

D I A L O G U E

Understanding the New Air Pollution Rules

Editors' Summary

The U.S. Environmental Protection Agency embarked on an ambitious schedule of air pollution rulemaking following the vacatur of several Bush Administration rulemakings. The “transport rule” seeks to cap interstate emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from power plants to replace the Clean Air Interstate Rule (CAIR). Also scheduled are: a plan to review and update hazardous air pollution rules covering 28 types of industrial facilities; rules limiting mercury and other toxic emissions, including arsenic, dioxins, and hydrochloric acid; national health standards for ozone; and BACT standards that will likely address greenhouse gases. On October 20, 2010, at ELI’s Fall Practice Update, panelists discussed how these various rules interrelate and how they might fit with legislative developments in the next two years.

Panelists:

Chuck Knauss, Partner, Bingham McCutchen LLP (moderator)

Michael J. Bradley, President, M.J. Bradley & Associates

Robert D. Brenner, Director, Office of Policy Analysis and Review, Office of Air and Radiation, U.S. EPA

John Walke, Clean Air Director/Senior Attorney, Natural Resources Defense Council

Rebecca Leamon: Our moderator is Chuck Knauss. He is a partner at Bingham McCutchen in Washington, D.C., where he represents companies and trade associations in environmental permitting, rulemaking, litigation, commercial, and legislative matters. He is nationally recognized as an authority on the Clean Air Act (CAA).¹ He has 25 years of experience addressing all aspects of this federal statute, including several years as counsel to the U.S. House of Representatives Committee on Energy and Commerce, where he was named in the early 1990s as a Senior GOP Aide handling the Comprehensive 1990 CAA Amendments. Richard Cohen’s history of the 1990 Amendments, *Washington at Work: Back Rooms and Clean Air*, noted that Chuck “was probably the most influential Republican on the legislation.” Chuck founded and is counsel to the Air

Permitting Forum, a group of Fortune 50 companies that develops practical and effective advice for all aspects of the permit process, including applications, negotiations, permit terms, certifications, appeals, revisions, and remedies.

I. Introductions and Overview

Chuck Knauss: Thank you, Rebecca, for those kind words. I hope everybody was able to attend last night. I’ve been to many of these functions over the last 20 years or so, and I thought last night’s was particularly good. It was well run and it got people to the bar in time to watch the Yankees get pummeled. But I thought Administrator [Lisa] Jackson’s remarks preceded by former Administrator [William K.] Reilly’s remarks were really quite good.

I’m really delighted to be on this stage today with the panel we have. It’s a terrific group, and it’s very timely. I think, Rebecca, you noted 25 years. Unfortunately, I think it’s now 30 years. The thing is a little bit out of date. Thirty years I’ve been at this, and in those 30 years, I have never seen a period with so much going on. This is a result of not only this Administration reconsidering a lot of the prior Administration’s decisions, but also because the statute requires a number of things to get done on certain timetables, and the Agency is being held to those timetables by interested parties through citizen suits and the like.

So, just NAAQS [national ambient air quality standards] are really almost a microcosm of it, but we are going to be seeing five NAAQS within three years, and those NAAQS, of course, each come with designations and implementation rules and all the rest. Put that on top of §202 tailpipe regulations...and the Tailoring Rule. Couple that with the §112 technology reviews and §112(f)(2) risk reviews, as well as EPA’s position that it has to look back again at a few §112(d) underlying standards. There is just an awful lot that has happened, and there is an awful lot more that is going to happen.

Our first speaker today is going to talk a little bit about how the Agency is trying to grapple with this snowball of regulations that are affecting the regulated community, but also the states. Timelines for states are being truncated dramatically, looking at their SIPs [state implementation plans] in light of the new requirements.

Rob Brenner joined the Agency in 1979, so it was two years after the 1977 Amendments, so he was there during the rollout of the 1977 Amendments all during the 1980s. He was a primary Agency participant in the 1990 Amend-

1. 42 U.S.C. §§7401-7671q, ELR STAT. CAA §§101-618.

ments, when I was up on the Hill, and I dealt with Rob frequently as counsel to Energy and Commerce. I think the best way to characterize Rob is probably when people are thinking about CAA issues, more often than not, people say: "Well, what does Rob think about that?" and they really want to hear his perspective. He has been there so long, as far as knowing how to get things done, he is one who does look at innovative solutions and tries to balance, as the CAA dictates, protecting the environment as well as the productive capacity of the nation in §101(b)(1) of the Act. He is one who keeps those twin goals in mind all the time. And the other thing I want to note about Rob, just as you come across EPA people in all aspects of your work, he has sprinkled the Agency with, I won't say disciples, but he is an incredible mentor to the junior set at the Agency. So, I'm delighted to have Rob here.

We also have Michael J. Bradley, another veteran of the 1990 Amendments. He was, for a number of years, executive director of NESCAUM [Northeast States for Coordinated Air Use Management], so, the nice thing about having Michael here is not only does he bring a perspective of Clean Energy Group that Michael J. Bradley formed in the late 1990s and a significant segment of the utility sector as well as other clients that he works with, but he also, having worked with the Northeast states so extensively, can bring to the panel today some thoughts about what the states might be feeling about this onslaught of new requirements.

He is a frequent contributor to the CAA Advisory Committee and has served on it but also been a contributor for work product. His organization, centered in Boston, is very well-known to many of you, I'm sure, and I'm delighted to have Michael on the panel.

We also have John Walke, who hit the stage in 1993, so he is a veteran of the implementation of the 1990 Amendments and worked initially in a private-sector law firm and then with the Office of the General Counsel at EPA [the U.S. Environmental Protection Agency]. For the last decade, John has been at the NRDC [Natural Resources Defense Council] really heading up their program looking at regulations, both the regulations and the rulemaking process, but also in the subsequent litigation.

John has a very active blog that is well worth reading both with respect to the substance and the variety of topics he hits. He wrote a tremendous tribute to Blake Early, who we lost this last year, and that was quite touching. But I also think it's fair to say John reflects the political dynamic of our time. His rhetoric can be white-hot and accusatory of those who disagree with his perspective, but it's well worth the occasional stop as you are looking at things.

So, with that, I'm going to turn it over to Rob for a bit and then we'll go to Michael and then John, and then we'll talk about the issues of the day.

