



Institute for  
**Policy Integrity**  
NEW YORK UNIVERSITY SCHOOL OF LAW

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**VIA ELECTRONIC SUBMISSION**

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Re: Proposed Effluent Limitations Guidelines and Standards for the Steam Electric Power  
Generating Point Source Category Docket ID No. EPA-HQ-OW-2009-0819

The Institute for Policy Integrity (“Policy Integrity”) at New York University School of Law<sup>1</sup> submits the following comments on the Environmental Protection Agency’s Proposed Rule<sup>2</sup> revising the technology-based effluent limitations guidelines for steam electric power generating point sources (“Proposed Rule”). The Proposed Rule revises a subset of these guidelines related to flue gas desulfurization wastewater and bottom ash transport water.

Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

Our comments focus on EPA’s flawed legal and economic justifications for the Proposed Rule. Specifically, we note the following:

1. EPA’s lopsided fixation on cost as justification to set laxer effluent limitations guidelines contravenes the Clean Water Act and is irrational, even by EPA’s own logic.
2. EPA’s grandfathering provision for boilers retiring by 2028 creates harmful incentives to delay compliance with the guidelines and is arbitrary and capricious.
3. EPA’s assessment of the Proposed Rule’s cost-benefit analysis is fundamentally flawed.

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<sup>1</sup> This document does not purport to present New York University School of Law’s views, if any.

<sup>2</sup> Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 84 Fed. Reg. 64,620 (Nov. 22, 2019) [hereinafter “Proposed Rule”].

## I. Background on the Proposed Rule

In September 2015, EPA finalized a rule,<sup>3</sup> the “2015 Rule,” establishing effluent limitations guidelines for a variety of water pollutants emitted from steam electric power generating point sources.<sup>4</sup> EPA promulgated this rule under the Clean Water Act,<sup>5</sup> which requires the agency to determine the degree of effluent control achievable for source categories according to technological standards defined by the statute.<sup>6</sup>

Among other measures, the 2015 Rule set effluent limitations based on the “best available technology economically achievable,”<sup>7</sup> and “pretreatment standards for existing sources,”<sup>8</sup> otherwise known as “BAT” and “PSES,” respectively. Both standards are established pursuant to the Clean Water Act. The BAT applies to certain pollutants discharged directly to surface water, rather than to a treatment facility.<sup>9</sup> To set the BAT, EPA must identify the “best available technology economically achievable . . . which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants.”<sup>10</sup> In determining the BAT, which, like the PSES, applies to existing sources, EPA must consider a number of factors, including:

“the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate.”<sup>11</sup>

The PSES apply to pollutants discharged into publicly owned treatment works.<sup>12</sup> EPA must establish pretreatment standards “to prevent the discharge of any pollutant through treatment works . . . which pollutant interferes [sic] with, passes through, or otherwise is incompatible with such works.”<sup>13</sup> To set the PSES, the agency typically considers the same factors it considers for the BAT.<sup>14</sup>

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<sup>3</sup> Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 80 Fed. Reg. 67,838 (Nov. 3, 2015) [hereinafter 2015 Rule].

<sup>4</sup> See Proposed Rule, 84 Fed. Reg. at 64,624 (summarizing 2015 Rule).

<sup>5</sup> 33 U.S.C. §§1251 *et seq.*

<sup>6</sup> 2015 Rule, 80 Fed. Reg. at 67,842.

<sup>7</sup> 33 U.S.C. § 1311(b)(2)(A).

<sup>8</sup> *Id.* § 1317(b); 2015 Rule, 80 Fed. Reg. at 67,841.

<sup>9</sup> 2015 Rule, 80 Fed. Reg. at 67,841.

<sup>10</sup> 33 U.S.C. § 1311(b)(2)(A).

<sup>11</sup> *Id.* § 1314(b)(2)(B).

<sup>12</sup> 2015 Rule, 80 Fed. Reg. at 67,841.

<sup>13</sup> 33 U.S.C. § 1317(b)(1).

<sup>14</sup> 2015 Rule, 80 Fed. Reg. at 67,843.

In 2017, EPA announced that the agency would delay implementation of the 2015 effluent limitations guidelines.<sup>15</sup> Through the Proposed Rule, EPA is now proposing a “relaxation” of several of the standards proposed in the 2015 Rule.<sup>16</sup>

In particular, EPA’s proposal weakens effluent limitations guidelines for 1) flue gas desulfurization wastewater and 2) bottom ash transport water.<sup>17</sup> The first process occurs because some power plants use water to flush out sulfur-dioxide-laden waste products, rather than releasing the toxic gas into the air.<sup>18</sup> The second provides a means to dispose of heavy ash particles that fall to the bottom of a furnace: Most power plants quench the ash in water, and flush the water out in what becomes bottom ash transport water.<sup>19</sup> The 2015 Rule regulated pollutants from both waste streams. The 2015 Rule set two BAT limitations for flue gas desulfurization wastewater: one BAT limitation for “total suspended solids”<sup>20</sup>—solid debris in the water<sup>21</sup>—and one BAT limitation for toxic metals like mercury, arsenic, selenium, and nitrate.<sup>22</sup> EPA also set a BAT limitation for total suspended solids from bottom ash transport water.<sup>23</sup> For plants that dispersed waste streams through sewers to publicly owned treatment works, EPA established PSES based on the same technology underlying the BAT limitations.<sup>24</sup>

To borrow EPA’s term, the Proposed Rule “relaxes” these regulations in several ways.<sup>25</sup> First, the agency proposes a laxer BAT/PSES for flue gas desulfurization wastewater in general. While the 2015 limitations were based on chemical precipitation followed by “*high* residence time reduction” biological treatment, the Proposed Rule instead sets the limitation based on chemical precipitation followed by “*low* residence time reduction,”<sup>26</sup> a “less costly”<sup>27</sup> but “more variable” means of pollution reduction.<sup>28</sup> Moreover, EPA proposes to add additional subcategories with laxer standards still. The subcategory of “high flow facilities”—those that discharge an especially high level of flue gas desulfurization wastewater—need meet standards based only on

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<sup>15</sup> Postponement of Certain Compliance Dates for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 82 Fed. Reg. 26,017 (June 6, 2017).

<sup>16</sup> Proposed Rule, 84 Fed. Reg. at 64,620.

<sup>17</sup> *Id.*.

<sup>18</sup> 2015 Rule, 80 Fed. Reg. at 67,846.

<sup>19</sup> *Id.*

<sup>20</sup> *See id.* at 67,841 (setting Total Suspended Solids BAT limitations, or “TSS,” BAT limitations for bottom ash transport water and flue gas desulfurization, “FGD,” wastewater).

