United States Court of Appeals
For the Eighth Circuit

No. 13-1936

El Dorado Chemical Company

Plaintiff - Appellant

v.

United States Environmental Protection Agency; Gina McCarthy,[1] Administrator, United States Environmental Protection Agency; Ron Curry,[2] Regional Administrator, United States Environmental Protection Agency Region 6

Defendants - Appellees

Appeal from United States District Court
for the Western District of Arkansas - El Dorado

Submitted: January 13, 2014
Filed: August 15, 2014

Before GRUENDER, BRIGHT, and KELLY, Circuit Judges.

---

[1]Gina McCarthy is substituted for her predecessor, Lisa P. Jackson, as Administrator of the U.S. Environmental Protection Agency. Fed. R. App. P. 43(c)(2).

[2]Ron Curry, Region 6 Administrator of the U.S. Environmental Protection Agency, is substituted for his predecessor, Sam Coleman, Acting Region 6 Administrator of the U.S. Environmental Protection Agency. Fed. R. App. P. 43(c)(2).

KELLY, Circuit Judge.

El Dorado Chemical Company (EDCC) operates a chemical manufacturing plant in El Dorado, Arkansas. As a byproduct of its operation, the plant discharges dissolved minerals, including sulfate and chloride, into two unnamed tributaries (UTA and UTB); these tributaries reach downstream to Flat Creek and Haynes Creek. In 2004, Arkansas imposed more stringent limits on the dissolved minerals EDCC could discharge into these bodies of water, and granted EDCC three years to comply. In response, EDCC initiated a Third Party Rulemaking to increase the levels of dissolved minerals permitted in both UTA and UTB. Arkansas adopted these revisions and submitted them to the U.S. Environmental Protection Agency (EPA) for approval. The EPA rejected the changes, citing concerns that the revisions did not adequately protect the aquatic life in Flat Creek and Haynes Creek. EDCC moved for judicial review, and the district court[3] upheld the EPA's decision, granting summary judgment in favor of the EPA. EDCC now appeals, arguing the EPA overstepped its authority in considering the effects on aquatic life in the two creeks. Because we find the EPA had the authority to look at downstream effects, and because EDCC failed to adequately demonstrate the affected waters would be protected, we affirm.

I. Background

A. Statutory and Regulatory Framework

Since 1972, the states and the federal government have worked together "to restore and maintain the chemical, physical, and biological integrity of the Nation's

[3]The Honorable Susan O. Hickey, United States District Court Judge for the Western District of Arkansas.

waters," in a partnership governed by the Clean Water Act (CWA).[4] 33 U.S.C. § 1251(a). With this goal in mind, the CWA authorizes states to establish water quality standards for bodies of water within its borders. 33 U.S.C. § 1313(a)–(c). Water quality standards "define[] the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses." 40 C.F.R. § 131.2. They comprise (1) the designated use(s) of the waters (e.g., water supply, propagation of fish, or recreation), 40 C.F.R. § 131.10; (2) the water quality criteria necessary to safely permit those designated uses, 40 C.F.R. § 131.11; and (3) antidegradation requirements to protect waters whose quality is better than required, 40 C.F.R. § 131.12. 40 C.F.R. § 131.6. States must review their water quality standards at least every three years. 33 U.S.C. § 1313(c)(1). And under the CWA, each state must create a "continuing planning process" (CPP) to, among other things, govern the process for revising its water quality standards. 40 C.F.R. § 130.5(a). "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." 40 C.F.R. § 131.10(b).

Although states assume the primary role in determining water quality standards, 40 C.F.R. § 131.4, states must submit proposed standards and revisions to the EPA for approval. 33 U.S.C. § 1313(c)(2); 40 C.F.R. §§ 131.5, 131.21. The EPA must ensure proposed water quality standards meet the requirements of the CWA. 33 U.S.C. § 1313(c)(3). Designated uses must be "consistent with the requirements of the [CWA]," and water quality criteria must "protect the designated water uses." 40 C.F.R. § 131.5(a)(1)–(2). The EPA is empowered to issue its own water quality standards if a state does not make appropriate adjustments to its proposed standards,

[4]The statute is also known as the Federal Water Pollution Control Act.

and the EPA may also promulgate revised or new standards "when necessary to meet the requirements of the [CWA]." 33 U.S.C. § 1313(c)(3)–(4).

