act.[2] These Acts prohibit confidential treatment of emission and effluent data,[3] which means that no trade secrecy claim can be maintained for a chemical discharged to those media.[4]

§ 14:164 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Trade secrets—Substantiation review

Either EPA or a member of the public may initiate the review of a claim to determine its substantive validity. Anyone may petition EPA to review a particular claim simply by requesting in writing that the claim be reviewed.[1]

EPA must complete its threshold determination of whether the claim is valid or invalid within 30 days following receipt of a petition to disclose the trade secret chemical. Following notification that the claim is initially valid, the trade secret claimant has 30 days to provide affirmative evidence proving the truth of the assertions made in the substantiation form. If the claim is denied at any point in the process (either following the initial review or upon evaluation of the supporting information), the decision is appealed first to EPA's Office of General Counsel and then to federal district court. Petitioners also have limited rights of appeal.[2] The whole review process must be completed within nine months.[3]

Full and complete substantiation of a claim, and its review by EPA, should not be taken lightly. The trade secret provisions of Title III reach beyond the program's strict statutory and regulatory boundaries: The restrictive confidentiality provisions may work as a "can opener" for other information reported to EPA as confidential under other laws, resulting in public disclosure of information previously protected. For example, information on the production quantity of a chemical may be classified as CBI under TSCA,[4] but may not qualify as trade secret information under Title III. The resulting disclosure of this information could then be used to defeat continued protection of that CBI under TSCA.[5]

§ 14:165 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know—Disclosure to governors, Congress, and health professionals

Trade secret information may be shared among states under Title III. Governors may request the unsanitized versions of trade secret submissions received by EPA

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[2]Class Determination 4-89, "Disclosure of Effluent and Emission Data Obtained Under Title III of SARA, The Emergency Planning and Community Right-to-Know Act" (July 8, 1989).

[3]Clean Water Act § 308(b), 33 U.S.C.A. § 1318(b); Clean Air Act § 114(c), 42 U.S.C.A. § 7414(c).

[4]The second statutory criterion for trade secrecy, that the information claimed as a trade secret is not required to be disclosed to the public under another federal or state law, is not satisfied for this class of data. EPCRA § 322(b)(2), 42 U.S.C.A. § 11042(b)(2).

[Section 14:164]

[1]40 C.F.R. § 350.15. Although the regulations require only that the request include a copy of the Title III report that is the subject of a trade secret claim (to aid EPA in identifying the precise claim to be reviewed), public petitioners are not limited to this and may submit any information they may deem relevant regarding why the claim is invalid.

[2]EPCRA § 322(d), 42 U.S.C.A. § 11042(d); 40 C.F.R. §§ 350.11, 350.17.

[3]EPCRA § 326(a)(1)(B)(vi), 42 U.S.C.A. § 11046(a)(1)(B)(vi).

[4]TSCA § 14(c), 15 U.S.C.A. § 2613(c); *see* § 16:4.

[5]Disclosure would, of course, not be automatic. Either a Freedom of Information Act request for the information would have to be filed with the Agency, or EPA would have to initiate a confidentiality determination on its own, under the Agency's general CBI regulations at 40 C.F.R. Part 2.

from facilities in the requesting governor's own state or any other.[1] The intent behind access to trade secret data from other states is unexplained, but it seems designed to permit states to compare data on related or similar facilities that have made trade secrecy claims.[2] The law does not explicitly limit the persons to whom the governor may disclose the requested trade secret information, but the Conference Report indicates that disclosure should be limited to state employees, a position mirrored in the trade secret rule.[3]

Congress has also reserved for itself the right to unrestricted access to trade secret information; this provision is common, and does not present any unique issues.[4]

"Health professionals" are permitted conditional access to trade secret data for treatment of exposed individuals. There are three broad categories of conditions under which access is allowed; the requirements for access vary slightly according to the specific situation. In none of these cases, however, may the facility interpose the existence of a trade secrecy claim under § 322 as a barrier to disclosure.

First, in the event of a medical emergency, a facility owner or operator must give a requesting doctor or nurse the identity of the chemical to which an individual is exposed.[5] The definition of "health professional" is unfortunately and unnecessarily restrictive; it should include ambulance paramedics and other rescue personnel who are among the first responders to chemical emergencies. The definition of "medical emergency," on the other hand, is more flexible, and leaves the determination of whether an emergency exists to the discretion of the requesting health professional. The identity must be provided immediately upon request, and no confidentiality agreement may be required as a precondition to disclosure, although one can be executed later. Note, however, that if the exposure is the result of a § 304 emergency release, no trade secrecy claim may be lodged, and no post hoc confidentiality agreement is necessary.

Second, a health professional may gain limited access to trade secret information if it is needed for nonemergency diagnosis or treatment of an exposed individual.[6] Access under these conditions requires a prior written request to the owner or operator specifying that the health professional has a reasonable basis to suspect that the information is needed for diagnosis or treatment, as well as a written confidentiality agreement executed prior to disclosure.

Third, a health professional may have access to trade secret information for the purpose of conducting longer-range studies and analyses, as specified in the statute.[7] There are greater restrictions on disclosure under these circumstances. For example,

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[Section 14:165]

[1]EPCRA § 322(g), 42 U.S.C.A. § 11042(g).

[2]*See* H.R. Conf. Rep. No. 962, 99th Cong., 2d Sess. 306 (1986).

[3]The Conference Report notes that EPCRA § 325(d)(2), 42 U.S.C.A. § 11045(d)(2), which imposes criminal penalties for willful disclosure of trade secret information, applies to state employees, but does not mention whether it applies to members of SERCs. H.R. Conf. Rep. No. 962, 99th Cong., 2d Sess. 306 (1986). The statute does not make this distinction, however, and while § 325(d)(2) applies to any person, which would clearly include state employees, § 322(g) (permitting access by states to trade secret information) does not impose any restrictions on access, thus seeming to permit a governor to allow the SERC direct access. It is only the trade secrecy rule that restricts access by non-state employees. 40 C.F.R. § 350.19.