<sup>21</sup> 5.8 *Total Solids*, EPA.GOV (last updated Mar. 6, 2012), <https://archive.epa.gov/water/archive/web/html/vms58.html>.

<sup>22</sup> *See* 2015 Rule, 80 Fed. Reg. at 67,841 (setting BAT limitations for these metals for FGD wastewater).

<sup>23</sup> *See id.* (setting BAT limitations for TSS in bottom ash transport water).

<sup>24</sup> *See id.* at 67,860 (“All of the technology bases for the final PSES are the same as those described for the final BAT limitations.”).

<sup>25</sup> *See* Proposed Rule, 84 Fed. Reg. at 64,620 (repeatedly referring to “relaxation” of the 2015 limitations).

<sup>26</sup> EPA, BENEFIT AND COST ANALYSIS FOR PROPOSED REVISIONS TO THE EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY ES-1 tbl. ES-1 (2019) [hereinafter BAC].

<sup>27</sup> Proposed Rule, 84 Fed. Reg. at 64,632.

<sup>28</sup> *Id.* at 64,631 n.19.

chemical precipitation,<sup>29</sup> without any subsequent treatment to remove other pollutants.<sup>30</sup> The subcategory of low utilization boilers also is required to use only chemical precipitation.<sup>31</sup> Finally, all boilers retiring by the end of 2028 must meet standards based only on surface impoundments,<sup>32</sup> a control technology that EPA previously dismissed because of its “demonstrated inability . . . to remove the pollutants of concern.”<sup>33</sup>

As an alternative to meeting these standards, the Proposed Rule continues the 2015 Rule’s “Voluntary Incentive Program,” or “VIP,” which allows facilities to delay compliance with the wastewater limitations if the facilities meet more protective standards once they do comply.<sup>34</sup> While the 2015 Rule called for standards based on evaporation technology by 2023,<sup>35</sup> the new standards call for membrane filtration,<sup>36</sup> a less costly,<sup>37</sup> but less proven technology<sup>38</sup> by December 31, 2028.<sup>39</sup>

The Proposed Rule does not leave bottom ash transport water regulations intact either. Again, the Proposed Rule weakens the overall BAT/PSES for bottom ash. While the 2015 Rule required “closed loop systems” that did not result in any pollutant discharge, the new rule requires “recycle rate systems,”<sup>40</sup> which allow discharge.<sup>41</sup> EPA also proposes new subcategories with laxer standards. “Low utilization boilers” must meet standards based only on surface impoundments and best management practices.<sup>42</sup> And boilers retiring by the end of 2028 need only meet standards based on surface impoundment technology.<sup>43</sup>

Taken together, EPA’s proposals will significantly dilute the protectiveness of the agency’s Clean Water Act regulations with respect to steam electric power generating point sources.

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<sup>29</sup> BAC at ES-1 tbl. ES-1.

<sup>30</sup> See Proposed Rule, 84 Fed. Reg. at 64,631 (discussing the purpose of low residence time reduction, or “LRTR”).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> 2015 Rule, 80 Fed. Reg. at 67,853. See also *id.* at 67,851 (providing a lengthy discussion of the multiple failures of surface impoundments to control pollution effectively).

<sup>34</sup> Proposed Rule, 84 Fed. Reg. at 64,622.

<sup>35</sup> 2015 Rule, 80 Fed. Reg. at 67,858.

<sup>36</sup> BAC at ES-1 tbl. ES-1.

<sup>37</sup> Proposed Rule, 84 Fed. Reg. at 64,634.

<sup>38</sup> See *id.* at 64,632 (“EPA could not conclude that membrane filtration is technologically available nationwide at this time.”).

<sup>39</sup> See *id.* (“[M]embrane filtration entails non-water-quality environmental impacts (associated with the management of the brine) that the EPA proposes to find unacceptable.”).

<sup>40</sup> BAC at ES-1 tbl. ES-1.

<sup>41</sup> See Proposed Rule, 84 Fed. Reg. at 64,644 (“[F]or those facilities using high rate recycle systems, the EPA proposes to allow a discharge up to 10 percent of the system volume per day on a 30-day rolling average . . .”).

<sup>42</sup> BAC at ES-1 tbl. ES-1.

<sup>43</sup> *Id.*

## **II. EPA’s Lopsided Fixation on Cost as Justification to Set Laxer Effluent Limitations Guidelines Contravenes the Clean Water Act and Is Irrational, Even by EPA’s Own Logic.**

As discussed above, for a technology to qualify as the BAT under the Clean Water Act, the technology must be the “best available technology economically achievable . . . which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants.”<sup>44</sup> Thus, EPA must determine that each BAT not only makes “reasonable further progress” toward eliminating the discharge of all pollutants, but that the technology is “best” at doing so. In addition to examining each BAT’s effects on water pollution, the agency must consider a host of other statutory factors, including cost and non-water quality environmental effects.<sup>45</sup>

Examining each proposed BAT individually, as opposed to examining a bundle of proposed BATs together, is critical to honoring the Clean Water Act. The text of the Clean Water Act makes clear that the agency is to analyze the BAT factors in “the assessment of best available technology,”<sup>46</sup> so failure to examine these factors for each BAT violates the statute. Analyzing the effects of a bundle of BAT limitations may offer insights into an overall regulatory approach, but such a method only informs the assessment of an overall regulation, not the “assessment of best available technology.” Thus, the statute’s text requires that EPA consider the BAT factors with respect to each, individual BAT.

Not only is analyzing each BAT individually statutorily required; doing so is functionally necessary. Unless the agency considers the statutory factors for each BAT individually, the agency cannot be sure each BAT is valid. A simple example illustrates this point. Imagine that EPA proposed three different BATs, each for a different subcategory of power plants. Imagine further that two of the subcategory BATs make “reasonable further progress” toward reducing water pollution, but the third BAT significantly worsens water pollution. If EPA analyzes each BAT individually, EPA will determine that the third BAT fails to make progress toward eliminating water pollution, and therefore does not qualify as BAT. But if the agency merely assesses the water pollution impact of all three BATs together without breaking out the effects of each, the agency may miss the shortcomings of the third BAT. If the other two BATs yield positive enough effects, they will mask the third BAT’s negative effects. With this after-the-fact bundled analysis, the agency would fail to consider all of the countervailing factors in determining each BAT and fail to communicate each BAT’s effects to the public. Accordingly, such an approach could lead to setting invalid BATs.

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<sup>44</sup> 33 U.S.C. § 1311(b)(2)(A).

<sup>45</sup> *Id.* § 1314(b)(2)(B).