Water quality standards in Arkansas are developed by the Arkansas Pollution Control and Ecology Commission (the Commission). Ark. Code Ann. § 8-4-201(b). The Arkansas Department of Environmental Quality administers and enforces the state's water quality standards.[5] Ark. Code Ann. § 8-4-203(a). It does so through a permitting program, the National Pollutant Discharge Elimination System (NPDES).[6] See 33 U.S.C. § 1342. Under the NPDES program, a point source[7] cannot discharge a pollutant unless the discharge is authorized by an NPDES permit. See id.; see also 33 U.S.C. § 1311. These permits contain, inter alia, numerical discharge limits. Like water quality standards, NPDES permits must first be submitted to the EPA for approval, unless the EPA waives this requirement. 33 U.S.C. § 1342(d)–(e); Arkansas v. Oklahoma, 503 U.S. 91, 102 (1992) ("[The EPA] retains authority to block the issuance of any state-issued permit that is outside the guidelines and requirements of the [CWA].").

[5]We refer to these two entities collectively as "Arkansas."

[6]NPDES permits are issued by the EPA or, in those jurisdictions in which the EPA has authorized the state to issue permits, by a state agency subject to EPA approval. 33 U.S.C. § 1342(a)–(d); see also Approval of Arkansas' NPDES Program, 51 Fed. Reg. 44518-01 (Dec. 10, 1986).

[7]The CWA defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

B. EDCC's Third Party Rulemaking

EDCC's chemical manufacturing facility discharges its wastewater into UTB, which flows into UTA. UTA, in turn, reaches downstream to Flat Creek. Flat Creek then flows into Haynes Creek. Arkansas has designated UTA, Flat Creek, and Haynes Creek for use as, among other things, perennial gulf coastal fisheries, and UTB as a seasonal gulf coastal fishery. This case involves Arkansas' attempt to revise the water quality criteria for UTA and UTB in response to EDCC's Third Party Rulemaking.

In June 2004, EDCC renewed its NPDES permit. This new permit contained more stringent limits on the dissolved minerals EDCC could discharge than the previous permit. EDCC had until June 1, 2007, to comply with the new limits. On August 31, 2006, before the new limits became effective, EDCC filed a petition for a Third Party Rulemaking with Arkansas, seeking to modify Arkansas' water quality standards.[8] Specifically, EDCC sought to make two changes. First, EDCC wanted to remove the "domestic water supply" designated uses of UTA, UTB, and parts of Flat Creek and Haynes Creek. Second, EDCC wanted to increase the maximum permissible concentrations of chloride, sulfate, and total dissolved solids ("TDS") for those same bodies of water.

Arkansas approved both of EDCC's proposed changes on June 22, 2007, and submitted them to the EPA for approval. Because these four bodies of water were not currently used as sources for the domestic water supply, in November 2007 the EPA

[8]Arkansas permits site-specific modifications to its water quality standards "to accommodate important economic or social development in a local area," Ark. Admin. Code 014.04.2-3 Reg. 2.306, and permits third parties to petition for such an amendment, Ark. Code Ann. § 8-4-202(c)(1). See also 33 U.S.C. § 1313(e)(3)(F) (authorizing states to establish a "continuing planning process" that includes procedures for revising water quality standards).

approved the removal of the domestic water supply designated uses for all four bodies of water.

The EPA did not, however, approve the revised water quality criteria—i.e., the proposed sulfate, chloride, and TDS limits. In January 2008, the EPA informed Arkansas that it lacked adequate supporting evidence, so Arkansas supplemented its documentation. Again in April 2009, the EPA rejected the proposed rule regarding the higher mineral concentrations and identified additional information necessary to make a determination. In response, EDCC conducted another study and submitted further documentation, which it argued was substantially more comprehensive than what the EPA had accepted and approved in a prior Third Party Rulemaking. Nevertheless, the EPA emphasized its concern that the proposed revisions would have negative effects on aquatic life in Flat Creek and Haynes Creek. Toxicity testing submitted by EDCC had indicated reproductive problems to the water flea in the creeks when exposed to the maximum proposed mineral concentrations.