II. Agency Perspective

Robert Brenner: Well, thanks for that very gracious introduction, Chuck. Thanks also to the Environmental Law Institute for last night's dinner and especially for the award to EPA, which means a lot to me and many of my colleagues around the Agency. It was a great evening for us too. The reason for the award, of course, was the 40th anniversary of the Agency. But as Administrator Jackson mentioned, it's also the 40th anniversary of the CAA and it's the 20th anniversary of the 1990 Amendments to the CAA.

Those Amendments have stood the test of time over the last two decades. Only minor changes have been made. The Amendments could probably use some additional looks now, but they're certainly capable of functioning very effectively. That really is a testament both to the original congressional action undertaken by Chuck and his colleagues, and there's been a great deal of diligence and even creativity on the part of many of the stakeholders who have been involved.

I think we can all take credit for having developed some more efficient forms of regulation. There are a lot of cases where the regulated community has learned how to prevent pollution rather than just capture and control it. And certainly, many of the companies Michael has worked with have exemplified that. There is a whole pollution-control industry that has grown considerably larger since 1990 and has responded with innovative technologies. The judiciary and the legal community have exercised appropriate oversight and determined the boundaries of what's possible and what's legal under the Act. And as a result of all that, we've succeeded. We've reduced air toxics from industrial sources that were never really effectively regulated at all prior to the 1990 Act.

We've cleaned up acid rain at a fraction of the predicted price, thanks in large part to the Emissions Trading Program. We have cleaned our vehicles. We have incentives for energy efficiency and we have an environmental regulatory system that, although it is complicated—I'll acknowledge that—is making great progress toward some long-sought national goals.

The biggest measure of our success, of course, comes in terms of improvements to public health. We're going to be publishing a study pretty soon on the benefits and costs of the 1990 CAA. It will be out by early next year. It's already gone through its review by the Independent Science Advisory Board, which provided EPA with its review of our major scientific studies. That report concludes that the public health benefits of our CAA investments since 1990 have been enormous and they far outweigh the costs.

Just a couple of statistics from the report: this year, for example, in 2010, as a result of the 1990 Amendments, over 160,000 premature deaths are being prevented this year mostly due to the reductions of fine particle pollution and the pollutants that lead to the formation of fine particles. Similarly, the number of lost work days due to

illness had been reduced by 13 million per year, all due to investments in clean air.

As the Administrator said last night, not only does removing air pollution from the air we breathe improve public health, but it's also true that the most significant reductions occur in areas with poor air quality, which typically have a high population density. As a result, we've been able to pretty much maximize the public health benefits of the Act. And when we try to create a dollar-and-cents version of all this, the value of the annual benefits of the 1990 CAA pollution reductions is going to be about 20 to 30 times greater than the predicted annual costs of \$65 billion a year. So, \$65 billion a year in costs, and 20 to 30 times the benefits as a result of reduced illnesses and deaths. That estimate doesn't even include the rules that we're going to be promulgating over the next few years.

Despite the progress that I've just described, we still are here today with a to-do list of air pollution regulations and policies that are probably as challenging and as numerous as any point since the passage of the 1990 Amendments. Three factors are contributing to that. First of all, the Act itself provides a future workload for us. NAAQS have to be periodically reviewed. Under this Administration, we've already done that for SO₂ and NO_x and we'll be doing it for particulate matter, ozone, and carbon monoxide.

Similarly, there are new sorts of performance standards and maximum achievable control technology (MACT) standards for toxics. They have to be revised, and there are residual risks in technology standards, as Chuck mentioned, that also need to be reviewed related to our toxics concerns. We're working on a lot of regulations that the courts have handed back to us. One of the things we've learned over the last 10 years is that although the CAA does allow for some discretion—and it has to; there is no way we could be successful without some discretion—the previous Administration took that too far, and the courts have made that clear in a number of instances, especially with respect to those air toxics rulemakings. A lot of our current work is redoing some of the regulations that had been done over the course of the previous Administration and have now been returned to us by the courts.

The third factor that's driving our agenda is climate change. The courts confirmed that we have that legal responsibility under the CAA to deal with greenhouse gases (GHGs), and that poses a significant set of legal and policy challenges. The Barack Obama Administration and my colleagues at EPA have made a good start on that over the last couple of years. We've issued an endangerment finding with respect to GHGs. We've developed the tailoring rule to try to fit the GHG requirements into the confines of the CAA. We've proposed a reporting rule that's going to provide us with the baseline for efficient regulations in the future. And we've issued the first GHG standards for vehicles that will lead to increased fuel economy over 35 miles a gallon by 2016 and reduce nearly 950 million metric tons of GHGs.

As we all wait for further legislative guidance on climate change, we're now pursuing the climate and clean air challenges together in the stationary-source world as the law requires. In order to meet that challenge, we're trying to develop a sector-based approach that addresses multiple types of air pollution simultaneously.

Our first goal is going to be to focus on the new source performance standards (NSPS) that deal with those NAAQS pollutants that I mentioned—SO₂ and ozone precursors, carbon monoxide, fine particles—and we're going to try to deal with those NSPS standards and the hazardous air pollutant standards (HAPs) for individual industrial sectors together, and the recently promulgated cement rule is an example of that; we considered those NSPS and HAPs simultaneously. We achieved additional SO₂ reductions and greater air toxics reductions than we would have been able to accomplish if we had pursued those rulemakings on a separate basis, while at the same time providing the industry with a better roadmap for the future.

We're pursuing this kind of strategy for major industries, including electricity generation, petroleum refining, chemical manufacturing, and a number of others. By implementing this kind of approach, we hope to improve the source-wide emission reduction performance, as we did with cement plants, accelerate the development and the use of innovative emission reduction technologies, maximize the co-benefits and the cost effectiveness of air pollution control investments, and expand the integration of energy efficiency strategies into conventional air pollution control investments and plans. And that happens because industry will be able to see their full set of the requirements at once and figure out where energy efficiency fits in with the other clean air and climate-related requirements they'll need to meet.

In order to achieve that kind of progress, there are several kinds of questions that are going to have to be addressed. And the good news for many of you in the audience is this is where the lawyering comes in and is extremely important. For example, can we expand our definition of a pollution source from a production-unit by production-unit basis, to cover an entire industrial source or facility so that we can look at the facility as a whole and its environmental performance as a whole? How can using particulate matter measurements as surrogates for air toxic pollution assist with integrated air pollution control and planning? How can national technology-based standards, such as the MACT Air Toxics Rules, be reconciled with best available control technology (BACT) standards, which are much more dependent on local conditions?