<sup>46</sup> *Id.*

Because the Proposed Rule replaces the 2015 Rule, EPA must examine how each BAT affects the statutorily mandated factors relative to the 2015 regulation.<sup>47</sup> Thus, for any BAT the agency changes, EPA must consider not only cost relative to the 2015 Rule, but also whether the proposed BAT is the “best” for making “reasonable” progress toward total elimination of pollution, after accounting for any negative water and non-water quality effects relative to the 2015 Rule. Throughout the Proposed Rule, however, EPA focuses almost exclusively on cost to regulated industry while neglecting other statutory BAT factors. EPA discusses cost effects at the individual BAT level, but does not consider factors like effects on health or the environment at the same level. Rather, the agency only considers such effects when evaluating entire regulatory options, each of which bundles together multiple BATs. Thus, EPA provides no evidence that the agency analyzed the necessary factors for each individual BAT, nor does the agency provide the public with the necessary information to understand the effects of each BAT. As a result, the public cannot ascertain whether each proposed BAT is indeed “best” at making “reasonable further progress” toward eliminating the discharge of all pollutants.

Furthermore, EPA contradicts its own cost justifications. The agency repeatedly casts its cost concerns in terms of coal plant retirements, but elsewhere, EPA acknowledges that regulation has little effect on these retirements. These flaws are detailed here.

#### **A. EPA Illegally Focuses on Cost While Neglecting Other Statutorily Mandatory Factors to Set the BAT**

To justify its changes to the 2015 Rule, the agency cites a relative decrease in “social costs.”<sup>48</sup> This term is misleading; although EPA claims “social costs” reflect the Proposed Rule’s downsides “from the viewpoint of society as a whole, rather than the viewpoint of regulated facilities,” the term in fact reflects only industrial compliance costs, and excludes health or environmental costs associated with loosening the effluent limitations.<sup>49</sup> The Supreme Court has made clear that “‘cost’ includes more than the expense of complying with regulations; any

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<sup>47</sup> Agencies must give a “reasoned explanation” for why they are changing policy. *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009); *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126 (2016). Furthermore, preexisting policy must be built into the baseline of economic analyses. *See* OFFICE OF MGMT. & BUDGET, CIRCULAR A-4 at 15 (2003) (saying the baseline for economic analyses of regulations must be the agency’s “best assessment of the way the world would look absent the proposed action”); EPA, GUIDELINES FOR PREPARING ECONOMIC ANALYSES at 5-1 (explaining that a baseline is “the best assessment of the world absent the proposed regulation or policy action”).

<sup>48</sup> *See* Proposed Rule, 84 Fed. Reg. at 64,645 (referring to an annualized decrease in social costs of \$136.3 million using a 3% discount rate and \$166.2 million using a 7% discount rate).

<sup>49</sup> EPA’s definition of “social costs” seems inconsistent throughout the Proposed Rule. For example, in the Proposed Rule itself, EPA says that “[s]ocial costs are the costs of the proposed rule from the viewpoint of society as a whole, rather than the viewpoint of regulated facilities,” which would presumably include health and environmental harms caused by the Proposed Rule relative to the 2015 Rule. 84 Fed. Reg. at 64,645. But on the same page, EPA defines social costs as including only “costs incurred by private entities and the government.” *Id.* Then EPA says “the only category of costs used to calculate social costs are those pre-tax costs estimated for steam electric facilities.” *Id.* Thus, EPA’s “social costs” in fact narrowly refer to industry compliance costs and do not represent all costs “to society as a whole.”

disadvantage could be termed a cost.”<sup>50</sup> Such disadvantages include “harms that regulation might do to human health or the environment.”<sup>51</sup> Because EPA’s use of the term “social costs” is misleading, this comment refers to such costs as “compliance costs.” The agency should do so as well. Of the four regulatory options EPA evaluated, the agency proposes to choose the option with the lowest compliance costs for industry.<sup>52</sup>

For each of its proposed regulatory changes, EPA cites cost as the motivating factor but then fails to consider cost relative to the health and environmental harms associated with each change. This failure constitutes a violation of the Clean Water Act. Furthermore, courts have repeatedly rejected such lopsided analysis, which arbitrarily focuses on some costs while failing to consider forgone benefits.<sup>53</sup> The Administrative Procedure Act requires “balanced consideration” of the “impact[s] of any [regulatory] action,”<sup>54</sup> which EPA violates by “put[ting] a thumb on the scale”<sup>55</sup> and fixating on compliance cost while neglecting health and environmental effects.

### **1. Flue Gas Desulfurization Wastewater BAT/PSES**

For the flue gas wastewater BAT, EPA justifies its switch from high residence time reduction to low residence time reduction by citing \$72 million in annual savings for industry.<sup>56</sup> The agency acknowledges that more toxic selenium will be released as a result and that the proposed BAT’s performance is more variable than the 2015 BAT,<sup>57</sup> but claims that the “long-term averages” for the two technologies are similar.<sup>58</sup> Nowhere, however, does EPA discuss quantitatively or qualitatively what the health or environmental effects of higher spikes in selenium will be.

Before selecting the BAT, EPA must consider not only cost relative to the 2015 Rule, but also the other statutorily required factors relative to the 2015 Rule. If these short-term spikes in toxic selenium have no health or environmental impact, EPA must say so and explain why it believes

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<sup>50</sup> *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015).

<sup>51</sup> *Id.*; *see also* *Competitive Enter. Inst. v. Nat’l Highway Traffic Safety Admin.*, 956 F.2d 321, 326–27 (D.C. Cir. 1992) (holding that the agency should have considered costs in the form of safety risks associated with the smaller size of more fuel-efficient cars).

<sup>52</sup> EPA, REGULATORY IMPACT ANALYSIS FOR PROPOSED REVISIONS TO THE EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY 3-7 (2019) [hereinafter RIA].

<sup>53</sup> *See, e.g.*, *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148-49 (D.C. Cir. 2011) (chastising agency for “inconsistently and opportunistically fram[ing] the costs and benefits of the rule [and] fail[ing] adequately to quantify the certain costs or to explain why those costs could not be quantified”); *Pub. Citizen, Inc. v. Mineta*, 340 F.3d 39, 58 (2d Cir. 2003) (holding that a rule “that does not explain why the costs saved were worth the benefits sacrificed” is arbitrary and capricious”); *Make the Road New York v. McAleenan*, No. 19-CV-2369 (KBJ), 2019 WL 4738070, at \*36 (D.D.C. Sept. 27, 2019) (finding regulation irrational because DHS considered the upsides of its regulation but not the environmental downside of flooding); *California v. BLM*, 277 F. Supp. 3d 1106, 1123 (N.D. Cal. 2017) (agencies impermissibly considered only “one side of the equation” by calculating benefits and ignoring costs).

<sup>54</sup> *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1221 (5th Cir. 1991) (internal quotation marks omitted).