[4]*Compare* EPCRA § 322(i), 42 U.S.C.A. § 11042(i) *with* TSCA § 14(j), 15 U.S.C.A. § 2613(j); Clean Water Act § 308(d), 33 U.S.C.A. § 1318(d); CERCLA § 104(e)(7)(D), 42 U.S.C.A. § 9604(e)(7)(D).

[5]EPCRA § 323(b), 42 U.S.C.A. § 11043(b).

[6]EPCRA § 323(a), 42 U.S.C.A. § 11043(a).

[7]EPCRA § 323(c), 42 U.S.C.A. § 11043(c). These include studies to assess the exposure of persons living in an area, periodic medical surveillance of various population groups, and studies for other similar purposes.

the health professional must conduct the study under the auspices of the state, and the statement of need must describe the reasons for which access is required with greater particularity. However, once the criteria are satisfied, there is no discretion to deny access.

§ 14:166 Federal, state, and citizen enforcement of Title III

Federal, state, and local officials, as well as citizens, all share enforcement authority for Title III. Generally, each has the authority to enforce those provisions that matter most to that party. For example, SERCs and LEPCs, but not citizens, may sue a facility for its failure to supply the LEPC with an emergency planning notification under § 302(c) or with information requested under § 303(d), since this is key information for emergency planning purposes. Initially, there was only a paucity of citizen enforcement; only one action was filed through mid-1990.[1] Citizen enforcement of EPCRA has increased dramatically over time, however. Federal enforcement has typically been more vigorous, particularly under § 313.[2] EPA has provided opportunities to self-report violations under its audit policy, with better incentives to mitigate penalties for EPCRA electronic self-disclosures than for disclosures under other statutes.[3]

Federal enforcement is authorized for most, but not all, Title III reporting requirements. Overall, however, the enforcement scheme of Title III, especially the stiff penalties provided for noncompliance, is clear evidence of Congress' intent to "ensure that citizens' rights to information [are] backed by the legal tools needed to obtain the cooperation of facility owners and operators."[4] Accordingly, EPA's penalty policies are geared toward rewarding the timely reporting of information. It is always better to report late than not at all, however—the later a report is filed, the greater the penalty amount, and so-called "self-confessors" will generally receive lesser penalties than will those noncompliers that EPA has identified.[5]

The statutory penalty amounts discussed in the following sections have been adjusted upward, and continue to be adjusted periodically, by EPA's Civil Monetary Penalty Inflation Adjustment Rules.[6]

§ 14:167 Federal, state, and citizen enforcement of Title III—Sections 302 and 303

A violation of the § 302(c) emergency planning notification requirement is addressed initially by an administrative compliance order issued by EPA to the facility.

[Section 14:166]

[1]Atlantic States Legal Found. v. Com-Cir-Tek, Inc., No. 90772 (W.D.N.Y., complaint filed July 25, 1990) (complaint alleging § 311, 312, and 313 violations); *see also* Inside EPA, vol. 11, no. 33, at 12 (Aug. 17, 1990).

[2]In the first two quarters of fiscal year 1990, for example, seventy-two § 313 enforcement cases were filed by EPA, several seeking nonreporting penalties of nearly a quarter-million dollars each. Overall, in terms of average penalties collected, Title III penalties ranked in the same range as TSCA penalties. EPA, National Penalty Report (1990). By fiscal year 1993, the number of EPA administrative actions initiated under EPCRA had risen to 219. By 2011, this number had risen to over 3,300.

[3]See EPA, EPA's Audit Policy, https://www.epa.gov/compliance/epas-audit-policy.

[4]Heimerman, Emergency Planning and Community Right-to-Know: A Cooperative Effort, Nat'l Envtl. Enforcement J., June 1988, at 5.

[5]The Enforcement Response Policy for EPCRA Section 313 authorizes such beneficial treatment. *See* § 14:170.

[6]See, e.g., 87 Fed. Reg. 1676 (Jan. 12, 2022); see also EPA, Enforcement Policy, Guidance & Publications, https://www.epa.gov/enforcement/enforcement-policy-guidance-publications#penalty.

The order may be enforced in federal district court.[1] However, this administrative order authority only extends to facilities that have an EHS above the TPQ, not to facilities that a governor or SERC has designated for participation in emergency planning.[2]

Federal enforcement of § 303(d) mirrors that of § 302. If a facility fails to participate in emergency planning by not naming a facility planning coordinator or by not providing required information to the LEPC, EPA is authorized to issue a judicially enforceable order demanding compliance. There is no administrative penalty authority for violations of §§ 302 and 303, although a court may impose a civil penalty of up to $25,000 per day (periodically adjusted for inflation) for failure to obey the court's compliance order.[3]

State and local entities are empowered to bring judicial actions directly against facilities to enforce §§ 302 and 303, and are not required to first issue administrative orders to comply. Different entities are responsible for enforcement. Only a state or local government may bring an action for a violation of § 302(c), while only the SERC or LEPC may bring an action for a violation of § 303(d).[4] If EPA has issued a compliance order, however, no state or local action may be commenced against the facility.[5]

Title III does not authorize citizen suits to enforce §§ 302 and 303.

§ 14:168 Federal, state, and citizen enforcement of Title III—Section 304

EPA has administrative penalty authority to enforce the § 304 emergency release notification requirement.[1] EPA has a choice of assessing either a "Class I" penalty under § 325(b)(1), which may not exceed $25,000 per violation, or a "Class II" penalty under § 325(b)(2), which may not exceed $25,000 *per day* for each violation, or not more than $75,000 per day for a subsequent violation.[2]

The principal distinction between Class I and Class II penalties, besides the lesser amount that may be assessed using the Class I procedures, is the formality of the proceedings used to assess each. Class I hearings can be conducted by a "presiding officer," who may be an EPA attorney who has not had any *ex parte* communications with the EPA staff responsible for developing the case. Class II procedures require more formal hearings before administrative law judges. Class II procedures

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[Section 14:167]

[1]EPCRA § 325(a), 42 U.S.C.A. § 11045(a).