Those are the types of questions we're going to be working to address. We'll be keeping both our Office of General Counsel and lawyers on the outside busy looking at that. The goal is to create a regulatory framework that is going to make it easier for facilities to integrate their energy efficiency and energy utilization plans into their air pollution management strategies.

So, all that, of course, seems pretty daunting. It certainly does to me and to my colleagues. But I want to close by returning to the concept of what can be accomplished over 40 years. I would argue that today, the country is in a much better position to tackle the next 40-year challenge, which is clean air and climate, than it was when the original CAA was authorized in 1970.

If you go back to 1970, in those early days, it was uncertain whether the technology would ever exist to achieve the air pollution reductions that were required by the Act. There were no such things as smokestack scrubbers, catalytic converters, carbon absorbers, diesel retrofits, and reformulated fuels. They just weren't on the radar screen when that law was enacted. And today, we're facing, I would argue, a very similar situation with respect to trying to achieve some very ambitious climate and energy goals, and trying to achieve them again over the next 40 years, just as we achieved many clean air goals over the last 40 years.

Today, things like fuel cells and cleaner alternative fuels are a reality. We have carbon capture and storage being demonstrated in several areas around the world. We have algal oils not just on the horizon, but they are already benefiting from billions of dollars in private-sector investments. And, of course, as I mentioned a couple of times, energy efficiency is a well-understood concept that is becoming more and more a strategic part of most industries' clean air plants. Bringing those technologies to the marketplace and those practices into the mainstream is, of course, still going to be a challenge, but we think we can use the same tools that we've used in the past in the CAA to tackle those new challenges.

We will need help. We're going to need ingenuity and assistance and good ideas and, in some cases, even some patience from you and the other stakeholders involved in this process.

III. Industry and State Perspectives

Michael J. Bradley: Good to be here today. I enjoyed last night. That was a great event. What I'd like to do is focus primarily on two of the regulations that Rob mentioned, the transport rule and the MACT rules for utility boilers, which is coming up. I want to make it clear that my views are essentially representing the Clean Energy Group, which is 11 companies that are engaged in this debate, companies that are well known to many of you—Constellation, PSE&G, PG&E, Exelon, Entergy, National Grid, Calpine, NextEra Energy—and along with a couple of the more progressive municipal utilities—Austin Energy, Seattle City Light, and the New York Power Authority.

These companies collectively support EPA moving forward according to the timelines that have been either set by EPA or set by the courts in implementing these rules. Just to give you a perspective, these companies provide electricity service to about 20% of the consumers in the United States. They have about 20% of the total utility capacity,

so, they're players. They have 110 megawatts of fossil generation, for instance. So, these rules do matter to them.

On the transport rule, obviously, the Clean Energy Group has a number of concerns. Many of them reside in areas that are challenged with nonattainment situations, which drives up the costs and burdens for economic development. They're obviously concerned about public health implications for their employees and the customers they have. We really do feel like EPA's proposal has been responsive to the district court decision. We support EPA's significant contribution determination, and jurisdiction [under Section] 110, which is kind of the basis of setting the caps. And we do want to see the rule implemented in a timely fashion on time, which I think is January 2012.

The MACT rule is looming, and that's been on the radar screen for a while. In fact, I think this December will be the 10-year anniversary of EPA making the appropriateness determination on regulating mercury from coal-fired generators, so, this has been on the radar screen for a long time. As you remember, the CAMR [Clean Air Mercury Rule] came out back in 2003, 2004, and it looked fatally flawed from the beginning. But in essence, it underregulated mercury, and the industry itself has had many additional years to get ready. That doesn't mean that they're going to tell you that they're ready. So, we're hearing at this point claims from various parties that the utility industry doesn't have enough time to put these controls on that will be required by the transport rule and the MACT rule to be too costly, and it could very well cause reliability problems, blackout-type problems.

As a result of those claims, the PEG companies decided to commission a report that my shop and the Analysis Group did together. It's called the "*Ensuring Clean and Modern Electric- Generating Fleet While Maintaining Electric System Reliability*."² Basically, the report takes a hard look at what's been achieved in the past by the electric sector. We look at the data. We look at the tools that are out there to deal with these problems that could arise. The findings basically are not surprising when you really look at what's in place—one, that we don't think there's going to be a reliability problem, certainly not in many areas as long as the federal regulators and in the industry engage and cooperate and plan appropriately between now and 2015.

The experience with retrofitting the industry has been very impressive. The industry is well-prepared to deal with these retrofits and there should be sufficient time, and there's going to be plant retirements, and we'll get into that in a little bit, as a result.

The third point is that EPA, FERC [Federal Energy Regulatory Commission], state PUCs [public utility commissions], and other regulators have a whole system of tools and management processes to deal with reliability challenges. And we'll talk a little bit about those as well.

On reliability, one consequence of the downturn in the economy is that we have a lot of existing and available

2. The report is available at <http://www.mjbradley.com/documents/MJBAand-AnalysisGroupReliabilityReportAugust2010.pdf>.

capacity. We have over 100 gigawatts of excess capacity in the United States right now, which creates the opportunity for old coal plants that are either beyond or approaching their design lifeline to be able to retire. The other interesting fact is that in 2001-2003, the industry brought on 160 gigawatts of new capacity. That's three years, 160 gigawatts of new capacity. That was pretty impressive. Many areas now have system operational tools like capacity markets and are actually providing economic incentives for demand-response programs. Those have delivered quite a few benefits. Demand-response is signing up consumers, usually commercial and industrial consumers that are committed to rapidly reducing their electricity usage when there is a peak in the power system. So, that's essentially taking 10 to 12 plants of output and put it into the system of just avoided use.

The good news is that 65% of the coal capacity is either already retrofitted with scrubbers or in the process of being retrofitted with scrubbers. So, we have about 100 gigawatts of electric power still out there to deal with. One-half the power system is retrofitted with advanced NO_x already, SCR [selective catalytic reduction] systems and other types of NO_x controls, so we're in pretty good shape there. Out of that 100 gigawatts, there's been various analysis done on what is going to happen with retirements. Probably, from what the analysis tells us, between 30 and 40 gigawatts of old, typically small coal-fired plants 40-60 years old will actually come offline. And the number one economic driver for pushing these plants into retirement has been the price of natural gas, not EPA regulations. So, keep that in mind. We're expecting the price of natural gas to stay fairly low, from historical perspectives, for quite a while.