<sup>55</sup> *Ctr. for Biol. Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008).

<sup>56</sup> Proposed Rule, 84 Fed. Reg. at 64,632.

<sup>57</sup> *Id.* at 64,631–32.

<sup>58</sup> *Id.* at 64,631.

that to be true. Because EPA provides no information about these effects relative to the 2015 Rule, the agency violates its statutory obligation to consider whether its proposed BAT for flue gas desulfurization wastewater is truly “best” at making progress toward eliminating pollution. EPA’s approach also results in an arbitrarily lopsided analysis of the BAT, which impermissibly stresses compliance costs while neglecting forgone health and environmental benefits.

## 2. New Subcategories

EPA’s justifications for new subcategories for flue gas desulfurization wastewater and bottom ash transport water also rely on cost to the exclusion of other factors. EPA’s entire justification for setting a separate subcategory for high flow facilities depends on one power plant in Cumberland, Tennessee, which evidently produces “an order of magnitude” more flue gas desulfurization wastewater than “other units with comparable generation capacity.”<sup>59</sup> The plant is unable to recycle its wastewater because the plant’s system is constructed with a steel alloy susceptible to corrosion.<sup>60</sup> Thus, EPA says, “the cost of a biological treatment system would be high,” and “[p]assing these disparately higher costs on to consumers would likely put the facility at a competitive disadvantage with other coal-fired facilities.”<sup>61</sup> The agency therefore proposes a subcategory with laxer standards for high flow facilities.

EPA’s decision to create a new subcategory based on one high-polluting plant is unsupported.<sup>62</sup> First, if the Cumberland plant indeed releases significantly more polluting wastewater than industry standard to produce the same amount of energy, then the plant is likely not competitive and should not provide the benchmark for the “best” way to make “reasonable further progress” toward eliminating pollutants. Second, even if the Cumberland plant did not perform so poorly, it is unclear why EPA believes one plant’s specific needs justify an entirely new subcategory. The agency makes no claim that the Cumberland plant is representative of a broad set of plants; nor does the agency suggest that the Cumberland plant is critical for energy reliability reasons. On the contrary, EPA’s worry about competitiveness suggests that other power-producing competitors are ready to step in and serve consumers. For these reasons, the agency’s decision to set a subcategory based on the report of one high-polluting plant is unsupported, violates the Clean Water Act, and is arbitrary and capricious.

EPA’s analysis further violates the Clean Water Act by failing to quantitatively or qualitatively discuss the effects of setting laxer standards for plants that produce above-average amounts of polluting wastewater. Because such plants produce more waste than is typical for the industry, relaxing the BAT for these plants will have an especially significant effect on the ability of EPA to comply with its statutory mandate to make progress toward eliminating pollution discharge. Instead of considering or explaining these effects, the agency focuses only on the changes to

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<sup>59</sup> *Id.* at 64,638.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> See *American Paper Institute v. Train*, 543 F.2d 328, 353 (C.A.D.C. 1976) (analyzing whether EPA’s choice of technology standard had adequate enough record support to avoid being arbitrary and capricious).



compliance costs. Thus, the agency violates its statutory obligation to consider whether its proposed BAT for high flow facilities is truly “best” at making progress toward eliminating pollution, or whether the BAT has an unacceptable “non-water quality environmental impact.”

Similarly, in establishing the subcategory for low utilization plants, EPA endorses laxer standards by explaining that many coal plants do not operate at full capacity because of low natural gas prices, and that meeting the 2015 limitations would make such plants “increasingly uncompetitive.”<sup>63</sup> The agency further considers the effect of laxer standards on energy requirements, and asserts that continued operation of low utilization boilers would be “useful, if not necessary.”<sup>64</sup> However, EPA nowhere accounts for the environmental harm that the continued operation of such plants might cause—from a water pollution perspective, an air pollution perspective, or a climate change perspective.

Nor does the agency account for the possibility of inaccurate reporting by power plants that operate beyond their reported levels and thus pollute at higher levels. The low utilization boiler subcategory is explicitly conditioned not on a boiler’s capacity, but rather on a boiler’s utilization, averaged over two years.<sup>65</sup> To get utilization information, EPA must rely on reporting by facilities.<sup>66</sup> This could lead to additional health and environmental harms for a couple of reasons. First, some facilities might understate boiler utilization to qualify for this subcategory. If boilers receiving the subcategory’s laxer standards are actually used more than the regulatory cut-off, then the resulting pollution will also be greater than the regulation predicts, assuming 100% accurate reporting. Second, as EPA acknowledges in another context,<sup>67</sup> boiler use can change suddenly, so a boiler with a low average rate for two years might have a higher use rate in the third year. The subcategory is structured in a way that allows such a boiler to operate at the higher utilization rate while taking advantage of laxer standards theoretically reserved for low utilization plants.<sup>68</sup> Because the boiler must report its utilization only annually, and must then report only two year averages, a boiler in the low utilization subcategory that is actually used at a high rate would be able to exploit laxer standards for at least a year, if not longer. EPA should take these possibilities into account in selecting the BAT and address the likely effects on health and the environment.

In sum, EPA should consider and communicate the expected health and environmental effects of setting a laxer subcategory for low utilization boilers. Furthermore, that analysis should take into account the possibility of inaccurate or unrepresentative reporting upon which the subcategory depends. Again, the agency violates its statutory obligation to consider whether its proposed BAT for low utilization boilers is truly “best” at making progress toward eliminating the

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<sup>63</sup> Proposed Rule, 84 Fed. Reg. at 64,638–39.

<sup>64</sup> *Id.* at 64,639.

<sup>65</sup> *See id.* at 64,665–66 (discussing how facilities qualify for and maintain subcategory status).

<sup>66</sup> *Id.*

<sup>67</sup> *See id.* (finding a two-year average necessary because a shorter average might be skewed by “a single extreme demand event in one year”).

<sup>68</sup> *See id.* at 64,666 (requiring the facility to report updated two-year averages annually, allowing plants to operate for a year at a higher utilization rate).

discharge of all pollutants, or whether the BAT has an unacceptable “non-water quality environmental impact.”

Finally, EPA justifies its “retiring by 2028” subcategory by claiming that less costly standards will avoid burdening utilities with “stranded assets” and will forestall premature facility retirements.<sup>69</sup> Yet again, EPA does not consider the health or environmental costs of this individual BAT decision. This omission is especially significant because a laxer BAT will not only increase pollution during the operation of these boilers, but will also, according to EPA, increase the amount of time these boilers operate<sup>70</sup> and thus extend the boilers’ contribution to water pollution, air pollution, and climate change. Again, the agency violates its statutory obligation to consider whether its proposed BAT for boilers retiring by the end of 2028 is truly “best” at making progress toward eliminating the discharge of all pollutants, or whether the BAT has an unacceptable “non-water quality environmental impact.”