After receiving the EPA's latest concerns, EDCC did not run any additional tests or commission further studies on the impact to aquatic life in Flat and Haynes Creek. Instead, EDCC petitioned Arkansas to re-open the Third Party Rulemaking. This time, EDCC rescinded its proposed changes to the water quality criteria for Flat Creek and Haynes Creek; the sulfate, chloride, and TDS limits would thus revert back to the more strict levels. However, EDCC sought to re-adopt its proposed—and less strict—sulfate, chloride, and TDS limits for UTA and UTB. Arkansas agreed. As a result, on December 3, 2010, Arkansas rescinded the previously approved changes to the sulfate, chloride, and TDS limits in Flat and Haynes Creeks, and re-adopted the proposed criteria for UTA and UTB.

Arkansas submitted this new rule to the EPA for approval. The EPA again requested more information before making a determination, particularly with regard to the potential effects of the revised criteria for UTA and UTB on Flat and Haynes

Creeks. EDCC, communicating through and to Arkansas, responded by explaining that because it removed Flat and Haynes Creeks from the Rulemaking, it would not address questions concerning those two bodies of water. EDCC no longer wanted to change the sulfate, chloride, and TDS concentrations for the creeks. On August 31, 2011, the EPA issued a final decision letter disapproving the revised water quality criteria. As the EPA explained, it "determined that supporting documentation remains insufficient to demonstrate that the site-specific minerals criteria for the waterbodies associated with EDCC are appropriately protective of aquatic life." The EPA highlighted its concerns that EDCC failed to consider how the revised criteria for UTA and UTB would affect the downstream water quality in Haynes and Flat Creeks and that its supporting evidence was scientifically flawed.

In October 2011, EDCC filed a complaint in the Western District of Arkansas seeking judicial review of the EPA's decision to disapprove the proposed water quality criteria. EDCC claimed it provided the EPA with the necessary documentary support and the EPA based its disapproval on inappropriate factors. Both EDCC and the EPA filed cross motions for summary judgment, and the district court granted summary judgment to the EPA. EDCC now appeals, arguing the EPA usurped the role that Congress delegated to Arkansas to develop water quality standards and the EPA's decision is contrary to EDCC's scientific evidence.

II. Discussion

A. Standard of Review

"We review de novo a district court's decision whether an agency's action violates the A[dministrative Procedure Act (APA)]." Thomas v. Jackson, 581 F.3d 658, 664 (8th Cir. 2009) (quotation omitted).

As an initial matter, EDCC argues that the district court applied the incorrect standard of review in upholding the EPA's decision. According to EDCC, the EPA had to present "compelling evidence, based on strong science," in order to reject Arkansas' proposed water quality standards. The burden is, in EDCC's view, on the EPA. EDCC acknowledges, nonetheless, that judicial review of administrative decisions is governed by the APA. 5 U.S.C. § 706. Section 706 provides, inter alia, that the reviewing court shall uphold agency actions, findings, and conclusions unless they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). An agency decision is arbitrary or capricious if:

> the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Cent. S.D. Co-op Grazing Dist. v. Sec'y of U.S. Dep't of Agric., 266 F.3d 889, 895 (8th Cir. 2001) (quoting Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983)). Thus, "[t]he scope of our review is narrow and we are not to substitute our judgment for that of the agency." Id. (citing Motor Vehicle Mfrs., 463 U.S. at 43). "If an agency's determination is supportable on any rational basis, we must uphold it." Voyageurs Nat'l Park Ass'n v. Norton, 381 F.3d 759, 763 (8th Cir. 2004).

EDCC fails to harmonize the APA's general "arbitrary and capricious" standard with its proposed "compelling evidence" standard. Rather, EDCC suggests the arbitrary and capricious standard—and the district court's order by extension—undermines the primacy of states under the CWA. See 33 U.S.C. § 1251(b) ("It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land

and water resources, and to consult with the Administrator in the exercise of his authority under this chapter."). This suggestion ignores the statutory reality that states do not have unfettered discretion under the CWA. States may establish and revise water quality standards, yet all new and revised water quality standards must be submitted to the EPA. 33 U.S.C. § 1313(c)(2)(A). The EPA has the power to reject a state's proposed water quality standard, and even promulgate its own standards in some circumstances. Id. § 1313(c)(3) ("If the Administrator determines that any such revised or new standard is not consistent with the applicable requirements of this chapter, he shall . . . notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State . . . the Administrator shall promulgate such standard . . . .").

