IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

United States Court of Appeals
Fifth Circuit

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Lyle W. Cayce
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No. 15-60821

SOUTHWESTERN ELECTRIC POWER COMPANY; UTILITY WATER ACT GROUP; UNION ELECTRIC COMPANY, doing business as Ameren Missouri; WATERKEEPER ALLIANCE, INCORPORATED; ENVIRONMENTAL INTEGRITY PROJECT; SIERRA CLUB; AMERICAN WATER WORKS ASSOCIATION; NATIONAL ASSOCIATION OF WATER COMPANIES; CITY OF SPRINGFIELD, MISSOURI, by and through the Board of Public Utilities; DUKE ENERGY INDIANA, INCORPORATED,

Petitioners

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; ANDREW WHEELER, in his official capacity as Acting Administrator of the United States Environmental Protection Agency,

Respondents

On Petitions for Review of Final Administrative Actions
of the United States Environmental Protection Agency

Before HAYNES, HO, and DUNCAN, Circuit Judges.

STUART KYLE DUNCAN, Circuit Judge:

Steam-electric power plants generate most of the electricity used in our nation and, sadly, an unhealthy share of the pollution discharged into our nation's waters. To control this pollution, the Clean Water Act, 33 U.S.C. § 1251 *et seq.*, empowers the Environmental Protection Agency to promulgate and enforce rules known as "effluent limitation guidelines" or "ELGs." *Id.*

§§ 1311, 1314, 1362(11). For quite some time, ELGs for steam-electric power plants have been, in EPA's words, "out of date." 80 Fed. Reg. 67,838. That is a charitable understatement. The last time these guidelines were updated was during the second year of President Reagan's first term, the same year that saw the release of the first CD player, the Sony Watchman pocket television, and the Commodore 64 home computer. In other words, 1982. *See id.* (noting ELGs were "promulgated and revised in 1974, 1977, and 1982"). The guidelines from that bygone era were based on "surface impoundments," which are essentially pits where wastewater sits, solids (sometimes) settle out, and toxins leach into groundwater. *Id.* at 67,840, 67,851. Impoundments, EPA tells us, have been "largely ineffective at controlling discharges of toxic pollutants and nutrients." *Id.* at 67,840. Consequently, in 2005 the agency began a multi-year study to bring the steam-electric ELGs into the 21st century. *Id.* at 67,841.

In November 2015, EPA unveiled the final rule: the "Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category," 80 Fed. Reg. 67,838 (Nov. 3, 2015). The rule updates guidelines for six of the wastestreams that issue from plants and foul our waters. Importantly, the Clean Water Act requires setting new ELGs based on the "Best Available Technology Economically Available" or "BAT." 33 U.S.C. § 1314(b)(2)(B). BAT is the gold standard for controlling water pollution from existing sources. By requiring BAT, the Act forces implementation of increasingly stringent pollution control methods. *See NRDC v. EPA*, 822 F.2d 104, 123 (D.C. Cir. 1987) (describing the Act as "technology-forcing").

We consider a challenge to the final rule brought by various environmental petitioners. They target two discrete parts of the rule: the new ELGs for "legacy wastewater" (wastewater from five of the six streams generated before a specific date) and for "combustion residual leachate" (liquid that percolates through landfills and impoundments). These two categories

account for massive amounts of water pollution. For instance, leachate alone would qualify as the 18th-largest source of water pollution in the nation, producing more toxic-weighted pound equivalents than the entire coal mining industry. The environmental petitioners' basic complaint is that EPA set an unlawful BAT for these two categories. Whereas the BAT for the other streams adopts modern technologies, they claim the agency arbitrarily set BAT for legacy wastewater and leachate using the same archaic technology in place since 1982—namely, impoundments. It was as if Apple unveiled the new iMac, and it was a Commodore 64.

The environmental petitioners challenge those portions of the rule under the Administrative Procedure Act and the well-worn *Chevron* test governing review of agency action. *See Chevron USA, Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984). For the reasons discussed below, we agree that the portions of the rule regulating legacy wastewater and combustion residual leachate are unlawful. Accordingly, we VACATE those portions of the rule and REMAND to the agency for reconsideration.

I. BACKGROUND

A. The Clean Water Act

The Clean Water Act ("CWA" or "Act"), 86 Stat. 833, as amended, 33 U.S.C. § 1251 *et seq.*, was enacted over President Nixon's veto in 1972. *See Train v. City of New York*, 420 U.S. 35, 40 (1975). Few laws have shouldered a weightier burden—namely, "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a); *see also, e.g., City of Milwaukee v. States of Illinois and Michigan*, 451 U.S. 304, 318 (1981) ("Congress' intent in enacting [the CWA] was clearly to establish an all-encompassing program of water pollution regulation."); *Am. Petroleum Inst. v. EPA*, 661 F.2d 340, 343-44 (5th Cir. Unit A Nov. 13, 1981) ("*API I*") (noting CWA's "ambitious purpose"). To that end, the Act makes "unlawful" the

"discharge of any pollutant by any person" into the nation's "navigable waters," unless otherwise permitted. 33 U.S.C. §§ 1311(a), 1362(7), (12).[1]

We have previously detailed the Act's "distinct, though interlocking, regulatory schemes." *Chem. Mfrs. Ass'n v. EPA*, 870 F.2d 177, 195 (5th Cir. 1989) ("*CMA*"), *clarified on reh'g*, 885 F.2d 253.[2] Here we focus on one of the Act's key regulatory tools: "effluent limitation guidelines" ("ELGs" or "guidelines"), which are nationwide standards set by the EPA Administrator to govern pollutant discharges from point sources. *See* 33 U.S.C. § 1314(b) (authorizing Administrator to set "effluent limitation guidelines" for "classes and categories of point sources"); *Tex. Oil & Gas*, 161 F.3d at 927 ("ELGs are the rulemaking device prescribed by the CWA to set national effluent limitations for categories and subcategories of point sources").[3]

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[1] Under the Act "pollutant" means "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial municipal, and agricultural waste discharged into water." 33 U.S.C. § 1362(6). "Pollution" means "the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water." *Id.* § 1362(19). "Discharge of a pollutant" means "(A) any addition of any pollutant to navigable waters from any point source, [and] (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft." *Id.* § 1362(12).

[2] *See, e.g., CMA*, 870 F.2d at 195-96 (describing the CWA's (1) grants-in-aid for publicly-owned waste-treatment works, 33 U.S.C. §§ 1281-88, 1291-92; (2) authorization to set and enforce federal effluent standards, *id.* §§ 1311, 1314; (3) requirement of state-established and federally-approved water-quality criteria, *id.* § 1313; and (4) creation of pollution permitting through the National Pollutant Discharge Elimination System (NPDES), *id.* § 1342; *see also, e.g., Tex. Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 927-29 (5th Cir. 1998) ("*Tex. Oil & Gas*") (discussing effluent limitations and NPDES permitting); *API I*, 661 F.2d at 341-42, 343-44 (discussing effluent limitations); *see also generally EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 69-70 (1980) (outlining basic structure of CWA).

[3] A "point source" means "any discernible, confined and discrete conveyance . . . from which pollutants are or may be discharged," but "does not include agricultural stormwater discharges and return flows from irrigated agriculture." 33 U.S.C. § 1362(14). An "effluent limitation" means "any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance." *Id.* § 1362(11).

The Act requires ELGs to be based on technological feasibility rather than on water quality. *Id.* at 927 (citing *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 130-31 (1977); *API I*, 661 F.3d at 343-44). That is, the Administrator must "require industry, regardless of a discharge's effect on water quality, to employ defined levels of technology to meet effluent limitations." *API I*, 661 F.3d at 344; *see also Tex. Oil & Gas*, 161 F.3d at 927 (ELGs are "technology-based rather than harm-based" insofar as they "reflect the capabilities of available pollution control technologies to prevent or limit different discharges rather than the impact that those discharges have on the waters"). The Act therefore mandates a system in which, as available pollution-control technology advances, pollution-discharge limits will tighten. *See, e.g., Nat'l Crushed Stone*, 449 U.S. at 69 (the Act "provides for increasingly stringent effluent limitations") (citing 33 U.S.C. § 1311(b)); *CMA*, 870 F.2d at 196 (the Act requires compliance with "technology-based pollutant-effluent limitations that, in time, will become more stringent") (citing 33 U.S.C. §§ 1311(b), 1314(b)). The D.C. Circuit accurately described this aspect of the Act's scheme as "technology-forcing," meaning it seeks to "press development of new, more efficient and effective [pollution-control] technologies." *NRDC v. EPA*, 822 F.2d 104, 123 (D.C. Cir. 1987) (*"NRDC I"*); *see also, e.g., NRDC v. EPA*, 808 F.3d 556, 563-64 (2nd Cir. 2015) ("*NRDC II*") (describing ELG scheme as "technology-forcing, meaning it should force agencies and permit applicants to adopt technologies that achieve the greatest reductions in pollution") (citing *NRDC I*).[4]

[4] The Act is not based solely on technological feasibility standards. It also incorporates water-quality standards into the permitting process that effectuates ELGs. *See, e.g., NRDC II*, 808 F.3d at 564-65 ("If the [ELGs] are insufficient to attain or maintain water quality standards, the CWA requires NPDES permits to include additional water quality-based effluent limits[.]" (citing 33 U.S.C. §§ 1311(b)(1)(C), 1312(a); *NRDC I*, 822 F.2d at 110)).

The Act prescribes various technological standards to be used in setting effluent limitations. Two are relevant here: "best practicable control technology currently available" ("BPT") and "best available technology economically achievable" ("BAT"). *Compare* 33 U.S.C. §§ 1311(b)(1)(A); 1314(b)(1)(B) (BPT), *with id.* §§ 1311(b)(2)(A); 1314(b)(2)(B) (BAT). The less stringent of these two standards is BPT, which the Supreme Court has described as only "a first step toward [the Act's] goal." *Nat'l Crushed Stone*, 449 U.S. at 75 n.14; *see also, e.g., BP Explor. & Oil, Inc. v. EPA*, 66 F.3d 784, 789 (6th Cir. 1995) (describing BPT as "the first stage of pollutant reduction"). BPT applied to limitations on direct discharges of pollutants during an interim period (originally slated to end in 1984 but later extended to 1989). 33 U.S.C. § 1311(b)(1)(A); *Tex. Oil & Gas*, 161 F.3d at 927-28; *CMA*, 870 F.2d at 196. Instead of defining BPT, the Act lists various factors the Administrator must consider in determining it—including an explicit cost/benefit analysis: "the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application." 33 U.S.C. § 1314(b)(1)(B).[5] We have explained that "BPT limitations are intended to represent the average of the best levels of performance by existing plants of various sizes, ages, and unit processes within

[5] The complete list of BPT factors is:

- Total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application;
- Age of equipment and facilities involved;
- Process employed;
- Engineering aspects of the application of various types of control techniques;
- Process changes;
- Non-water quality environmental impact (including energy requirements); and
- "[S]uch other factors as the Administrator deems appropriate."

33 U.S.C. § 1314(b)(1)(B).

the category or subcategory for control of conventional pollutants." *CMA*, 870 F.2d at 203 (citing 52 Fed. Reg. 42,525); *see also, e.g., Nat'l Crushed Stone*, 449 U.S. at 75-76 (discussing BPT).

The stricter of the two standards is BAT, which has applied to existing, direct discharges of toxic and non-conventional pollutants since March 31, 1989. *See* 33 U.S.C. §§ 1311(b)(2)(A); 1314(b)(2)(A); *Tex. Oil & Gas*, 161 F.3d at 927-28; *see also BP Explor.*, 66 F.3d at 790 (describing BAT as "the second stage" of pollutant reduction). When pollutants are regulated under this standard, the EPA "must set discharge limits that reflect the amount of pollutant that would be discharged by a point source employing the best available technology that the EPA determines to be economically feasible across the category or subcategory as a whole." *Tex. Oil & Gas*, 161 F.3d at 928. We have held that BAT limitations must "be based on the performance of the single best-performing plant in an industrial field." *CMA*, 870 F.2d at 226. In describing the relationship between BAT and BPT, the Supreme Court has explained that a BAT must achieve "reasonable further progress" towards the Act's goal of eliminating pollution, and BPT serves as the "prior standard" for measuring that progress. *See Nat'l Crushed Stone*, 449 U.S. at 75 (explaining that "BPT serves as the prior standard with respect to BAT['s]" reasonable further progress requirement). As with BPT, the Act lists factors the Administrator must consider in determining BAT. 33 U.S.C. § 1314(b)(2)(B).[6]

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[6] The complete list of BAT factors is:

- Age of equipment and facilities involved;
- Process employed;
- Engineering aspects of the application of various types of control techniques;
- Process changes;
- Cost of achieving such effluent reduction;
- Non-water quality environmental impact (including energy requirements); and

The Administrator has "considerable discretion" in weighing those factors. *Tex. Oil & Gas*, 161 F.3d at 928 (citation omitted). Unlike BPT, however, the BAT factors omit a cost/benefit analysis and replace it with a requirement to consider only "the cost of achieving such effluent reduction." *Id*; *see also, e.g., Nat'l Crushed Stone*, 449 U.S. at 71 (BPT and BAT factors are "similar . . . except that in assessing BAT total cost is no longer to be considered in comparison to effluent reduction benefits"). Indeed, the Supreme Court has explained that, unlike BAT, "BPT limitations do not require an industrial category to commit the maximum economic resources to pollution control, even if affordable." *Nat'l Crushed Stone*, 449 U.S. at 75.[7]

B. The Final Rule

The rule at issue in this case regulates effluent discharges from steam-electric power plants. Those plants burn nuclear or fossil fuels to heat water in boilers, generating steam that drives turbines connected to electric generators. 80 Fed. Reg. 67,839 n.1. This process produces something nearly everyone regards as good: electricity. Indeed, the plants regulated by the rule provide most of the electricity annually produced in the United States. But the process also produces something everyone regards as bad: pollution. According to EPA, discharges from these plants account for "about 30 percent of all toxic

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- "[S]uch other factors as the Administrator deems appropriate."

