

No. 15-60821

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT**

**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; GINA
MCCARTHY, in her official capacity as Administrator of the United States
Environmental Protection Agency,**

Respondents.

Petitions for Review of an Order of the Environmental Protection Agency

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CERTIFICATE OF INTERESTED PERSONS

The undersigned counsel of record certifies that the following listed persons and entities as described in the fourth sentence of Rule 28.2.1 have an interest in the outcome of this case. These representations are made in order that the judges of this Court may evaluate possible disqualification or recusal.

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¹ UWAG is an energy utility industry group consisting of 211 individual energy companies and three national trade associations of energy companies: the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association.

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STATEMENT REGARDING ORAL ARGUMENT

Petitioners Utility Water Act Group (“UWAG”), Southwestern Electric Power Company (“SWEPCO”), Union Electric Company dba Ameren Missouri (“Ameren”), City of Springfield, Missouri, by and through the Board of Public Utilities (“City Utilities”), and Duke Energy Indiana, Inc. (“Duke Energy”) (collectively, “Industry Petitioners”) respectfully request oral argument.

Oral argument is warranted for a number of reasons. This case involves the regulation of the wastewater of the steam electric power generating industry by Respondents United States Environmental Protection Agency and Gina McCarthy, in her official capacity as Administrator of the United States Environmental Protection Agency (collectively, “EPA”). The regulation is expected to cost the industry billions of dollars and impact our society in innumerable ways. Seven separate petitions for review were filed by diverse interests, including industry, environmental organizations, and other affected groups.

Moreover, the procedure by which EPA imposed this regulation is unprecedented and warrants special attention by the Court. Notwithstanding the mandate of the Administrative Procedure Act, 5 U.S.C. §§551-59, 701-06 (“APA”), for transparent and defensible rulemakings, EPA has withheld from the public record critical data, methodologies, and analyses purporting to support the final rule, claiming they are confidential business information. As such, oral

argument is necessary to scrutinize EPA's substantive conclusions underlying the rule, as well as its explanation for its procedural choices here.

TABLE OF CONTENTS

CERTIFICATE OF INTERESTED PERSONSi
STATEMENT REGARDING ORAL ARGUMENT iii
TABLE OF CONTENTS.....v
TABLE OF AUTHORITIES viii
GLOSSARY OF TERMS AND ACRONYMS xii
JURISDICTIONAL STATEMENT 1
STATEMENT OF THE ISSUES PRESENTED FOR REVIEW2
STATEMENT OF THE CASE.....3
 I. EPA’s Development of Industry-Specific Effluent Guidelines
 and Standards3
 II. Development of the Final Rule5
 A. EPA Initiates ELG Rulemaking.....5
 B. EPA’s Proposal6
 1. The Primary Wastestreams at Issue.....6
 2. EPA’s Approach To Developing the Proposed
 ELGs8
 3. FGD Wastewater9
 4. Bottom Ash Transport Water12
 5. Gasification Wastewater.....14
 C. EPA Develops the Final Rule16
 III. Industry Petitioners’ Motion To Complete the Record.....19
SUMMARY OF ARGUMENT20
STANDARD OF REVIEW23
ARGUMENT24
 I. EPA’s Sweeping Use of CBI To Withhold Its Methods and
 Analyses Has Deprived the Public and the Court of the
 Required Foundation for the Rule.....24
 A. EPA Has a Duty To Disclose the Facts on Which It
 Relied and To Fully Explain Its Reasoning25

- B. EPA Has Myriad Tools To Make the Whole Record Available Without Compromising CBI26
- C. EPA Did Not Adequately Explain the Cost or Performance of BAT for FGD Wastewater or Bottom Ash Transport Water, and Is Hiding Behind CBI.....28
 - 1. EPA Reacts to the Comments by Soliciting CBI from Vendors30
 - 2. In the Final Rule, EPA Offers Only Conclusions and Hides Its Cost and Effectiveness Data, Methodologies, and Analyses Behind CBI32
 - a. Cost.....32
 - b. Effectiveness of BAT Technologies38
- D. EPA’s Duty To Explain Is at Its Greatest When It Relies on Third-Party Vendors That Have a Financial Stake in the Outcome40
- E. EPA’s Failure To Explain Its Rationale Is So Egregious That It Warrants Vacating the Entire Rule43
- II. EPA Has Failed To Respond Adequately to Public Comments, Because Many of Its Responses Are Based on Information Withheld from the Public Record.....43
 - A. EPA Has a Duty To Respond to Public Comments.....44
 - B. If EPA Chooses To Rely on a Document in Its Response to Comments, EPA Must Defend the Document45
 - C. EPA’s Express Reliance on Unavailable CBI in Its Responses to Comments Fails To Satisfy the APA.....46
 - 1. EPA’s Responses Regarding the Impact of Facility Age on Its Selection of BAT46
 - 2. EPA’s Responses Regarding the Effectiveness of Biological Treatment48
 - 3. EPA’s Responses Regarding the Costs of BAT49
- III. EPA Failed To Demonstrate That Biological Treatment is Technologically “Available” for Plants Burning Subbituminous or Lignite Coals51

- A. Differences Among Coal Types Have Significant Implications for the Performance and Cost of Biological Treatment53
- B. FGD Wastewater from Subbituminous Coal is Very Different from FGD Wastewater from Bituminous Coal54
- C. Including Pleasant Prairie Data Does Not Remedy the Lack of Biological Treatment Data for Subbituminous Plants58
- D. EPA’s Theorizing About the Efficacy of Biological Treatment is Nothing More Than an Impermissible “Educated Guess”61
- IV. EPA’s Failure To Solicit Comments Before Stripping Plants from the Baseline Violated the APA and Undermined EPA’s Economic Impact Assessment.....67
 - A. The APA Requires EPA To Solicit Comments on Significant New Information That Arises After the Close of the Comment Period68
 - B. EPA Was Required To Solicit Comments on the Effect of the CPP on the Rule, and Its Failure To Do So Prejudiced Industry69
- V. The Gasification Wastewater Limits Are Arbitrary and Capricious.....72
 - A. When Evaluating Two-Step Treatment for FGD Wastewater, EPA Concluded It Could Not Set Effluent Limits Based Solely on VCE Effluent But Did the Exact Opposite for Gasification Wastewater Without Explanation or Basis in the Record.....73
 - B. The Central Premises Behind EPA’s Cost Analysis for the Gasification Wastewater Limits Are Erroneous75
- CONCLUSION77
- CERTIFICATE OF SERVICE79
- CERTIFICATE OF COMPLIANCE80

TABLE OF AUTHORITIES

	Page(s)
<u>Cases</u>	
<i>Am. Meat Inst. v. EPA</i> , 526 F.2d 442 (7th Cir. 1975)	28
<i>Am. Mining Cong. v. EPA</i> , 907 F.2d 1179 (D.C. Cir. 1990).....	45
<i>Am. Petroleum Inst. v. EPA</i> , 661 F.2d 340 (5th Cir. 1981)	<i>passim</i>
<i>Automotive Parts & Accessories Ass’n v. Boyd</i> , 407 F.2d 330 (D.C. Cir. 1968).....	71
<i>Avoyelles Sportsmen’s League, Inc. v. Marsh</i> , 715 F.2d 897 (5th Cir. 1983)	41
<i>Bennett v. Spear</i> , 520 U.S. 154 (1997).....	23
<i>Camp v. Pitts</i> , 411 U.S. 138 (1973).....	43
<i>Cent. & S. W. Servs., Inc. v. EPA</i> , 220 F.3d 683 (5th Cir. 2000), <i>cert. denied</i> , 532 U.S. 1065 (2001)	45, 51
<i>Chem. Mfrs. Ass’n v. EPA</i> , 870 F.2d 177 (5th Cir. 1989), <i>cert. denied sub nom. PPG Indus. v. EPA</i> , 495 U.S. 910 (1990)	<i>passim</i>
<i>Chem. Mfrs. Ass’n v. EPA</i> , 885 F.2d 253 (5th Cir. 1989), <i>cert. denied sub nom. PPG Indus. v. EPA</i> , 495 U.S. 910 (1990)	<i>passim</i>
<i>Citizens to Preserve Overton Park, Inc. v. Volpe</i> , 401 U.S. 402 (1971).....	24, 26, 51
<i>Coliseum Square Ass’n, Inc. v. Jackson</i> , 465 F.3d 215 (5th Cir. 2006), <i>cert. denied</i> , 552 U.S. 810 (2007)	41

ConocoPhillips Co. v. EPA,
612 F.3d 822 (5th Cir. 2010)23

E. I. du Pont de Nemours & Co. v. Train,
430 U.S. 112 (1977).....4, 28

Ethyl Corp. v. EPA,
541 F.2d 1 (D.C. Cir. 1976) (en banc), *cert. denied*, 426 U.S. 941
(1976).....68

Gen. Tel. Co. of the Sw. v. United States,
449 F.2d 846 (5th Cir. 1971)71

Gerber v. Norton,
294 F.3d 173 (D.C. Cir. 2002).....72

Lilliputian Sys., Inc. v. PHMSA,
741 F.3d 1309 (D.C. Cir. 2014).....74

Mercy Hosp. of Laredo v. Heckler,
777 F.2d 1028 (5th Cir. 1985)24

*Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins.
Co.*,
463 U.S. 29 (1983).....44