And the other fact is that about 20 to 25% of that expected retirement has already been announced. Companies like Progress, Southern, TVA, and others have already announced plans to retire units and to replace them with combined cycle gas with energy efficiency programs and a variety of other things. So, from that perspective, I think we're in pretty good shape.

In terms of managing the electric system and managing what will be potentially isolated situations when it comes to reliability, EPA, FERC, and others have these tools. One that's being deployed in the transport rule is emission trading, which will be very, very helpful. Another would be that EPA has the ability in the Act, on a case-by-case basis, to provide a unit, a power plant, an extra year to comply if they can make the case. FERC is going to be looking closely over the regional transmission operations and assisting on solid training.

And we have NERC, the National Electric Reliability Council, taking a hard look at that, and their report on this is coming out next week. But the bottom line is that when you get the system operators, you get EPA, you get FERC, you get other state regulators looking at the situation today and coming up with mitigation plans, we think we can definitely manage the full implementation of MACT and the transport rule.

The country is divided up into several reliability regions. All those regions today have more capacity than they require; basically, they require about 15% extra capacity to deal with unanticipated peak demand. Every region has more than 15% or more than the specific percentage that they require in the reliability plans. So, I don't think the sky is falling. I don't think we're going to look at massive blackouts. We are going to see a huge effort by the emission control industry, by skilled labor to get all this done. But the bottom line is, my companies are going to be working to support EPA and to provide analysis to EPA and do what we can to be sure that these rules are implemented on time.

I'd highly recommend this report, even though I did write part of it. It's been out since August, and we have not received one critical letter/comment that has pushed back on our findings. I think you'll find it very fact-based. Thank you.

IV. Congressional and Regulatory Viewpoints

John Walke: Good morning. I just wanted to start out by describing how my day began. I woke up and read an op-ed in the *Washington Times* by C. Boyden Gray criticizing EPA's ozone standards, and then I looked at my BlackBerry and saw an article in some publication about conservatives in [the U.S.] Congress promising regulatory reform legislation that would essentially block all agency rules from being issued unless and until Congress specifically approves every one of them that has been issued in the *Federal Register* but before it can go into law. This is the same Congress, mind you, whose most regular legislative accomplishment is naming post offices. And I felt like I was back in 1996, because that's exactly the conversation that we were having in Washington. Before EPA issued its ozone standards in 1997 and shortly after the Newt Gingrich Congress came in 1994, some of these same regulatory reform measures were being proposed.

So, we're clearly entering a new era, and we've seen this movie before. And the environmental community, at least I am, I'm actually looking forward to having a values debate about whether the public is supporting fiscal responsibility and lower government spending and deficit reduction, and how that is going to translate into a mandate for higher air pollution, water pollution, and weaker food contamination laws. I don't think that's the case, but we will find out.

Nikki Roy alluded earlier to the controversy surrounding GHGs and climate change. I don't think there is that controversy surrounding deadly air pollution and carcinogens and neurotoxins like mercury and lead. And we will find out, I guess; if some of these measures are pushed in Congress, we'll find out. It turns out that leading up into the six months prior to the mid-term elections, the CAA had become a really direct target of a lot of these activi-

ties. There have been a lot of direct lobbying and sign-on letters and promises of Congressional Review Act³ resolutions and the like aimed at the CAA, and they are aimed at the rules and the rule structures that Rob has told us have resulted in avoided deaths on the order of 160,000 to 170,000 lives every single year since the CAA. I welcome that conversation. I think it's a good values debate for the country to have.

As part of a lot of this lobbying activity, there has developed a curious and what I contend is a false narrative that EPA is "out of control," that the activities we have seen by EPA in carrying out the law, the same law, mind you, that was voted on in 1990 by some of the same congressional critics who are claiming that EPA is out of control by following the law that they themselves passed. EPA's job is not to make these things up, and when they do, they should rightly be chastised by the courts. But EPA's job is to issue the regulations and enforce the regulations that carry out the statutes passed by Congress.

The level of CAA regulatory activity in the eight years that followed the 1990 Amendments far exceeded the activity that we have seen from the Obama Administration, and that's for the simple reason that you had a new congressional enactment. EPA, from let's say 1991 or 1992 until about 2001, issued approximately 100 air toxic standards under §112 of the CAA, the MACT standards. They have not successfully issued approximately eight, maybe 10, I don't know the exact number. Why is that? Well, those were overturned in court by the [U.S. Court of Appeals for the District of Columbia (D.C.)] Circuit under the Bush Administration. I think I overturned about five or six of them.

And so the Obama Administration has inherited the remnants of those rules that were shredded by the courts for violating the plain language of the statute, and it's their responsibility to reissue those. Those are the rules that are generating the controversies most know, the cement kiln rule, the brick kiln rule, the power plant rule, the industrial boilers rule, and the medical waste incinerator rule. Those are rules that violated the plain language of the statute. Industry regulated by those sectors got some pretty good sweetheart deals at the time. They just happened to break the law. And what you see now is an Agency that is trying to rapidly reissue those rules more consistently with the law.

[Administrator] Lisa Jackson has said, to her credit, that hers is not going to be an administration that has its rules routinely overturned in the D.C. Circuit. I think that is to her credit and, somehow, that has turned her into the number one target of a lot of lobbyists and conservatives on Capitol Hill, and we're starting to see this type of rhetoric ramp-up. I think the American public wants an EPA that carries out the law, that protects air quality and water quality, and again, we will find that out.

A particular irony to me is that one of the complaints that we're hearing about this suite of rules is that there is

a surge of them. There is regulatory uncertainty surrounding what the final rules are going to look like, the GHG regime and the like, and the uncertainty, and the lack of fixed compliance obligations are a direct result of a lot of bad bets that were made by Bush Administration officials and industry parties that supported them as interveners in those lawsuits over whether they could pass these rules that I think, as Michael alluded to, were pretty plainly unlawful on their face when they were issued, as in the case of the mercury rule back in 2005, the industrial boilers rule in 2004. We are seeing rules now that, if there is any uncertainty associated with them, it is a byproduct of very risky, and I would argue, irresponsible approaches to carrying out the law that resulted in rather predictable outcomes, having them overturned in court.

One of my law professors told the story of—and I think it's in English common law—a man who went before the court and, after having killed his parents, begged for mercy because he was an orphan. I think that rather aptly describes what you're seeing now. The consequences of EPA's obligations are a direct result of the failure to follow law and some bad bets that resulted in delays. And let's remind ourselves of what those delays meant. They meant tens of thousands of premature deaths that are part of the totals of what air pollution is responsible for in this country, as a result of particulate matter above all.