33 U.S.C. § 1314(b)(2)(B).

[7] BAT and BPT standards apply to regulation of *existing* steam-powered electric plants. A standard even stricter than BAT—the "new source performance standard" ("NSPS")—applies to newly built plants. The Act defines this standard as "the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants." 33 U.S.C. § 1316(a)(1). Additional standards of varying strictness are laid out for other potential pollution sources, such as "pretreatment standards for existing sources" ("PSES"). *See* 33 U.S.C. § 1314(g).

pollutants discharged into surface waters by all industrial categories regulated under the CWA." *Id.* at 67,839-40; *see also, e.g., Michigan v. EPA*, 135 S. Ct. 2699, 2705 (2015) (addressing regulation of air pollution from power plants under the Clean Air Act); *ConocoPhillips Co. v. EPA*, 612 F.3d 822, 826 (5th Cir. 2010) (addressing regulation of cooling water systems at power plants). For instance, power plant discharges contain toxic metals such as mercury, arsenic, lead, and selenium, which bioaccumulate in fish, accumulate in lake and reservoir sediment, and pollute drinking water supplies. People who eat the tainted fish or drink the tainted water can suffer negative health consequences such as cancer, cardiovascular disease, neurological disorders, kidney and liver damage, and lowered IQs (in children). *Id.* at 67,840.

EPA first promulgated and then revised ELGs for steam-electric power plants in 1974, 1977, and 1982. *See id.*; *see also* 39 Fed. Reg. 36,186 (Oct. 8, 1974); 42 Fed. Reg. 15,690 (Mar. 23, 1977); 47 Fed. Reg. 52,290 (Nov. 19, 1982). Those guidelines are now, in the agency's words, "out of date," because "[t]hey do not adequately control the pollutants (toxic metals and other[s]) discharged by this industry, nor do they reflect relevant process and technology advances that have occurred in the last 30-plus years." 80 Fed. Reg. 67,840. The old rules and the processes they regulated are relics of the past:

> The processes employed and pollutants discharged by the industry look very different today than they did in 1982. Many plants, nonetheless, still treat their wastewater using only surface impoundments, which are largely ineffective at controlling discharges of toxic pollutants and nutrients.

Id. ("Surface impoundments" are ponds designed to allow particulates to settle out of wastewater by force of gravity. *See infra.*) Happily, though, EPA reports that, "[i]n the several decades since the steam electric ELGs were last revised," technologies that are more effective, "affordable," and "widely available" have "increasingly been used at plants." *Id.* Thus, EPA began a new rulemaking to

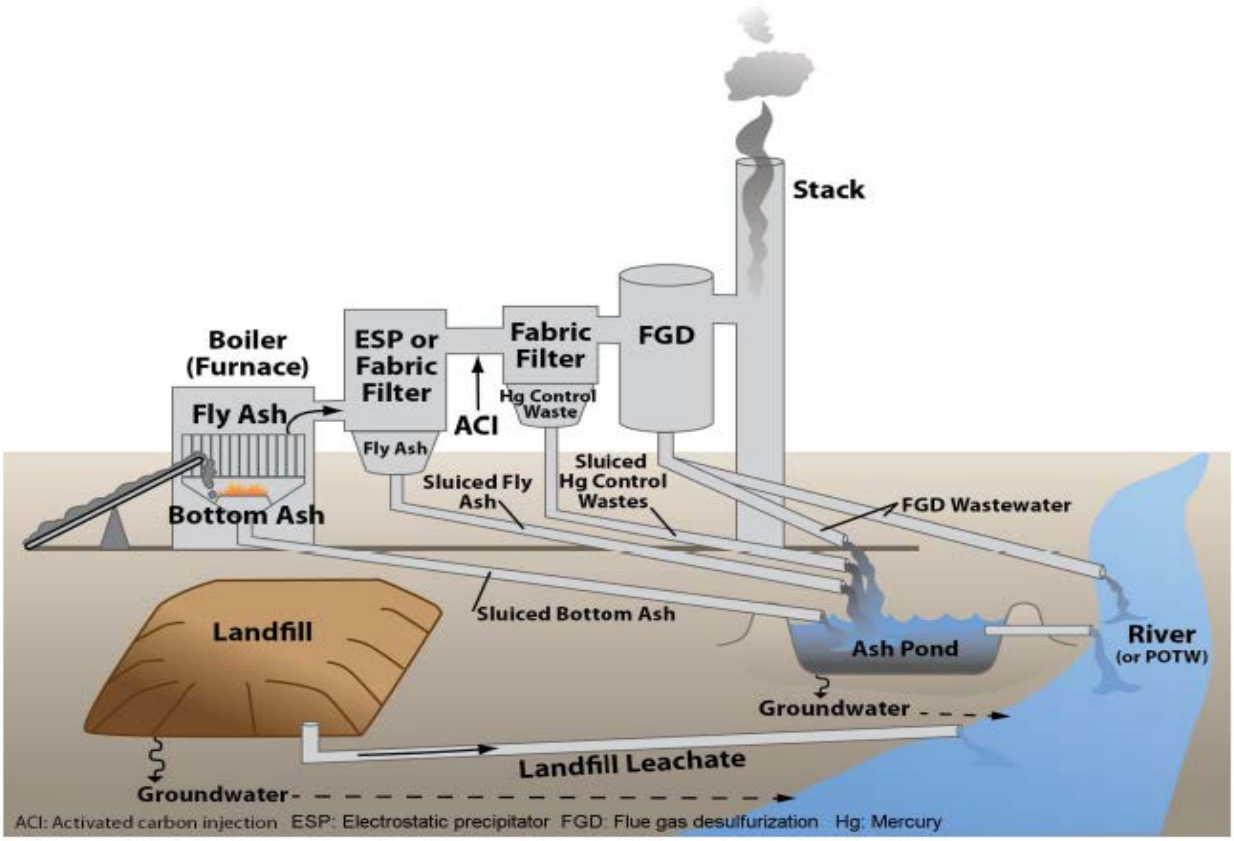
update power plant ELGs. The agency conducted a detailed industry study[8] from 2006-2009 and on June 7, 2013 issued a proposed rule, 78 Fed. Reg. 34,432, 34,439, that generated over 200,000 comments. 80 Fed. Reg. 67,844. On November 3, 2015 the agency issued a final rule entitled "Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category" ("final rule" or "rule"). 80 Fed. Reg. 67,838.

The rule addresses these six streams produced by power plants:

1. Flue gas desulfurization (FGD) wastewater
2. Fly ash transport wastewater
3. Bottom ash transport wastewater
4. Flue gas mercury control (FGMC) wastewater ("Hg control waste")
5. Combustion residual leachate (or "Leachate")
6. Gasification wastewater (not depicted in figure below).

[8] The study produced a 233-page report. *See Steam Electric Power Generating Point Source Category: Final Detailed Study Report*, EPA 821-R-09-008 (Sept. 2009) ("EPA Study Report"). The report vividly describes the harms from water pollution—for instance, one dissolved metal, selenium, can kill fish and other aquatic life at "concentrations below eight parts per billion." *Id.* at 6-4.

80 Fed. Reg. 67,846-47.[9] The rule treats another category ("legacy" wastewater), which is a subset of five other streams. *Infra* I.B.1.[10] This diagram illustrates how such streams are produced:



[9] Each stream may be briefly described as follows (*see id.* at 67,846-47):

- **FGD wastewater** is produced by systems that remove sulfur dioxide from flue gas using a "sorbent slurry."
- **Fly ash wastewater** is produced when ash in flue gas is emitted from a boiler, trapped by filters, and then sluiced from hoppers to a surface impoundment.
- **Bottom ash wastewater** is produced when ash falling to the furnace bottom is sluiced by water from hoppers to an impoundment or dewatering bin.
- **FGMC wastewater** is produced when carbon is injected into flue gas to facilitate removal of mercury and the resulting waste is wet sluiced with fly ash.
- **Leachate** is liquid that percolates through or drains from a landfill, or that passes through the containment structure (*e.g.*, bottom, dikes, berms) of an impoundment.
- **Gasification wastewater** is produced by the cleaning of a synthetic gas produced by subjecting coal or coke to high temperature and pressure.

[10] The rule addresses a seventh wastestream—"nonchemical metal cleaning wastes"—not at issue here. 80 Fed. Reg. 67,850.

When EPA originally regulated steam-electric effluents in the 1970s and 1980s, it did so under the less-stringent BPT standard, *see supra* I.A, and set BPT for bottom ash transport water and leachate as surface impoundments. *See* 80 Fed. Reg. 67,848-49. Surface impoundments, or "ash ponds," are essentially watery pits that "rely on gravity to remove particulates from wastewater" and were "the technology basis for the previously promulgated BPT effluent limitations for low volume waste sources." *Id.* at 67,840, 67,851. As the new rule describes, however, the ensuing three decades have rendered that BPT standard "out of date," because it "do[es] not adequately control the pollutants (toxic metals and other[s]) discharged by this industry, nor do[es] [it] reflect relevant process and technology advances that have occurred in the last 30-plus years." *Id.* at 67,840. Moreover, the Act required that the new guidelines for existing direct[11] discharges conform to the stricter BAT standard. *See* 33 U.S.C. § 1311(b)(2)(A), 80 Fed. Reg. 67,848-49; *see supra* I.A.

EPA thus considered more advanced control methods, which it notes are "affordable technologies that are widely available and already in place at some plants." 80 Fed. Reg. 67,840. The agency describes those methods as follows:

- **Chemical precipitation** means treating wastewater by introducing chemicals that will react with substances currently dissolved or suspended in the water to produce a solid, non-soluble *precipitate*, which then can be filtered out or left to settle to the bottom of the wastewater. *EPA Wastewater Technology Fact Sheet*, EPA 832-F-00-018 (Sept. 2000).
- **Biological treatment** means introducing bacteria or other microorganisms to remove pollutants, specifically "heavy metals, selenium, and nitrates." 80 Fed. Reg. 67,850.
- **Dry handling**, for fly ash, means "a dry vacuum system that employs a mechanical exhauster to pneumatically convey the fly

[11] "Indirect" discharges concern pollutants discharged into a "publicly owned treatment work" and are subject to distinct "pretreatment" standards. *See* 80 Fed. Reg. 67,841; 33 U.S.C. § 1317(b), (c).

ash (via a change in air pressure) from hoppers directly to a silo," without getting the ash wet. *Id.* at 67,852. For bottom ash, dry handling refers to "a system in which bottom ash is collected in a water quench bath and a drag chain conveyor (mechanical drag system) then pulls the bottom ash out of the water bath on an incline to dewater the bottom ash." *Id.*

- **Evaporation**, for FGD wastewater and gasification wastewater, means using "a falling-film evaporator (also known as a brine concentrator) to produce a concentrated wastewater stream (brine) and a distillate stream." *Id.* at 67,838, 67,853.

From those options EPA selected the following technologies as BAT for the various wastestreams:

Wastestreams	**Technology basis for the main BAT/NSPS/PSES/PSNS regulatory options**
FGD Wastewater……	Chemical Precipitation + Biological Treatment
Fly Ash Transport Water……...	Dry handling
Bottom Ash Transport Water….	Dry handling / Closed loop
FGMC Wastewater……	Dry handling
Gasification Wastewater…….	Evaporation
Leachate……..	Impoundment (Equal to BPT)

80 Fed. Reg. 67848-49 (adapted from Table VIII–1–FINAL RULE: STEAM ELECTRIC MAIN REGULATORY OPTIONS). As shown, the rule set more advanced technologies as BAT for five of the six wastestreams. *See also id.* at 67,850, 67,852, 67,853 (explaining selection for each stream). For leachate and "legacy" wastewater, however, the rule selected "impoundment" as BAT, the same technology set as BPT in 1982. *Id.* at 67,854. Our focus is on the rule's treatment of those streams, and so we provide additional detail below.