For all of its subcategory BAT limitations, EPA violates the Clean Water Act. The agency also engages in an impermissibly lopsided analysis that emphasizes the Proposed Rule’s effects on compliance costs while neglecting forgone benefits.

### **3. Proposed Overall BAT/PSES for Bottom Ash Transport Water**

EPA sets laxer standards for bottom ash transport water because the agency claims that requiring facilities with partially closed systems to switch to fully closed systems would be costly. “While some facilities have controlled or eliminated these challenges with relatively straightforward steps,” says EPA, other plants may require “more extensive process changes and associated increased costs.”<sup>71</sup> The agency “does not find this higher cost to be economically unachievable,” but considers this cost “an additional reason for the EPA not to select closed loop systems as BAT.”<sup>72</sup> As a result, the agency selects as the BAT a “high recycle rate system” that allows daily discharge of polluting transport water.<sup>73</sup>

Yet EPA fails to quantitatively or qualitatively discuss the effects this individual BAT change will have on reasonable progress toward “eliminating the discharge of all pollutants,” or the change’s “non-water quality environmental impact.” By ignoring the likely pollution increase resulting from this change and fixating only on cost, EPA fails the Clean Water’s statutory mandate. The agency also engages in an impermissibly lopsided analysis that emphasizes the Proposed Rule’s effects on compliance costs while neglecting forgone benefits.

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<sup>69</sup> *Id.* at 64,640.

<sup>70</sup> *See id.* (justifying the decision in terms of avoiding the result of facilities “bring[ing] their projected retirement dates forward”).

<sup>71</sup> *Id.* at 64,635.

<sup>72</sup> *Id.*

<sup>73</sup> *Id.* at 64,636.

#### **4. EPA’s Cost-Benefit Analysis of Regulatory Options Does Not Cure Its Failure to Consider Factors for Each BAT**

Although EPA considers the health and environmental effects of four different regulatory alternatives,<sup>74</sup> this consideration does not cure the agency’s failure to consider the statutorily mandatory factors associated with setting the BAT. As discussed above, the Clean Water Act requires EPA to consider a list of factors when setting each BAT. Rather than consider those required factors, in the Proposed Rule, EPA neglects health and environmental effects when setting individual BAT limitations and then combines these different BAT limitations together in four different regulatory alternatives. Only then does EPA examine the health or environmental effects of each option. This approach is insufficient, because the effects of some BAT limitations may mask the effects of others.

In choosing each BAT, EPA should evaluate not only a technology’s effects on compliance costs relative to the 2015 Rule, but also the technology’s health and environmental protections relative to the 2015 Rule. Without doing so, EPA has no way of knowing whether a particular technology is in fact the “best” for making “reasonable” progress toward eliminating pollutants, as the Clean Water Act requires. Under EPA’s current approach, it is impossible to know which BAT changes are driving the results—positive or negative—for each regulatory alternative. EPA gives no indication that the agency analyzed each BAT individually, nor does the agency provide the public with the means to do so.

This approach not only defies EPA’s statutory obligation, but also could lead to harmful policy outcomes. Bundling several BAT limitations together and examining them only after the fact could disguise low-performing BAT standards. One technology might fail to make any progress toward eliminating pollution, or worse still, could exacerbate pollution, and thus should not qualify as BAT. If EPA considered the environmental effects of each BAT individually, EPA could weed out low-performing BAT limitations and ensure that each BAT is indeed “best.” But such harmful effects might not stand out if masked by other more effective BAT standards combined in the same regulatory option. In fact, as discussed further in Part IV, it seems likely that all of the health and environmental effects of the various BAT/PSES changes to the Proposed Rule are being masked by effects caused by the voluntary incentives program. Because EPA could so easily evaluate BAT/PSES individually, and such an analysis is necessary to evaluate each BAT limitation accurately, the agency’s failure to do so is arbitrary and capricious.

For all of the above reasons, EPA’s lopsided fixation on cost in setting BAT/PSES limitations guidelines violates the Clean Water Act as well as the reasoned decisionmaking required by the Administrative Procedure Act.

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<sup>74</sup> See BAC ES-2 to ES-3 (showing tables with “total annualized benefits” of the Proposed Rule).

## B. EPA's Fixation on Cost Is Irrational, Even by the Agency's Own Logic

To the extent EPA attempts to explain its narrow focus on compliance cost, the agency undermines its own justification.

EPA casts its concern with compliance costs in terms of avoiding premature facility retirements. When discussing the market conditions of the electricity generation sector, for example, EPA stresses that “negative distributional effects can be particularly difficult for communities affected by company decisions to scale back or retire a facility.”<sup>75</sup> As detailed above, to justify its new subcategories for high flow facilities and low utilization boilers, the agency emphasizes that the 2015 Rule put such plants at a competitive disadvantage that could result in closures.<sup>76</sup> To explain the new subcategory for boilers retiring by 2028, the agency cites data from “the North American Electric Reliability Corporation [which] recently conducted an aggressive stress test scenario identifying the reliability risks if large baseload coal and nuclear facilities were to bring their projected retirement dates forward.”<sup>77</sup> The implication throughout the Proposed Rule is that laxer standards will prevent premature facility retirements.

Yet EPA's own analyses belie the claim that this Proposed Rule will have a meaningful effect on plant retirements; the evidence shows that the plants will retire anyway. EPA notes that the “lower cost of natural gas and technological advances in solar and wind power have had a depressive effect” on coal plants.<sup>78</sup> Elsewhere in the Proposed Rule, EPA notes that “the most frequently stated reason” for facility and boiler retirements is “market forces, such as the continued low price of natural gas.”<sup>79</sup> In its Regulatory Impact Analysis, the agency cites a study finding that 92% of decline in coal production can be explained by the decrease in natural gas prices, while environmental regulations account for only 6% of the decline.<sup>80</sup> Perhaps most tellingly of all, EPA's own cost projections predict that the Proposed Rule would yield minimal change for the rate of coal plant retirement relative to the 2015 Rule.<sup>81</sup>

Thus, the Proposed Rule is internally inconsistent about whether the changed regulations can be expected to meaningfully prevent retirements. The Courts have found that agencies may not rely on internally inconsistent arguments without explanation to support a regulation.<sup>82</sup> Such reliance,

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<sup>75</sup> Proposed Rule, 84 Fed. Reg. at 64,626.

<sup>76</sup> *Id.* at 64,638–39.

<sup>77</sup> *Id.* at 64,640.

<sup>78</sup> *Id.* at 64,626.

<sup>79</sup> *Id.* at 64,640.

<sup>80</sup> RIA at 2-10.