I want to focus on just one rule, and then we can have a lively discussion. Michael covered most of what I would have said about the power plant rule and the claims that are being made about reliability, and those are claims that we have to take seriously because we have to properly manage the availability of electricity in this country at the same time that we provide clean air to the public. He has done a very admirable job of responsibly examining the solutions to properly manage the electric system at the same time that we clean up these plants or give owners the choice of retiring those that don't warrant the capital investment.

I wanted to focus on the industrial boilers air toxics rule, which has been the subject of a lot of conversation on Capitol Hill recently. That rule was issued well overdue, past the statutory deadline, by the Bush Administration in 2004. It suffered from some rather obvious legal flaws on its face, but it took until 2007 for us to overturn that rule in court. It was vacated along with the rule covering incinerators, and the Obama Administration was required to reissue that rule. They repropose the rule after taking office. They are on track to issue a final rule by mid-January, and the rule has spawned a really quite remarkable lobbying frenzy on Capitol Hill over just about every aspect of it. The rule regulates approximately 13,000 boilers, which probably explains the level of interest.

Of those 13,000 boilers, though, about 11,000 burn natural gas and are only subject to Work Practice Standards, which is the very weakest form of regulation permitted by §112, because natural gas boilers are not subject to MACT standards, which are the centerpiece of the Air Toxics Program. So, that leaves you about approximately

3. 5 U.S.C. §§801-808.

2,000 boilers that burn oil, coal, and biomass. And EPA has come under really extensive criticism because its proposed rules, according to the critics, don't reflect the performance standards that correspond to what the statute requires. They're too stringent, and most of the claims are rooted in a claim of inadequate data.

Let me just tell you a personal frustration and back story. I was an air toxics attorney at EPA for about four years before joining NRDC 10 years ago, and the Office of Management and Budget (OMB) actively prevents EPA from collecting data from industry to formulate their proposed air toxics standards. EPA has authority under §114 of the CAA to send out an information collection request to get the data that's necessary to determine who are the best performers in order to populate the rule with data and to create performance standards. Industry lobbies very heavily to prevent EPA from collecting that data, and they use OMB as the channel to do so.

They invoked a statute called the Paperwork Reduction Act that was adopted in the era of regulatory reform back in the 1990s that I alluded to earlier. Well, of the 100-plus rules that EPA has issued so far under §112, I think it is the case that EPA has been allowed to submit information collection requests to industry twice. Rob or someone can correct me, but the cement kiln rule and the power plant rule are the only ones to my knowledge. Two out of 100-plus rules.

Well, that leaves EPA the choice of going to industry and requesting the data voluntarily. Guess what? Industry doesn't provide the data voluntarily prior to a proposed rulemaking. [Administrator] Jackson wrote a letter to senators about a week or two ago in which she referred to this very problem directly. When EPA had requested the data it needed to prepare the industrial boilers rule, they failed to provide that. Well, what did they do next? The proposed rule came out allegedly with insufficient data. Industry ran to Capitol Hill and complained that the rule had insufficient data. I think there is some hypocrisy going on here. But this is Washington, and that's the way things work. But when you tell this story to the American public, they see it the way most people would through the lens of common sense, which is that's just not fair. That's not right. The nerve. Well, that's the way it works.

Industry submitted data during the proposed rulemaking comment period. EPA will, as it must by law, take that into account, and the final standards will be weaker. We will have less air protections, and it will be because industry was allowed, selectively, to submit during the public comment period the data that was most self-serving and helpful to its cause, which, again, is its right, but that will result, I predict, in the final standards being weakened.

EPA projected that its proposed standards could save as many as 5,000 lives every year. That would make it the second highest lifesaving toxics rule issued by this Administration. The greatest lifesaving rule would be the power plant rule next year, which I project will save, let's say, on

the order of 8,000 to 10,000 lives of the 13,000 lives that are lost every year to power plant pollution in this country.

So, that explains why this is a very big deal, why the environmental community is putting a lot of resources into it both on Capitol Hill through the rulemakings, and through the eventual litigation that will result. And with that, I will turn it back over to Chuck. Thank you.

V. Discussion

Chuck Knauss: Thanks, John, and everyone else. Those were great remarks. I think all the administrators have tried to issue rules consistent with the CAA that would be upheld by the courts as well as the assistant administrators for air over the last 30 years. And the courts have been pretty equal opportunity as far as knocking EPA.

If you look back at the William J. Clinton Administration in the 1990s, there were a number of air regulations that were tossed back, including some that you'd noted as far as toxics. I think it is remarkable that the MACT standards that Bruce Jordan was responsible for, as far as designing that program, how few of the standards really were challenged and turned back. It's a real testament to a process that works because it was a collaboration with the interested parties throughout the 1990s, and it was only at the tail end that issues arose. And, the Obama EPA has issued more "significant" rules per year than the Clinton EPA did.

But the comment about boiler MACT, are you envisioning that you might have to pursue litigation on the final boiler MACT?

John Walke: Honestly, I couldn't answer that question with any real informed view until I see the rule. Despite my white-hot litigious reputation, I don't go into rulemaking hoping or wanting to sue. I would rather the rule come out the right way. I've got better things to do. I have sued the Obama Administration two or three times, apart from the rules that were left over from the midnight push by the Bush Administration, some of which are still pending in court. But the problem the Bush Administration faced in court was that they violated the plain language of the statute and suffered some really quite scathing language, which I think was qualitatively different from what you've seen in the past. And I also think if you add up the cases, it would also be quantitatively different than the Clinton Administration record, but we could have a healthy debate about that.

What I see happening with the MACT standards is EPA made a lot of rather dubious approaches that probably fall more into the territory of an arbitrary and capricious case. Those are harder cases to win. As a litigator, you have to weigh the pros and cons in bringing that type of case and whether you're getting a lot out of the rule and whether the court might end up vacating the entire rule and throwing 4,000 lives saved out the window instead of 5,000 lives

saved. Those are the types of factors we consider when a rule comes out and we evaluate our litigation posture.

Chuck Knauss: Fair comments on that and I'll just pursue this just a little bit more and then we'll get into some other questions. You really did write some terrific pieces in your blog on some of the overturned Bush cases. But I'm going to ask you a question about the tailoring rule.