1. Legacy Wastewater

Legacy wastewater is not a distinct type of wastestream. Instead, as the final rule explains, the term describes wastewater from five of the streams (FGD, fly ash, bottom ash, FGMC, and gasification wastewater) that is "generated prior to" a future date. 80 Fed. Reg. at 67,854. That date, which is

determined by the permitting authority, is required to be "as soon as possible beginning November 1, 2020 but no later than December 31, 2023." 82 Fed. Reg. 43,496. Wastewater from streams generated before that date is denominated "legacy" wastewater and is not subject to the stricter BAT applicable to those streams. *Id.* Instead, the BAT for legacy wastewater is "equal to the previously promulgated BPT regulations" in effect since 1982—namely, impoundments. *Id.* This means that legacy wastewater is allowed by the final rule to contain the same quantity of toxic pollutants allowed since 1982. *See id.* (setting BAT for legacy wastewater "equal to the previously promulgated BPT limitations on [total suspended solids] in the discharge of fly ash transport water, bottom ash transport water, and low volume waste sources"); *see also EPA Study Report*, EPA 821-R-09-008, at 5-20 (table listing pollutant concentrations at several individual impoundments studied during the rulemaking process). The "legacy" category will thus encompass a massive amount of wastewater from the five composite streams. For instance, according to the EPA's Study Report, in 2008 alone the average plant produced over 2.7 billion gallons of fly ash transport water per year, as well as over 1.1 billion gallons of bottom ash transport water. *Id.* at 5-6, 5-7.

The rule imposes much more stringent limits on wastewater from these same streams generated *after* the date to be set by the permitting authority (again, between November 1, 2020 and December 31, 2023). For instance, EPA found that a combination of chemical precipitation and biological treatment was the BAT for treating pollution from non-legacy FGD wastewater, and that "dry handling" (a technique for disposing of fly ash and bottom ash without adding water) was the BAT for non-legacy ash wastestreams. *Id.* at 67,850-53. These technologies are significantly newer than surface impoundments, and EPA concluded they were the superior option for treating pollution in non-legacy wastewater. *Id.*

The rule accounts for the discrepancy between legacy and non-legacy wastewater regulations in various ways. For instance, it explains that legacy wastewater "already exists in wet form" and would thus not be amenable to dry handling, and also that EPA lacked data on whether legacy wastewater could be "reliably incorporated" into a closed-loop process "given the variation in operating practices among surface impoundments containing legacy wastewater." *Id.* at 67,854-55. The rule also asserts that EPA lacked sufficient data to determine whether chemical or biological treatment would be effective on legacy wastewater. Legacy wastewater, the agency explained, is often "commingled"—meaning different streams are mixed together in an impoundment—making testing and data collection difficult. *Id.* at 67,855. For instance, commingling may result in varying the concentration and "flow rate" of pollutants in an impoundment. *Id.* The rule acknowledges that multiple plants are in fact using chemical precipitation to treat commingled wastewater, but it nonetheless asserts that EPA lacks the requisite data from those plants. *Id.* at 67,855 n.29. Finally, the rule also acknowledges that a few plants discharge from impoundments containing non-commingled FGD legacy wastewater, but it nonetheless declines to establish a stricter BAT for that stream as well. *Id.* at 67,855. The rule explains that, in the agency's view, imposing the stricter technologies even on non-commingled legacy wastewater would create bad "incentives"—for instance, encouraging plants to begin commingling FGD with other wastewaters or to release FGD wastewater from impoundments on an "accelerated schedule" prior to the compliance date. *Id.*

2. Leachate

The final rule describes leachate as follows:

> Leachate includes liquid, including any suspended or dissolved constituents in the liquid, that has percolated through or drained from waste or other materials placed in a landfill, or that passes

> through the containment structure (*e.g.*, bottom, dikes, berms) of a surface impoundment.

80 Fed. Reg. 67,847. Where leachate occurs in a lined landfill or impoundment, it is typically collected and transported to an impoundment, where it is either "discharge[d] . . . directly to receiving waters" or recycled to another impoundment prior to discharge. *Id.* Unlined landfills or impoundments simply "allow the leachate to potentially migrate to nearby ground waters, drinking water wells, or surface waters." *Id.* The rule explains that "surface impoundments are the most widely used systems to treat . . . leachate." *Id.* Elsewhere, the rule acknowledges that "[g]round water contamination from surface impoundments" containing power plant wastewater "threatens drinking water, as evidenced by more than 30 documented cases." *Id.* at 67,840; *see also EPA Study Report*, EPA 821-R-09-008, at 3-24 (landfill leachate diagram). The EPA study detailed the size of leachate pollution: Given plants using current technologies (mostly surface impoundments), leachate pollution amounts to 70,300 toxic-weighted pound equivalents per year. *See Technical Development Document ("TDD")*, EPA-821-R-15-007, at 10-39. Leachate thus accounts for more equivalent pollution than the entire coal mining industry. *Id.*; *Annual Effluent Guidelines Review Report*, EPA-821-R-16-002, at 2-26 (listing pollution from other industries).

The final rule sets BAT for leachate equal to the previous BPT standard established in 1982. *Id.* at 67,854. The agency offers two primary justifications for its decision not to regulate leachate with any of the more advanced control technologies now available. First, the rule explains that EPA called for comments on leachate regulation during notice-and-comment rulemaking, but that "[c]ommenters did not provide information that the EPA could use to establish BAT limitations" for leachate. *Id.* at 67,854. Second, the rule asserts that leachate forms "a very small portion of the pollutants discharged

collectively by all steam power plants." *Id.* The agency reasons that, because the new BAT limits established for wastewater from other streams will substantially curtail total power plant pollution, the new rule "represents reasonable further progress toward the CWA's goals" even without establishing any stricter controls on leachate. *Id.*

II. PROCEDURAL HISTORY

Four separate lawsuits challenging the final rule were originally brought in the Second, Fifth, Eighth, and Ninth Circuits.[12] Different groups of petitioners challenged different parts of the rule. Various power companies ("Industry Petitioners") challenged the regulation of non-legacy FGD and gasification wastewater.[13] Two water company associations ("Water Company Petitioners"), challenged the non-legacy FGD wastewater regulation.[14] Finally, various environmental groups ("Environmental Petitioners" or "petitioners") challenged the regulation of legacy wastewater and leachate.[15] The four cases were consolidated by the United States Judicial Panel on Multidistrict Litigation and randomly assigned to our court.[16] The Utility Water Act Group

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[12] *See* 33 U.S.C. § 1369(b)(1)(E) (allowing "any interested person" to file in a federal circuit court an application for review of the Administrator's "promulgating any effluent limitation" under §§ 1311 or 1314 within 120 days of the promulgation).

[13] The Industry Petitioners are Utility Water Act Group ("UWAG"), Southwestern Electric Power Company, Union Electric Company dba Ameren Missouri, City of Springfield, Missouri, by and through the Board of Public Utilities, and Duke Energy Indiana, Inc.

[14] The Water Company Petitioners are the American Waterworks Association and the National Association of Water Companies.

[15] The Environmental Petitioners are Waterkeeper Alliance, Inc., the Environmental Integrity Project, and the Sierra Club.

[16] *See* United States Judicial Panel on Multidistrict Litigation, Order MCP No. 136 (December 8, 2015). The cases were originally captioned as: *Waterkeeper Alliance, Inc. et al v. EPA, et al.* (2nd Cir. No. 15-3773); *Southwestern Elec. Power Co., et al. v. EPA, et al.* (5th Cir. No. 15-60821); *Union Elec. Co., et al. v. EPA, et al.* (8th Cir. No. 15-3658), and *Sierra Club v. EPA.* (9th Cir. No. 15-73578).

("UWAG") has since intervened to defend those portions of the rule challenged by the Environmental Petitioners.

In August 2017, we granted EPA's motion to sever and hold in abeyance the Industry Petitioners' and Water Company Petitioners' challenges to the final rule. In September 2017, EPA announced it would reconsider the rule's regulations concerning non-legacy FGD and bottom ash transport water. *See* 82 Fed. Reg. 43,494.[17] As a result of these procedural developments, the challenges to the final rule raised by the Industry Petitioners and the Water Company Petitioners are not before us. We address only the challenges brought by the Environmental Petitioners.

III. STANDARD OF REVIEW

The Environmental Petitioners challenge the legacy wastewater regulation under the Administrative Procedure Act ("APA"). As relevant here, a court "shall . . . hold unlawful and set aside" agency action under the APA if it finds such action was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). Under this "highly deferential" standard, *Avoyelles Sportsmen's League, Inc. v. Marsh*, 715 F.2d 897, 904 (5th Cir. 1983), we are "not empowered to substitute [our] judgment for that of the agency." *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971). This is particularly so where the agency's decision turns on "its evaluation of complex scientific data within its technical expertise."

[17] The agency's reconsideration of those aspects of the rule has been challenged in separate lawsuits brought by a coalition of environmental groups, including some of the petitioners in this case. That challenge was brought contemporaneously in the District of Columbia federal district court and the D.C. Circuit. The district court ruled it lacked jurisdiction, *Clean Water Action v. Pruitt*, 315 F. Supp. 3d 72, 85 (D.D.C. 2018), and the D.C. Circuit transferred its case to this court, *Clean Water Action v. Pruitt*, No. 17-1216, Order (D.C. Cir. Feb. 1, 2018), where it is now pending as No. 18-60079. The Environmental Petitioners concede that the challenge to the EPA's reconsideration decision involves distinct issues that do not affect this case, and no party has asked us to postpone our decision here.

BCCA Appeal Grp. v. EPA, 355 F.3d 817, 824 (5th Cir. 2003) (citing *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 2013 (1983)). Indeed, "[i]f the agency's reasons and policy choices conform to minimal standards of rationality, then its actions are reasonable and must be upheld." *Tex. Oil & Gas Ass'n*, 161 F.3d at 934. Furthermore, the "EPA's choice of analytical methodology [in setting and enforcing standards] is entitled to a presumption of regularity," leaving challengers with a "considerable burden" to carry. *Am. Petroleum Inst. v. EPA*, 787 F.2d 965, 983 (5th Cir. 1986).

Our review under the APA is not toothless, however. We must set aside agency action if the agency "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." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) ("*State Farm*"); *see generally, e.g., Atchafalaya Basinkeeper v. U.S. Army Corps of Eng'rs*, 894 F.3d 692, 697 (5th Cir. 2018) (reciting *State Farm* standard). "[W]e must also ensure that the agency 'examine[d] the relevant data and articulate[d] a satisfactory explanation for its action,'" and assess "'whether the [agency's] decision was based on a consideration of the relevant factors[.]'" *10 Ring Precision, Inc. v. Jones*, 722 F.3d 711, 723 (5th Cir. 2013) (quoting *State Farm*, 463 U.S. at 43); *see also, e.g., Michigan v. EPA*, 135 S. Ct. 2699, 2706 (2015) (explaining that "agency action is lawful only if it rests 'on a consideration of the relevant factors'") (quoting *State Farm*, *supra*); *U.S. Chamber of Commerce v. U.S. Dep't of Labor*, 885 F.3d 360, 382 (5th Cir. 2018) ("Illogic and internal inconsistency are characteristic of arbitrary and unreasonable agency action."); *Illinois Pub. Telecom. Ass'n v. FCC*, 117 F.3d 555, 566 (D.C. Cir. 1997), *decision clarified on reh'g*, 123 F.3d 693 (unexplained and "seemingly illogical" decisions are arbitrary and capricious). Furthermore,

we "may uphold agency action only on the grounds that the agency invoked when it took the action." *Michigan v. EPA*, 125 S. Ct. at 2712 (citing *SEC v. Chenery Corp.*, 318 U.S. 80, 87 (1943)).

The Environmental Petitioners challenge the leachate regulation under the two-step framework articulated in *Chevron USA, Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), governing judicial review of agency interpretations of statutes. *See generally, e.g., BCCA Appeal Grp.*, 355 F.3d at 824 (discussing *Chevron* in context of challenge to Clean Air Act regulations). At step one, the court considers "whether Congress has directly spoken to the precise question at issue." *Chevron*, 467 U.S. at 842. If Congress has directly spoken on an issue, that settles the matter: "[T]he Court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 842-43. Only if the statutory text is ambiguous can the court proceed to step two, asking whether the agency's construction of the statute is "permissible." *Id.* at 843. If the construction is permissible, it should be upheld. "[A] court may not substitute its own construction of a statutory provision for a reasonable interpretation made by the administrator of an agency." *Id.* "*Chevron* review and arbitrary and capricious review overlap at the margins," specifically at *Chevron* step two. *Indep. Petroleum Ass'n of Am. v. Babbitt*, 92 F.3d 1248, 1258 (D.C. Cir. 1996); *see also Nutraceutical Corp. v. Von Eschenbach*, 459 F.3d 1033, 1038 (10th Cir. 2006).