<sup>81</sup> *Id.* at 5-6 to 5-8.

<sup>82</sup> *Encino Motorcars, LLC v. Navarro*, 579 U.S. —, 136 S. Ct. 2117, 2126 (2016); *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) (“Unexplained inconsistency is . . . a reason for holding an interpretation to be an arbitrary and capricious change.”); *Gen. Chem. Corp. v. United States*, 817 F.2d 844, 857 (D.C. Cir. 1987) (deeming agency conclusion arbitrary and capricious where supporting analysis was “internally inconsistent”).

according to the Supreme Court, is arbitrary and capricious.<sup>83</sup> To the extent EPA attempts to use the specter of facility retirement as justification for its lax standards, the justification fails.

### **III. EPA’s Grandfathering Provision for Boilers Retiring by 2028 Creates Harmful Incentives to Delay Compliance with the Guidelines and Is Arbitrary and Capricious.**

The Proposed Rule allows boilers retiring by the end of 2028 to continue using surface impoundments as the BAT/PSES for flue gas desulfurization wastewater and bottom ash transport water,<sup>84</sup> rather than meeting the effluent limitations guidelines prescribed for the category as a whole. The agency also solicits comments on providing the same extension to “boilers that are planned to be repowered or replaced by 2028.”<sup>85</sup>

The grandfathering provision is unjustified, and EPA has not provided an adequate justification for the harms that it will cause. Legal and economic scholars have long recognized that stringently regulating new sources of pollution while exempting existing sources—a regulatory practice commonly known as “grandfathering”—can perversely encourage those existing sources to stay in operation longer than they otherwise would, lead to adverse environmental consequences, and impair social welfare.<sup>86</sup> Academics call this distortion of retirement decision the “old plant effect.”<sup>87</sup> One well-known example of this effect is provided by the Clean Air Act of 1970, which set laxer standards for existing sources of pollution than for new sources.<sup>88</sup> This age-based bifurcation encouraged facility owners to continue operating old plants, rather than replacing them with new plants subject to stricter environmental standards.<sup>89</sup> Although prior to the Clean Air Act’s passage, the economically useful life of a coal plant was considered to be thirty years, by 2012, more than three quarters of the nation’s plants had been operating for longer.<sup>90</sup> Forty percent of the plants were more than 40 years old, and 20 percent were more than 50 years old.<sup>91</sup> These old plants account for a disproportionate share of the nation’s pollutants, in some cases emitting two-to-four times as much pollution as newer sources.<sup>92</sup>

The Proposed Rule falls victim to the classic problems associated with grandfathering. As discussed in Part II.B above, by EPA’s own account, there is reason to doubt that the Proposed

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<sup>83</sup> *Encino Motorcars*, 136 S. Ct. at 2126 (“[A]n ‘unexplained inconsistency’ in agency policy is ‘a reason for holding an interpretation to be an arbitrary and capricious change from agency practice.’”) (internal quotation omitted).

<sup>84</sup> Proposed Rule, 84 Fed. Reg. at 64,640–41.

<sup>85</sup> *Id.* at 64,641.

<sup>86</sup> See RICHARD L. REVESZ & JACK LIENKE, STRUGGLING FOR AIR: POWER PLANTS AND THE “WAR ON COAL” 30-35 (2016); see also Richard L. Revesz & Allison L. Westfahl Kong, *Regulatory Change and Optimal Transition Relief*, 105 NW. U. L. REV. 1581 (2011); Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation: The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1677 (2007).

<sup>87</sup> See Nash & Revesz, *supra* note 86, at 1708.

<sup>88</sup> REVESZ & LIENKE, *supra* note 86, at 30–33.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* at 33.

<sup>91</sup> *Id.*

<sup>92</sup> See *id.* (comparing emission rates, as of 2002, of plants built before 1971 to those built during and after that year and to those built after 1978).

Rule will meaningfully prevent plant retirements. But if the grandfathering provision achieves its stated purpose, this provision will encourage old boilers that would otherwise retire within the coming years because of compliance costs to continue operating until at least 2028. This allows such boilers to continue polluting at high rates for a longer period of time. Rather than repowering or replacing boilers earlier with newer, more efficient models, facilities would have incentive to wait until 2028 to make such replacements, again prolonging the public's exposure to high-polluting boilers.

But even more troublingly, this grandfathering policy has no penalties built in for boilers or facilities that do not in fact retire by 2028, but instead “withdraw” their plans to retire and continue operating. This is a critical omission, because plant owners commonly claim they will retire plants or boilers and then renege if conditions change. In fact, EPA acknowledges in the Proposed Rule that there are “several instances when facilities have withdrawn or delayed retirement announcements for coal-fired boilers and facilities.”<sup>93</sup>

EPA deals with the possibility of continued operation in two ways. For plants that continue operating involuntarily—because of regional energy requirements, for example—EPA provides a “savings clause” that allows the plants to continue operating.<sup>94</sup> As for plants that continue operating voluntarily beyond 2028, EPA's Proposed Rule includes no savings clause, but also no penalties.<sup>95</sup>

The agency's approach to plants that decide not to retire after all falls short in two critical ways. First, if EPA deems such an outcome enough of a possibility to require a savings clause to protect noncompliant industry, then EPA should also account for the possibility that plants will remain in operation when considering what effects the grandfathering clause will have on health and the environment relative to the 2015 Rule. Continued operation of highly polluting plants beyond 2028, whether involuntary or not, will adversely affect human health and the environment through water pollution and through non-water quality environmental impacts. But EPA's current analysis of the Proposed Rule's health and environmental effects makes no mention of plants that remain in operation and thus fails to account for them.<sup>96</sup>

Second, EPA's failure to set penalties for plants that voluntarily remain in operation creates strong incentives for facility operators to claim boilers will retire and then renege at the end of 2028. If a facility operator has a plausible claim that a boiler will retire, the operator can exploit the lax standards associated with the retirement subcategory until 2028, and then withdraw from retirement and move to compliance beginning in 2029. Such plants have no reason to begin complying earlier with more costly pollution controls if the operator can get away with delaying for eight years. This loophole could considerably decrease the number of plants that comply with the Proposed Rule's overall BAT/PSES for flue gas desulfurization wastewater and bottom ash transport water. In fact, because the subcategory for retiring boilers receives such lax treatment, even boilers that qualify for EPA's other proposed lax subcategories have an incentive to opt into

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<sup>93</sup> *Id.* at 64,666.

<sup>94</sup> *Id.*

<sup>95</sup> Proposed Rule, 84 Fed. Reg. at 64,666.

<sup>96</sup> *See generally* BAC.

the retirement subcategory and then withdraw. Such perverse incentives will eviscerate the protections of EPA’s already lax Proposed Rule.