But before I do that, I'm just going to read a couple sections from a couple of blogs, just so I'm giving you a fair warning. This is on one Bush rule that was overturned. "The real explanation is more encompassing and therefore more accurate. There is a prevalent string within EPA fostered but not limited to political appointees that approaches the responsibility of statutory interpretation with a linguistic relativism that verges on nihilism. Under this school of thought and practice, words in the statute mean whatever EPA wants them to mean."

And it goes on and talks about legal doctrines. And then that the court, using *Alice in Wonderland* a couple of times, knocked the Administration back. And then in another one, similar vein, telling the Agency, "Read the statute. Follow the statute. Stop wasting our time."

The common wisdom out there is that PSD [prevention of significant deterioration] is triggered as soon as GHGs are subject to regulation. I don't believe that's what the statute requires. I believe a criteria pollutant is triggering the PSD permitting program, and I believe §§161 and 165(a) are read differently than starting the analysis with [§165](a)(5) that the whole program has started, and that dramatically changes, under my view, 300 PSD permits being gotten today. There might be 500 in the future with GHGs, but you don't have the thousands and thousands.

So, the Agency took the view that it not only had to look at the plain meaning of the statute and do some tailoring; they ignored what I thought was a very reasonable alternative view to tailor the PSD program and which would have been managed. And in fact, I think they saw the wisdom in that approach by adopting it for the first six months next year, called the "anyway" permits. The Agency's view is their interpretation is reasonable. We will see as we go forward whether their interpretation is reasonable if it also creates an absurdity that then needs to be tailored by changing the 100-250 [ton per year] statutory threshold. In light of obvious strong comments about the way [Judges David] Tatel, [Judith] Rogers, and others have rebuked the Agency, I'll just toss out your view regarding the tailoring rule and how the D.C. Circuit might approach it.

John Walke: Let me address what I think are the two categories of legal issues in the tailoring rule, and then I'll close with a comment of why I think my blog comments are consistent with my explanation of EPA's posture in the case. There are two categories of legal issues. The first set of legal issues have focused on whether EPA is violating the statute by not setting the major source thresholds at 100 and 250 tons per year. And Chuck correctly called that the

plain language of the statute. It's hard to see it any other way. Numbers are pretty plain.

The second set of issues is the structural threshold issues governing application of the PSD program, whether the PSD program applies by virtue of CO₂ becoming "subject to regulation."

Let me address the second category first. I think those are fairly garden-variety legal issues where once you acknowledge that there are reasonable competing interpretations, EPA always wins because that's the D.C. Circuit case law. A tie goes to EPA. Now, I happen to think the language is plainer and therefore more susceptible to a *Chevron* Step 1 case, but in either case, EPA wins, in my view. Those are not going to be, I think, very terribly controversial legal interpretations or court decisions. That's what the D.C. Circuit deals with all the time. I think EPA has put a very strong case forward. I understand the industry case. I just don't think it overcomes the deference that EPA will enjoy in the D.C. Circuit.

So, that goes back to the first set of issues, whether EPA's rule complies with the 100- and 250-ton-per-year threshold in the statute. No, it doesn't. EPA is not pretending that it does. The D.C. Circuit overturned the Bush rules for violating the plain language of the statute because they claimed their rules were consistent with the plain language of the statute. EPA is not claiming that a tailoring rule is consistent with the plain language of the 100- and 250-ton-per-year thresholds. Instead, they are invoking two judicially created doctrines. One is the absurd results doctrine, and the other is the administrative doctrine that, in order to prevent utter breakdown of the system, you have to raise the thresholds in order to allow it to function.

My personal view is that if that court doctrine has any vitality at all as a continuing precedent for agencies to avail themselves of, then what better set of facts could one imagine? Is industry going in and claiming that, no, the permitting burden would have to be 20 million before EPA could adopt it instead of the six or seven million that EPA said? That's not what they're arguing in their comments or their cases. So, EPA could lose the case if the court decides to junk 100 years of court doctrine, and EPA would be fairly shocked and surprised if that were to happen, as would we all. I don't expect the courts to do that.

The absurd results doctrine is one that I'm not a fan of. We didn't support it in our comments. I think it is inherently subjective and manipulable and therefore dangerous, and I think that industry and environmental parties alike should be fearful of our government claiming that they can ignore the plain language of the law because they think the result is absurd. I'm not a fan of that. EPA will argue it. I think they will prevail on the administrative necessity doctrine. They may prevail on the absurd results doctrine as well.

So, that brings me to why I don't believe that this is an exercise of nihilism. I think that EPA is relying upon well-developed, court-created doctrines that I think one can question the wisdom of, whether EPA should ever be

allowed to depart from the plain language of the statute. But the courts created this doctrine, so I hope they will allow the Agency to take advantage of it.

Chuck Knauss: Great. Thanks, John. I think there are differences with respect to PSD and Title V on them, and the Agency actually, as Rob notes, tossed in a third doctrine, the one-step-at-a-time doctrine in the final rule. We'll see how all that plays out.

In light of litigation, Rob, on any number of things, you're [using] multisector, multi-pollutant as a vehicle for managing things for the next decade. Aligning MACT, aligning NSPS, and NAAQS, I heard some of the discussion at [a recent] meeting. And I know Bill Becker was there saying: "Geez, if somebody sues on one of these, does the whole thing topple, house of cards?" And as we know, each one of these silos has its own statutory prerogatives and dictates.... And the ability to have some sort of accommodation among those silos to allow something that's win-win for the environment and industry, because that's what we'd have to prevent I think, kind of the no-plaintiff rule, if that could exist going forward, or do you see it ultimately trotting out what you can and then seeking some affirmation from Congress on some tweaks to the CAA?

Robert Brenner: Well, you're right that that's one of the initial questions that have been raised. I could have added it to my list of issues that we'll need to consider, and I'll just give you a brief response now by saying there are, of course, several ways we can do this. We can try to do one rule-making that incorporates both the toxics requirements and criteria pollutant-related requirements and perhaps ultimately GHG requirements, or the requirements could be in separate rules that come out at or about the same time. There are undoubtedly some hybrids in between there. So, for each of these categories, we'll go through a process of thinking about at what point we feel confident that we will be upheld in the courts because we don't want things to be overturned. We'll pick whichever strategy gets us as far down the road as we can toward a multi-pollutant, sector-based approach while still making us feel confident that we'll prevail in the courts. If it turns out that's not possible, then we'll need to proceed with our individual rulemakings.