IV. ANALYSIS

A. Challenge to Legacy Wastewater Regulation

We first consider petitioners' challenge[18] to the final rule's regulation of legacy wastewater. As already explained, legacy wastewater is not a separate wastewater stream but instead a subset of five of the other streams. *Supra* I.B.1. Specifically, legacy wastewater is defined by *when* wastewater is generated: Wastewater "generated prior to" the compliance date set for the new rule by a permitting authority is denominated "legacy" wastewater. *See* 80 Fed. Reg. 67,854. Instead of subjecting legacy wastewater to the more advanced and effective technologies that kick in after the rule's compliance date (*i.e.*, chemical precipitation, biological treatment, dry handling, or evaporation), the rule sets BAT for legacy wastewater as equal to the BPT previously set in 1982 (*i.e.,* surface impoundments). *See id.* at 67,854-55.

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[18] While no party contests the issue, we conclude that petitioners have associational standing to challenge the final rule on behalf of their members. *See, e.g., La. Landmarks Soc., Inc. v. City of New Orleans*, 85 F.3d 1119, 1122 n. 3 (5th Cir. 1996) (explaining that "standing is jurisdictional and, therefore, non-waivable"); *Assoc. of Am. Phys. & Surgeons v. Tex. Med. Bd.*, 627 F.3d 547, 550 (5th Cir. 2010) (associational standing present when (1) members would have standing; (2) association seeks to protect interests germane to its purpose; and (3) neither claim nor relief requires individual participation). Members of the petitioner organizations attest in declarations to cognizable injuries-in-fact traceable to the discharges at issue—such as negative impact on property and decrease in enjoyment of waterways—that could be redressed by a decision requiring reevaluation of the rule. *See, e.g., Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000) (sufficient injury-in-fact when plaintiffs "aver that they use the affected area and are persons for whom the aesthetic and recreational values of the area will be lessened by the challenged activity"); *Sierra Club, Lone Star Chapter v. Cedar Point Oil Co. Inc.*, 73 F.3d 546, 557 (5th Cir. 1996) (traceability established by allegations that pollutants "cause[ ] or contribute[ ] to the kinds of injuries alleged by the plaintiffs"). Finally, we find the second and third prongs of associational standing test are met here because petitioners seek to protect environmental interests germane to their purposes and individual participation by each affected member is unnecessary. *Assoc. of Am. Phys. & Surgeons*, 627 F.3d at 550.

1.

Petitioners challenge that decision as arbitrary and capricious under the APA on two grounds. First, they claim the Act does not grant the Administrator authority to base BAT limits on *when* waste is generated, but instead requires setting BAT limits for "categories and classes of point sources" regardless of when waste is generated. *See, e.g., State Farm*, 463 U.S. at 43 (explaining that, "[n]ormally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider"). Second, they claim that the rulemaking record refutes the conclusion that surface impoundments are BAT for legacy wastewater because, among other things, the final rule itself demonstrates that impoundments are ineffective at removing toxic pollutants. *See, e.g., id.* (an agency rule would also be arbitrary and capricious if it "offered an explanation for its decision that runs counter to the evidence before the agency"). We need not reach petitioners' first argument, because we conclude for multiple reasons that EPA acted arbitrarily and capriciously by setting a BAT limit for legacy wastewater equal to the outdated BPT standard of surface impoundments.

First, the final rule repeatedly recognizes that impoundments are "largely ineffective" at removing toxins from wastewater. 80 Fed. Reg. 67,840. Impoundments "rely on gravity to remove particulates from wastewater," but the rule explains that "gravity in surface impoundments" fails to "effectively or reliably" remove "[p]ollutants . . . present mostly in soluble (dissolved) form, such as selenium, boron, and magnesium," and also fails to "effectively" remove the dissolved portion of "metals present in both soluble and particulate forms (such as mercury)." *Id.* at 67,851. When ingested by humans either through drinking water or through seafood, these metals can lead to serious harms including "cancer, cardiovascular disease, neurological disorders, kidney and liver damage, and lowered IQs in children." *Id.* at 67,840. Additionally, the rule

informs us that various factors can alter chemical conditions in impoundments and thus compromise their effectiveness: For instance, low pH in the impoundment environment can convert particulate metals to soluble form, reducing the "settling efficiency in the impoundments" and "leading to increased levels of dissolved metals and high concentrations of metals in discharges from surface impoundments." *Id.* at 67,851. Even the changing seasons—in an effect called "seasonal turnover"—impair impoundments by cooling the upper layer of water and causing it to sink, resulting in "resuspension of solids . . . and a consequent increase in the concentrations of pollutants discharged from the impoundment." *Id.*

These conceded defects in impoundments are in critical tension with EPA's choosing them as BAT for legacy wastewater. After all, BAT is supposed to be "the CWA's most stringent standard" for setting discharge limits for existing sources. *Tex. Oil & Gas*, 161 F.3d at 928; *see also* 33 U.S.C. §§ 1311(b)(2), 1314(b)(2). We are rightfully skeptical when EPA specifies impoundments as BAT while, in the same breath, detailing how bad those impoundments are in stemming the discharge of toxic pollution. *See, e.g.*, *CMA*, 885 F.2d at 265 (remanding because EPA "failed . . . [to] demonstrate a reasonable basis for its conclusion" that its chosen BAT was as effective as a proposed alternative).

Second, as the rule also recounts, the flaws of impoundments are precisely why EPA refused to set them as BAT for five of the six wastewater streams at issue here. *See* 80 Fed. Reg. 67,851-53. For instance, the rule states that "EPA did not select surface impoundments as the BAT technology for FGD wastewater because it *would not result in reasonable further progress toward eliminating the discharge of all pollutants, particularly toxic pollutants*." *Id.* at 67,851 (emphasis added); *see also id.* (explaining that EPA declined to set impoundments as BAT "[b]ecause many of the pollutants of concern in FGD

wastewater are present in dissolved form and *would not be removed by surface impoundments*") (emphasis added). EPA likewise declined to set impoundments as BAT for fly ash transport water, bottom ash transport water, FGMC wastewater, and gasification water, and in each case explained that it did so "for the same reasons . . . that EPA did not identify surface impoundments as BAT for FGD wastewater." *Id.* at 67,852 (fly ash), 67,853 (bottom ash, FGMC, and gasification wastewater).

In other words, for five of the six wastewater streams regulated by the final rule (the one exception is leachate, discussed in V.B *infra*), EPA affirmatively *rejected* surface impoundments as BAT "because [they] would not result in reasonable further progress toward eliminating the discharge of all pollutants, particularly toxic pollutants." *Id.* at 67,851.[19] And yet, having rejected impoundments as BAT because they would not achieve "reasonable further progress" toward eliminating pollution from those streams, EPA turned around and *chose* impoundments as BAT for each of those same streams generated before the compliance date. That paradoxical action signals arbitrary and capricious agency action. *See, e.g., Chamber of Commerce*, 885 F.3d at 382 ("Illogic and internal inconsistency are characteristic of arbitrary and unreasonable agency action."); *see also, e.g., GameFly, Inc. v. Postal Regulatory Comm'n*, 704 F.3d 145, 148 (D.C. Cir. 2013) (explaining that agency action "'illogical on its face'" may be arbitrary and capricious) (quoting *Am. Fed'n of Gov't Emps., Local 2924 v. Fed. Labor Relations Auth.*, 470 F.3d 375, 380 (D.C. Cir. 2006)). It also strongly suggests that EPA has contravened the

[19] Indeed, for treatment of gasification wastewater the inadequacies of surface impoundments appear even more pronounced. EPA found that one of the three existing U.S. plants that produce gasification wastewater previously used surface impoundments but that "the impoundment effluent repeatedly exceeded its NPDES permit effluent limitations necessary to meet applicable [Water Quality Standards]." *Id.* at 67,853.

plain language of the CWA, which defines BAT as the technology that "*will result* in reasonable further progress" toward pollutant discharge elimination. 33 U.S.C. § 1311(b)(2)(A) (emphasis added); *see also, e.g., Nat'l Crushed Stone*, 449 U.S. at 74-75 (discussing "reasonable further progress" component of BAT).

Third, the final rule explains that the shortcomings of surface impoundments were a key factor in motivating EPA to conduct the 2006-2009 study and revise water pollution regulations for power plants in the first place. The rule describes the previous ELGs from 1974, 1977, and 1982 as "out of date," because they failed to "adequately control the pollutants . . . discharged by this industry" and failed to "reflect relevant process and technology advances that have occurred in the last 30-plus years." 80 Fed. Reg. 67,840; *see also id.* (stating that, "[i]n the several decades since the steam electric ELGs were last revised, [more effective] technologies have increasingly been used at plants"). And the rule minces no words in laying the shortcomings of the prior ELGs at the feet of surface impoundments:

> The processes employed and pollutants discharged by the industry look very different today than they did in 1982. Many plants, nonetheless, still treat their wastewater using only surface impoundments, which are largely ineffective at controlling discharges of toxic pollutants and nutrients.

Id.

Thus, the final rule describes impoundments as an outdated and ineffective pollution control technology, and yet the same rule chooses to freeze impoundments in place as BAT for legacy wastewater. That is inconsistent with the "technology-forcing" mandate of the CWA. *NRDC II*, 808 F.3d at 563-64 (citing *NRDC I*, 822 F.2d at 123). To that point, the Supreme Court has explained that BAT has an inbuilt "reasonable further progress" standard and that "BPT serves as the prior standard with respect to BAT." *Nat'l Crushed Stone*, 449 U.S. at 75. Yet here EPA appears to have conflated the prior

standard with the advanced one: It has selected as BAT the same three-decades-old technology previously set as BPT—a technology the current rule condemns as anachronistic and ineffective at eliminating pollution discharge. In other words, EPA asks us to believe that impoundments are both archaic and cutting-edge at the same time. That we cannot do. *See GameFly,* 704 F.3d at 148; *Chamber of Commerce*, 885 F.3d at 382.

Fourth, the final rule strongly indicates that other available technologies are far better than impoundments at removing pollutants from the various streams that comprise legacy wastewater. For instance, after explaining why impoundments are ineffective at removing toxic metals from FGD wastewater, the rule states that a combination of chemical precipitation and biological treatment *is* better at removing those pollutants. *Id.* at 67,850-51. Importantly, the rule explicitly concludes that "[c]hemical precipitation and biological treatment are *more effective than surface impoundments* at removing both soluble and particulate forms of metals." *Id.* at 67,851 (emphasis added). The rule also relies on that reasoning to justify rejecting impoundments as BAT for fly ash transport water, bottom ash transport water, FGMC wastewater, and gasification wastewater. *Id.* at 67,852-53. Moreover, the rule categorically states that more advanced control methods, such as chemical and biological methods, "are affordable technologies that are widely available, and already in place at some plants." *Id.* at 67,840.

These affirmative findings are difficult, if not impossible, to square with EPA's decision nonetheless to set 1980s-era impoundments as the BAT for legacy wastewater. To be sure, the agency's statements in the final rule do not prove that chemical precipitation or biological treatment (or some combination of the two) *are* BAT for legacy wastewater. That is for the agency to decide. But those statements do cast grave doubt on the agency's selection of *impoundments* as BAT for legacy wastewater. *See, e.g., Nat'l Crushed Stone*

Ass'n, 449 U.S. at 74 (BAT calls for the "maximum use of technology within the economic capability of the [plant] owner or operator"). Once again, the EPA's own rule strongly indicates that it was arbitrary and capricious in doing so.[20]

Fifth and finally, our court has long recognized that "'Congress intended [BAT] limitations to be based on the performance of the single best-performing plant in an industrial field.'" *Tex. Oil & Gas*, 161 F.3d at 928 (quoting *CMA*, 870 F.2d at 226)); *see also, e.g., Kennecott v. EPA*, 780 F.2d 445 (4th Cir. 1985) ("In setting BAT, EPA uses not the average plant, but the optimally operating plant, the pilot plant which acts as a beacon to show what is possible.") (citing *A Legislative History of the Water Pollution Control Act Amendments of 1972*, 93d Cong., 1st Sess. (Comm. Print 1973), at 798). Yet here the rule says nothing to indicate that the choice of impoundments as BAT for legacy wastewater was based on anything like "the performance of the single best-performing plant" in the field. To the contrary, everything the rule says about the record of impoundments over the past three decades indicates that their performance in controlling discharges has been distinctly poor. *See, e.g.,* 80 Fed. Reg. 67,840 (stating that "impoundments . . . are largely ineffective at controlling discharges of toxic pollutants and nutrients"); *id.* (stating that "[g]round water contamination from surface impoundments . . . threatens drinking water, as

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[20] Intervenor UWAG argues that "EPA's acknowledgment that other technologies are better at removing *dissolved* metals does not undermine the Agency's conclusion that surface impoundments reflect BAT for [pollutants] in legacy wastewaters." We disagree. In this context, the EPA's pointed criticisms of impoundments fatally undermine its BAT determination. To be sure, an agency has "some leeway reasonably to resolve uncertainty, as a policy matter, in favor of more regulation or less." *Ctr. for Auto Safety v. Fed. Highway Admin.*, 956 F.2d 309, 316 (D.C. Cir. 1992). But there is no uncertainty in this record about the shortcomings of impoundments. EPA may have been uncertain about what the precise BAT for legacy wastewater should be, but the record fails to explain why impoundments are BAT, if that term is to have any meaning. Furthermore, if chemical precipitation or biological treatment are technically feasible but simply too costly for treating legacy wastewater, the EPA could have said so. It did not. We cannot defend the agency's action based on a rationale the agency did not rely on. *State Farm*, 463 U.S. at 43.

evidenced by more than 30 documented cases"); *id.* at 67,851 (declining to set impoundments at BAT for FGD wastewater because various dissolved toxic metals "are not effectively and reliably removed by gravity in surface impoundments"). Moreover, the rule also states that multiple plants are in fact treating legacy wastewater using chemical precipitation, *id.* at 67,855 n.29, a method the rule concedes is "more effective than surface impoundments at removing both soluble and particulate forms of metals[.]" *Id.* at 67,851. Yet the rule merely states—without explanation—that it lacks "data to characterize the effluent from these systems." *Id.* at 67,855 n.29. That unexplained assertion casts grave doubt on the agency's BAT decision. *See also infra* V.A.2 (discussing additional problems created by agency's lack of data excuse).