Despite EDCC's insistence, the EPA is permitted—and in fact statutorily required—to scrutinize a state's water quality standards. Under the CWA, the EPA must determine whether a state's water quality standard is "consistent with the [CWA's] requirements." 33 U.S.C. § 1313(a)(3)(C), (c)(2)(A). As the Fifth Circuit has noted, "[n]othing indicates a congressional intent to restrict EPA's review of state standards" or require deference to the states' determinations. Miss. Comm'n on Natural Res. v. Costle, 625 F.2d 1269, 1275–76 (5th Cir. 1980) (rejecting the state's argument that the EPA could only disapprove of a state standard if it is "arbitrary, capricious, or totally unreasonable"). And the APA, in turn, indicates that we should uphold the EPA's decision unless it is arbitrary or capricious. 5 U.S.C. § 706(2)(A); accord Costle, 625 F.3d at 1276. Similarly, we have held that when reviewing agency action we grant deference to the agency's "high level of technical expertise." Cent. S.D. Co-op, 266 F.3d at 894 (quotation omitted).

EDCC points to an EPA administrative decision that suggests when the EPA interprets state water quality standards for purposes of issuing NPDES permits, it ought to uphold the state's interpretation of that standard absent a state's "clear error." In re Ina Road Water Pollution Control Facility, 2 E.A.D. 99, 100 (EAB 1985). In a

footnote, the administrator noted the EPA could substitute its own interpretation if it had compelling reasons, such as "strong scientific or technological support." Id. at 101 & n.7.

EDCC's reliance on this case and its progeny is misplaced. Even if this case somehow altered our application of the APA's arbitrary and capricious standard, Ina Road Water Pollution involves a different step in the regulatory structure. In Ina Road Water Pollution, the EPA had already approved the state's water quality standards and was interpreting those standards in issuing NPDES permits.[9] By contrast, the EPA in this case is deciding in the first instance whether to approve Arkansas' water quality standards. And water quality standards serve as guidelines for setting applicable limitations in individual NPDES permits. Contrary to EDCC's urging, even if Ina Road Water Pollution set out a general standard for NPDES permits, it is not inconsistent for the EPA to give greater deference to states when interpreting and applying standards that the EPA has already found comply with the CWA.

B. Scope of the EPA's Authority

That said, we may still find the EPA's decision was arbitrary and capricious if it acted outside the scope of its authority by "rel[ying] on factors which Congress has not intended it to consider." Cent. S.D. Co-op, 266 F.3d at 894 (quotation omitted).

EDCC's main argument is that the EPA usurped Arkansas' role in setting water

[9]Before the EPA can issue an NPDES permit, the state must certify, or waive its right to certify, that the discharge authorized by the permit will comply with the state's water quality standards. 33 U.S.C. § 1341(a); 40 C.F.R. §§ 122.4(b), 124.53. In Ina Road Water Pollution, Arizona certified that a permit's effluent limitations complied with its water quality standards, but the EPA disagreed and imposed more strict limits. Ina Road Water Pollution, 2 E.A.D. at 100.

quality standards. More specifically, EDCC contends the EPA exceeded its authority by looking at the downstream effects on Flat Creek and Haynes Creek. The EPA cited concern that changing the mineral concentrations in UTA and UTB would negatively impact the aquatic life in Flat and Haynes Creeks, and rejected Arkansas' revised water quality criteria. One test in particular indicated "sub-lethal reproductive effects to the water flea . . . for Flat and Haynes Creeks." Even if this test result was valid—which EDCC disputes—EDCC argues the EPA should have cabined its inquiry to the impact of the revised water quality criteria on UTA and UTB. According to EDCC, only states—not the EPA—may consider downstream effects in establishing water quality criteria.

EDCC cites two regulations in support of its position. The first regulation describes a state's duty when establishing water quality standards:

> 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.