I think it's important that we follow through on the requirements of the Act. We can point out that if there was some help in terms of the statutory provisions that might enable us to do it more efficiently and effectively. Certainly, we haven't come anywhere near making that kind of decision yet.

Chuck Knauss: Any comments from the others on the multi-sector approach and the ability of it to try to manage the workload of the Agency as well as streamline some of the regulations?

John Walke: I think the greatest benefit and policy wisdom of the approach lies in the coordination of the compliance obligations of regulated entities. That is a responsible approach to governance that the statute does not dictate but that EPA has the discretion to accomplish, and these are real obligations with tremendous benefits.

The utility sector in particular is facing a series of obligations that are long overdue and direly needed but should be managed responsibly. They provide electricity to the country, they involve capital expenditures and huge labor and employment opportunities, and EPA has the wherewithal and I think really for the first time under this Administration, in a very concentrated and concerted way, has been focused on this from day one. I attended the first speech that Gina McCarthy delivered to the CAA Advisory Committee, and it was a multi-pollutant speech that echoes what Rob is saying right now, and that's not to diminish the challenges of that task, but it's the responsible approach to being a government employee.

Michael J. Bradley: Yes, I would just say that EPA's attempt to at least align the schedules as much as they possibly could between the transport and the utility MACT rule has been appreciated and has set the stage for electric-generating companies to do the kind of planning and capital resource analysis to take all of those various pollutant implications into account and make decisions. So, in essence, it's a small way for beginning to do a multi-pollutant approach that makes sense. The other obvious gaping hole is what to do about GHG.

Chuck Knauss: Let's talk about that for just a second. Three or four years ago, I was talking with Rob about how we're going to deal with GHGs, and I think we talked for a year about NSPS. That's the preferred vehicle of many stakeholders. Not §112 as a HAP, and not §115 as international, and not §108 or §109 as NAAQS. The elephant in the room was PSD sitting there. I think it's pretty clear.

My perspective is that case-by-case is not the way we should proceed. I really see NSPS as a potential way forward to avoid the case-by-case nature of PSD. We all know about the cap-and-trade piece of CAMR. It was litigated. It was overturned, not because of the §111(d) piece, but for other grounds. But briefs were written and comments were made that cap and trade under §111(d) is not viable. Some of those might get dialed back because you're dealing with mercury. You're not dealing with CO₂. I don't know. That's kind of my question: how robust do we really think NSPS can be as the path forward? I expected to see it further along. I know you had a lot to do, but I expected to see it further along two years into the Administration based on what I thought was already in the hopper. But I think each of the panelists can speak to this, the use of NSPS as a way to address and I think probably address better the GHG issues.

Robert Brenner: I guess I should go first and say yes, there are a lot of advantages to using NSPS, not to mention that starting up the multi-pollutant, sector-based concept that I've been describing is, by its very nature, an opportunity to set new source standards for multiple pollutants at the same time. We needed to focus on the PSD requirements first because they were triggered by our decision to regulate GHGs as a pollutant and to take steps with respect to mobile source controls. That triggered a requirement that sources deal with PSD, and we went through the process you described of setting up a BACT program and doing appropriate tailoring that was needed to make it work.

Michael J. Bradley: From the perspective of the Clean Energy Group, obviously, we'd like to have climate addressed through legislation. Given the low odds of having that happen anytime soon, we do think it's reasonable for EPA to move forward in a deliberative, constructive fashion to begin to address GHGs from major stationary sources. We are supportive of the general concept of using NSPS as the best way to proceed for new and existing sources. So, we plan to stay engaged. We plan to be involved and provide our perspective as we go along, but we think it's the responsible way to proceed given the U.S. Supreme Court decision and the urgency of dealing with GHGs in the atmosphere. We have to start somewhere.

John Walke: I was the primary author of the section of the environmental group brief in the CAMR litigation that argued that §111(d) was not available for mercury trading under the CAA, and I continue to hold that view. But happily, as a careful lawyer, I am just as capable of distinguishing my own briefs as my own blog posts, so, I have been pleased to see a level of responsible and constructive conversation underway among industry attorneys, academics, NGO [nongovernmental organization] attorneys, and other interested parties exploring the availability of §111.

I've seen this before, in my nearly 20 years of practice: when there is a confluence of interest and constructive attention, that usually means that a solution is on the horizon. I have enjoyed recent conversations with many industry attorneys who are similarly motivated. So, notwithstanding the rather grim state of affairs in Congress, I think that there is room for progress and success in covering GHGs under the CAA, and §111 seems to be a pathway that has a lot of support.

Chuck Knauss: I think there is agreement on the dais about that. In the last 18 months, what is the disappointment, what wasn't done that you wish had gotten done? Actually, it's a two-part question. What wasn't done that you wished had gotten done, and when we're sitting here next year, what is the single most important thing that you want to see having been accomplished by EPA? Let's keep it to EPA; we can just go down a well talking about the Hill. Let's assume no legislation.

Michael J. Bradley: I think we were disappointed that the transport rule wasn't proposed a lot sooner than it was. We felt like that needed to happen four to six months before it did happen. Now, we're worried that EPA is going to be under a tremendous amount of pressure to respond to the numerous comments and technical issues that need to get resolved. So, we're worried that that rule may not get adopted per the schedule, that things may be further delayed. The same thing with the MACT rule. The MACT rule has a very tight window between proposal and final, and it's going to be an enormous lift to resolve all the technical issues associated with that, aside from the political issues, so, there are big concerns. And I think my wish for a year from now is to see a MACT rule that is effective, as litigation-proof as possible, and that really addresses the issues head on and provides the certainty that the industry wants.

John Walke: I guess I address your question with the sober pragmatism of someone who used to work at EPA and just knows how long it takes to get things done. I don't have any kind of grave omission that I fault them for, because I know that these guys have been working round the clock. They've been running OMB ragged. And I don't really feel like I'm in a position to second-guess the choices they made, since I do support the responsible steps that they have taken. I mean, I could second-guess the failure to have the ozone standard issued a few months ago instead of a month from now, or unfortunately basing the clean air transport rule upon the 1997 ozone standard rather than even the 2008 standard adopted by Bush, which is necessitating a third round of NO_x caps to be proposed next summer. We negotiated long and hard over the schedule for the power plant air toxics rule, and the earliest that EPA was able to commit to a proposal was March 2011 and a final rule by November 2011. So, I could quibble at the margins about those things, but I don't think they rise to the level of a serious omission.