Nat’l Wildlife Fed’n v. Costle,
629 F.2d 118 (D.C. Cir. 1980).....44, 74

Nat’l Wildlife Fed’n v. EPA,
286 F.3d 554 (D.C. Cir. 2002).....27

NLRB v. Sears, Roebuck & Co.,
421 U.S. 132 (1975).....45, 46

NRDC v. EPA,
808 F.3d 556 (2d Cir. 2015)25

NRDC v. Thomas,
805 F.2d 410 (D.C. Cir. 1986).....27

PPG Indus., Inc. v. Costle,
630 F.2d 462 (6th Cir. 1980)44

<i>Save Our Wetlands, Inc. v. Sands</i> , 711 F.2d 634 (5th Cir. 1983)	41
<i>SEC v. Chenery Corp.</i> , 318 U.S. 80 (1943).....	25
<i>Sierra Club v. EPA</i> , 167 F.3d 658 (D.C. Cir. 1999).....	43
<i>Tanners’ Council of Am., Inc. v. Train</i> , 540 F.2d 1188 (4th Cir. 1976)	25
<i>Texas Oil & Gas Ass’n v. EPA</i> , 161 F.3d 923 (5th Cir. 1998)	24
<i>Texas v. EPA</i> , 499 F.2d 289 (5th Cir. 1974), <i>cert. denied sub nom. Exxon Corp. v. EPA</i> , 427 U.S. 905 (1976)	45
<i>Texas v. EPA</i> , 829 F.3d 405 (5th Cir. 2016)	41, 42
<i>United States v. Nova Scotia Food Prods. Corp.</i> , 568 F.2d 240 (2d Cir. 1977)	45
<i>Weyerhaeuser Co. v. Costle</i> , 590 F.2d 1011 (D.C. Cir. 1978).....	77
<u>Statutes</u>	
5 U.S.C. §553 (2015)	44, 68
5 U.S.C. §704 (2015)	23
5 U.S.C. §706 (2015)	23, 51
33 U.S.C. §1311 (2015)	3
33 U.S.C. §1314 (2015)	3, 4, 28, 46
33 U.S.C. §1316 (2015)	3, 5
33 U.S.C. §1369 (2015)	1

Federal Regulatory Materials

39 Fed. Reg. 36,186 (Oct. 8, 1974).....4
 47 Fed. Reg. 52,290 (Nov. 19, 1982).....4
 78 Fed. Reg. 34,432 (June 7, 2013)*passim*
 78 Fed. Reg. 46,490 (Aug. 2, 2013).....18
 79 Fed. Reg. 24,073 (Apr. 24, 2013)53
 79 Fed. Reg. 34,830 (June 18, 2014)9, 70
 79 Fed. Reg. 64,543 (Oct. 30, 2014).....18, 72
 79 Fed. Reg. 67,406 (Nov. 13, 2014).....18, 72
 80 Fed. Reg. 64,662 (Oct. 23, 2015).....70, 71
 80 Fed. Reg. 67,838 (Nov. 3, 2015).....*passim*
 81 Fed. Reg. 74504 (Oct. 26, 2016).....70

Other Authorities

Consent Decree, *Defenders of Wildlife v. Jackson* (D.D.C. Mar. 19, 2012) (No. 10-cv-1915), ECF#15.....5
 Development Document for Final Effluent Limitations Guidelines and Standards for the Iron and Steel Manufacturing Point Source Category (April 2002) (available at www.epa.gov/eg/iron-and-steel-manufacturing-effluent-guidelines-documents).....26
 EPA Fact Sheet: Clean Power Plan Notice of Data Availability (Oct. 28, 2014), available at www.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-notice-data-availability.....18
 EPA Fact Sheet: Overview of the Clean Power Plan (available at www.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan)69
 Judicial Panel on Multidistrict Litigation, Consolidation Order, ECF#00513301255 (Dec. 9, 2015).....3

GLOSSARY OF TERMS AND ACRONYMS

AMP	American Municipal Power
APA	Administrative Procedure Act
BAT	Best Available Technology Economically Achievable
BATW	Bottom Ash Transport Water
CBI	Confidential Business Information
CCR	Coal Combustion Residuals
CPP	Clean Power Plan
CWA	Clean Water Act
ELGs	Effluent Limitations Guidelines
EPRI	Electric Power Research Institute
FGD	Flue Gas Desulfurization
FGDW	FGD Wastewater
GWV	Gasification Wastewater
ICPR	Incremental Costs and Pollutant Removals Report
IGCC	Integrated Gasification Combined-Cycle
MDS	Mechanical Drag System
NODA	Notice of Data Availability
NPDES	National Pollutant Discharge Elimination System

NSPS	New Source Performance Standards
O&M	Operation and Maintenance
ORP	Oxidation Reduction Potential
PRB	Powder River Basin
RIA	Regulatory Impact Analysis
RMDS	Remote Mechanical Drag System
TDD	Technical Development Document
TDS	Total Dissolved Solids
VCE	Vapor Compression Evaporation

JURISDICTIONAL STATEMENT

Industry Petitioners seek review of the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category; Final Rule (the “Final Rule” or “Rule”). The Rule was promulgated by EPA pursuant to several Clean Water Act (“CWA”) sections: 33 U.S.C. §§1311, 1314, 1316, 1317, 1318, 1342 and 1361. The Final Rule was published on November 3, 2015.²

This Court has jurisdiction under §509(b)(1)(E) of the CWA, 33 U.S.C. §1369(b)(1)(E) (2015), which provides that review of EPA’s actions in approving or promulgating any effluent limitation or “other limitation” under 33 U.S.C. §§1311, 1312, 1316, or 1345 may be had by any interested person in the Circuit Court of Appeals of the United States for the Federal Judicial District in which the person resides or transacts business that is directly affected by such action.³

Each Industry Petitioner filed in a Circuit Court in which it, or its members, transact business that is directly affected by the Final Rule.

² 80 Fed. Reg. 67,838-903 (Nov. 3, 2015).

³ See *Am. Petroleum Inst. v. EPA*, 661 F.2d 340 (5th Cir. 1981) (Court had jurisdiction under 33 U.S.C. §1369(b) to hear challenge to effluent limitations guidelines for the petroleum refining industry).

STATEMENT OF THE ISSUES PRESENTED FOR REVIEW

1. Did EPA violate the Administrative Procedure Act (“APA”) by withholding essential data, methodologies, and analyses from the public record as confidential business information (“CBI”)?
2. Did EPA violate the APA by relying on CBI materials not in the public record when responding to public comments?
3. Was it arbitrary and capricious for EPA to set limits applicable to plants burning subbituminous coal or lignite without collecting wastewater data or performing analyses necessary to determine whether those plants can achieve those limits?
4. Did EPA violate the APA by failing to provide the public any opportunity to comment on EPA’s analyses of the Clean Power Plan, which EPA relied on in the Final Rule as part of its statutorily-required consideration of cost?
5. Did EPA’s unexplained, differential treatment of the best available technology for gasification wastewater render the resulting limits, and its cost analysis of those limits, arbitrary and capricious?

STATEMENT OF THE CASE

Industry Petitioners seek review of certain provisions of the Final Rule, which was deemed issued for purposes of judicial review on November 17, 2015.⁴ Various petitioners filed seven petitions for judicial review in multiple U.S. Courts of Appeals. The petitions were consolidated in this Court.⁵

The Final Rule revises the technology-based wastewater discharge limits for the steam electric power generating industry. It sets new and stringent “effluent limitations guidelines” (“ELGs”) for hundreds of existing coal-fired power generating facilities, as well as more stringent new source performance standards (“NSPS”) for new sources. The CWA prescribes the factors EPA must consider in developing ELGs and NSPS. As with all rulemakings, EPA also must comply with rulemaking procedures under the APA, 5 U.S.C. §§551-559, 701-06.

EPA has violated both the CWA and the APA in its conduct of this rulemaking. The relevant history and factual context of the Final Rule follow.

I. EPA’s Development of Industry-Specific Effluent Guidelines and Standards

Sections 301 and 304 of the CWA, 33 U.S.C. §§1311, 1314 (2015), require EPA to establish, periodically review and, if appropriate, update ELGs for point source discharges from existing facilities in various industries. CWA §306, 33

⁴ 80 Fed. Reg. at 67,838.

⁵ Judicial Panel on Multidistrict Litigation, Consolidation Order, ECF#00513301255 (Dec. 9, 2015).

U.S.C. §1316 (2015), requires EPA to develop NSPS for new sources. Both ELGs and NSPS are technology-based. EPA sets these technology-based limits by promulgating nationally uniform, primarily numerical regulations for industry categories or subcategories of dischargers.⁶ Those limits and standards must be included in any National Pollutant Discharge Elimination System (“NPDES”) permit issued by EPA or a state permitting authority.

EPA first adopted ELGs for the steam electric point source category in 1974, soon after passage of the CWA.⁷ In 1982, the Agency finalized a major revision of the ELGs.⁸ In 2009, EPA initiated another major revision to the steam electric ELGs, and the resulting Final Rule is the subject of this litigation.

At issue are new ELGs based on the “best available technology economically achievable” (“BAT”) standard in 33 U.S.C. §1314(b)(2)(B). The statute requires EPA to take into account the following factors when establishing BAT limits.⁹

- age of equipment and facilities involved;
- the process employed;
- engineering aspects of the application of various types of control techniques;

⁶ See *E. I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 121-22 (1977).

⁷ 39 Fed. Reg. 36,186 (Oct. 8, 1974).

⁸ 47 Fed. Reg. 52,290 (Nov. 19, 1982).

⁹ *Id.* §1314(b)(2)(B).

- process changes;
- cost of achieving effluent reductions;
- non-water quality environmental impact (including energy requirements); and
- “such other factors as the Administrator deems appropriate.”