These shortcomings in the agency's explanations strongly indicate that its BAT decision simply defaults to the outdated BPT standard that has been demonstrated to be a poor performer by the agency's own analysis. That is antithetical to the statutorily-mandated BAT standard. *See, e.g., Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 634 (D.C. Cir.), *as amended on denial of reh'g* (2001) (remanding EPA rule for failure in agency's "clear statutory obligation to set emission standards" for various air pollutants); *NRDC v. EPA*, 863 F.2d 1420, 1433 (9th Cir. 1988) (despite EPA's asserted lack of "complete information" on availability of technology, declaring BAT limitation invalid because "Congress has demonstrated its intent to require industry to do as much as possible to control toxic discharges") (citing 33 U.S.C. § 1311(b)(2)(A)(i)).

In sum, we conclude that the EPA's decision to set surface impoundments as BAT for legacy wastewater was arbitrary and capricious. Far from demonstrating that impoundments are the "best available technology economically achievable" for treating legacy wastewater, the evidence recounted in the final rule shows that impoundments are demonstrably ineffective at doing so and demonstrably inferior to other available

technologies. In light of this record, we cannot accept that an outdated, ineffective and inferior technology is BAT when applied to legacy wastewater. No record evidence affirmatively makes that case and, as we have explained, the evidence recounted in the final rule runs in the opposite direction.

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EPA defends its choice of impoundments as BAT for legacy wastewater by asserting that "it does not have the data" to justify choosing more advanced pollution control technologies. 80 Fed. Reg. 67,855. The agency explains that most plants "combine some of their legacy wastewater with each other and with other wastestreams," and that this "commingling" can meaningfully alter the characteristics (specifically, the "flow rate and pollutant concentration") of the impoundment water. *Id.* Because EPA lacked adequate examples of plants treating commingled wastewater "using anything beyond the surface impoundment itself," the agency concluded it lacked data to evaluate the performance of other technologies and therefore defaulted to "the previously promulgated BPT limitations" (*i.e.*, impoundments). *Id.* We are unpersuaded.

First, EPA's arguments about the characteristics of commingled wastewater glide past the key issue before us, which is whether the agency arbitrarily chose *impoundments* as BAT. The agency may lack data on how other technologies interact with commingled wastewater, but it assuredly does not lack data on impoundments. To the contrary, we know that impoundments are ineffective at removing toxic pollutants from the various wastewater streams because the agency's own rule tells us so, repeatedly, based on over three decades of observation and analysis. *See supra* V.B.1. Nor does EPA's criticism of impoundments distinguish "legacy" from "non-legacy" wastewater: instead, the agency categorically states that "surface impoundments . . . are largely ineffective at controlling discharges of toxic pollutants and nutrients" from "wastewater." 80 Fed. Reg. 67,840. To be sure, we do not pretend to

second-guess EPA's assertions about the pertinent "flow rate" and "pollutant concentration" in commingled wastewater, *id.* at 67,855, matters beyond our expertise and authority. But those assertions side-step the legal issue we must decide, which is whether the agency was arbitrary in selecting impoundments as BAT.[21] Once again, the agency's own pointed criticism of impoundments indicates that it was.

Second, the agency's "lack of data" excuse is untenable on its own terms. In a footnote, the rule concedes that multiple power plants have in fact been using chemical precipitation to treat commingled legacy wastewater. *See id.* at 67,855 n.29 (stating "EPA identified fewer than ten plants that use chemical precipitation to treat waster that contains, among other things, ash transport water"). Yet, the agency baldly asserts that it "does not have any data to characterize the effluent from these systems" and it raises this dearth of information to justify not regulating legacy wastewater under the same BAT standards as non-legacy wastewater (and to justify a demonstrably outdated technology as BAT). *Id.* We have previously rejected EPA's argument that an asserted lack of "sufficient data" justified the agency's failure to regulate. *See API I*, 661 F.2d at 357 (rejecting EPA's argument that its failure to regulate was justified by lack of "sufficient data" where EPA had failed to investigate "in light of . . . new information" (internal quotation marks omitted)); *see also, e.g., NRDC II*, 808 F.3d at 573 (concluding that EPA's failure to gather data

[21] Intervenor UWAG offers a similarly mistaken defense of the rule by arguing that the timing of wastewater generation "profoundly influence[s] the amount of wastewater, the characteristics of that wastewater, and the technologies available to treat it." This may be true, but the question before us is not whether legacy wastewater must be regulated in the same manner as other wastewater. The question is whether impoundments are BAT for legacy wastewater, and the agency's own words cast grave doubt on that conclusion. Additionally, UWAG's argument that treating legacy wastewater as a "separate wastestream" was not itself arbitrary and capricious is beside the point. Our criticism is directed at the BAT determination the agency actually reached for legacy wastewater, not at the decision to establish a separate BAT in the first place.

can be arbitrary and capricious when the lack of data is "a problem of EPA's own making"); *see also infra* V.B.2 (further discussing *API I* and *NRDC II*). We reject the argument again here. The final rule recounts (1) the long-recognized deficiencies of impoundments in controlling toxic discharges, 80 Fed. Reg. 67,840; (2) the demonstrated superiority of more advanced technologies in doing so, *id.* at 67,851-53; (3) the availability of those technologies in the industry, *id.* at 67,840, 67,844; and (4) multiple plants' actual use of one of those advanced technologies (chemical precipitation) to treat commingled legacy wastewater, *id.* at 67,855 n.29. Given those undisputed statements drawn from EPA's own rule, the agency cannot simply plead a lack of data to justify its decision to set impoundments as BAT. Again, we do not purport to tell the agency what technology it *should* choose as BAT for legacy wastewater. We decide only that, given the agency's own statements and evidence, it acted arbitrarily in selecting as BAT a pollution control method that decades of data have shown to be ineffective at controlling pollution.

Third, given EPA's heavy reliance on the characteristics of *commingled* legacy wastewater as a reason for declining stricter regulation, one would expect a different policy for *non*-commingled legacy wastewater. *See* 80 Fed. Reg. 67,855 & n.28 (asserting as key reason for defaulting to impoundments for legacy wastewater the fact that wastewater at the "vast majority" of plants is "commingled" with other streams). Yet we find the opposite: When EPA identified plants that discharge non-commingled legacy wastewater from impoundments, it *still* declined to impose more stringent controls and *still* defaulted to impoundments as BAT. *See id.* at 67,855 (declining to impose controls "other than surface impoundments" on plants that "discharge from an impoundment containing *only legacy FGD wastewater*"); *id.* at 67,855 n.30 (discussing three plants that use impoundments "where the *FGD wastewater is not commingled* with other process wastewaters in the impoundment")

(emphases added). That striking inconsistency undercuts the agency's "commingling" rationale for not imposing the more stringent non-legacy BAT standards. *See, e.g., Am. Fed'n of Gov't Emps., Local 2924 v. Fed. Labor Relations Auth.*, 470 F.3d 375, 380 (D.C. Cir. 2006) (an agency's decision is "arbitrary and capricious" if "illogical on its own terms"); *see also Chamber of Commerce*, 885 F.3d at 382 ("Illogic and internal inconsistency are characteristic of arbitrary and unreasonable agency action.").[22] What is more, by selecting impoundments as BAT for *any* kind of FGD wastewater ("legacy" or not), the rule flatly contradicts itself: The rule states without exception that for FGD wastewater "[c]hemical precipitation and biological treatment are more effective than surface impoundments at removing" toxic pollutants. 80 Fed. Reg. 67,851.

Fourth, even assuming a lack of data prevented EPA from determining BAT for legacy wastewater, nothing required the agency simply to set impoundments as BAT. Instead, EPA could have declined to set nationwide

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[22] The final rule attempts to explain away this paradox, but its rationales do not hold water. The rule asserts that, if EPA subjected non-commingled legacy wastewater to stricter controls, plants "would begin commingling other process wastewater with their legacy [non-commingled] wastewater" and thereby circumvent the regulation. *Id.* at 67,855. Perhaps or perhaps not. But the current rule *already* permits plants to do precisely what the agency is concerned about—*i.e.*, mix wastewater with non-commingled wastewater. And if EPA is seriously concerned that more commingling would result from a stricter rule, it could avoid the problem by restricting commingling at plants where it was not already an established process. Additionally, the agency contends that stricter regulation for non-commingled legacy wastewater would create the harmful "incentive" for plants to discharge the wastewater "on an accelerated schedule" that "could result in temporary increases in environmental impacts." *Id.* But the agency fails to consider that such action would, at a minimum, require plants to seek modification of the NPDES permits. *See* 40 C.F.R. §§ 122.41(*l*)(1)(ii) (requiring permitted facilities to report any alteration in operations that "could significantly change the nature or increase the quantity of pollutants discharged"); 122.62(a)(1) (requiring modification of permits for "material and substantial alterations or additions to the permitted facility or activity (including a change or changes in the permittee's . . . disposal practice"). In any event, the central point remains: by including *non*-commingled legacy wastewater within its ambit, the final rule undercuts the key rationale supporting it—that EPA lacks sufficient data for *commingled* legacy wastewater.

effluent guidelines for legacy wastewater and allowed BAT determinations to be made by each facility's permitting authority through the NPDES permitting process on a site-specific basis. *See* 40 C.F.R. § 125.3(a), (c)(2) ("Technology based treatment requirements may be imposed . . . [o]n a case-by-case basis."); *Riverkeeper, Inc. v. EPA*, 358 F.3d 174, 203 (2nd Cir. 2004) ("We see no textual bar in sections 306 or 316(b) [of the Clean Water Act] to regulating [certain] structures on a case-by-case basis."); *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 566-67 (D.C. Cir. 2002) ("We believe EPA acted both reasonably and within its authority in adopting a case-by-case approach" to regulating certain pollutants from paper mills). The agency took that approach in the current rule by deferring setting BAT and other limits for metal cleaning wastes, after determining it lacked the necessary data. *See* 80 Fed. Reg. 67,863 (directing permitting authorities to "establish such requirements based on [best professional judgment] for any steam electric power plant discharg[ing]" such waste). Instead of deferring a nationwide effluent guideline and allowing case-by-case determination of BAT by permitting authorities, EPA unaccountably defaulted to impoundments—again, which its own rule recognizes as an out-of-date and ineffective pollution control technology. This is further indication that the rule respecting legacy wastewater is arbitrary and capricious.[23]

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[23] EPA claims that petitioners have waived this deferral argument by failing to raise it during the notice-and-comment period. That argument is foreclosed by our precedent. *See Am. Forest & Paper Ass'n v. EPA*, 137 F.3d 291, 295 (5th Cir. 1998) ("EPA has failed to identify any provision in the CWA that suggests a party's failure to comment waives its right to seek judicial review.") (citing *City of Seabrook v. EPA*, 659 F.2d 1349, 1360 n.17). Our waiver precedents in this area are admittedly in conflict. *See BCCA Appeal Grp.*, 355 F.3d at 829 (acknowledging conflict); *Tex. Oil & Gas Ass'n*, 161 F.3d 923, 933 n.7 (finding waiver due to "failure to raise the objections during the notice and comment period."). We must follow the earlier precedent, however, which directly refutes the agency's waiver argument. When precedents conflict, "under our rule of orderliness, the earlier case controls." *GlobeRanger Corp. v. Software AG United States of Am., Inc.*, 836 F.3d 477, 497 (5th Cir. 2016).