[2]An action may be brought against a facility that has been specially designated for participation in emergency planning only by the state or local government under § 326(a)(2), 42 U.S.C.A. § 11046(a)(2); *see* § 14:168. As to designation of facilities that do not have an EHS above its TPQ, *see* § 14:153.

[3]EPCRA § 325(a), 42 U.S.C.A. § 11045(a).

[4]EPCRA § 326(a)(2)(A)-(B), 42 U.S.C.A. § 11046(a)(2)(A)-(B).

[5]EPCRA § 326(e), 42 U.S.C.A. § 11046(e).

[Section 14:168]

[1]EPCRA § 325(b)(1)-(2), 42 U.S.C.A. § 11045(b)(1)-(2). *See, e.g.*, In re Murry's, Inc., No. EPCRA-III-001 (EPA administrative complaint filed Dec. 1, 1988) (complaint filed for violation of §§ 304, 311, and 312); In re All Regions Chemical Labs., Inc., CERCLA-I-88-1089 (EPA administrative complaint filed Sept. 30, 1988) (complaint filed for violations of CERCLA § 103 and EPCRA § 304). In In re All Regions Chemical Labs., EPA obtained an administrative judgment of $20,000 for the CERCLA count and $69,840 for the Title III count, which was affirmed on appeal by an EPA Judicial officer.

[2]The treble penalties provision is intended as a deterrent for *repeated* releases by a facility, and not as a punishment simply for *multiple* violations. For example, a treble penalty is not appropriate where a facility acquires knowledge of a second release at the same time as the first release, and there is no basis for imputing any greater fault to the facility with respect to the second release than the first. Genicom Corp., EPCRA-III-057 (Initial Decision July 16, 1992).

are used when requested by a violator, and for assessments for second or subsequent violations.[3] If a civil penalty is assessed administratively, of course, review is available in federal district court.[4] EPA also has the option of proceeding directly to district court to enforce civil violations of § 304, in lieu of taking administrative action.[5]

Criminal sanctions are authorized if the facility owner or operator "knowingly and willfully" fails to notify emergency response authorities of an uncontrolled escape of an EHS. A first offense may be punished by a fine of up to $25,000 and imprisonment for not more than two years; for second and subsequent violations the criminal penalties escalate to $50,000 and five years imprisonment.[6]

There is no explicit authority for state and local governments, or SERCs or LEPCs, to enforce the emergency notification requirement. However, the citizen suit provisions of Title III authorize any "person" to bring an action against a facility for failing to supply a follow-up report to either the SERC or the LEPC coordinator under § 304(c).[7] Because the statute defines a "person" to include a state as well as any of its political subdivisions, municipalities, or commissions, it would appear that SERCs and LEPCs are permitted to maintain an enforcement action in the same manner as any individual who is authorized to bring a citizen suit under this provision.[8]

Before filing a citizen suit, the plaintiff must give EPA, the state, and the alleged violator at least 60 days notice of the intent to bring the action.[9] EPA has promulgated notice regulations to supplement the bare statutory requirement.[10] The action to enforce § 304(c) can be preempted by an EPA-initiated enforcement action. In addition to requiring compliance, a court may assess the same penalties in a citizen suit as EPA may assess, and additionally may award litigation costs to the "substantially" prevailing party.[11]

Three key and often-litigated issues with respect to the adequacy of § 304 reporting are: (1) the sufficiency of the report; (2) the timeliness of the report; and (3) when the release is known to have occurred. This is perhaps to be expected. Because the timing and adequacy of an emergency notification are case-specific, fact-driven assessments, there are no hard and fast rules governing these elements of § 304 notices. However, a rule of reasonableness under the circumstances seems to be expected by ALJs reviewing EPA decisions in this area. For example, no particular method is required for an emergency notification: the SERC or LEPC can be notified by telephone, radio, or in person.[12] Further underscoring the functional, practical purpose served by the emergency notification—to alert emergency responders to the hazard so that they may address the situation in a safe, timely manner—it is not required as a matter of law that the notice include any particular information, other than that there has been a release of a hazardous substance for which an emer-

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[3]The regulations do not distinguish between Class I and Class II violations, but instead refer to EPCRA § 325(c) for reporting violations. 40 C.F.R. § 372.18.

[4]EPCRA § 325(f)(1), 42 U.S.C.A. § 11045(f)(1).

[5]EPCRA § 325(b)(3), 42 U.S.C.A. § 11045(b)(3).

[6]EPCRA § 325(b)(4), 42 U.S.C.A. § 11045(b)(4).

[7]EPCRA § 326(a)(1)(A)(i), 42 U.S.C.A. § 11046(a)(1)(A)(i).

[8]EPCRA § 329(7), 42 U.S.C.A. § 11049(7).

[9]EPCRA § 326(d)(1), 42 U.S.C.A. § 11046(d)(1).

[10]40 C.F.R. Part 374; *see* 57 Fed. Reg. 55040 (Nov. 23, 1992).

[11]EPCRA § 326(c), (f), 42 U.S.C.A. § 11046(c), (f).