Section 306 likewise requires consideration of cost and performance for NSPS.¹⁰

This litigation presents fundamental issues regarding the adequacy of EPA’s record support primarily on the performance and cost of technologies it selected for three specific wastestreams discussed below. The same arguments apply equally to the ELGs and the NSPS.

II. Development of the Final Rule

A. EPA Initiates ELG Rulemaking

In October 2009, EPA released a final report on its investigation of the industry for possible ELG revision.¹¹ This rulemaking, conducted pursuant to a schedule EPA negotiated with several environmental groups, ensued.¹² Among other things, the Agency collected wastewater characterization data and technology

¹⁰ *See id.* §§1316(a)(1), (b)(1)(B).

¹¹ Index.47. Documents from EPA’s Certified Administrative Record Index are cited herein as “Index.[ROA DOC.#].[pincite].” An appendix containing those portions of the administrative record cited by the parties will be filed separately in accordance with 5th Cir. R.30.2(a).

¹² *See* Consent Decree at ¶¶3-4, *Defenders of Wildlife v. Jackson* (D.D.C. Mar. 19, 2012) (No. 10-cv-1915), ECF#15.

performance information through an industry survey and through site visits and sampling events.¹³ On June 7, 2013, EPA published the Proposed Rule.¹⁴

B. EPA’s Proposal

The Proposed Rule outlined regulatory options for further regulation of seven wastestreams, assessing each option’s performance and cost.¹⁵ Three of those wastestreams—or effluent—are at issue here.

1. The Primary Wastestreams at Issue

The first is flue gas desulfurization (“FGD”) wastewater (“FGDW”). To meet air quality requirements, many coal-fired plants use FGD “scrubbers” to control sulfur dioxide emissions. In a wet scrubber, a slurry containing lime or limestone reacts with the sulfur in the flue gas to form calcium sulfite. Metals and other constituents arriving at the scrubber may end up in the scrubber slurry and intermittently leave the scrubber in the scrubber “blowdown” (*i.e.*, wastewater), which is categorized as FGDW.¹⁶ The characteristics of the resulting FGDW vary widely among plants and even over time at any given plant, according to a variety

¹³ See 78 Fed. Reg. 34,432, 34,444 (June 7, 2013) (“Proposed Rule”) (summarizing EPA’s sampling efforts).

¹⁴ *Id.*

¹⁵ *Id.* at 34,458, Table VIII-1.

¹⁶ *Id.* In addition to scrubber blowdown, EPA includes the following wastestreams in the definition of FGDW: “overflow or underflow from the solids separation process, FGD solids wash water, and the filtrate from the solids dewatering process.” 80 Fed. Reg. at 67,893 (to be codified at 40 C.F.R. §423.11(n)).

of factors, including most prominently the type of coal burned and its constituents, as EPA's record shows.¹⁷

The second wastestream at issue is bottom ash transport water ("BATW"). Plants generate BATW if they use water to sluice bottom ash¹⁸ out of the boiler to a treatment system. BATW generally flows from a hopper underneath the boiler through pipes to a surface impoundment or dewatering bin. In many cases, the system discharges to a surface water.

The third wastestream at issue is gasification wastewater ("GWW") from integrated gasification combined-cycle ("IGCC") units. IGCC is an electric power generation process combining technology that produces synthetic gas from coal with combined cycle systems that generate electricity using that gas.¹⁹ The production, cleaning, combustion, and cooling of synthetic gas can involve a number of processes resulting in GWW.²⁰

¹⁷ See, e.g., EPA, *Variability in Flue Gas Desulfurization Wastewater: Monitoring and Response*, Index.12006.15-16; see also *infra* at 53-54. EPA notes that "coal is the source of the majority of the pollutants that are present in the FGD wastewater (i.e., the pollutants present in the coal are likely to be present in the FGD wastewater)." Index.47.4-17.

¹⁸ EPA defines "bottom ash" in part as "the ash, ... which settles in the furnace or is dislodged from furnace walls." 80 Fed. Reg. at 67,893 (to be codified at 40 C.F.R. §423.11(f)). It defines "transport water" in part as "any wastewater that is used to convey...bottom ash...from the ash collection or storage equipment, or boiler, and has direct contact with the ash." *Id.* at 67,894 (to be codified at 40 C.F.R. §423.11(p)).

¹⁹ 78 Fed. Reg. at 34,448.

²⁰ GWW means "any wastewater generated at an [IGCC] operation from the gasifier or the syngas cleaning, combustion, and cooling processes." 80 Fed. Reg. at 67,894. It includes, but is not limited to: "[s]our/gray water; CO₂/steam stripper wastewater; sulfur recovery unit

2. EPA's Approach To Developing the Proposed ELGs

For each of these wastestreams, EPA assessed the amount of pollutants that candidate technologies were likely to remove and the pollutant limits each could achieve for all coal-fired power plants producing that wastestream.²¹

EPA also conducted a multi-step cost evaluation of the regulatory alternatives. First, EPA identified the universe or “baseline” of coal-fired plants that would incur costs to comply with any or all of the proposed ELGs. EPA excluded plants that EPA believed would retire or convert to gas before the Rule’s anticipated effective date.²² EPA then estimated the cost of the technology in question for each plant in the baseline.²³ Using those cost estimates, EPA evaluated the percentage of each plant’s revenue (and the revenue of any parent entity) that the cost would represent.²⁴ EPA also assessed the market impacts of the proposal. The Agency used various metrics to assess the likelihood that the

blowdown, and wastewater resulting from slag handling or fly ash handling, particulate removal, halogen removal, or trace organic removal.” *Id.*

²¹ Index.2920.10-2 (consideration of technology pollutant removals), 13-3-13-4 (calculation of limitations).

²² *Id.* at 9-2 n.74.

²³ *See, e.g., id.* at 9-27-9-28 (presenting EPA’s estimate of “compliance costs for those generating units expected to be subject to the proposed ELGs” for FGDW).

²⁴ Index.2639.4-3,4-9.

Rule would affect generating capacity or cause premature retirements, among other things.²⁵ For this set of analyses, EPA used an “Integrated Planning Model.”²⁶

EPA’s cost analysis at proposal excluded certain elements. It did not include any assessment of the remaining useful life of the plants that were in the baseline and anticipated to bear compliance costs. EPA also did not include the economic impacts of another important rule affecting the same coal-fired plants: the Clean Power Plan (“CPP”) for greenhouse gases, which was under development but had not yet been formally proposed.²⁷

3. FGD Wastewater

EPA focused on a combination of two treatment systems for FGDW: chemical precipitation treatment (for mercury and arsenic) followed by biological treatment (for selenium and nitrate/nitrite).²⁸ These treatment systems are complex, multi-component technologies that must be designed and sized to treat a specific mix of pollutants, in terms of pollutant type, load, and distribution.²⁹ The use of biological treatment for FGDW treatment—and particularly for removal of selenium—is a relatively new innovation. The complexity and variability of

²⁵ *Id.* at 5-7.

²⁶ *Id.* at C-1–C-5.

²⁷ *See* 79 Fed. Reg. 34,830 (June 18, 2014).

²⁸ Proposed Rule, 78 Fed. Reg. at 34,458 (Table VIII-1).

²⁹ Index.2920.7-4–7-13 (EPA’s description of chemical precipitation and biological treatment technologies).

FGDW make it difficult to treat using biological processes, which depend on stable conditions to maintain the microorganisms on which treatment depends. For instance, changes in temperature or in wastewater constituents, such as percentage of solids or an increase in chlorides, can cause system upsets.³⁰

EPA relied on two steam electric plants using biological treatment to remove selenium: Belews Creek and Allen.³¹ Both plants burn only bituminous coals.³²

EPA also assessed the performance of chemical precipitation treatment at those plants and four others. These included Pleasant Prairie, burning 100% subbituminous coal, and Hatfield's Ferry, burning a blend of bituminous and subbituminous coals.³³ But neither of those plants uses biological treatment, and EPA used no data from plants that burn lignite.³⁴ Thus, EPA lacked any data with which to assess the performance of biological treatment on FGDW produced by the roughly 25% of the industry that burns subbituminous or lignite coals.³⁵

EPA estimated the compliance costs of chemical precipitation and biological treatment for each facility by using cost curves from technology vendors and plant-

³⁰ *See, e.g.*, Index.9123.21-23.

³¹ *See* Index.2920.13-5.

³² *Id.* at 3-11.

³³ *Id.*

³⁴ *Id.*

³⁵ *See id.* at 6-5(Table 6-2).

provided wastewater flows data.³⁶ Much of the vendor cost information and some of the flow data were classified as CBI and not released. EPA likewise did not provide any information showing that it had investigated the underlying basis for the vendors' cost information.

Based on this information, EPA estimated that the 116 plants included in the baseline at proposal would incur industry-wide costs of \$2.5 billion in one-time capital expenditures and \$257 million in annual operation and maintenance (“O&M”) costs.³⁷

EPA received many comments on the proposed rule, including extensive comments from UWAG.³⁸ Comments showed that EPA overestimated the feasibility and performance of both chemical precipitation treatment and biological treatment, even for the plants for which EPA had performance data.³⁹

With regard to biological treatment, commenters stressed that EPA had failed to account for the full range of variation in FGDW across the industry and at any given plant over time. In particular, comments noted that EPA lacked any information with which to assess the treatability of FGDW produced by plants

³⁶ See Proposed Incremental Costs and Pollutant Removals (“Proposed ICPR”), Index.2292.6-8,6-92.

³⁷ Index.2920.9-28.

³⁸ Index.9778.