In sum, having examined the various justifications set forth for EPA's final rule on legacy wastewater, and finding each of those explanations wanting in light of the agency record, we conclude that EPA's rulemaking was arbitrary and capricious. We therefore set aside that part of the final rule and remand to the agency for reconsideration. *See, e.g., Perdue v. FAA*, 172 F.3d 866 (5th Cir. 1999) ("This court shall set aside agency action that is 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." (quoting 5 U.S.C. § 706(2)(A))); *Checkosky v. SEC*, 23 F.3d 452, 491 (D.C. Cir. 1994) ("Section 706(2)(A) [of the APA] provides that a 'reviewing court' faced with an arbitrary and capricious agency decision 'shall'—not may—'hold unlawful and set aside' the agency action.").

We recognize that the agency is entitled to considerable deference in setting BAT limitations. *See, e.g., BCCA Appeal Grp.*, 355 F.3d at 824 (EPA entitled to special deference where its decision turns on "its evaluation of complex scientific data within its technical expertise"); *Tex. Oil. & Gas*, 161 F.3d at 928 (recognizing EPA's "considerable discretion" in weighing BAT factors). Precisely for that reason, challenges to the agency's BAT determinations often fail because challengers ask the court to elevate itself as an expert over the agency.[24] This case is different. We do not question the

[24] *See, e.g., Tex. Oil & Gas Ass'n*, 161 F.3d at 923, 934-35 (rejecting challenge based on argument that EPA only "paid lip service to the age factor [in setting BAT]," because there was still a clear "rational relationship" between the factors considered and the BAT decision); *id.* at 935-36 (rejecting another challenge based on argument that EPA relied on a flawed scientific study, because the study ultimately "had nothing to do with either the BAT determination or the actual inclusion of a zero discharge limit on produced water in the [guidelines]); *API v. EPA*, 787 F.2d at 983 (rejecting challenge based on assertion that a scientific test relied on by the EPA was "unproven and unreliable," when evidence suggested test was reliable); *CMA*, 885 F.2d at 262 (rejecting challenge on mathematical grounds to EPA's statistical methodology because that methodology "was within [the agency's] broad discretion in the choice of statistical techniques"); *id.* at 262-63 (separately rejecting argument that EPA did not properly consider the characteristics of diluted wastestreams in its studies leading up to BAT determination).

scientific or statistical methodologies relied upon by EPA, nor second-guess its weighing of the statutory factors. Instead, we rely on EPA's own scientific conclusions in the rule itself to conclude that its choice of an outdated and ineffective technology as BAT was unlawful under the Act. That is a legal—not a technical or scientific—conclusion that the APA requires us to make.

B. Challenge to Leachate Regulation

We turn to the challenge to the rule's regulation of combustion residual leachate. As explained, *supra* I.B.2, leachate consists of liquid that percolates through a landfill or impoundment and is eventually discharged into water. *See* 80 Fed. Reg. 67,847. The final rule sets BAT for leachate as impoundments, which is the same as the previous BPT for leachate established in 1982. *See id.* at 67,854 ("This rule identifies surface impoundments as the BAT technology basis for control of pollutants in combustion residual leachate . . . establish[ing] a BAT limitation on [total suspended solids] in . . . leachate equal to the previously promulgated BPT limitation on [total suspended solids] in low volume waste sources."). EPA offers two justifications for this decision: First, that "[c]ommenters did not provide information that EPA could use to establish [stricter] BAT limitations" for leachate, and, second, that because leachate forms a "very small portion" of overall discharges, the rule's stricter regulation of *other* wastestreams "already represents reasonable further progress towards the CWA's goals." *See id.*; *supra* I.B.2.

The Environmental Petitioners challenge the rule's leachate regulation under the *Chevron* test for reviewing agency interpretations of statutes. *See Chevron*, 467 U.S. 837; *see also generally, e.g., Acosta v. Hensel Phelps Constr. Co.*, 909 F.3d 723, 730 (5th Cir. 2018) (summarizing "the two-step framework established in *Chevron*"); RICHARD J. PIERCE, JR., ADMINISTRATIVE LAW TREATISE § 3.2 ("PIERCE") (discussing "[t]he *Chevron* Two-Step"). Petitioners assert that EPA's decision to set impoundments as BAT for leachate fails

Chevron step one by contravening the plain text and structure of the Clean Water Act. Alternatively, petitioners argue that the agency's decision fails *Chevron* step two by adopting an impermissible construction of the Act. We address each argument in turn.

1.

At *Chevron* step one, we ask whether the pertinent statute "unambiguously foreclose[s]" the agency's challenged statutory interpretation; if it does, "'that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.'" *U.S. Chamber of Commerce v. U.S. Dep't of Labor*, 885 F.3d 360, 369 (5th Cir. 2018) (quoting *Chevron*, 467 U.S. at 842-43); *see also, e.g., Acosta*, 909 F.3d at 730 (at *Chevron* step one, the court "must determine 'whether Congress has directly spoken to the precise question at issue'" (quoting *City of Arlington v. FCC*, 569 U.S. 290, 296 (2013)). To answer this question, we rely on "the conventional standards of statutory interpretation"—*i.e.*, "text, structure, and the overall statutory scheme"—as well as "authoritative Supreme Court decisions." *U.S. Chamber of Commerce*, 885 F.3d at 369 (citing *City of Arlington*, 569 U.S. at 296; *Chevron*, 467 U.S. at 843 n.9). We are not to focus myopically on "a particular statutory provision in isolation" because "[t]he meaning—or ambiguity—of certain words or phrases may only become evident when placed in context." *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132 (2000). Rather, we must read words "'in their context,'" interpreting the statute "'as a symmetrical and coherent regulatory scheme,'" and "'fit[ting], if possible, all [the statute's] parts into an harmonious whole.'" *Id.* at 133 (quoting *Davis v. Mich. Dep't of Treasury*, 489 U.S. 803, 809 (1989); *Gustafson v. Alloyd Co.*, 513 U.S. 561, 569 (1995); *FTC v. Mandel Bros., Inc.*, 359 U.S. 385, 389 (1959)) (brackets added). Additionally, "we must be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision

of such economic and political magnitude to an administrative agency." *Texas v. United States*, 787 U.S. 733, 760 (5th Cir. 2015) (quoting *Brown & Williamson*, 529 U.S. at 133). The goal of our *Chevron* step one inquiry is ultimately to "ascertain whether the statute is silent or ambiguous in addressing the precise question at issue." *Tex. Savings & Cmty. Bankers Ass'n v. Fed. Hous. Fin. Bd.*, 201 F.3d 551, 554 (5th Cir. 2000); *see also* PIERCE § 3.6 ("The question for the court [at step one] is whether the agency's construction of the language is within the range of meanings that could be plausibly attributed to the relevant statutory language.").

Petitioners' step one attack targets the agency's justifications for pegging leachate BAT to the same technology set as BPT in 1982—specifically, EPA's explanation that leachate forms a "very small portion" of collective industry discharges and that the rule's stricter BAT for other wastestreams represents reasonable overall progress in the industry. *See* 80 Fed. Reg. 67,854. Petitioners' various arguments may be grouped into three general categories for convenience of analysis. First, petitioners argue the agency's rationales contravene the CWA's text—requiring a BAT to eliminate discharges of "*all* pollutants" if "technologically and economically achievable," 33 U.S.C. § 1311(b)(2)(A) (emphasis added)—because, here, the agency has chosen *not* to regulate a significant pollution source (leachate) with a technology EPA admits is achievable (chemical precipitation). Second, petitioners argue the agency's decision on the proper control standard for leachate conflates BAT with BPT in a way that contravenes the structure of the Act. Finally, petitioners claim that the agency's proffered justifications for its leachate regulation appear nowhere in the factors mandated for determining BAT and, indeed, contradict those factors. *See* 33 U.S.C. § 1314(b)(2)(B) (listing BAT factors).

Petitioners' initial step one argument places too much weight on the phrase "all pollutants" in § 1311(b)(2)(A). We cannot agree that this statutory

phrase, standing alone, squarely forecloses the agency's decision to maintain leachate BAT at the 1982 BPT standard. To the contrary, we agree with EPA (and with binding precedent) that we must interpret that phrase in context and with reference to the larger statutory scheme. *See, e.g., Brown & Williamson*, 529 U.S. at 132 (at step one courts should not examine statutory provisions "in isolation" but must "interpret the statute as a symmetrical and coherent regulatory scheme" (internal quotes and citations omitted)). Section 1311(b)(2)(A) does not flatly require that a BAT standard "eliminate[ ] the discharge of all pollutants" solely if the Administrator finds such elimination "technologically and economically achievable," as petitioners claim.[25] Rather, the phrase petitioners rely on is nested in a complex provision providing that certain effluent limitations

> shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him[,] . . . that such elimination is technologically and economically achievable for a category or class of point sources *as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title*.

Id. (emphasis added). The italicized portion of § 1311(b)(2) cross-references the factors set forth in § 1314(b)(2) that are "to be taken into account" by the Administrator in determining BAT for a given point source. *See id.* § 1314(b)(2)(B) (requiring certain "factors relating to the assessment of [BAT]" shall "be taken into account in determining the best measures and practices available to comply with subsection (b)(2) of section 1311 of this title"). The

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[25] For that reason we also reject petitioners' argument that EPA was required to set chemical precipitation as BAT solely because that method is technologically and economically achievable. Petitioners rely on a statement from *American Petroleum Institute v. EPA* that "the basic requirement for BAT effluent limitations is only that they be technologically and economically achievable[.]" 858 F.3d 261, 265-66 (5th Cir. 1988) ("*API II*"). As EPA explains, however, the sentence containing that phrase was deleted on rehearing. *See Am. Petroleum Inst. v. EPA*, 864 F.2d 1156, 1156 (5th Cir. 1989) (clarified on reh'g).

statute requires us to read these two sections in harmony with each other. *See, e.g., Doe v. KPMG*, 398 F.3d 686, 688 (5th Cir. 2005) (requiring that we "read all parts of the statute together to produce a harmonious whole" (citation omitted)). And we have held that the Administrator has "considerable discretion" in evaluating the cross-referenced § 1314(b)(2) factors when making a BAT determination. *See, e.g.*, *Tex. Oil & Gas*, 161 F.3d at 928 (citing *NRDC v. EPA*, 863 F.2d 1420, 1426 (9th Cir. 1988)). Consequently, it is not the case that § 1311(b)(2)(A)—standing apart from the factors in § 1314(b)(2)—unambiguously required EPA to set a stricter BAT for leachate. We therefore reject petitioners' step one argument based on the text of § 1311(b)(2)(A).

We agree with petitioners, however, that the leachate rule conflates the BAT and BPT standards in a way not permitted by the statutory scheme. The rule pegs BAT for leachate to the decades-old BPT standard, without offering any explanation for why that prior standard is now BAT. That is flatly inconsistent with the Act's careful distinction between the two standards. As explained, the difference between BAT and BPT is critical to the Act's "technology-forcing" scheme. *Supra* I.A (quoting *NRDC I*, 822 F.2d 104, 123). BPT is merely the "first step" towards the Act's pollution reduction goals and provides the "prior standard" against which the stricter BAT is to be measured. *Nat'l Crushed Stone*, 449 U.S. at 69; *id.* at 75 & n.14; *CMA*, 870 F.2d at 196. To that point, Congress designed BPT to reflect merely an average of the best performance levels of existing plants, *CMA*, 870 F.2d at 203, whereas it designed BAT to reflect "'the performance of the single best-performing plant in an industrial field.'" *Tex. Oil & Gas*, 161 F.3d at 928 (quoting *CMA*, 870 F.2d at 226). And this critical distinction is reflected in the Act's structure, which treats BAT and BPT in different subsections, implements them on different timelines, and evaluates them under different factors. *Compare* 33 U.S.C. §§ 1311(b)(1)(A), 1314(b)(1)(A), 1314(b)(1)(B) (specifying BPT applicability,

timeline, and factors), *with id.* §§ 1311(b)(2)(A), (C), (D) & (F), 1314(b)(2)(B) (specifying BAT applicability, timelines, and factors); *see also* 80 Fed. Reg. 67,843 (distinguishing BPT and BAT).

Yet, in the face of this statutory structure, the rule sets BAT for leachate "equal to the [prior] BPT limitation"—*i.e.*, impoundments. 80 Fed. Reg. 67,854. The rule reaches that decision without explaining why a technology selected in 1982 under the laxer BPT standard somehow meets the stricter BAT standard today. That is particularly inexplicable given the rule's recognition that impoundments have proven "largely ineffective" at pollution control over the past decades, *id.* at 67,840, 67,851-53; *see supra* I.B. And, as we have seen, it was the recognized shortcomings of impoundments—shortcomings with respect to leachate discharges as well as other wastestreams—that led the agency to revise the steam-electric effluent guidelines in the first place. *Id.* at 67,840; *supra* I.B.