[12]Thoro Products Co., EPCRA-VIII-90-04 (Initial Decision May 19, 1992) (discussion with LEPC members present on site of release sufficient for "in person notification").

gency response is required.[13] For the same reasons, the administrative courts have been stricter with regard to the requirement for "immediate" notification under § 304. A functional approach has been adopted in this context as well, since the purpose of the emergency notification would be vitiated if the notice is tardy. Consequently, notice given eight hours or even two hours afterwards is not "immediate."[14] Mitigating the apparent harshness of the "immediacy" requirement is the general principle adopted by EPA and reviewing courts that the obligation to report a release arises at the time that the release in excess of a reportable quantity is known or should have been known by a person subject to EPCRA, and not necessarily from the time of the release event.[15]

Constructive knowledge of a release is also relevant in enforcement of the § 304 requirement. Exact knowledge of the amount is not required, and facility personnel are, in fact, expected to use their judgment (erring on the side of safety) in determining whether a reportable release has occurred.[16] In other words, facility operators are expected to know and understand their operations and when routine or nonroutine operations are likely to result in reportable releases. Furthermore, notification under other statutes does not relieve a facility of its EPCRA notice obligations; emergency discharges regulated under other statutes and with independent notification requirements do not substitute for an emergency release report under EPCRA.[17]

§ 14:169 Federal, state, and citizen enforcement of Title III—Sections 311 and 312

EPA may enforce §§ 311 and 312 both administratively and judicially. A violation of § 311 carries a maximum civil penalty of $10,000, while a violation of § 312 carries a maximum $25,000 penalty.[1] While the contents of a § 312 Tier I or Tier II report are set by EPA, the SDS requirements under § 311 are not. Consequently, EPA does not and probably could not consider the substantive sufficiency of a § 311 report in determining compliance with § 311; EPA may consider only whether the SDS has been provided in a timely fashion to the appropriate state and local recipients. However, the substantive validity of a § 312 report may be an issue in an enforcement action. For example, some penalty might be assessed even though a § 312 Tier I or Tier II report has been provided to the correct recipients if the report's contents are so poor as to render it unusable. As a practical matter, most EPA enforcement efforts will be focused against nonreporters.[2]

State and local governments, and individuals, may also enforce certain violations

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[13]All Regions Chem. Labs, Inc., CERCLA-I-88-1089 (Initial Decision and Final Order Dec. 1, 1989). As noted previously, the EPCRA § 304 notification parallels substantially the CERCLA § 103 emergency notification. *See* § 14:155. Single acts that violate both CERCLA and EPCRA are considered separate violations. Genicom Corp., EPCRA Appeal No. 92-2 (Final Decision Dec. 15, 1994).

[14]Great Lakes Div. of Nat'l Steel Corp., EPCRA Appeal No. 93-3 (Final Order June 29, 1994). *See also* Genicom Corp., EPCRA-III-057 (Initial Decision July 16, 1992).

[15]Mobil Oil Co., II-EPCRA-91-0120 (Dec. 27, 1993).

[16]Mobil Oil Co., EPCRA Appeal No. 94-2 (Final Decision Sept. 29, 1994) (exact quantity of release not required to constitute "knowledge" of a release in excess of a reportable quantity; rough estimates that indicate that a release is close to, or in excess of, permit limitation sufficient to trigger legal duty to notify).

[17]Borden Chem. & Plastics Co., [CERCLA] EPCRA-003-1992 (Order Granting Partial Decision Concerning Liability Feb. 18, 1993) (emergency releases from release valves not in compliance with NESHAP standards under Clean Air Act subject to CERCLA § 103 and EPCRA § 304 reporting, even though Clean Air Act regulations at 40 C.F.R. § 5461.65(a) allow ten days to report emergency releases).

[Section 14:169]

[1]EPCRA § 325(c), 42 U.S.C.A. § 11045(c).

[2]*See, e.g.*, In re Murry's, Inc., No. EPCRA-III-001 (complaint filed Dec. 1, 1988) ($12,000 penalty

of §§ 311 and 312. Sections 326(a)(2)(A) and (B) authorize any state or local government to initiate a civil judicial action against a facility owner or operator for failure to submit an SDS or list under § 311, or a Tier I or Tier II inventory form under § 312. The same penalties are available in a state, local, or citizen's action as in an EPA action, and each day the violation continues is a separate violation. However, individuals are limited to enforcing violations of Tier I reporting only;[3] the SERC or LEPC must bring any action for failure to provide a Tier II report.[4] Citizen enforcement of §§ 311 and 312 requires prior notice, just as for violations of the emergency planning reporting requirements.[5]

§ 14:170 Federal, state, and citizen enforcement of Title III—Section 313

Section 325(c) allows EPA to assess an administrative or judicial civil penalty of up to $25,000 per day, per report, for each violation of the reporting requirements of § 313. The Enforcement Response Policy (ERP) for § 313 was revised in August 1992, replacing the initial 1988 ERP, and was amended again in 1996, 1997, 2001, and 2017.[1] The purpose of the ERP is to ensure that the enforcement actions for violations of § 313 and the Pollution Prevention Act are arrived at in a fair, uniform, and consistent manner; that the enforcement response is appropriate for the violation committed; and that persons will be deterred from committing future violations.

Federal § 313 enforcement actions have focused on facilities that fail to submit their Form R reports on or before July 1 of the year the report is due. If a facility fails to submit the required information to the Agency and the states, the public database will not be complete. Therefore, targeting nonreporters has been an Agency priority since the program's onset. EPA is, however, continuing to focus on other violations of § 313 TRI reporting: data quality errors and failure to comply with the recordkeeping or supplier notification requirements.[2]

In accordance with the ERP, penalty amounts are graduated according to several factors: the size of the business, the amount of the chemical at the facility, and the number of days the report is late. The larger the company, the greater the amount of chemical involved, and the later the report, the greater the penalty. Certain reductions in penalties are allowed to take into account special circumstances, such as voluntary disclosure. Other adjustments may also be made for the facility's history of prior violations, attitude, and other factors "as justice may require."

In response to several adverse ALJ decisions,[3] the ERP does not assess the highest level penalty to all facilities identified by EPA as non-filers of Form R reports. Rather, the ERP established two categories for failure to report in a timely manner. Category I violations are assessed at the highest penalty level and are for those Form R reports that are submitted one year or more after the July 1 due date. Category II violations are for Form R reports that are submitted after the July 1 due date but before July 1 of the following year. The ERP uses a per-day formula for

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for failure to file both §§ 311 and 312 reports).

[3]EPCRA § 326(a)(1)(A)(ii)-(iii), 42 U.S.C.A. § 11046(a)(1)(A)(ii)-(iii).

[4]EPCRA § 326(a)(2)(B), 42 U.S.C.A. § 11046(a)(2)(B).