³⁹ See *id.*

burning subbituminous or lignite coals, which are likely to have different characteristics from FGDW produced by the plants in EPA's database.⁴⁰

Even for plants burning bituminous coals, commenters explained that (1) EPA's selected technology was not demonstrated to be capable of handling the high nitrate loads typical of FGDW;⁴¹ and (2) EPA failed to consider the capability of biological treatment systems to handle higher chloride levels than occurred at Belews Creek and Allen.⁴²

Besides these concerns about the technologies' performance, commenters also raised significant questions about EPA's cost estimate.⁴³

4. Bottom Ash Transport Water

For BATW, EPA considered two options. The first was the status quo (allowing discharge subject to certain limits). The second was a prohibition against any discharge of BATW through the use of a technology located directly under the boiler (mechanical drag system ("MDS")) or a similar technology

⁴⁰ See, e.g., Index.9753.17-18; Index.8923.3.

⁴¹ See, e.g., Index.9778.203-04.

⁴² *Id.* at 165-67.

⁴³ See, e.g., Index.8689.160 (commenting that capital costs for retrofitting chemical precipitation plus biological treatment for some of Southern's plants would be up to \$1.7 billion, versus EPA's estimated \$253 million for those plants plus others of Southern's).

located away from the boiler (remote mechanical drag system (“RMDS”)).⁴⁴ Only RMDS requires water for bottom ash transport.

EPA calculated the cost of BATW compliance for the plants in its baseline (*i.e.*, those plants that EPA thought were not already complying with the proposed BATW discharge prohibition). EPA estimated that it would cost the industry \$4.47 billion in initial capital and \$494 million annually for O&M.⁴⁵

Commenters demonstrated that EPA had overestimated the feasibility and underestimated the costs of constructing and operating the BATW model technologies. In particular, the Electric Power Research Institute (“EPRI”)⁴⁶ and UWAG showed that EPA ignored engineering overhead, as well as the costs associated with constructing buildings to protect RMDSs from adverse weather events, and adding clarification and reaction tanks to remove fines, which some plants may need.⁴⁷ Also, as commenters pointed out, EPA failed to account for additional BATW storage capacity during major maintenance events.⁴⁸

⁴⁴ Index.12840.7-41–7-42. EPA identified the status quo as “preferred” for plants less than 400 megawatts. 78 Fed. Reg. at 34,435-36.

⁴⁵ Index.2920.9-40(Table 9-6).

⁴⁶ EPRI is an independent, non-profit organization that “conducts research and development on the generation, distribution and use of electricity for the benefit of the public.” <http://www.epri.com/About-Us/Pages/Our-Business.aspx> (last accessed Dec. 2, 2016).

⁴⁷ Index.9778.64 (UWAG); Index.8939.8-3,8-5 (EPRI).

⁴⁸ Index.8689 (Southern Company); *see also* Index.8692.3-4 (City Utilities) (space needs and costs for retrofitting would preclude retrofitting in some cases, particularly where facility housed two or more units).

5. Gasification Wastewater

IGCC facilities use two different types of waste treatment systems for GWW: a one-stage system, known as Vapor Compression Evaporation (“VCE”), and a two-stage system, in which the wastewater produced by VCE is further treated using “forced circulation evaporation” (also known as crystallization).⁴⁹ Two-stage treatment produces far less wastewater, but that wastewater (known as “Crystallizer Effluent”) has higher pollutant concentrations than does the wastewater from one-stage treatment (“VCE Effluent”), as EPA recognized when it evaluated essentially the same technology for FGDW. *Id.*

To develop the proposed GWW limits, EPA considered wastewater treatment data from two IGCC facilities: Wabash River (which uses one-stage treatment), and Polk (which uses two-stage treatment).⁵⁰ But EPA discarded Polk’s Crystallizer Effluent data because the Agency believed Polk’s crystallizer was malfunctioning at the time of sampling.⁵¹ Thus, the record is devoid of any data regarding the pollutant content of Crystallizer Effluent at IGCC facilities.

During EPA’s development of the proposed GWW limits, Duke Energy explained to EPA that its new Edwardsport facility would produce both VCE

⁴⁹ See Technical Development Document for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category (“Final TDD”), Index.12840.7-14–7-18 (discussion of FGDW treatment technologies equally applicable to GWW).

⁵⁰ Index.2920.13-5,13-20; Index.12840.13-7,13-26.

⁵¹ Index.2920.13-20; Index.12840.13-26–13-27.

Effluent and Crystallizer Effluent, and would combine them for further treatment in a reverse osmosis process before discharge.⁵² In its discussion of Two-Step Treatment at IGCC facilities, EPA had acknowledged that IGCC facilities might choose to reuse VCE Effluent and Crystallizer Effluent onsite, discharge both streams, or manage each stream separately, which is why the Agency sampled the treated effluent from both steps.⁵³

Puzzlingly, though, when EPA proposed the GWW limits, EPA ignored the pollutant contribution of Crystallizer Effluent to a combined GWW discharge and set the proposed limits based solely on VCE Effluent.⁵⁴ Moreover, EPA ignored the only valid data in the record about the relative pollutant content of VCE Effluent versus Crystallizer Effluent, *i.e.*, the data EPA obtained from the Brindisi plant regarding the ability of Two-Step Treatment to treat FGDW, which showed that the pollutant content of Crystallizer Effluent is higher than VCE Effluent.⁵⁵ Despite comments from industry expressing concern about the lack of sufficient IGCC-specific data in the record,⁵⁶ the numerous technical differences between the

⁵² NPDES Permit No. IN0002780, Duke Energy Indiana, Inc. – Edwardsport, Index.123.132.

⁵³ Index.2920.13-20; *see also* Index.12840.13-26.

⁵⁴ Index.2920.13-20; *see also* Index.12840.13-27.

⁵⁵ Index.2920.13-19; *see also* Index.12840.13-25–13-26.

⁵⁶ Index.8684.78-81 (Duke Energy) (discussing inadequacies of data set for setting reliably achievable GWW limits), 86-87 (noting Edwardsport did not begin commercial operation until June 2013 and that additional operational time was needed before reliable

limited number of IGCC facilities in operation,⁵⁷ and EPA’s decision to set the GWW limits based solely on VCE Effluent,⁵⁸ EPA finalized the GWW limits as proposed.

C. EPA Develops the Final Rule

After the comment period closed, EPA engaged in extensive discussions and correspondence with vendors marketing technologies for treating FGDW and BATW. One example is reflected in “Post Proposal Questions for GE_for EPA Review,” in which EPA asked follow up questions to GE “to clarify whether specific cost elements [identified by commenters] are included or not included in the cost estimates provided in previous correspondence.”⁵⁹ In developing the Final Rule and responding to public comments, the record shows EPA relied heavily on the information it collected from those vendors. Yet that critical information was withheld from the record on the grounds that it is CBI.

performance data would be available); Index.9778.289-91 (UWAG) (discussing inadequacies of data set for setting reliably achievable GWW limits).

⁵⁷ Index.8684.77-78; Index.9778.287-89.

⁵⁸ Index.9778.290 (“Apparently EPA based the limits on condensate from a vapor compression evaporator, probably the cleanest wastestream that could be found...”); Index.8684.85-86 (“[T]he sampling events that EPA conducted focused only on effluent consisting of the vapor-compression evaporator condensate from the grey water treatment systems. It is inconsistent to then establish the same effluent limits for all other ancillary wastestreams ... based only on the sampling data from the narrow subset of grey water effluent data associated with the vapor-compression evaporation technology installed.”).

⁵⁹ Index.11564.3.

Moreover, EPA doubled-down on its redaction of even basic methodological information. It classified large swaths of the record as CBI, most notably in the Final Sanitized Steam Electric Incremental Costs and Pollutant Loadings Report (“Final ICPR”). EPA removed entire sections from the Final ICPR, even though the same sections were not classified as CBI at proposal.⁶⁰ These included all of Section 5 (“General Methodology, Terminology, and Common Cost Elements”), Section 6 (“FGD Wastewater Cost Methodology”), Section 7 (“Fly Ash Transport Water Cost Methodology”), and Section 8 (“Bottom Ash Transport Water Cost Methodology”).

After the close of the comment period, EPA also undertook a fresh round of analyses that had the effect of removing more plants from the baseline, thereby making the economic impact of the Final Rule look far smaller. Among other things, EPA recognized the significance of the CPP Rule. The Agency re-ran its Integrated Planning Model to assess for the first time the impact of the proposed CPP Rule on the baseline.⁶¹ It also conducted a follow-up analysis on the implications of the final CPP.⁶² Neither of these analyses was made available for public comment. Departing from the practice it followed for other major

⁶⁰ Compare Proposed ICPR, Index.2292.§§5-8 (proposed cost methodologies spanning 217 pages), with Final ICPR, Index.12134.§§5-8 (an estimated 250 pages entirely withheld as CBI).

⁶¹ 80 Fed. Reg. at 67,866-67.

⁶² See Analysis of Potential Effect of Using a Baseline with the CPP Proposal in Lieu of the CPP Final, Index.12360.

environmental rules, EPA did not issue a Notice of Data Availability (“NODA”) for the ELG rulemaking when the CPP was proposed.⁶³ Based on its CPP analyses, EPA took 47 plants fully out of the baseline, and 19 partially out of it.⁶⁴

Besides consulting the vendors and removing more plants from the baseline, EPA obtained some additional information on biological treatment at the Belews Creek and Allen plants.⁶⁵ But EPA obtained no information on the extent to which biological treatment of FGDW from plants burning subbituminous or lignite coals could achieve the final selenium and nitrate/nitrite limits, nor did it evaluate the likely cost. And, EPA says that much of the post-proposal FGDW cost information is CBI.⁶⁶ Thus, the public has no access to the basic facts on which EPA relied and cannot reproduce its calculations.