To be sure, we do not say that EPA is precluded by the Act from *ever* setting BAT equivalent to a prior BPT standard. But given the plain distinction between the two standards marked out in the Act, the agency would at least have to offer some explanation for its decision that speaks to the statutory differences between BAT and BPT. Here we are given nothing along those lines. Consequently, the only conclusion we can draw from this record is that, in setting BAT for leachate, the agency simply defaulted to the prior BPT. As explained, however, the statutory scheme does not confer authority on the agency to collapse the carefully-wrought distinction between BAT and BPT in this manner. *See, e.g., Texas v. United States*, 497 F.3d 491, 501 (5th Cir. 2007) ("*Chevron* deference comes into play, of course, only as a consequence of statutory ambiguity, and then only if the reviewing court finds an implicit delegation of authority to the agency.").

We also agree with petitioners that the agency's proffered justifications for the leachate rule are not supported—indeed, are likely incompatible with—the factors set forth under the Act for determining BAT. "The first [*Chevron* step] determines whether Congress intended to give the agency any discretion," *La Union Del Pueblo Entero v. FEMA*, 608 F.3d 217, 220 (5th Cir. 2010), and we are unpersuaded that Congress gave the EPA discretion to rely on justifications like these. As explained, the agency excuses its lax leachate BAT by appealing to (1) the relatively "small" amount of pollutants discharged in leachate, and (2) the stricter BATs set for larger industry wastestreams. *See* 80 Fed. Reg. 67,854. Yet neither of these considerations implicates any of the factors the Act requires the Administrator to consider in determining BAT for a given point source. *See* 33 U.S.C. § 1314(b)(2)(B) (requiring that regulations "shall take into account" specified "[f]actors relating to the assessment of best available technology" with respect to "any point source . . . within such categories or classes").

The Act specifies the following BAT factors:

> [1] the age of equipment and facilities involved, [2] the process employed, [3] the engineering aspects of the application of various types of control techniques, [4] process changes, [5] the cost of achieving such effluent reduction, [6] non-water quality environmental impact (including energy requirements), and [7] such other factors as the Administrator deems appropriate[.]

Id. (brackets added). These factors cannot be stretched to accommodate the agency's rationales for its leachate BAT. That is, no factor allows the agency to consider the amount of pollutants generated by a one wastestream relative to other streams. Nor does any factor allow the agency to consider whether less stringent regulation of one wastestream may be set off against the benefits of regulating *other* streams more strictly. *See, e.g., Tex. Oil & Gas Ass'n*, 161 F.3d at 928 (explaining that "CWA specifies several factors that *must* be considered

by the EPA in determining BAT limits" (emphasis added)). Thus, on their face, the justifications for the leachate BAT put forward in the rule fall outside of the factors mandated by the Act for determining BAT. *See, e.g., API II*, 858 F.2d at 264 ("Before EPA selects BAT-level limitations, it is *required* to address both (1) operational considerations, including 'the process employed, the engineering aspects of the application of various types of control techniques [and] process changes,' and (2) cost" (emphasis added)).

What is more, the agency's benefit-weighing appears incompatible with the BAT factors and with the broader statutory scheme. Whether BAT factors always preclude weighing regulatory benefits against other considerations is an open question. *See Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 221 (2009) (declining to resolve whether "cost-benefit analysis is precluded under the [BAT] . . . test[ ]").[26] We need not address that question here, because we conclude that the agency's benefit-weighing in this case contravenes the statute. As explained, the rule explicitly justifies a less stringent BAT for leachate by touting the benefits of stricter BATs for *other* wastestreams. But the Act does not permit the agency to set a BAT by playing one pollution source

[26] *Riverkeeper* held that a distinct CWA standard—"best technology available for minimizing environmental impact" (or "BTA"), 33 U.S.C. § 1326(b)—implicitly allows cost-benefit analysis. *See* 556 U.S. at 220 (concluding BTA "does not unambiguously preclude cost-benefit analysis"). That decision, however, does not require finding that BAT also allows cost-benefit analysis. *Riverkeeper* focused on the specific BTA wording—"minimizing environmental impact"—which "admits of degree and is not necessarily used exclusively to refer to the 'greatest possible [pollutant] reduction.'" *Id.* at 219. *Riverkeeper* contrasted that wording with BAT, whose "plain language . . . 'require[s] the *elimination* of all pollutants.'" *Id.* (quoting 33 U.S.C. § 1311(b)(2)(A) (emphasis in original)). *Riverkeeper* also reasoned that other standards—like BAT—"are elucidated by statutory factor lists that guide their implementation," unlike BTA. *Id.* at 221 (citing, *inter alia*, 33 U.S.C. § 1314(b)(2)(B)). Finally, *Riverkeeper* expressly declined to resolve whether "cost-benefit analysis is precluded under the BAT[ ] . . . test." *Id.* at 221-22 (stating "[i]t is not obvious to us that the . . . proposition[ ] is correct, but we need not pursue that point"). Of course, we recognize that the BAT factors do require the agency's consideration of "the cost of achieving such effluent reduction." 33 U.S.C. § 1314(b)(2)(B).

off against another. As petitioners point out, the Act instead requires a BAT determination to be made with respect to a discrete "point source." 33 U.S.C. § 1314(b)(2)(B). A "point source" is defined 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." *Id.* § 1362(14). This broad definition easily includes leachate, and the rule leaves no doubt that it treats leachate as a distinct point source. *See* 80 Fed. Reg. 67,847 (treating "combustion residual leachate" from landfills or impoundments as a separate wastestream). The Act thus specifically requires the BAT factors be applied with respect to a specific point source—here, leachate. *See* 33 U.S.C. § 1314(b)(2)(B) (providing that regulations "shall . . . specify factors to be taken into account in determining the best measures and practices available to comply with [the BAT requirements in § 1311(b)(2)] *applicable to any point source* . . . within such category or classes" (emphasis added)). But in the final rule the agency has explicitly factored into its BAT determination the regulation of wastestreams other than leachate, which contravenes the plain text and structure of the Act.

EPA's principal argument in response is that the Act allows consideration of "other factors as the Administrator deems appropriate," 33 U.S.C. § 1314(b)(2)(B), which permits it to consider the "very small" size of leachate pollution relative to the overall industry. Because leachate represents only about 3 percent of overall industry pollution, EPA claims, the rule still represents "reasonable progress" towards eliminating pollution because of the rule's regulation of other sources. *See* 33 U.S.C. § 1311(b)(2)(A). Even accepting EPA's characterization of leachate pollution as "very small" (something we address at *Chevron* step two, *infra*), we reject the agency's reliance on the "other factors" clause. Like any statute, we must interpret the Clean Water Act

by "looking at the full text of the statute, rather than one isolated clause, along with the statute's structure and its public safety purpose[.]" *United States v. Transocean Deepwater Drilling, Inc.*, 767 F.3d 485, 496 (5th Cir. 2014). As petitioners correctly point out, the agency's "other factors" argument would undermine the concept of BAT altogether. The BAT factors are designed to support achievement of an effluent limitation that "shall require the elimination of discharges of all pollutants," if "technologically and economically achievable." 33 U.S.C. § 1311(b)(2)(A) (citing *id.* § 1314(b)(2)). But accepting the agency's expansive view of the "other factors" clause would allow it, in *every* case, to justify a less stringent BAT for one pollution source by claiming it was regulating *other* sources more strictly and thus making reasonable progress in the industry "as a whole." On this understanding, the BAT standard would cease to have any meaning. We therefore reject EPA's reliance on the "other factors" clause to support its justification for the leachate regulation.[27]

In sum, we conclude that the BAT determination for leachate fails step one of *Chevron*.

2.

Alternatively, we conclude that the leachate regulation fails step two of *Chevron*. For purposes of this analysis, we assume that the CWA is "silent or ambiguous" with respect to the question addressed by the rule, and we ask only "whether the agency's answer is based on a *permissible* construction of the statute." *Acosta*, 909 F.3d at 730 (quoting *City of Arlington*, 569 U.S. at 296; *Chevron*, 467 U.S. at 843). "We do not simply impose our own construction on

[27] EPA also argues that "BAT . . . must be acceptable on the basis of numerous factors, only one of which is pollution control" (quoting *BP Expl. & Oil, Inc. v. EPA*, 66 F.3d 784, 796 (6th Cir. 1995)). That is true, but EPA has not offered any non-pollution-control factors showing impoundments are superior to chemical precipitation, let alone factors sufficient to outweigh the shortcomings of impoundments.

the statute." *BNSF Ry. Co. v. United States*, 775 F.3d 743, 751 (5th Cir. 2015) (cleaned up) (quoting *Chevron*, 476 U.S. at 843). "The agency's view 'governs if it is a reasonable interpretation of the statute—not necessarily the only possible interpretation, nor even the interpretation deemed most reasonable by the courts.'" *Acosta*, 909 F.3d at 735 (quoting *Coastal Conserv'n Ass'n v. U.S. Dep't of Commerce*, 846 F.3d 99, 106 (5th Cir. 2017); *Riverkeeper*, 556 U.S. at 218). While this is a highly deferential standard, an agency interpretation can fail *Chevron* step two if "it is contrary to clear congressional intent or frustrates the policy Congress sought to implement." *Garcia-Carias v. Holder*, 697 F.3d 257, 271 (5th Cir. 2012). Agency action that is "arbitrary, capricious, or manifestly contrary to the statute" also fails step two. *Tex. Coal. of Cities for Util. Issues v. FCC*, 324 F.3d 802, 807 (5th Cir. 2003) (quoting *Chevron*, 467 U.S. at 844). Because *Chevron* step two and the APA share the "arbitrary and capricious" standard, "[t]he APA reflects the principles of *Chevron*," and analysis under the two standards proceeds similarly. *Nutraceutical Corp. v. Von Eschenbach*, 459 F.3d 1033, 1038 (10th Cir. 2006); *see also, e.g.,* PIERCE § 3.6 (suggesting that *Chevron* step two has "complete overlap" with APA test of whether a rule adopts an "unreasonable" statutory interpretation) (quoting *Animal Legal Def. Fund v. Glickman*, 204 F.3d 229, 24 (D.C. Cir. 2000)).

Petitioners argue that the agency's decision to set surface impoundments as BAT for leachate is based on an impermissible interpretation of the Act. They raise arguments similar to the ones raised under step one—*i.e.*, that the agency acted unreasonably by setting a leachate BAT based on its relative size and on the rule's stricter regulation of other streams. Additionally, petitioners argue that the agency rejected more effective, achievable control technologies (like chemical precipitation) in favor of a less effective technology like impoundments, which "is unreasonable because it cannot be squared with Congress's intent for BAT to be more stringent than BPT limits." We agree

with petitioners that the leachate regulation is based on an impermissible interpretation of the Act. We therefore hold that the regulation fails *Chevron* step two and must be vacated on that alternative basis as well.

First, the rule unreasonably sets as BAT a technology the rule itself deems ineffective at controlling toxic discharges from leachate. As already explained, *supra* V.B.1, the final rule categorically recognizes that impoundments are ineffective at removing toxic pollutants from wastewater, 80 Fed. Reg. 67,840, 67,851, which is why the rule declined to set impoundments as BAT for five of the six wastestreams at issue, *id.* at 67,852-53. Nothing in the rule even hints, much less explains, that impoundments are somehow better at controlling harmful discharges from leachate. To the contrary, the rule recounts that groundwater contamination from impoundments (which are "the most widely used systems to treat . . . leachate") has resulted in numerous documented cases of drinking water pollution. *Id.* at 67,840, 67,847; *see also id.* at 67,847 (defining "leachate" as "liquid . . . that has percolated through or drained from waste or other materials placed in a landfill, or that passes through the containment structure . . . of a surface impoundment"); *id.* (explaining that "[u]nlined impoundments and landfills . . . allow the leachate to potentially migrate to nearby ground waters, drinking water wells, or surface water"). The rule also refers to an environmental assessment document, *id.* at 67,840, which reports that "[c]ombustion residual leachate can migrate from the site in the ground water at concentrations that could contaminate public or private drinking water wells and surface waters, even years following disposal of combustion residuals." *See Environmental Assessment Document* No. EPA-821-R-15-006, § 3.3.2. Given these admitted deficiencies in impoundments, it was unreasonable to adopt them as BAT for leachate. *See State Farm*, 463 U.S. at 43 ("Normally, an agency rule would be arbitrary and capricious if the agency

has . . . offered an explanation for its decision that runs counter to the evidence before the agency.").