[5]EPCRA § 326(d), 42 U.S.C.A. § 11046(d); *see* 40 C.F.R. Part 374.

[Section 14:170]

[1]EPA, Enforcement Response Policy for Section 313 of the Emergency Planning Community Right-To-Know Act (1986) and Section 6607 of the Pollution Prevention Act (1990), February 24, 2017 (Amended), https://www.epa.gov/enforcement/enforcement-response-policy-section-313-emergency-planning-community-right-know-act.

[2]For EPA enforcement examples, see EPA, TRI Compliance and Enforcement, https://www.epa.gov/toxics-release-inventory-tri-program/tri-compliance-and-enforcement.

[3]In re Pease & Curren, No. I-90-1008 (1990); In re CBI Servs., No. EPCRA-05-1990 (1990).

calculating Category II violations. Facilities that submit their Form R reports after July 1, but before being contacted by EPA, will be eligible for a penalty reduction under the "voluntary disclosure" section of the ERP, provided that the facility meets certain listed criteria. Facilities that report only after an EPA compliance contact will not be eligible for a reduction on this basis. One rationale for basing the penalty on the number of days late is that, because the Form R information is to be distributed publicly by EPA in a timely manner, at some point a late report effectively denies the public timely access to data to which they are entitled under the Act.[4]

There are violations other than the lateness with which a report is filed in which a penalty may be assessed. The § 313 ERP specifies an entire range of penalty levels that may be assessed for Form R reports that contain errors; use of a range reflects the range in the relative seriousness of reporting errors. Among the most significant of these reporting errors are those that concern the amount of chemical emissions reported by a facility—such as omitting an entire source of emissions, or emission estimates that are grossly inaccurate. In addition to these data quality violations, the ERP also includes penalty levels for failure to maintain records, failure to supply notification, incomplete or inaccurate supplier notification, failure to maintain complete records, failure to maintain records at the facility, repeat Notice of Noncompliance (NON) violations, and failure to respond to a NON.

The ERP bases penalty amounts for § 313 violations on the following factors affecting the gravity of a violation: the "circumstance" of the violation and the "extent" of the violation. The circumstance level is determined by the seriousness of the violation as it relates to the accuracy and availability of the information to the community, states, and the federal government. The extent level is based on the quantity of each § 313 chemical manufactured, processed, or otherwise used by the facility; the size of the facility (based on the number of employees); and the gross sales of the violating facility's total corporate entity. Use of the circumstance and extent levels is intended to reflect basic fairness—smaller companies with fewer revenues should be assessed a lesser amount than that assessed larger companies—and consideration of the varying levels of deterrence required for large and small companies. Under this formula, a facility with more than 50 employees and over $10 million in gross annual corporate annual sales, and which manufactures or uses the § 313 chemical at issue in an amount greater than ten times the applicable threshold, will fall into the highest penalty category. Facilities using a lesser amount of the chemical, and that have fewer employees and less than $10 million in sales are eligible for categories specifying a lesser penalty.

Once the gravity-based penalty has been determined, upward or downward adjustments to the proposed penalty amount may be made in consideration of the following factors: voluntary disclosure, past violations for currently "delisted" chemicals, attitude, other factors as justice may require, supplemental environmental projects undertaken by a violator to mitigate a penalty, and ability to pay. Consideration of these adjustments allows the penalty to be "fine tuned" to fit the violation and the violator. Generally, when considering a violator's "attitude," EPA will take into account the speed with which the facility came into compliance once it became aware of the violation, its promptness in providing information that is requested by the

[4]The original § 313 Penalty Policy considered as an aggravating circumstance whether a facility has reported after it has been notified and/or inspected for compliance with Title III requirements, on the premise that EPA has had to expend its limited resources targeting the facility. *But see* In re Riverside Furniture Corp., No. EPCRA-88-H-VI-406S, slip op. at 12 (final order issued Sept. 28, 1989). The August 1992 ERP treats this form of noncompliance differently. *See* In re Pease & Curren, No. I-90-1008 (1990); In re CBI Servs., No. EPCRA-05-1990 (1990). This approach has been a consistent feature of many EPA penalty policies.

Agency, and its good faith efforts to settle an enforcement action promptly.[5]

Less serious errors are usually handled first by contact from EPA. During the Reporting Year 1993 processing cycle, three types of mailouts were sent to submitters to inform them that their Form R reports contained errors that prevented the forms from being added to the Toxic Release Inventory System (TRIS). The first of these mailouts was the Notice of Data Change (NDC), which identifies "minor" errors that are corrected at the EPCRA Reporting Center. Such errors occur when, for example, a submitter lists copper as the chemical name on Form R, but provides a close—but incorrect—CAS number. In this circumstance, EPA corrected the CAS number on the submitted Form R. EPA then sent the submitter an NDC that documents the change, and a copy of the NDC was retained in the Form R folder at the EPCRA Reporting Center.

Notices of Significant Error (NOSEs) were sent concurrently with NDCs, and issued to obtain voluntary corrections to Form R submissions that allow these submissions to be processed by the EPCRA Reporting Center. There is no compliance language in a NOSE; it is instead a mechanism to speed the correction of faulty data. NOSEs are issued when a submitter uses an invalid Form R report, submits an incomplete form, provides a mismatched chemical name and a CAS number that cannot be corrected by an NDC, or reports multiple chemicals in a single Form R.

If the submitter did not timely respond to the NOSE within this timeframe, the Agency would issue the facility a Notice of Noncompliance (NON). The errors prompting a NON are the same as those that cause a NOSE; however, a NON contains compliance language and represents the initial stage of a § 313 enforcement action. Unlike a NOSE, a NON is an original, signed document issued by the Toxics and Pesticides Enforcement Division of the Office of Regulatory Enforcement in EPA headquarters' Office of Enforcement and Compliance Assurance. If a facility does not respond to a NON, it may be subject to further enforcement action.