40 C.F.R. § 131.10(b). This regulation prescribes the factors states must consider when setting water quality standards, but says nothing about the EPA's role in this process. A second regulation describes the EPA's review process for states' proposed water quality standards:

> [The] EPA is to review and to approve or disapprove of State-adopted water quality standards. The review involves a determination of:
>
> (1) Whether the State has adopted water uses which are consistent with the requirements of the Clean Water Act;
> (2) Whether the State has adopted criteria that protect the designated water uses;

> (3) Whether the State has followed its legal procedures for revising or adopting standards;
> (4) Whether the State standards which do not include the uses specified in section 101(a)(2) of the Act are based upon appropriate technical and scientific data and analyses, and;
> (5) Whether the State submission meets the requirements included in § 131.6 of this part.

40 C.F.R. § 131.5; see also 40 C.F.R. § 131.6 (outlining the "[m]inimum requirements for water quality standards submission"). EDCC argues that because § 131.5, the regulation outlining the EPA's review process, does not explicitly mention effects on downstream waters, the EPA may not disapprove water quality criteria on that basis. Instead, according to EDCC, § 131.5 only reserves authority for the EPA to look at in-stream effects.

According to the EPA, however, it has the statutory and regulatory authority to ensure water quality standards are maintained downstream when a state revises upstream water quality standards. In its brief on appeal, the EPA pointed to both the state's requirements under § 131.10(b) and the EPA's review under § 131.5, reading them in harmony: "In determining whether state-adopted criteria are sufficiently protective of designated water uses per 40 C.F.R. § 131.5(a)(2), EPA reviews the criteria to ensure all requirements are met, including those imposed in § 131.10(b)." Despite EDCC's alternative reading, "[i]t is well established that an agency's interpretation need not be the only possible reading of a regulation—or even the best one—to prevail." Decker v. Nw. Envtl. Def. Ctr., 133 S. Ct. 1326, 1337 (2013). When evaluating competing interpretations, "we defer to [the] agency's interpretations . . . unless we find that a regulation is contrary to unambiguous statutory language, that the agency's interpretation of its own regulation is plainly erroneous or inconsistent with the regulation, or that application of the regulation [is] arbitrary or capricious." Nack v. Walburg, 715 F.3d 680, 684 (8th Cir. 2013) (quotation omitted). This is true, "even if the agency's interpretation of its own regulation is expressed

merely in a brief to the court rather than through other means." Id. at 685 (citing Talk Am., Inc. v. Mich. Bell Tel. Co., 131 S. Ct. 2254, 2261 (2011)). We cannot say the EPA's reading of its own regulations—that it may look at downstream waters when evaluating a state's water quality standards—is plainly erroneous.

First, § 131.5 does not state the EPA is limited to looking at in-stream effects when approving or disapproving water quality standards. Rather, it directs the EPA to review the state's water quality standards—that its designated uses comply with the CWA and that the criteria protect those uses. Section 131.5 does not, by its terms, prohibit the EPA from considering "[w]hether the State has adopted criteria that protect the designated uses" of downstream, as well as in-stream, waters. Section 131.6 further indicates the EPA has authority to review downstream waters; it outlines what information a state must submit to the EPA when seeking review of water quality standards. In addition to including the designated water uses and water quality criteria, the state must also supply the "[m]ethods used and analyses conducted to support water quality standards revisions." 40 C.F.R. § 131.6(b). As § 131.10(b) directs, part of a state's analysis for its water quality standards must be the maintenance of downstream waters. It follows that the EPA may not only receive, but may also review this methodology.

Second, the CWA itself supports the EPA's interpretation. The EPA has both the authority and obligation to ensure that revisions to a state's water quality standards "meet[] the requirements of [the CWA]." 33 U.S.C. § 1313(c)(3). The CWA endorses a holistic approach to the nation's waterways. See, e.g., 33 U.S.C. § 1315(b)(1)(B) ("Each State shall prepare and submit to the [EPA] . . . an analysis of the extent to which all navigable waters of such State provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities in and on the water.") (emphasis added); 33 U.S.C. § 1341(a)(2) (when issuing NPDES permits, "[w]henever such a discharge may affect, as determined by the [EPA], the quality of the waters of any other State, the [EPA] . . .

shall so notify such other State, the licensing or permitting agency, and the [permit] applicant"). Congress passed the CWA to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a); Arkansas, 503 U.S. at 105–07 (citing the CWA's "broad purpose" as one justification for the EPA's authority, in the NPDES context, to regulate upstream pollution sources in order to achieve downstream water quality standards). EDCC's myopic reading of the CWA would run roughshod over its purpose.