Along similar lines, the grandfathering provision significantly decreases the appeal of the “voluntary incentive program,” or “VIP.” The VIP allows plants to delay compliance with limits for flue gas desulfurization wastewater until the end of 2028 if plants then enact stricter limitations than the default BAT/PSES. In calculating the health and environmental effects of the Proposed Rule relative to the 2015 Rule, the agency assumes that a large number of facilities will opt into the VIP.<sup>97</sup> According to EPA estimates, VIP participation will account for a reduction in wastewater pollutants of 105 million pounds per year.<sup>98</sup> But such results will come to pass only if facilities do, in fact, opt into the VIP. And the grandfathering provision makes the option significantly less attractive.

The grandfathering provision should be removed because it sets up incentives that will undermine the effectiveness of the Proposed Rule as well as the goals of the Clean Water Act.

#### **IV. EPA’s Assessment of the Proposed Rule’s Cost-Benefit Analysis Is Fundamentally Flawed.**

EPA claims that the Proposed Rule’s benefits will outweigh its costs, relative to the 2015 Rule.<sup>99</sup> This assertion, however, is based on a mix of crucial assumptions that are either inaccurate or unexplained.

To evaluate the costs and benefits of the Proposed Rule, EPA considers the compliance costs of the Proposed Rule relative to the 2015 Rule, and the health and environmental benefits of the Proposed Rule relative to the 2015 Rule. Unsurprisingly, the Proposed Rule requires lower compliance costs than the 2015 Rule required, yielding compliance cost savings of \$146.5 million annually using a 7% discount rate, according to EPA.<sup>100</sup> More counterintuitively, however, EPA also claims that the Proposed Rule will realize health and environmental benefits relative to the 2015 Rule, ranging from \$28.4 million to \$74.4 million annually, again using a 7% discount rate.<sup>101</sup>

This improbable result—that a rule slashing environmental standards will increase health and environmental benefits—is achieved through a variety of flawed assumptions.

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<sup>97</sup> See Proposed Rule, 84 Fed. Reg. at 64,620 (“EPA also believes that participation in the voluntary incentive program would further reduce the pollutants that these steam electric facilities discharge in flue gas desulfurization wastewater by approximately 105 million pounds per year.”); see also *id.* at 64,637 (“Under Option 2, the EPA estimated that 18 plants (27 percent of plants estimated to incur FGD compliance costs) may opt into the VIP program.”).

<sup>98</sup> Proposed Rule, 84 Fed. Reg. at 64,620.

<sup>99</sup> See *id.* at 64,622 (summarizing the decrease in “social costs” and increase in “benefits” relative to a baseline reflecting the 2015 Rule).

<sup>100</sup> RIA at ES-2.

<sup>101</sup> BAC at 11-3.

### **A. EPA Undervalues the Proposed Rule’s Forgone Benefits Associated with Climate Change**

To begin, EPA downplays the effect the rule will have upon climate change. The agency acknowledges that relaxing the compliance costs for coal may affect the nation’s “electricity generation profile,” increasing the amount of energy contributed by coal as compared to the 2015 Rule.<sup>102</sup> This change, in addition to projected energy use changes, will lead to an increase in carbon dioxide emissions,<sup>103</sup> EPA predicts. In the words of the agency, carbon dioxide “is the most prevalent of the greenhouse gases, which are air pollutants EPA has determined endangers public health and welfare through their contribution to climate change.”<sup>104</sup>

Because the 2015 Rule was projected to reduce carbon dioxide emissions relative to the Proposed Rule, the increased emissions represent a forgone benefit that cuts against adopting EPA’s proposed regulation. But the agency severely understates the value of this forgone benefit.<sup>105</sup> The agency predicts that the Proposed Rule will result in \$5.2 million to \$31.6 million in annual forgone climate-related benefits, depending on the discount rate.<sup>106</sup> If properly valued, these forgone benefits would be much greater. For further discussion of this issue, see Policy Integrity’s separate comments on the social cost of carbon, filed jointly with several other organizations.<sup>107</sup>

### **B. EPA Irrationally Assumes VIP Benefits Will Outweigh the Negative Health and Environmental Effects of the Proposed Rule**

Climate impact is not the only area in which the Proposed Rule produces significant forgone benefits relative to the 2015 Rule. In fact, the Proposed Rule performs worse on virtually every environmental and health metric EPA examined. Of the 14 water pollutants the rule is supposed to regulate, the Proposed Rule increases the annual release of 13.<sup>108</sup> The Proposed Rule will also increase IQ losses in children exposed to mercury.<sup>109</sup> Dredging costs will increase under the Proposed Rule<sup>110</sup> because of an increase in total suspended solids discharged by power plants to national waterways.<sup>111</sup> And these poor results apply only to forgone benefits the agency attempts to quantify; other environmental impacts, like harms to endangered species, EPA only qualitatively describes,<sup>112</sup> though the results are also dismal.<sup>113</sup>

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<sup>102</sup> *Id.* at 8-1.

<sup>103</sup> *Id.* at 8-9.

<sup>104</sup> *Id.* at 8-1.

<sup>105</sup> *See id.* at 8-6 to 8-7 (discussing value of the social cost of carbon and arriving at very low values).

<sup>106</sup> *Id.* at 8-9.

<sup>107</sup> Inst. for Pol’y Integrity et al., Comment Letter on Flawed Monetization of Forgone Benefits in the Proposed Rule, Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category (Jan. 21, 2020).

<sup>108</sup> *See id.* at 3-6 (displaying “total” annual average changes in discharge relative to the baseline for Option 2).

<sup>109</sup> *Id.* at ES-2.

<sup>110</sup> *Id.*

<sup>111</sup> *Id.* at 10-1.

<sup>112</sup> *See id.* at 7-6 (describing the inability to quantify or monetize these harms).

<sup>113</sup> *See id.* (showing 27 threatened and endangered species whose habitats may be adversely affected by the Proposed Rule, compared to zero such species under the 2015 Rule).