In hindsight, I think we are going to very seriously regret our just getting that close to passing climate legislation in the U.S. Senate. . . . We accomplished a lot on GHGs in terms of getting regulations started at EPA in the past two years, but it's now late 2010 right before a rumored heavy shift in Congress and we're just looking at performance standards for existing plants under §111. We did a lot on mobile sources. We got the endangerment finding made, kind of the necessary architecture of the CAA—the foundation has been built. But a four-year term of an Administration passes rather rapidly when people at EPA have to go through these very lengthy rulemakings that can consume almost an entire term in order to accomplish one or two very big ones, and this Administration has faced that, like all do.

Robert Brenner: For me, the context is that, of course, many of us hoped for and tried to help work with Congress and outside groups on legislation. In hindsight, now

that we weren't able to succeed with legislation, that slowed down a process that I wish we were now further along on. When I talked previously about this multi-pollutant, sector-based approach, to me, success with that would be when we are sitting down with some of the progressive elements of the industry members who are looking to try to make something workable and want to engage in constructive discussions as to how to use this approach along with representatives from states and from the environmental community.

For each of these sectors, as we have done in the past when we developed reformulated gasoline rules, or coke oven rules, we sat down sometimes in formal ways, more often in less formal ways, and worked through the issues and came up with these multi-pollutant, sector-based strategies—consistent with the statute—for each of these industries. If we hadn't been focused on legislation, we'd be further along on that. But focusing on legislation was the right approach. We needed to try to make that work because we all agreed there are some real advantages to having clear-cut legislation. But now, in hindsight, I wish we were further along on that sector-based approach, and we'll get there. It's just going to take somewhat longer, regretfully.

In terms of next year, as you heard from my colleagues, it's the power plant rules. It's both the transport rule and the toxics rule because the health consequences of those rules are so large that they just have to be our top priority. And this is a personal perspective, but as you can imagine, having been involved with the CAA as long as I have been, I'm very proud of a lot of what's been done with respect to vehicles and all kinds of different factories and the benefits that I described to you, and it troubles me that, at this point, we still have large, relatively uncontrolled power plants out there.

Audience Member: I was wondering if you can just talk a little bit on the practical matter of what the end game looks like specifically related to some of the rules next year on transport and the toxic rules? Sort of on a cumulative basis, there is analysis saying that we're going to shut down 50 to 100 gigawatts of coal-fired generation. But you can talk to utilities who say probably actually not—definitely not by 2014, that there is not going to be scrubber installation capacity available, that they're going to delay the rules. They're going to sue to have them delay implementation, and that this actually doesn't start to hit the utilities until well after that. How do you aggregate all of the probabilities here and get an idea of if and when we're actually going to start to shut down some of these old plants?

Michael J. Bradley: As I indicated, 7,500 megawatts have already been announced in terms of retirements or idling, and I'm sure there is twice that amount for which companies have decided to proceed with retirement plans. Again, the biggest driver here is natural gas prices replacing coal

and being more competitive than it's been in many, many, many years.

Companies proceeded with the understanding that even though the transport rule would carry on, and by and large, the investments that were in line three or four years ago proceeded with the kind of retrofits that are happening.

I think the retirement issue is interesting because it provides a whole set of other opportunities for clean energy to be created through demand response, through opening transmission lines, to renewable energy, to combine cycle gas opportunities. And I think we make a pretty compelling case that if all of the stakeholders involved begin to plan now, that 2014, by and large, will be a real possibility for the vast majority of coal plants that have to retrofit.

Robert Brenner: I'll just point out that we will do a careful assessment of that issue of shutdowns and reliability. We really appreciate Michael's report that his company put out working with a substantial segment of the industry that gives us some very valuable insights. We are doing some work on our own that will be issued soon, doing our own analysis of reliability. And I just need to say that we're somewhat skeptical of these claims of 50 gigawatts or more, as you described, closing, and the reason is it's pretty similar to what we heard when the acid rain legislation was being debated and passed, when the 1997 ambient air quality standards were put in place, when the ozone transport rule was put into place and selective catalytic reduction installations were required, and more recently, when the mercury rule, which was later overturned, was being developed. There were claims of impossibilities of meeting the standards and plants needing to close, and that turned out to be nowhere near the case.

So, we're going to do a careful assessment. We also feel we have tools under the Act—even if we ended up in a worst-case scenario where sources simply could not comply, we have legal approaches to work through those issues. But candidly, I don't think we're going to get there. I think there are tools out there to enable sources to meet these requirements, and I think we can set it up so it's done in a timely way.

John Walke: I'll just add a few points to that. The Clean Air Transport Rule's second compliance date is in 2014. EPA projects, and others have too, that that will still leave a lot of units unscrubbed; I mean a significant amount of gigawattage unscrubbed. That's because, in my view, the SO₂ cap under the transport rule is not terribly demanding. The real driver will be the air toxics rule. And based upon the current consent decree deadlines, the compliance date for that rule will probably be January 2015. EPA has readily available statutory authority to extend that deadline until January 2016, or the states do, but I think it will be readily available for plants that are going to control, not for plants that are going to shut down. So, the shutdown decisions will have to be made by, let's say, January of 2015, with, as Rob said, some potential tools available to

the Agency. What that will do is spread out the scrubber installation schedule from effectively now until 2016, with states able to grant extensions through permits to plants and in order to facilitate any labor issues and capital issues.

The final point I would make picks up on one of your remarks about litigation and the potential for delay. If I were a company or an analyst, I would not put a lot of stock in the prospect of the D.C. Circuit staying or blocking a rule. To my knowledge, that's happened twice in the D.C. Circuit with respect to a clean air rule.

One was a new source review stay that I achieved back under the Bush Administration, and the earlier example was the NO_x SIP Call. That is an exceedingly difficult thing to achieve for a litigator, and I think Chuck would agree with that. I have tried them. He has tried them. There is a very high legal hurdle. The likeliest outcome is that these

rules will be issued. They will go into effect. People will begin to make compliance decisions. And at some point, presumably prior to 2015, the court will render a decision, but the rule will not be blocked in the meantime. I think that statistically, that's just something that companies should plan for. Nothing can be banked on. But that's how I see that dynamic.

Chuck Knauss: It's a high hurdle.

John Walke: It's a high hurdle.

Chuck Knauss: Rob has to leave. I want to thank him. We really appreciate you taking the time to be here with us, and Michael and John as well. I think it's been a good discussion.