Finally, EDCC argues that the NPDES permitting program provides sufficient protection for downstream waters, which would then preserve the purpose of the CWA. Under NPDES, "no permit shall issue . . . if the [EPA] objects in writing to the issuance of such permit as being outside the guidelines and requirements of [the CWA]." 33 U.S.C. § 1342(d)(2). And "[n]o permit may be issued . . . [w]hen the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA," or "[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." 40 C.F.R. § 122.4(a), (d). Nevertheless, the EPA's interpretation of its own regulations is not rendered plainly erroneous simply because the EPA may preserve downstream water quality standards at a later step in the regulatory process. The NPDES program provides EPA with the opportunity to ensure downstream waters are protected from point source pollution. Yet EDCC does not explain why NPDES must be the exclusive means for protecting downstream waters. Neither the CWA nor the related regulations compel this reading. EDCC's contention is further weakened by the fact that under NPDES, the EPA may waive objections to a particular permit application, and may even waive notice of a permit application entirely for specific categories of point source pollution. 33 U.S.C. § 1342(d)(3), (e). Consequently, we find the EPA did not act arbitrarily or capriciously by denying Arkansas' revised water quality standards based, in part, on possible downstream effects.

C. Evidentiary Support

Arkansas, not the EPA, bears the burden of adducing evidence the proposed water quality criteria meet the requirements of the CWA. See, e.g., 40 C.F.R. §§ 131.6, 131.21. Here, the EPA determined that Arkansas' supporting documentation was insufficient to demonstrate that the proposed water quality criteria are "appropriately protective of aquatic life" in UTA, UTB, and Flat and Haynes Creeks. The EPA must have a rational basis for its determination. Voyageurs, 381 F.3d at 763 ("If an agency's determination is supportable on any rational basis, we must uphold it."). On appeal, EDCC argues the EPA lacked a rational basis. In doing so, EDCC emphasizes the limited nature of its proposed changes and questions the EPA's reliance on purportedly unreliable and otherwise deficient evidence. We address each argument in turn.

EDCC first points out its proposed changes are relatively moderate. EDCC sought, with Arkansas' approval, to raise the chloride criteria for UTA and UTB from 14 mg/L to 16 mg/L and 23 mg/L respectively. The revised criteria, EDCC emphasizes, are still more restrictive than the EPA's own recommendations or those approved in other rulemakings for other sites. Under the CWA, the EPA publishes water quality criteria guidelines "reflecting the latest scientific knowledge." 33 U.S.C. § 1314(a)(1). And in 1988, the EPA published national guidance criteria for chloride, setting limitations at 230 mg/L for chronic toxicity. Water Quality Criteria, 53 Fed. Reg. 19028-01 (May 26, 1988). The proposed criteria in this case are substantially lower than the guideline criteria; yet adherence to the guidelines is not sufficient, on its own, to warrant EPA approval. The EPA must still determine whether the proposed criteria otherwise comply with the CWA. And state water quality criteria must "protect the designated water uses." 40 C.F.R. § 131.5(a)(2). We cannot agree that the moderate nature of the proposed changes, standing alone, is sufficient to find the EPA's decision lacked a "rational basis."

EDCC also questions the EPA's interpretation of and reliance on the scientific evidence in the record. To assess this argument, we must consider two comprehensive studies that EDCC commissioned through GBMC & Associates (GBMC): one in 2006 and—in response to the EPA's request for more support—another in 2009. The goal of these studies was to demonstrate EDCC's proposed water quality criteria would protect the designated uses of UTA, UTB, and the two creeks. Despite these studies, the EPA found insufficient evidence that these bodies of water would remain protected given the proposed increased mineral concentrations. EDCC contends that the EPA ignored the extensive scientific evidence and that EPA's conclusions—drawn from specific tests in the record—about the in-stream and downstream effects of the revised criteria are simply incorrect.