Since 2013, data quality and errors have been more easily prevented, identified, and addressed within EPA's online reporting system, TRI-MEweb, and through direct outreach by EPA, including by phone.[6]

Finally—and particularly in light of the "reasonable estimates" requirement for calculating TRI usage and releases—a facility has considerable leeway in determining both whether it is subject to any particular reporting requirement and the amounts manufactured, used, released, etc. Reliance on "loose" estimates can be perilous, however, especially if EPA determines that the estimated figures are not reasonable based on the data that were available to the facility when the report was submitted. In other words, a facility might find itself subject to an enforcement action if it files its Form Rs by the deadline using data it knows, or should know, are not reasonably accurate, simply as a strategy to "buy time" to pull together the necessary information and later submit corrected or revised reports.[7]

Limited state, local, and citizen enforcement is available for a variety of § 313-related provisions. State and local governments have no explicit authority to enforce any § 313 requirement, although "persons," which include state and local government entities, are authorized to maintain actions to require a facility to submit a

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[5]Penalty reductions have been permitted for a violating company's pollution reduction measures. For example, a § 313 penalty against the Buckstaff Co. of Oshkosh, Wisconsin, for failing to file a report on xylene was reduced from $17,000 to $4,250 for the company's agreement to switch to lower solvent raw materials.

[6]See EPA, Toxics Release Inventory (TRI) Program: TRI Data Quality, https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-quality.

[7]Such reporting could be construed as falsifying information submitted to the government, which is a criminal offense. 18 U.S.C.A. § 1001. Revisions also run the risk of not being identified as such, which would result in greater release figures being attributed to the facility because of multiple filings.

TRI Form R,[8] and to require EPA to respond to a petition to add or delist a TRI chemical,[9] or to create the TRI database.[10] However, more and more states are passing their own EPCRA-like legislation, which includes enforcement authorities. Citizen suits are becoming increasingly popular with environmental groups as they have found it possible to win settlements with facilities not in compliance with § 313.[11]

Over the years, EPA's most vigorous EPCRA enforcement has focused on § 313 TRI reporting. Building upon a substantial body of enforcement to assure the integrity of the TRI program and associated database, in July 1996 the Agency conducted an enforcement initiative against 47 facilities for non-reporting, data quality, and recordkeeping violations. Total proposed penalties for this initiative amounted to nearly $3 million, ranging from a low of $5,000 to a high of $700,000 per facility. The Agency's purpose in this initiative was to alert the regulated community once again of the requirements of § 313 and § 6607 of the Pollution Prevention Act for both non-reporters and those already in the system. The initiative was also prompted by the expansion of the TRI universe. First, the number of reportable chemicals nearly doubled in November 1994,[12] and in June 1996 EPA proposed to increase the types of facilities subject to reporting. As a result, the various definitions, exemptions, and other jurisdictional elements have taken on added importance in the enforcement and administration of this law.

Exemptions and Exceptions. The "article" exemption to § 313 reporting is tied to the law's purpose of having facilities that manufacture, process, or use chemicals above a certain threshold report the amounts of those chemicals released into the environment.[13] Therefore, not unexpectedly, for a product to be considered an "article" and exempt from reporting, there must be no release of chemicals from the article under ordinary operating conditions.[14] However, the exemption does not apply where a facility purchases and processes a listed chemical in amounts greater than the threshold to produce articles,[15] nor where a listed chemical is brought to the facility and incorporated into an article.[16] The "de minimis" exception[17] applies only where a listed chemical's presence in a mixture is less than 1% (or less than 0.1% of an OSHA HCS-defined carcinogen). Therefore, the exception does not apply where a facility processes or uses a listed chemical and dilutes it in a mixture to

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[8]EPCRA § 326(a)(1)(A)(iv), 42 U.S.C.A. § 11046(a)(1)(A)(iv).

[9]EPCRA § 326(a)(1)(B)(ii), 42 U.S.C.A. § 11046(a)(1)(B)(ii).

[10]EPCRA § 326(a)(1)(B)(iv), 42 U.S.C.A. § 11046(a)(1)(B)(iv); *see* § 14:158.

[11]Courts are divided as to whether citizen suits are permissible to recover for retroactive damages in a situation where an entity has remedied its reporting deficiencies and the citizen suit does not allege any ongoing reporting violations. *See* Atlantic States Legal Found., Inc. v. United Musical Instruments, U.S.A., Inc., 61 F.3d 473 (6th Cir. 1995) (holding that citizen suits are precluded where the offending entity had cured its reporting defects after receipt of notice of intent to file the citizen suit). *But see* Atlantic States Legal Found., Inc. v. Whiting Roll-Up Door Mfg. Corp., 772 F. Supp. 745 (W.D.N.Y. 1991) (holding that even though citizen group alleged no ongoing reporting violations at the time the suit commenced, the citizen suit for civil penalties for failing to comply with reporting requirements in the past was still permissible).

[12]59 Fed. Reg. 61432 (Nov. 30, 1994); *see also* § 14:158.

[13]40 C.F.R. § 372.38(b).

[14]CBI Services, Inc., EPCRA-05-1990 (Partial Order for Accelerated Decision Feb. 28, 1991).

[15]R.C.A. Rubber Co., EPCRA-031-1990 (Partial Order for Accelerated Decision Aug. 9, 1991).

[16]Tillamook County Creamery Ass'n, EPCRA-1094-03-01-325 (Order for Accelerated Decision Sept. 8, 1995).

[17]40 C.F.R. § 372.38(a); *see also* § 14:158.

less than 1%.[18]

The "laboratory" exception to reporting under § 313, an important but exceedingly narrow exception, applies only to those quantities of a listed chemical processed *within* the laboratory, and does not extend to those quantities processed *outside* the laboratory.[19]

Trade Name Products Exception. As noted previously, trade name products and secret mixtures present special reporting difficulties. Proof of violations of § 313 reporting requirements where listed chemicals are present in mixtures tends to hinge on whether the facility/user of the trade name mixture has actual knowledge of the mixture's contents. Knowledge is not presumed or imputed in these circumstances, and EPA has the burden of showing that a facility/user of a trade-name product has actual knowledge of the listed chemical's concentration. In addition, a facility is not required to file a TRI Form R report for a listed chemical if the facility discovers or learns of the concentration after the reporting deadline,[20] although the facility would be required to report in the year in which it is aware of the concentration (assuming the reporting thresholds are met).