Second, the rule unreasonably declines to set as BAT available technologies that are admittedly more effective at controlling leachate discharges. We have already detailed the rule's affirmation that available modern technologies like chemical precipitation "are more effective than surface impoundments at removing both soluble and particulate forms of metals." 80 Fed. Reg. 67,851; *supra* V.B.1. The rule never explains why this blanket statement does not apply to the use of impoundments to treat leachate. Indeed, EPA acknowledged during the rulemaking process that "chemical precipitation is an available and demonstrated technology for the treatment of combustion residual leachate." *See EPA's Response to Public Comments*, SE05958, at 7-20. And EPA's counsel conceded at oral argument that chemical precipitation is "available" as a treatment for leachate. Oral Argument Audio at 22:25-22:45 (Oct. 3, 2018). As with its treatment of legacy wastewater, the rule appears to select a BAT for leachate simply by defaulting to the decades-old and demonstrably ineffective BPT standard. We have already explained that this kind of regulation-by-inertia is inconsistent with the "technology-forcing" mandate of the CWA. *See NRDC II*, 808 F.3d at 563-64; *NRDC I*, 822 F.2d at 123; *supra* V.B.1. Moreover, a decision to leave BPT limitations in place for leachate, when those limitations were based on admittedly ineffective technology, does not reflect "a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges," which was the intent of Congress in enacting BAT standards in the first place. *Nat'l Crushed Stone Ass'n*, 449 U.S. at 74. The EPA's decision to rest on its laurels (questionable as they are) respecting leachate thus "frustrates the policy Congress sought to implement" in the CWA, *see Garcia-Carias*, 697 F.3d at 271, and cannot stand.

Our decision in *Chemical Manufacturers Association v. EPA*, 870 F.2d 177, reinforces our conclusion on this point. That case involved a challenge to BAT and NSPS regulations set for water pollution by organic chemicals and synthetics plants. *Id.* at 261. In setting NSPS limits for these plants, EPA did not consider recycling as a possible NSPS technology, even though the evidence before it showed that plants could achieve zero discharge by using recycling. *Id.* at 262-63. We concluded that the agency's failure even to consider recycling, an "available demonstrated technology," was arbitrary and capricious. *Id.* at 264. Our case is analogous: here we have the known shortcomings of the status quo technology (impoundments), and the demonstrated superiority of available alternatives (chemical precipitation). To be sure, EPA was entitled to deference on NSPS standards just as it is on BAT standards, *id.* at 263, but deference runs out when the agency fails to consider an option with all the indicators of being a superior choice. Just so here. An "[u]nexplained inconsistency in agency policy is a reason for holding an interpretation to be an arbitrary and capricious," and "[a]n arbitrary and capricious regulation of this sort is itself unlawful and receives no *Chevron* deference." *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126 (2016) (citing *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005); *United States v. Mead Corp.*, 533 U.S. 218, 227 (2001)).

Finally, we note that the EPA has described leachate as being chemically similar to FGD wastewater, a wastestream admittedly susceptible to effective treatment by chemical and biological methods. *See* 80 Fed. Reg. 67,851; *see also EPA's Response to Public Comments*, SE05958, at 7-20. It puzzles us that the EPA has described two wastestreams as chemically similar, and susceptible to treatment by the same methods, and yet has set strikingly different BAT standards for each. As with legacy wastewater, the agency's rationales contradict themselves. The BAT determination for leachate is "illogical on its

own terms" and therefore cannot stand. *See, e.g., GameFly*, 704 F.3d at 148 (D.C. Cir. 2013) (facially illogical determinations are arbitrary and capricious).

EPA offers two justifications for selecting impoundments as BAT for leachate—the first based on the agency's lack of data about alternatives, and the second based on the relative size of the leachate wastestream. We find neither persuasive.

First, we are unpersuaded by the agency's argument that "[c]ommentators did not provide information that EPA could use to establish BAT limitations" concerning leachate. 80 Fed. Reg. at 67,854. During its lengthy study period beginning in 2005, not only did EPA have adequate opportunity to collect data on various treatment options for leachate, but the agency *did* collect data on the size of leachate pollution and on the benefits of chemical precipitation. *See* 80 Fed. Reg. 67,854 ("EPA considered whether technologies in place for treatment of other wastestreams" could be used to treat leachate); *TDD*, EPA-821-R-15-007, at 10-39 (table showing potential reduction in leachate pollution of 33,800 toxic-weighted pound equivalents by adopting chemical precipitation). These data were certainly enough to demand further inquiry and, of course, they say nothing to justify setting *impoundments* as BAT.

We have before declined to accept lack of data as a valid excuse for an agency's failure to regulate activity that concededly creates pollution, and we decline again here. In *API I*, for instance, we rejected EPA's attempt to justify failing to regulate "stripper gas wells" based on its claim that "there was not sufficient data" to justify regulation. 661 F.2d at 357. We reasoned that, in the three years since EPA had declined to regulate, ample public data on the wells "belie[d] EPA's contention that there exists nothing to regulate." *Id.* We therefore remanded for further agency consideration "in light of this new information." *Id.* Here, impoundments have been in operation for over three

decades, and, as we have discussed at length, the agency's own rule amply demonstrates their ineffectiveness in controlling discharges from wastestreams including leachate. The agency cannot rely on a lack of data to justify its setting a BAT standard based on demonstrably outdated and ineffective technology.[28]

EPA counters this point by asserting that it "identified *no* existing plants using chemical precipitation to treat their leachate." We take EPA at its word, as we must, but the agency misses the point. Under our precedent, a technological process can be deemed "available" for BAT purposes "even if it is not in use at all," or if it is used in unrelated industries. *API II*, 858 F.2d at 265. "Such an outcome is consistent with Congress'[s] intent to push pollution control technology." *Id.* In this case, technologies alternative to surface impoundments are in use in the steam-electric industry, just in separate wastestreams. *See, e.g.,* 80 Fed. Reg. 67,855 n.29. If technologies from other industries can be considered, then, *a fortiori*, technologies within the same industry should be considered when the status quo technology in place for a wastestream is admittedly ineffective. The final rule itself recognizes this point. *See* 80 Fed. Reg. 67,843 ("BAT is intended to reflect the highest performance in the industry, and it may reflect a higher level of performance

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[28] We find additional support for this conclusion in *Natural Resources Defense Council v. EPA*, 808 F.3d 556 (2nd Cir. 2015), which stands for the proposition that EPA's failure to gather data on a technological option can be arbitrary and capricious in itself. *Id.* at 573-74. There, EPA studied and regulated ballast water discharges from ships. Rather than consider onshore treatment systems for ballast water, the agency limited its consideration to *shipboard* treatment systems, foreclosing any discussion on onshore treatment. *Id.* at 573. EPA later pleaded lack of data as a justification for not adopting onshore treatment systems as BAT. *Id.* The Second Circuit rejected that argument, holding that the lack of data was "a problem of EPA's own making." *Id.* at 573-74. The decision is analogous to our case. While here we do not have evidence that EPA actively sought to suppress data collection, *cf.* 808 F.3d at 573, nonetheless EPA had both the opportunity to gather data on leachate and a strong incentive to do so—namely, the recognized problems with impoundments in controlling discharge of toxic pollutants from leachate discharges. 80 Fed. Reg. 67,840.

than is currently being achieved based on technology transferred from a different category or subcategory, bench scale or pilot studies, or foreign plants." (citing *Am. Paper Inst. v. Train*, 543 F.2d 328, 353 (D.C. Cir. 1976); *Am. Frozen Food Inst. v. Train*, 539 F.2d 107, 132 (D.C. Cir. 1976))). In any event, EPA's argument ignores the fact that during notice-and-comment it *admitted* that "chemical precipitation is an available and demonstrated technology for the treatment of combustion residual leachate," based on the technology's use in treating a similar wastestream (FGD wastewater). *See EPA's Response to Public Comments*, SE05958, at 7-20.

Second, we reject the EPA's argument that its regulation is justified by the fact that leachate pollution constitutes "a very small portion of the pollutants discharged collectively by all steam power plants." 80 Fed Reg. 67,854. As already explained at step one, *supra* V.B.1, this consideration finds scant support in the statutory scheme given that the relative size of a stream is absent from the statutory BAT factors. But even assuming the statute allows the agency to consider the relative size of a pollution source in setting BAT, we find the EPA's use of that consideration here to be unreasonable.

The agency's argument involves some sleight of hand. Leachate discharges may constitute "a very small portion" of pollutants, 80 Fed Reg. 67,854, but only by comparison to *all* pollution from the *entire* steam-electric power plant industry, which is largest collective source of water pollution in the country. *Id.* at 67,839-40.[29] In an absolute sense, however, leachate pollution is not a "very small portion" of anything. If leachate were a separate

[29] After steam-electric power plants—the most polluting industry—the remaining nine industries in the top ten for water pollution are: 2) pulp, paper, and paperboard, 3) petroleum refining, 4) nonferrous metals manufacturing, 5) fertilizer manufacturing, 6) organic chemicals, plastics, and synthetic fibers, 7) ore mining and dressing, 8) inorganic chemicals manufacturing, 9) waste combustors, and 10) textile mills. *Environmental Assessment Document* No. EPA-821-R-15-006, at 3-15.

industry, it would rank as the 18th-largest source of water pollution in the United States. *See TDD*, EPA-821-R-15-007, at 10-39 (table showing toxic-weighted pollution from leachate); *Annual Effluent Guidelines Review Report*, EPA-821-R-16-002, at 2-26 (listing pollution from other industries). Leachate alone produces more toxic-weighted pound equivalents than the entire coal mining industry, according to the EPA's own records. *Id.* And EPA's brief grudgingly admits that leachate pollution "might be considered comparable" to the total amount of pollution coming from other industries such as coal mining and sugar processing. Thus, with the distortions stripped away, EPA's "argument" for its leachate regulation turns out to be a mere statement of fact, and an empty one at that. Yes, leachate pollution may form a "very small portion" of a gargantuan source of water pollution. But leachate constitutes a gargantuan source of water pollution on its own terms. Both statements are true. Neither begins to justify the agency's choice of impoundments as BAT.[30]

At oral argument, EPA conceded that it lacked discretion to ignore leachate based on its allegedly small size, instead arguing it *had* regulated leachate—*i.e.*, by setting BAT based on surface impoundments. Oral Argument Audio at 22:10-22:20. Thus we end where we began. The final rule itself tells us that surface impoundments have a poor record at controlling toxic water pollution. 80 Fed. Reg. 67,840. The agency's own comments tell us that "chemical precipitation is an available and demonstrated technology for the

[30] Additionally, we have previously rejected arguments by EPA that a certain pollution source need not be regulated because it was allegedly small or insignificant. In *API I*, 661 F.2d at 357, the EPA declined to subject a certain subcategory of wells, "stripper gas wells," to the same control standards as other wells. The agency attempted to justify its decision by claiming stripper wells were "not a large problem" (as well as claiming it lacked data, *see supra*). *Id.* We rejected both arguments, pointing to evidence of the absolute number of stripper wells—not the pollution produced by those wells relative to the entire industry—and remarking that "[s]uch figures belie EPA's contention that there exists nothing to regulate." *Id.* The absolute number of stripper wells, not their number in proportion to the total number of oil and gas wells in the country, was what mattered. We have a similar situation here.

treatment of combustion residual leachate." Faced with these concessions, we must conclude that the leachate regulation rests on an impermissible interpretation of the Clean Water Act and therefore fails *Chevron* step two.[31]

V. CONCLUSION

In the Clean Water Act, Congress afforded EPA considerable policy-making discretion to formulate rules to mitigate pollution in our nation's waters. As a price for that delegation of authority, however, the agency must engage in "reasoned decisionmaking," *Michigan v. EPA*, 135 S. Ct. at 2706, and "stay[ ] within the bounds of its statutory authority." *Utility Air Reg. Grp. v. EPA*, 573 U.S. 302, 315 (2014) (internal quotation marks and citations omitted). The regulations challenged in this case fall short of those judicially-enforceable limits on the exercise of agency discretion. We therefore conclude that the portions of the final rule regulating legacy wastewater and residual combustion leachate are unlawful. Accordingly, we vacate those portions of the rule and remand to the agency for reconsideration consistent with this opinion.

VACATED IN PART AND REMANDED.

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[31] Relying on *Association of Pacific Fisheries v. EPA*, 615 F.2d 794 (9th Cir. 1980), Intervenor UWAG argues that the leachate BAT was justified by EPA's "determination not to impose extraordinary costs on the industry for *de minimis* gains." *See id.* at 818 (holding that "at some point extremely costly more refined treatment will have a *de minimis* effect on the receiving waters"). We disagree. EPA made no such argument for its leachate BAT, and "[w]e may not supply a reasoned basis for the agency's action that the agency itself has not given." *State Farm*, 463 U.S. at 43. In any event, as we have explained, leachate is a massive pollution source in its own right. It would be arbitrary to claim the benefits of more strictly regulating it were *de minimis*, which is likely why EPA never made such an argument.