⁶³ “Federal agencies routinely use NODAs to provide the public with an opportunity to consider and comment on emerging technical issues and data related to an ongoing rulemaking or other important environmental protection program.” EPA, Fact Sheet: Clean Power Plan Notice of Data Availability (Oct. 28, 2014), available at www.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-notice-data-availability (last accessed Dec. 2, 2016). *See, e.g.*, 79 Fed. Reg. 64,543 (Oct. 30, 2014), 79 Fed. Reg. 67,406 (Nov. 13, 2014) (two NODAs for CPP); 78 Fed. Reg. 46,490 (Aug. 2, 2013) (third NODA for Coal Combustion Residuals Rule).

⁶⁴ Index.12840.4-45 (Table 4-18).

⁶⁵ Index.11727 (Belews Creek data submittal of March 28, 2014); Index.11725 (Allen data submittal of March 28, 2014).

⁶⁶ *See, e.g.*, Supplemental Costs and Loadings Documentation Memorandum, Index.12183.7 (describing Index.12268, 12261, and 12262 (all CBI) as methodology to estimate sodium bisulfite O&M costs, derivation of oxidation reduction potential (“ORP”) monitor costing methodology, and correspondence with vendor regarding capital and O&M for ORP monitor, respectively).

For BATW, EPA claims that it added tank rental costs for “surge capacity” during bottom ash maintenance events, and that it updated or adjusted its direct and indirect capital cost factors.⁶⁷ However, it is impossible to see exactly what costs EPA assumed, because much of that information is CBI.⁶⁸

The Final Rule requires all plants discharging FGDW to meet new BAT limits for mercury, arsenic, selenium, and nitrate/nitrite.⁶⁹ The limits are the same across the industry without regard to coal type burned. The Rule also prohibits the discharge of BATW except in very limited circumstances,⁷⁰ and imposes limits on GWW.⁷¹

III. Industry Petitioners’ Motion To Complete the Record

Because EPA withheld so much basic information from the public record as CBI, certain industry petitioners⁷² filed a joint motion to complete the record.⁷³ The motion was filed long before briefing commenced on the merits. It sought to compel EPA to reconsider whether the information withheld as CBI in fact

⁶⁷ See 80 Fed. Reg. at 67,845.

⁶⁸ See, e.g., Index.12183.9 (describing Index.12275, 12281, and 12280 (all CBI) as cost equations and factors for bottom ash conveyance O&M costs, RMDS volume estimate for tank rental costs, and MDS/RMDS drag chain replacement frequency and cost, respectively).

⁶⁹ 80 Fed. Reg. at 67,894-95 (to be codified at 40 C.F.R. §423.13(g)(1)(i)).

⁷⁰ *Id.* at 67,896 (to be codified at 40 C.F.R. §423.13(k)(1)(i)).

⁷¹ *Id.* (to be codified at 40 C.F.R. §423.13(j)(1)(i)).

⁷² It was unnecessary for Duke Energy to join the motion because its separate petition for review does not depend on CBI.

⁷³ ECF# 00513560826.

qualifies as CBI, and to produce its methods and analyses in a non-CBI format for the public and the Court. EPA filed an opposition,⁷⁴ and the motion was initially denied by a single judge order.⁷⁵ Industry Petitioners then filed a motion for reconsideration by the full motions panel.⁷⁶ The panel ordered the motion to complete the record to be “carried with the case.”⁷⁷ Because the motion relates to information that EPA relied on in the Final Rule, but withheld from the public and Court, the motion is integrally related to Industry Petitioners’ arguments on the merits herein.

SUMMARY OF ARGUMENT

This is a case of first impression. Never before has EPA promulgated a rule while shielding such vast amounts of its basic work product from review. Here, EPA has invoked the concept of CBI to withhold facts, methods and analyses on which its conclusions depend. As an initial matter, this Court must decide whether an agency may use CBI as a justification for offering only bare conclusions without explaining how and why it reached its regulatory decisions. This Court must further decide whether an agency may rely heavily on information from equipment vendors with a significant financial stake in the outcome of the rule, but

⁷⁴ ECF# 00513661798.

⁷⁵ ECF# 00513686767.

⁷⁶ ECF# 00513695043.

⁷⁷ ECF# 00513769227.

then remove critical portions of that information from the public record under the guise of CBI.

The Final Rule is not inconsequential. It will force plant closures and have massive impacts on an industry that is vital to our nation's infrastructure. Yet, to an unprecedented extent, the Agency has withheld fundamental information purporting to justify the rule. EPA claims thousands of pages of the record are CBI that cannot be shared with the public or this Court, including the following:

- entire chapters of core documents with titles such as “General Methodology, Terminology, and Common Cost Elements,” and entire sections with titles such as “General Cost Methodology” and “Compliance Cost Methodology”;
- results from pilot and full-scale studies conducted specifically to test the effectiveness of EPA's proposed BAT; and
- basic cost information that the CWA requires EPA to consider.

On the record before the Court, the Final Rule is arbitrary and capricious because it lacks adequate justification and support. The pervasiveness of CBI is so great that the Rule must be vacated in its entirety.⁷⁸

That is not the only defect with the Rule. EPA took other impermissible shortcuts that resulted in an inadequate record or otherwise violated the APA.

EPA's overreliance on CBI also produced legally deficient responses to public comments. For instance, the responses repeatedly cite to information that

⁷⁸ Indeed, EPA has withheld so much information that neither Petitioners nor the Court can know the full extent of potential deficiencies of the Rule.

EPA solicited from vendors to respond to the comments, but EPA then withheld from the public record. Directing commenters to documents that are unavailable is effectively no response at all and violates the APA. Again, given the extent of the violation, vacatur is the appropriate remedy.

EPA also promulgated the Final Rule without gathering necessary data on certain types of plants covered by the Rule. EPA gathered no data whatsoever on the treatability of selenium and nitrates in FGDW produced by plants burning subbituminous coals, such as Powder River Basin coal (“PRB”), or lignite. These plants comprise upwards of 25% of the industry. EPA set stringent limits for selenium and nitrates based on use of biological treatment and applied those limits to all coal plants, regardless of the type of coal they burn. But those limits reflect no consideration of the likely performance and cost of biological treatment at plants burning subbituminous coals or lignite. Lacking data or any other credible evaluation of the likely performance and cost of biological treatment for their FGDW, EPA had no reasonable basis for concluding that those plants can comply with the limits. Consequently, irrespective of the other defects in the Rule, the FGDW limits must be vacated as applied to plants burning subbituminous or lignite coals.

In addition, in its haste to promulgate the Final Rule, EPA deprived the public of notice and opportunity to comment on a key issue. EPA acknowledges

that it relied on the CPP in its cost analysis for the Final Rule, but EPA never allowed the public the opportunity to comment on the CPP's impacts on ELG costs and compliance. Because this error implicates the entire Final Rule, the Rule should be vacated.

Finally, the limits on GWW from IGCC plants are arbitrary and capricious. Without any rational explanation, EPA used a methodology to set limits for GWW that conflicts directly with EPA's indistinguishable methodology for FGDW. This represents an additional reason why the GWW limits must be vacated.

STANDARD OF REVIEW

The Final Rule is an “agency action” subject to review under the APA, which provides for review of “[a]gency action made reviewable by statute and final agency action for which there is no other adequate remedy in a court....”⁷⁹ An agency action, such as the Final Rule, must be held unlawful and set aside if that action is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law....”⁸⁰

In reviewing an agency's action, the Court must determine whether the action “bears a rational relationship to the statutory purposes” and whether “there

⁷⁹ 5 U.S.C. §704 (2015); *see ConocoPhillips Co. v. EPA*, 612 F.3d 822, 831 (5th Cir. 2010).

⁸⁰ 5 U.S.C. §706(2)(A) (2015); *Bennett v. Spear*, 520 U.S. 154, 154-55, 174-75 (1997).

is substantial evidence in the record to support it.”⁸¹ The Court must make a “searching and careful” review to determine whether an agency action is arbitrary and capricious.⁸²

ARGUMENT

I. EPA’s Sweeping Use of CBI To Withhold Its Methods and Analyses Has Deprived the Public and the Court of the Required Foundation for the Rule

EPA has withheld its most basic data, methodologies, and analyses from the public record under the guise of CBI. This is unacceptable and unprecedented. EPA has a duty to disclose the whole record of its action and to fully explain its course of inquiry, analysis, and reasoning. EPA has at its disposal tools that allow it to protect CBI, if necessary, yet EPA used none of them here, instead withholding at least 1,194 documents in whole or in part.⁸³

This is not harmless error. The missing documents constitute the facts and analyses EPA conducted both to respond to comments and to arrive at its final assessment of the cost and performance of technologies selected as BAT. EPA’s decision that the economic impacts render its BAT limits “economically

⁸¹ *Texas Oil & Gas Ass’n v. EPA*, 161 F.3d 923, 934 (5th Cir. 1998) (quoting *Mercy Hosp. of Laredo v. Heckler*, 777 F.2d 1028, 1031 (5th Cir. 1985)).

⁸² *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971).

⁸³ See Certified Index to the Administrative Record. ECF#00513538746 (June 8, 2016). (CBI column indicating some, but not all, of document withheld as CBI, *see, e.g.*, Index.12136 (Appendix to Final ICPR containing EPA’s estimates of costs not accounting for the CPP, withheld in its entirety although indicated as not containing CBO in the index)).

achievable” depends on those facts and analyses, many of which it has hidden. In place of the details, EPA offers only summary conclusions, or *ipse dixit*.