The first study was conducted in 2006 when EDCC, through GBMC, prepared a "Site Specific Water Quality Study for Chloride, Sulfate, and TDS." EDCC, through Arkansas, then submitted this study to the EPA as the requisite documentation that the revised water quality criteria still adequately protected designated uses. See 40 C.F.R. § 131.6(b). As part of this 2006 study, GMBC conducted an "Aquatic Life Field Study" to "document whether the designated aquatic life use was being maintained" in UTA and UTB and to determine whether "the permitted discharges from EDCC are beneficial or detrimental to the maintenance of those uses." According to the Aquatic Life Field Study, the revised water quality criteria maintain UTA and UTB's designated use as seasonal fisheries, including preserving the supporting biotic communities necessary for fishery use. EDCC asserts the EPA failed to acknowledge these findings when disapproving the proposed mineral concentrations.

The EPA did not ignore the study's conclusion, but it did question whether the study was helpful in determining whether the designated uses were being maintained. In this Aquatic Life Field Study, GMBC sampled the aquatic life in UTA and UTB, in part, by comparing downstream waters (impacted by EDCC's current discharge)

to other bodies of water, called "reference reaches" (not impacted by EDCC's current discharge). In its disapproval, the EPA questioned EDCC's reliance on reference reaches that were already impacted by significant dissolved mineral pollution. Regardless, even if EDCC and the EPA could agree on the choice of proper reference reaches, and assuming the study's conclusions were sound, the study did not analyze any effects on Flat and Haynes Creeks. At best then, the 2006 study was incomplete. As a result, the EPA informed Arkansas (which in turn informed EDCC) that the evidence was inadequate; more information was needed, particularly about Flat and Haynes Creeks. The EPA identified information still needed and additional tests that could be run.

In response to this request for additional documentation, EDCC asked GMBC in 2009 to prepare the "Aquatic Life Supplemental Report." As part of this study, whole effluent toxicity testing (WET testing) was conducted on spiked water samples created to simulate the mineral concentrations proposed in the initial Rulemaking for all four bodies of water. These spiked water samples were then compared to current water samples, "control samples," from UTA, UTB, and Flat and Haynes Creeks. GMBC analyzed the effects on the fathead minnow and water flea. EPA had requested such a test "to demonstrate the ability of the approved criteria to support the aquatic life . . . ." GMBC concluded that the proposed criteria were adequately protective of aquatic life in all four bodies of water. Yet despite this conclusion, the study also acknowledged negative reproductive effects on the water flea in Flat and Haynes Creeks: the water fleas did not die more rapidly, but had fewer offspring when exposed to the proposed chloride, sulfate, and TDS concentrations than the water fleas in the control samples. GMBC explained this result "may or may not be directly related to the dissolved minerals." It suggested historic oil and gas activities in the area could be responsible.

After receiving the 2009 study, the EPA remained critical of the proposed criteria. The EPA acknowledged "that non-point sources and other factors out of

EDCC's control are possible contributors to the increased mineral loads in Flat and Haynes Creeks." However, the EPA would not rely on the study's mere speculation as to the cause of the negative test results. The existence of other contributing factors "does not . . . relieve the 3rd party of the burden to propose criteria that will be protective of the aquatic life uses for these waters." The EPA suggested changing the criteria to protective levels and analyzing the test results more thoroughly. EDCC declined to do so. Instead, EDCC petitioned Arkansas to re-open the Third Party Rulemaking with the specific goal of rescinding the revisions to the criteria for the two creeks. EDCC does not abandon its argument that the EPA erred, therefore, in looking downstream at the effects of the proposed criteria on these two creeks (which were no longer subject to the revised criteria); but its primary argument is that the WET test results are not sufficiently valid to support the EPA's action.

EDCC first argues the WET test's methodology was unsound. Though it followed the EPA's instructions to use synthetic water, EDCC asserts that use of synthetic water for this test was both inappropriate and unreliable. EDCC points to an EPA manual regarding how to conduct WET tests for the NPDES program. See 40 C.F.R. § 136.3, Table IA (referencing the EPA manual). The manual indicates that when determining the effects of the discharge on already contaminated water, WET testing should be conducted using water collected from the point of discharge (i.e., not synthetic water). The objective of the test in the NPDES context, however, is to determine whether a point source, and its existing discharge, is complying with its permit. Here, the EPA sought to evaluate the effects on aquatic life if the state revised water quality criteria by increasing specific dissolved mineral limits.