Listing and Delisting of Chemicals. The TRI list is not static, and changes from year to year—sometimes dramatically, as in the case of the November 1994 expansion, which nearly doubled the list of reportable chemicals.[21] A common question from members of the regulated community is the effect of a proposed or final listing or delisting on their obligation to report in a given year. A proposed listing or delisting does not in any way affect a facility's reporting requirements; only an actual listing or delisting is relevant.[22] If a chemical is removed from the § 313 list, it only alters the obligation to report that chemical prospectively; it does not relieve a facility of the obligation to report its manufacture, use, or processing of that chemical during the year in which reports were required.[23] Similarly, the addition of a chemical to a list has only a prospective effect.

"Process" vs. "Otherwise Used." The distinction between whether a chemical is "processed" or "otherwise used" is important because of the different triggering thresholds for reporting each use. A chemical is "processed" if it is prepared in some way following initial manufacture, usually by incorporation into a final product.[24] "Otherwise used" is a catch-all term, covering all other activities that are not "processing" or "manufacturing" (defined as the production—as a product, by-product, or impurity—of a chemical, or its importation). Despite these common-sense definitions, there are some difficult judgments to be made at the margins, especially where chemicals are only partially incorporated into an article. In two

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[18]R.C.A. Rubber Co., EPCRA-031-1990 (Partial Order for Accelerated Decision Aug. 9, 1991) (purchase and process of listed chemical to produce mixture where listed chemical constitutes less than 1% of mixture); Tillamook County Creamery Ass'n, EPCRA-1094-03-01-325 (Order for Accelerated Decision Sept. 8, 1995) (listed chemical brought to facility in pure form and diluted to less than 1% for use).

[19]40 C.F.R. § 372.38(d); Tillamook County Creamery Ass'n, EPCRA-1094-03-01-325 (Order for Accelerated Decision Sept. 9, 1995).

[20]San Antonio Shoe, Inc., EPCRA-VI-501-5 (Interlocutory Order Mar. 18, 1993).

[21]*See also* 78 Fed. Reg. 66848 (Nov. 7, 2013) (adding chemical to the list); 79 Fed. Reg. 58686 (Sept. 30, 2014) (same).

[22]Agri-Fine Corp., EPCRA-V-019-92 (Order on Discovery Sept. 1, 1995) (assessing effect of proposed delisting on penalty amount).

[23]Honig Chem. & Processing Corp., EPCRA-II-89-0104 (Order for Accelerated Decision Oct. 11, 1991) (suggesting that EPA could give retroactive effect to delistings).

[24]40 C.F.R. § 372.3; *see* Am. Desk Mfg. Co., EPCRA-VI-449S (Ruling on Motion for Accelerated Decision Dec. 31, 1991) (key distinction between "process" and "otherwise use" is whether chemical is incorporated into article); Pease & Curren, Inc., EPCRA-1-91-1008 (Initial Decision Mar. 13, 1991) (same).

separate cases, decisions by ALJs have highlighted the difficulty of drawing a clear line of distinction between the two definitions. While individually they appear to be reasonable constructions, together they create an unfortunate, perhaps contradictory, result: where the amount incorporated into an article is "insignificant," the chemical is "otherwise used";[25] on the other hand, a chemical is "processed" if it is made part of a final product, regardless of the amount that might escape during processing.[26]

§ 14:171 Federal, state, and citizen enforcement of Title III—Sections 322 and 323

Federal enforcement of § 322 violations is limited to two circumstances. EPA may assess a civil or administrative penalty of up to $10,000 for failure to submit a substantiation form justifying a trade secret claim, and a flat $25,000 penalty for a claim that is determined to have been filed "frivolously."[1] No state or local enforcement actions are authorized for trade secrecy violations.

Instead of seeking penalties for unsubstantiated claims, EPA has thus far opted to review the claims and find them insufficiently justified because they lack substantiations.[2] Because many claims have been filed inadvertently, this is a more expedient method of correcting this reporting error. In addition, NONs are intended to be used to correct such errors prior to seeking penalties.

A "frivolous" claim is undefined by either the statute or the regulation: the normal meaning of the term, however, indicates that a frivolous claim is one that is without merit and should not have been filed. A frivolous-claim penalty cannot be assessed, however, until after the claim has been finally denied and all appeals exhausted; a company should be able to avoid this penalty by withdrawing the claim before the denial becomes final.[3]

Only EPA and health professionals are authorized to bring an enforcement action for a § 323 violation. No state or local government organizations or citizens are empowered to enforce the section or to seek penalties for a facility's refusal to provide trade secret information properly requested by a health professional. EPA may assess a penalty of up to $10,000 in an administrative or judicial action to enforce only § 323(b)—the requirement to provide information in a medical emergency; EPA does not have the authority to enforce other violations of this section.[4] The health professional who has requested the information may always bring an action to enforce the request, however.[5]

VIII. COMPREHENSIVE GROUNDWATER PROTECTION PLANS

§ 14:172 In general

Portions of the Clean Water Act, Safe Drinking Water Act, RCRA, and Superfund all provide for groundwater protection, as preceding sections in this chapter have

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[25]American Desk Mfg. Co., EPCRA-VI-449S (Ruling on Motion for Accelerated Decision Dec. 31, 1991).

[26]CBI Servs., Inc., EPCRA-05-1990 (Order on Partial Accelerated Decision Feb. 28, 1991).

[Section 14:171]

[1]EPCRA § 325(c)(2), (d), 42 U.S.C.A. § 11045(c)(2), (d).

[2]*See* 40 C.F.R. Part 350; *see* § 14:159.