A. EPA Has a Duty To Disclose the Facts on Which It Relied and To Fully Explain Its Reasoning

Only the record can supply a justification for the Final Rule. The Court may not presume EPA acted with a reliable and adequate foundation: “the grounds upon which the administrative agency acted” [must] be “clearly disclosed and adequately sustained” in the record.⁸⁴ “It is the Agency’s duty to ‘fully explicate its course of inquiry, its analysis, and its reasoning.’”⁸⁵ In *Pacific Fisheries*, the court remanded a portion of ELGs and rejected consideration of a study “vague[ly] referenc[ed]” in the record as support for EPA’s conclusion regarding effectiveness of BAT, where the record did “not disclose the analytic approach utilized” in the study, among other things.⁸⁶ Similarly, in *Tanners’ Council*, the Fourth Circuit set aside ELGs due to the lack of available record evidence to support them, lest the court “would have to trust completely EPA’s conclusions.”⁸⁷

⁸⁴ *SEC v. Chenery Corp.*, 318 U.S. 80, 94 (1943).

⁸⁵ *Ass’n of Pac. Fisheries v. EPA*, 615 F.2d 794, 820 (9th Cir. 1980) (Kennedy, J.) (quoting *Tanners’ Council of Am., Inc. v. Train*, 540 F.2d 1188, 1191 (4th Cir. 1976)).

⁸⁶ *Id.*; see also CBI_GE ABMet Pilot Study Report, Index.11966 (entirely withheld, and discussed nowhere in the public record); *NRDC v. EPA*, 808 F.3d 556, 574 (2d Cir. 2015) (remanding EPA’s issuance of CWA general permit setting effluent limitations based on BAT, where EPA actively worked to keep information about disfavored treatment technology out of record by “exclud[ing] or delet[ing information] from the final report” of its own scientific advisory board).

⁸⁷ 540 F.2d at 1193.

As this Court has further explained, “[j]udicial review must be based on something more than trust and faith in EPA’s experience.”⁸⁸ “Courts...are no longer content with mere administrative ipse dixits based on supposed administrative expertise.”⁸⁹ Nor is an agency’s “presumption of regularity” a viable substitute for a complete record.⁹⁰

In short, the Court may not presume that EPA’s decision is supported by information withheld from the public record.

B. EPA Has Myriad Tools To Make the Whole Record Available Without Compromising CBI

EPA has available a variety of tools to present facts and analyses on which it relied, while at the same time protecting confidential information. It has used those tools in many other effluent guidelines rulemakings.⁹¹ EPA could, for instance, produce ranges of values, graphs, cost formulas or curves, discussions, or other analyses, as appropriate, to satisfy its obligations to present the “whole record” for review, including its methodologies and analyses, without disclosing

⁸⁸ *Am. Petroleum Inst.*, 661 F.2d at 349 (internal quotation omitted) (remanding ELGs for additional consideration and explanation of cost by EPA).

⁸⁹ *Id.*

⁹⁰ *Id.* at 348 (quoting *Overton Park*, 401 U.S. at 415) (“presumption is not to shield [agency’s] action from a thorough, probing, in-depth review”).

⁹¹ *See, e.g.*, Development Document for Final Effluent Limitations Guidelines and Standards for the Iron and Steel Manufacturing Point Source Category (Apr. 2002), at 1-9, 14-3–14-6 (aggregating certain data in the public record and masking facility identities) (available at www.epa.gov/eg/iron-and-steel-manufacturing-effluent-guidelines-documents) (last accessed Dec. 2, 2016).

CBI.⁹² In *NRDC*, the court found that EPA had adequately explained its decision where it compiled CBI in the rulemaking record into a composite, anonymized non-CBI graph as part of the public record and discussed the graph “at some length.”⁹³

In addition, EPA could have simply taken the time to collect more data that are not CBI. It could have supplemented the CBI information with information from other sources or consultants who would not assert CBI. Likewise, EPA could have conducted or commissioned its own studies to independently verify the information claimed as CBI.

In other words, EPA is not handcuffed by CBI, as it may suggest. Instead, when EPA makes use of CBI, it must still fully explain in the public record both the facts found and its reasoning from those facts. It must support the rulemaking through the use of non-CBI data, methodologies, and analyses that satisfy the standard upon review.⁹⁴

⁹² See *NRDC v. Thomas*, 805 F.2d 410, 418 n.13 (D.C. Cir. 1986).

⁹³ *Id.*

⁹⁴ See *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 565 (D.C. Cir. 2002) (economic analysis predicting bankruptcies and plant closures was adequate, even though it did not reveal firm-specific CBI, because anonymized non-CBI compilation provided all necessary information).

C. EPA Did Not Adequately Explain the Cost or Performance of BAT for FGD Wastewater or Bottom Ash Transport Water, and Is Hiding Behind CBI

Congress has limited EPA’s discretion in the selection of BAT by identifying specific factors the Agency must consider.⁹⁵ Because BAT must be “economically achievable,” one such factor EPA *must* consider is cost.⁹⁶ So, too, EPA must consider the performance of the technology at reducing pollutants.⁹⁷ Performance and cost go hand-in-hand, as improving performance may require adding more technology, which then increases cost.

EPA bears the burden of demonstrating that it considered the cost of the technology it chose as BAT and showing that the technology, at the cost EPA projected, will achieve the performance standards it set.⁹⁸ Here, EPA’s explanation of its performance and cost estimates for the technologies it chose as BAT for FGDW and BATW are general conclusions with crucial detail missing.

At the proposed rule stage, EPA discussed these technologies and its methodologies and analyses for evaluating their cost. EPA provided significantly

⁹⁵ 33 U.S.C. §1314(b)(2)(B).

⁹⁶ *Id.* (“Factors relating to the assessment of best available technology shall take into account...the cost of achieving such effluent reduction....”).

⁹⁷ *Id.* at §1314(b)(2)(A); *see E. I. du Pont de Nemours & Co.*, 430 U.S. at 131.

⁹⁸ *Am. Petroleum Inst.*, 661 F.2d at 356-57 (remanding EPA’s promulgation of ELGs for further consideration of cost, where industry and EPA cost data differed significantly and EPA offered “no explanation and no support for [its] conclusions” regarding cost); *Am. Meat Inst. v. EPA*, 526 F.2d 442, 465 (7th Cir. 1975) (concluding that EPA could not rely on a technology as basis for limitation, where it was incapable of meeting the limitation without incurring “impractical and extremely expensive” costs not considered by EPA when selecting BAT).

more detail about its methodologies when it published the proposed ELG rule for public comment.⁹⁹ When EPA then took comments from the public, it learned—and in some instances even acknowledged—that its performance and cost analyses had shortcomings, overstating performance and understating cost.¹⁰⁰ This meant that EPA was required to collect additional information, make changes, and explain the changes in the Final Rule.

EPA's errors at proposal were not trivial. For example, comments showed that, industry-wide, the cost of installing biological treatment alone for FGDW would nearly exceed EPA's estimated costs for adding both biological treatment and chemical precipitation treatment.¹⁰¹ Indeed, one company's comments showed that the cost of installing EPA's selected FGDW treatment technology at its plants would be nearly seven times higher than EPA had estimated for a subset of those same plants.¹⁰² Similarly, EPRI was unable to replicate EPA's conclusions regarding the ability of biological treatment to remove pollutants from FGDW.¹⁰³

⁹⁹ *See, e.g.*, Index.2292.6-88-6-105.

¹⁰⁰ *See, e.g.*, Index.10081.6-665 (EPA agreeing with commenters who indicated that EPA should consider engineering-related costs and construction timelines associated with closed-loop bottom ash handling retrofits).

¹⁰¹ *See* Index.8939.A-25 (finding incremental biological costs of over \$2 billion).

¹⁰² Index.8689.160 (Southern Company).

¹⁰³ Index.8939.4-2.

Based on EPRI's calculations, EPA had overestimated pollutant removals for biological treatment by a factor of eight.¹⁰⁴

EPA's cost estimate for achieving no-discharge of BATW was likewise off by a wide margin. For example, after identifying a host of errors and omissions, EPRI calculated total industry capital costs for conversion from wet to dry ash handling, just for plants with a nameplate generating capacity above 400 megawatts, to be over \$6 billion and \$452 million in annual O&M costs – more than double EPA's estimate.¹⁰⁵

1. EPA Reacts to the Comments by Soliciting CBI from Vendors

EPA responded to these comments by soliciting revised information from financially interested vendors. These are the same vendors whose technology was at issue and who had incentives to tout their systems as effective and reasonably priced. Much of the revised information – *and how EPA incorporated it into the final analyses* – has been withheld from the public and the Court. Thus, neither Industry Petitioners nor the Court can determine whether EPA in fact corrected the original errors or whether the revised analyses are themselves rational. This flies in the face of the APA.

¹⁰⁴ *Id.* at 4-1.

¹⁰⁵ Index.8939.8-2.

EPA's contacts with vendors demonstrate how EPA consciously chose to conceal the substance of its final cost analysis. EPA prepared follow-up questions for GE "to clarify whether specific cost elements [identified by commenters] are included or not included in the cost estimates provided in previous correspondence," among other things.¹⁰⁶ GE responded to these questions, but that information has been withheld from the public record.¹⁰⁷

Notes of subsequent meetings and correspondence between EPA and GE are similarly missing from the public record, nearly always in their entirety. Presumably, these pertain directly to the questions identified by the public during the comment period.¹⁰⁸ Other key documents have been withheld in their entirety, such as:

- the updated cost curve supplied to EPA by GE in 2014;¹⁰⁹
- additional follow-up questions and answers between EPA and GE;¹¹⁰
- correspondence with GE regarding ABMet costing information;¹¹¹ and

¹⁰⁶ Post Proposal Questions for GE_for EPA Review, Index.11564.3.