EDCC also contends the EPA could consider only those WET tests that were conducted pursuant to the NPDES requirements due to Arkansas' EPA-approved procedures for modifying water quality criteria as detailed in Arkansas' CPP. Arkansas' CPP requires third parties seeking to revise water quality standards to "demonstrat[e] that existing aquatic life uses will be maintained." The CPP permits

parties to submit recent WET tests, conducted pursuant to NPDES requirements, as evidence. Notably, however, the Arkansas' CPP does not preclude the EPA from requesting or considering other evidence.

Finally, EDCC argues the "anomalous" test results for the water flea from the 2009 study are not relevant: they were based on synthetic waters created to reflect proposed revised criteria for Haynes and Flat Creeks—i.e., these studies were conducted before EDCC moved to reopen the Rulemaking to rescind any proposed changes for the creeks. However, the EPA did not rely on the 2009 study to definitively state the revised criteria for UTA and UTB did not protect aquatic life. Instead, the EPA explained the study was a red flag requiring further explanation. The test results suggest that altering the mineral levels in the creeks could lead to problems for their aquatic life. And changing the mineral levels upstream could alter mineral levels downstream. The EPA had the authority to consider the downstream effects of revisions to UTA's and UTB's water quality standards, and could deny revisions if not adequately assured of downstream waters' protection. The EPA's continued reference to this test was thus not irrational.

Rather than addressing the EPA's concerns about the 2009 study and the potential effects on the creeks, EDCC rescinded the Arkansas-approved water quality criteria revisions to Flat and Haynes Creeks. EDCC then insisted that, as a result, the EPA could no longer look at potential effects in those two bodies of water. In turn, according to EDCC, the WET test results were irrelevant: EDCC asserted "[s]ince these waterbodies are no longer part of the 2011 Rulemaking approved by the Commission, specific questions regarding the status of those water bodies will not be addressed . . . ." In short, EDCC refused to supply more information about possible effects on Flat and Haynes Creeks. While EDCC now criticizes the EPA's decision to disapprove the revisions for UTA and UTB based on the 2009 study's "isolated" and "anomalous" test, the EPA looked to this test because Arkansas and EDCC presented little other information regarding effects on Haynes and Flat Creeks. We

cannot say the EPA's refusal to approve the proposed water quality criteria on the basis of incomplete information was arbitrary or capricious. Particularly in light of the deference we grant to the EPA on review, we find there was a rational basis for the EPA's disapproval. See Lockhart v. Kenops, 927 F.2d 1028, 1034 (8th Cir. 1991) ("[O]ur deference to the agency is greatest when reviewing technical matters within its area of expertise, particularly its choice of scientific data and statistical methodology . . . .") (quotation omitted).

D. Mass Balance Approach

The EPA also found the method Arkansas used to derive the water quality criteria—the "mass balance approach"—was "scientifically indefensible." The mass balance approach does not, standing alone, derive criteria adequately protective of the existing designated uses. The EPA explained in its letter that Arkansas should have considered, inter alia, stream flow conditions; results from properly conducted toxicity tests; the downstream water quality standards; facility design flow capacity; and inputs from other point sources in the watershed. The mass balance approach determined the dissolved mineral limits necessary to account for EDCC's discharge. That does not, however, indicate that the criteria, and EDCC's discharge, are protective of aquatic life. The EPA's disapproval of the mass balance approach in this context was not arbitrary or capricious.

III. Conclusion

We cannot find the EPA was arbitrary or capricious in rejecting Arkansas'

proposed water quality standards. Accordingly, we affirm the district court.[10]

---

[10]We note that nothing precludes Arkansas from resubmitting proposed water quality standards with more adequate documentation. The EPA explained in its decision that in the event the evidence does not support EDCC's proposed revision, Arkansas could "conduct a full use attainability analysis (UAA) to determine an appropriate level of aquatic life use for an area that has been historically impacted by industry." In other words, Arkansas could attempt to further revise the designated uses, as well as the water quality criteria. During oral argument the parties also acknowledged the construction of a wastewater pipeline, which could diminish EDCC's discharge and thus its need for these specific water quality criteria revisions.