[3]EPCRA § 325(d)(1), 42 U.S.C.A. § 11045(d)(1). This occurred in conjunction with the review of a claim of the Kal Kan Company. *See* In re Kal Kan Foods, Inc., No. TS-313-87-6 (claim withdrawn Mar. 13, 1989).

[4]EPCRA § 325(c)(2), (4), 42 U.S.C.A. § 11045(c)(2), (4).

[5]EPCRA § 325(e), 42 U.S.C.A. § 11045(e).

explained. Beginning in the 1970s, EPA made several efforts to unite these separate programs into a single groundwater protection effort to be administered by the states. Successive drafts of the Agency's "groundwater policy" drew sharp criticism from the western states, and failed to secure much support.[1]

In 1986, Congress gave some renewed life to the effort by attaching a "well-head protection" program to the Safe Drinking Water Act reauthorization passed in that year.[2] The statute authorized financial assistance to the states to help them prepare integrated management plans that would unite and reconcile the federal groundwater protection programs, at least insofar as they affected well fields which served as the sources of public drinking water supply.[3] The statute is brief and its history unclear. EPA must approve state plans before providing financial assistance.[4]

The Safe Drinking Water Act Amendments of 1996 also required states to implement source water assessment programs to assess potential threats to drinking water quality.[5] EPA has issued guidance on the substantive requirements imposed by the wellhead protection and source water assessment programs.[6]

§ 14:173 Conclusion

Protection of soil and groundwater depends primarily on limiting, regulating, and cleaning up pollutants that are abandoned or disposed, particularly hazardous wastes. A number of environmental statutes described in this Chapter seek to accomplish this, including:

- CERCLA
- RCRA
- The Clean Water Act
- The Safe Drinking Water Act

In addition, EPCRA provides a powerful tool for understanding the types and volumes of chemicals that may be released into the environment, including to ensure effective and safe responses to chemical accidents and emergencies. Together, the federal programs described in this Chapter, along with similar state and tribal regulatory programs, aim to prevent and, if necessary, remediate pollution to soil and groundwater.

[Section 14:172]

[1]*See generally* Comm. on Gov't Operations, Groundwater Protection: The Quest for a National Policy, H.R. Rep. No. 1136, 98th Cong., 2d Sess. (1984).

[2]Safe Drinking Water Act Amendments of 1986, Pub. L. No. 99-339 § 205, 100 Stat. 642, 660–63 (adding SDWA § 1428, 42 U.S.C.A. § 300h-7).

[3]Safe Drinking Water Act Amendments of 1986, Pub. L. No. 99-339 § 205, 100 Stat. 642, 660–63 (adding SDWA § 1428, 42 U.S.C.A. § 300h-7).

[4]Safe Drinking Water Act Amendments of 1986, Pub. L. No. 99-339 § 205(a), (d), 100 Stat. 600–61 (adding SDWA § 1428(a), (d), 42 U.S.C.A. § 300h-7(a), (d)).

[5]Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, 110 Stat. 1613; Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182 § 132, 110 Stat. 1613, 1673–1675 (adding SDWA § 1453, 42 U.S.C.A. § 300j-13).

[6]EPA, Water: Source Water Protection, http://water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/epastateandtribalprograms.cfm (last visited Dec. 23, 2021).

APPENDIX 14A

Table of Acronyms

Table of Acronyms	
ARIP	Accidental Release Information Program
ALJ	Administrative Law Judge
ATSDR	Agency for Toxic Substances and Disease Registry
ACL	Alternate Concentration Level
ARAR	Applicable or Relevant and Appropriate Requirements
ACA	Asset Conservation, Lender Liability, and Deposit Insurance Protection Act
BAT	Best Available Technology
BDAT	Best Demonstrated, Available Treatment technology
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CGL	Comprehensive General Liability
CESQG	Conditionally Exempt Small Quantity Generator
CBI	Confidential Business Information
CAMU	Correction Action Management Unit
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Enforcement Response Policy
EE/CA	Engineering Evaluation/Cost Analysis
EIL	Environmental Impairment Liability
EPA	Environmental Protection Agency
EP	Extraction Procedure
EHS	Extremely Hazardous Substances
FEMA	Federal Emergency Management Agency
FDA	Food and Drug Administration
HCS	Hazard Communication Standard
HRS	Hazard Ranking System
HSWA	Hazardous and Solid Waste Amendments of 1984

Table of Acronyms	
ISO	Insurance Services Office
LUST Fund	Leaking Underground Storage Tank Fund
LEPC	Local Emergency Planning Committee
LOIS	Loss of Interim Status
MSDS	Material Safety Data Sheet
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NCP	National Oil and Hazardous Substances Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NAICS	North American Industry Classification System
NDC	Notice of Data Change
NON	Notice of Noncompliance
NOSE	Notice of Significant Error
OSHA	Occupational Safety and Health Administration
ONRR	Office of Natural Resources Revenue
OPA	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OU	Operable Unit
PPA	Pollution Prevention Act of 1990
PRP	Potentially Responsible Parties
ROD	Record of Decision
RI/FS	Remedial Investigation/Feasibility Study
RQ	Reportable Quantity
RCRA	Resource Conservation and Recovery Act
SDS	Safety Data Sheet
SQG	Small Quantity Generator
SPCC	Spill Prevention Control and Countermeasure
SIC	Standard Industrial Classification
SERC	State Emergency Response Commission
SARA	Superfund Amendment and Reauthorization Act of 1986
TPLM	Tank Level or Pressure Monitoring
TEGD	Technical Enforcement Guidance Document
TPQ	Threshold Planning Quantity
TRIS	Toxic Chemical Release Inventory
TRIS	Toxic Release Inventory System

Table of Acronyms	
TRIS	Toxic Release Inventory System
TCLP	Toxicity characteristic leaching procedure
TSD	Treatment, storage, and disposal
TSD	Treatment, Storage, and Disposal
TERC	Tribal Emergency Planning Committee
UST	Underground Storage Tank
VSQG	Very Small Quantity Generator