¹⁰⁷ See CBI_GE Response to Post Proposal Questions, Index.11680.

¹⁰⁸ See, e.g., Notes from Call with GE Water on March 4, 2015, Index.11999 (redacted to effectively be of no use, e.g., "GE indicated [Redacted]").

¹⁰⁹ CBI_Updated ABMet Cost Curve, Index.11888.

¹¹⁰ CBI_Email from Bill Bonkowki; RE: Clarification [sic] on Updated ABMet Costs from June 2014, Index.11906.

¹¹¹ CBI_Supplemental Costs and Loadings Attachment 75, Index.12258 (description found in metadata available at Regulations.gov, see <https://www.regulations.gov/docket?D=EPA-HQ-OW-2009-0819-5681> (last accessed Dec. 2, 2016)).

- summary of correspondence with GE regarding updated ABMet costing information as of 2014.¹¹²

These inaccessible documents go to the heart of how EPA addressed the cost issue.

2. In the Final Rule, EPA Offers Only Conclusions and Hides Its Cost and Effectiveness Data, Methodologies, and Analyses Behind CBI

a. Cost

Using CBI as a pretext, EPA has provided only its bare conclusions in the public record regarding many of its cost analyses. The Agency has not provided supporting detail for those analyses (anonymized or otherwise). Despite comments showing that EPA had omitted or grossly underestimated various costs for the proposed rule, and despite the fact that EPA added new technology requirements, these final costs inexplicably *decreased* on a per-plant basis for FGDW. The average capital cost per plant went from just over \$21.5 million for the Proposed Rule to approximately \$20.5 million for the Final Rule.¹¹³ And the average annual O&M costs went from approximately \$2.2 million to approximately \$1.4 million.¹¹⁴

EPA's revised cost figures cry out for explanation. Yet, EPA offers only its *ipse dixit* as support. EPA suggests that it considered public comments and

¹¹² CBI_Supplemental Costs and Loadings Attachment 76, Index.12259 (same as footnote 111).

¹¹³ Compare Index.2920.9-28 with Index.12840.9-32.

¹¹⁴ *Id.* (averages were calculated by dividing total industry cost by number of plants).

changed its analysis “where appropriate,” but without ever explaining *how*.¹¹⁵

EPA provides no detail that would allow any meaningful review.

Despite the requirement to explain what it did, EPA withheld the underlying data, methodologies, and analyses under the guise of CBI. For example, they are missing from EPA’s Final ICPR, which “describes the methodologies used to estimate plant-specific compliance costs...associated with installing and operating the various technologies and practices that make up the regulatory options considered by EPA to revise the existing ELGs.”¹¹⁶ Unquestionably, this document is central to EPA’s development of the Final Rule.

The Final ICPR is the only document that describes EPA’s consideration of costs and pollutant removals in full. The Final TDD refers directly to it for detailed explanations of EPA’s methodology. For example, the Final TDD summarizes EPA’s final method for estimating indirect capital costs, and cites Section 6.2.6.10 of the Final ICPR “for more details on the methodology.”¹¹⁷ Despite EPA’s express reliance on this key document, the referenced subsection has been redacted *in its entirety*.

¹¹⁵ See, e.g., Index.12840.3-20 (“EPA evaluated public comments to identify plant-specific operation and flow data and, where appropriate, used this information to revise estimates of compliance costs and pollutant removals for those facilities....”).

¹¹⁶ Index.12134.1-1.

¹¹⁷ See Index.12840.9-25. There is no section 6.2.6.10 of the Final ICPR identified in the table of contents in the public record. Presumably, EPA meant to cite to section 6.1.6.10, which the table of contents describes as discussing EPA’s indirect capital costs methodology.

In fact, EPA has withheld entire sections from the Final ICPR as CBI consisting of hundreds of pages of information.¹¹⁸ The table of contents reveals the titles of the missing sections and subsections, and those titles make clear the vital nature of the withheld information.¹¹⁹ In Section 5 alone, one can see that basic subject matter about cost has been redacted.¹²⁰

¹¹⁸ See Index.12134 (un-paginated placeholder between 4-35 and 9-1, noting that Sections 5, 6, 7, and 8 “have been removed from this document”).

¹¹⁹ See *id.* at ii-vii.

¹²⁰ *Id.* at ii-iii.

5. GENERAL METHODOLOGY, TERMINOLOGY, AND COMMON COST ELEMENTS..... 5-1

5.1 General Cost Methodology and Terminology..... 5-1

5.2 Compliance Monitoring Cost Methodology..... 5-3

5.2.1 Monitoring Requirements 5-3

5.2.2 Capital Cost Methodology 5-4

5.2.3 O&M Cost Methodology 5-4

5.2.3.1 Sampling Labor Cost 5-4

5.2.3.2 Sampling Material Cost..... 5-5

5.2.3.3 Sampling Preservation Cost 5-6

5.2.3.4 Sample Shipping Cost 5-7

5.2.3.5 Sample Analysis Cost 5-8

5.3 Transportation Cost Methodology 5-9

5.3.1 Technology Description..... 5-9

5.3.2 Cost Inputs 5-9

5.3.3 Cost Methodology 5-10

5.3.3.1 On-Site Transportation Cost Methodology 5-10

5.3.3.2 Off-Site Transportation Cost Methodology 5-11

5.4 Disposal Cost Methodology 5-12

5.4.1 Technology Description..... 5-12

5.4.2 Cost Inputs 5-12

5.4.3 Cost Methodology 5-12

5.4.3.1 On-Site Disposal Cost Methodology 5-12

5.4.3.2 Off-Site Disposal Cost Methodology..... 5-14

5.5 Surface Impoundment Operation Costs Methodology..... 5-15

5.5.1 Technology Description..... 5-15

5.5.2 Input Table 5-16

5.5.3 Cost Methodology 5-17

5.5.3.1 Impoundment O&M Costs 5-17

5.5.3.2 Impoundment Unitized O&M Costs..... 5-21

5.5.3.3 Earthmoving Unitized O&M Costs 5-22

5.5.3.4 Impoundment and Earthmoving Capacity Factors 5-24

5.5.3.5 Surface Impoundment Earthmoving Recurring Costs 5-24

5.6 References 5-25

According to its title, the missing Section 5 explains EPA’s “General Methodology, Terminology, and Common Cost Elements.” The missing subsections provide the “General Cost Methodology and Terminology” and other more specific cost methodologies. In addition to EPA’s final cost methodologies underlying the Final Rule, these sections identify and describe the technologies evaluated. In short, the titles of Section 5 and its subsections confirm that EPA has withheld basic cost information necessary to evaluate its methods and analyses.

The same is true for Sections 6 through 8. These sections lay out EPA’s methodologies for analyzing costs and technologies for treating FGDW, fly ash transport water, and BATW.¹²¹ As with Section 5, EPA included within these sections basic technology descriptions for multiple wastewater treatment options, as well as capital cost and operation and maintenance cost methodologies for each technology.¹²² EPA redacted *all* of these sections and subsections.

While these sections or subsections might contain some CBI, the underlying methodologies themselves are necessary to understanding what EPA did and why. In fact, the proposed version contains substantially more information than the final. This enabled the public to evaluate EPA’s cost methodologies in the Proposed ICPR, which provided 217 pages of methods and analyses in chapters 5, 6, 7, and 8.¹²³ By withholding these methods and analyses in the Final ICPR, EPA has deprived the public of the same ability to analyze the Final Rule.

These missing pages are critical to determining whether EPA’s promulgation of the Final Rule was reasonable. EPA’s Response to Comments alone cited the redacted portions of the Final ICPR *at least 53 times*—5 times to Section 5

¹²¹ *Id.* at iii-vii (Section 6, 7, and 8 entitled “FGD Wastewater Cost Methodology,” “Fly Ash Transport Water Cost Methodology,” and “Bottom Ash Transport Water Cost Methodology,” respectively).

¹²² *See, e.g., id.* (table of contents identifying redacted subsections entitled “Technology Description” for chemical precipitation for FGDW (Section 6.1.1), vector truck collection for fly ash transport water (Section 7.2.1), and MDS for BATW (Section 8.1.1)).

¹²³ *See* Index.2292.5-1-8-33.

(General Methodology, Terminology, and Common Cost Elements), 30 times to Section 6 (FGD Wastewater Cost Methodology), 4 times to Section 7 (Fly Ash Transport Water Cost Methodology), and 14 times to Section 8 (Bottom Ash Transport Water Cost Methodology).¹²⁴

Under the pretext of CBI, EPA has withheld over 250 pages in the Final ICPR presenting the Agency's cost methodologies for the Final Rule from the public record. No other document presents these methodologies in a way that allows them to be critically reviewed.¹²⁵ For example, the Final TDD is carefully crafted to provide only general narrative descriptions of "EPA's *approach* for estimating costs."¹²⁶ This is no substitute, for instance, for the actual "details on

¹²⁴ *See, e.g.*, Index.10079.4-188 ("EPA disagrees with the commenter's assertion that EPA did not include capital expenditures for plants recycling a majority of their bottom ash transport water. EPA did. As discussed in Section 8.5 of the [Final ICPR], EPA included a one-time bottom ash management cost..."), 4-194 ("EPA disagrees with the commenter's assertion that EPA did not account for costs associated with jurisdictional regulatory approval and that EPA also fails to account for any equipment that may be retired or rendered obsolete. As discussed in Section 5.1 of the [Final ICPR], EPA includes costs associated with indirect capital costs.").