Given all these harms, EPA’s claim that the Proposed Rule will yield net health and environmental benefits relative to the 2015 Rule evidently rests entirely on one change: a new limitation for bromide that EPA has introduced as part of the “voluntary incentive program, or “VIP.”<sup>114</sup> The only health benefit the agency predicts from the Proposed Rule, relative to the 2015 Rule, is a decrease in bladder cancer resulting from decreased bromide exposure.<sup>115</sup> EPA values this benefit as \$24.41 to \$37.61 million annually, depending on the discount rate.<sup>116</sup> This ostensible benefit is large enough to cancel out the negative human health effects of other aspects of the Proposed Rule and results in a supposed net benefit to human health of \$23.6 to \$34.8 million annually, relative to the 2015 Rule.<sup>117</sup>

The agency couples this benefit with a supposed increase in “ecological conditions and recreational uses” of \$14.3 million to \$16.7 million annually.<sup>118</sup> Because this value is based on the estimated household’s willingness to pay for water quality,<sup>119</sup> this benefit presumably also derives from the expected decrease in bromide release. The Proposed Rule decreases the quality of water with respect to every other type of pollutant, so the only reason the willingness to pay could possibly be higher for the Proposed Rule relative to the 2015 Rule is a lower bromide level. Taken together, the human health benefits and ecological condition benefits associated with bromide reduction allow EPA to claim the Proposed Rule yields net health and environmental benefits relative to the 2015 Rule,<sup>120</sup> notwithstanding all of the metrics upon which the Proposed Rule performs poorly relative to the prior regulation.

Thus the Proposed Rule’s benefits all depend on EPA’s rosy assumption that 18 facilities will opt into the VIP.<sup>121</sup> This has three important consequences:

First, because VIP controls are not triggered until the end of 2028, all of the health and environmental effects of the Proposed Rule are likewise delayed. Indeed, EPA acknowledges that measuring “average annual [benefits] instead of a year-by-year profile masks potential transitional effects of the regulatory options, including temporary increases in [pollution] relative to the 2015 final rule.”<sup>122</sup> EPA does not discuss what the health and environmental effects of this period of heavier pollution might be. Moreover, EPA does not seem to acknowledge or consider that, outside of the VIP, all of the agency’s proposed BAT/PSES limitations lead to significant health and environmental forgone benefits relative to the 2015 Rule. EPA is required to address the forgone benefits of delaying these protections.<sup>123</sup> The agency must examine the effects of delaying health and environmental benefits until the end of 2028 and explain why BAT/PSES

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<sup>114</sup> See *id.* at 3-6 (showing bromide as the only pollutant whose totals are expected to decrease under the Proposed Rule relative to the 2015 Rule).

<sup>115</sup> See *id.* at ES-2 & 4-18 (providing total health benefits and total annual benefits of decreased bladder cancer, respectively).

<sup>116</sup> *Id.* at 4-18.

<sup>117</sup> *Id.* at ES-2 to ES-3.

<sup>118</sup> See *id.* at ES-2 to ES-3 (showing the mid value for option 2 for a 3% and 7% discount rate).

<sup>119</sup> *Id.* at 6-3.

<sup>120</sup> *Id.* at ES-2.

<sup>121</sup> *Id.* at 2-1.

<sup>122</sup> *Id.* at 3-3.

<sup>123</sup> *Air Alliance Houston v. EPA*, 906 F.3d 1049, 1068 (D.C. Cir. 2018).

limitations that yield no such benefits are “best” at making “reasonable further progress” toward eliminating pollutants.

This shortcoming reveals a second flaw in EPA’s analysis. Just as EPA should analyze the statutory BAT factors at the individual BAT level, the agency should conduct cost-benefit analyses at the individual BAT level. The reasons are similar: Just as the positive effects of one BAT may mask the negative effects of another BAT, so too may the costs or benefits of one BAT mask those of another. Thus, EPA should conduct a cost-benefit analysis for each BAT, rather than conducting a cost-benefit analysis for each regulatory option, which bundles BAT limitations with the VIP. Otherwise, the agency may set BATs that yield more forgone benefits than they save in compliance costs. Setting a BAT with forgone benefits that outweigh compliance cost savings is arbitrary and capricious.<sup>124</sup>

Third, because bromide reductions are triggered only by enrollment in the VIP, if EPA’s prediction overstates the number of facilities that will voluntarily opt into more stringent standards by the end of 2028, then EPA overstates the bromide-related benefits of the Proposed Rule. Accordingly, understanding the agency’s basis for projecting VIP enrollment is critical to evaluating the reasonableness of EPA’s projected benefits, and the cost-benefit analysis of the Proposed Rule over all.

But EPA provides no explanation of its methodology. The agency claims that its prediction assumes 18 plants will find it more cost-effective to opt into the VIP instead of following the default effluent limitations guidelines.<sup>125</sup> But neither the Proposed Rule, nor the Regulatory Impact Statement, nor the Benefit and Cost Analysis, nor the Technical Support Document, nor the ERG Memorandum on changes to industry profile discusses in any detail how the agency arrived at this number.<sup>126</sup>

Furthermore, it is speculative that plants will opt into the VIP program. Because EPA is significantly relaxing the default BAT/PSES limitations guidelines for the overall power plant category and for subcategories, it is not intuitive that facilities would opt into the VIP program as a more affordable alternative. Moreover, as discussed in Part III, the grandfathering provision significantly decreases the appeal of the VIP program. If facilities can delay compliance until the end of 2028 and then meet default standards under the grandfathering provision, it is unclear why facilities would instead choose to delay compliance until the end of 2028 and meet more demanding standards under the VIP provision. Thus, EPA likely greatly overestimates the bromide benefits associated with the Proposed Rule.

In sum, EPA significantly understates the forgone benefits associated with switching from the 2015 Rule to the Proposed Rule. EPA undervalues the social cost of carbon and thus underestimates the Proposed Rule’s climate impacts. And the only benefits associated with the

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<sup>124</sup> Nat’l Ass’n of Home Builders v. EPA, 682 F.3d 1032, 1040 (D.C. Cir. 2012) (saying a “serious flaw undermining” the agency’s cost-benefit analysis “can render the rule unreasonable”).

<sup>125</sup> BAC at 3-3

<sup>126</sup> See generally Proposed Rule; BAC; EPA, SUPPLEMENTAL TECHNICAL DEVELOPMENT DOCUMENT FOR PROPOSED REVISIONS TO THE EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY (2019); RIA; ERG, Changes to Industry Profile for Coal-Fired Generating Units for the Steam Electric Effluent Guidelines Proposed Rule – DCN SE07207 (2019).

Proposed Rule rely on unjustified assumptions about enrollment in the VIP and likely overstate the program's benefits. If the Proposed Rule's forgone benefits were correctly valued, they would likely outweigh the decreased compliance costs associated with the Proposed Rule, demonstrating how unjustified the Proposed Rule is.

## **V. Conclusion**

In its analysis supporting the Proposed Rule, EPA falls short of its statutory mandate to protect humans and the environment under the Clean Water Act. The agency illegally and irrationally fixates on cost while neglecting other statutorily mandated factors. The agency proposes a grandfathering provision that will undermine the goals of the Clean Water Act and the purported goals of its own regulation even further. And the agency relies on a flawed cost-benefit analysis to justify the change. Before taking further action on this proposal, EPA should address these errors to avoid violating the Clean Water Act and producing an arbitrary and capricious regulation.

Respectfully,

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