¹²⁵ Complete redaction of large ICPR sections calls into question whether the hidden data satisfies even minimal data reliability. At the proposal stage, EPA chose to use dubious 1980s BATW pollutant loadings data. When commenters objected, EPA removed these values from its loadings database. Index.10081.6-423. There is no reason to believe the hidden data in the Final Rule is any more reliable.

¹²⁶ Index.12840.9-33 (emphasis added); *see, e.g., id.* at 9-38 (describing EPA's cost methodology for converting to dry bottom ash MDS handling merely as "Total MDS Capital Costs = Conveyance and Intermediate Storage Equipment Costs + Direct Capital Costs + Indirect Capital Costs + Bottom Ash Disposal Costs").

the bottom ash cost *methodology*,” which is redacted from the ICPR.¹²⁷

As such, EPA has failed to explain its consideration of the cost of BAT under the CWA.

b. Effectiveness of BAT Technologies

EPA claims that “biological treatment [is] well-demonstrated” technology for the treatment of FGDW.¹²⁸ But the public record hardly supports such an overarching conclusion. Nothing in the public record demonstrates that biological treatment can treat all of the industry’s FGDW effectively.

For example, EPA’s reliance on CBI prevents any demonstration that biological treatment is effective when a plant’s FGDW contains high amounts of chloride. EPA acknowledges that “[c]hemical precipitation systems are typically not able to remove chlorides from FGD wastewater....”¹²⁹ This means that biological treatment systems must be able to handle whatever chloride is present in FGDW.

The public record establishes that chloride levels exceed 25,000 ppm at some plants discharging FGDW.¹³⁰ By comparison, the public record also suggests that biological treatment is not designed for chloride levels that high. At

¹²⁷ *Id.* at 9-37 (emphasis added) (citing to unavailable Final ICPR Section 8 for such details).

¹²⁸ 80 Fed. Reg. at 67,850.

¹²⁹ Index.12840.8-9.

¹³⁰ Index.10080.5-379.

the 2010 International Water Conference, GE described its ABMet biological treatment system—which EPA used as the basis for BAT—as “designed to handle chloride levels up to 20,000 ppm.”¹³¹ EPA’s explanation of the discrepancy is critical because the Agency established the Rule’s limits based only on plants with chloride levels less than 10,000 ppm.¹³²

Despite the evidence in the public record, EPA claims that the *non-public* “record demonstrates that...bioreactor systems can handle chloride levels of up to 30,000 ppm” or even 35,000 ppm.¹³³ But it is impossible for the Court or public to verify whether EPA’s statement has any basis whatsoever. EPA has withheld the document it claims demonstrates the system’s efficacy, even when the claims exceed the vendor’s own public statements. In any event, EPA relies entirely on GE’s unsubstantiated claims, not *EPA’s* analysis of them.¹³⁴

EPA also has withheld correspondence with the vendor that may undermine the claims regarding the general efficacy of biological treatment. In the two-page “Notes from Call with GE Water,” EPA has redacted nearly everything of value as

¹³¹ Index.9778.165-66 (citing Sonstegard, J., J. Harwood, and T. Pickett, “ABMet™: Setting the Standard for Selenium Removal,” 2010 International Water Conference, IWC-10-18, at 5). UWAG also noted that GE had privately advised EPRI that the system could handle up to 25,000 ppm chloride. *Id.* (explaining that 25,000 ppm has not been demonstrated anywhere). But, even if *that* level were demonstrated, nothing in the record demonstrates that the system could handle *higher* than 25,000 ppm.

¹³² *Id.* at 166.

¹³³ Index.12840.8-9 (citing CBI_Additional GE Response to Post Proposal Questions, Index.11781, and Index.10080.5-379).

¹³⁴ *See, e.g.*, Index.12006.8–9.

CBI regarding these issues.¹³⁵ The memorandum is striking. It suggests there are difficulties or, at the very least, important variables affecting the system's capabilities:¹³⁶

- “GE reports [Redacted]. While GE has [Redacted]. GE is [Redacted] to control oxidants and ORP.”
- “GE reports that thus far, any issues related to high oxidants or [Redacted]. GE believes these issues with [Redacted].”
- “The ABMet™ system can process wastewater with [Redacted] nitrate concentrations. [Redacted] with a membrane bioreactor (MBR) or stirred tank system with MBR to [Redacted] prior to treatment with the ABMet™ system. Alternatively, the ABMet™ system can be designed to [Redacted].”
- “EPA inquired about any existing biological treatment systems having operational issues. GE reported [Redacted].”
- “GE indicated [Redacted].”
- “EPA inquired about the mechanism used to remove selenium from the backwash stream. GE noted that [Redacted].”

Given these extreme redactions, the public record simply does not support EPA's conclusions.

D. EPA's Duty To Explain Is at Its Greatest When It Relies on Third-Party Vendors That Have a Financial Stake in the Outcome

As a general matter, EPA's duty to explain its reasoning is heightened when it relies on the expertise of outside parties. As this Court recently reiterated, EPA

¹³⁵ Index.11999.

¹³⁶ *Id.* at 1-2 (all redactions in original).

“is free to rely on outside experts to support its conclusions, [but] the level of deference owed to an agency’s conclusions is substantially diminished when the subject matter in question lies beyond the agency’s expertise.”¹³⁷

If EPA chooses to rely on outside vendors, the record must establish that the Agency critically analyzed the vendors’ information. “As long as [EPA] conducts its own independent and thorough review of the consultants’ report, the agency’s reliance on outside reports is within its discretion and does not change the standard of review.”¹³⁸ “An agency may not...reflexively rubber stamp information prepared by others.”¹³⁹ Because EPA’s verification of vendor-supplied information is not available anywhere in the record, EPA has not satisfied its obligation to establish *reasonable* reliance on the vendor information.

These imperatives should be at their highest when EPA relies on information supplied by *self-interested* vendors. EPA solicited information about the cost and performance of treatment technologies from the very vendors that would benefit financially from EPA’s designation of their technologies as BAT. EPA’s reliance

¹³⁷ *Texas v. EPA*, 829 F.3d 405, 432 (5th Cir. 2016).

¹³⁸ *Avoyelles Sportsmen’s League, Inc. v. Marsh*, 715 F.2d 897, 906 n.17 (5th Cir. 1983) (rejecting lower court’s decision to engage in *de novo* review, but suggesting nevertheless that more probing review is warranted if record does not reveal agency’s independent review of outside reports); *cf. Save Our Wetlands, Inc. v. Sands*, 711 F.2d 634, 642 (5th Cir. 1983) (under NEPA, “the agency was fully authorized to consider or even adopt the [outside report]. It must, however, independently verify the report.”).

¹³⁹ *Coliseum Square Ass’n, Inc. v. Jackson*, 465 F.3d 215, 236 (5th Cir. 2006), *cert. denied*, 552 U.S. 810 (2007) (internal quotation and citations omitted).

on these financially motivated vendors shows that the Agency itself lacks the necessary expertise.¹⁴⁰

As such, any deference owed to EPA's conclusory assertions regarding the cost and performance of BAT is "diminished and the agency must support its arguments more thoroughly than in those areas in which it has considerable expertise and knowledge."¹⁴¹ This is particularly true when confronted with well-supported arguments and studies in public comments.¹⁴² As this Court has held, EPA fails to fulfill "its obligation of...analysis" under the CWA when the Agency relies on studies or data that may "mask an important methodological flaw."¹⁴³ To survive judicial review, EPA must demonstrate—not merely assert—that the vendor information it relied on was accurate and that EPA independently verified the information and any analyses relying upon it.

By concealing the critical information from review as CBI, EPA utterly fails to meet this heightened standard.

¹⁴⁰ *See Texas*, 829 F.3d at 432 (EPA's very "reliance on an outside expert demonstrates" that it lacks the expertise). While EPA certainly has experience establishing effluent limitations based on, for instance, performance capabilities of wastewater treatment technologies as provided by vendors, EPA must provide enough detail to verify the reasonableness of its reliance on such information. This is the minimum that the APA requires.

¹⁴¹ *Id.* at 433.

¹⁴² *Id.* at 422-33 (merely "pointing to the report of [its] outside expert, does not detail why" EPA's regulation overcomes industry's concerns).

¹⁴³ *Am. Petroleum Inst.*, 661 F.2d at 356 (remanding ELGs).

E. EPA’s Failure To Explain Its Rationale Is So Egregious That It Warrants Vacating the Entire Rule

If an agency’s “finding is not sustainable on the administrative record made, then the...decision must be vacated and the matter remanded...for further consideration.”¹⁴⁴ Here, EPA has said *what* it believes, but it has not shown *why* it believes that.¹⁴⁵ Despite EPA’s reassurances in presenting its conclusions, the Agency has pointed to supporting information that has been withheld as CBI. Without access to that information, it is impossible to verify that EPA promulgated a defensible rule.

In light of the *systemic* failings by EPA to support and explain the Final Rule on the public record before the Court, the Court should vacate the Rule.

II. EPA Has Failed To Respond Adequately to Public Comments, Because Many of Its Responses Are Based on Information Withheld from the Public Record

EPA has failed to satisfy its obligations to respond to public comments. In its Response to Comments alone, EPA referenced documents withheld, in whole or part, nearly 300 times under the pretext of CBI.¹⁴⁶ At least 53 of those references are to sections removed from the Final ICPR, which contains EPA’s analysis of costs associated with the various technologies EPA considered and ultimately

¹⁴⁴ *Camp v. Pitts*, 411 U.S. 138, 143 (1973).

¹⁴⁵ *See Sierra Club v. EPA*, 167 F.3d 658, 663 (D.C. Cir. 1999) (“Although EPA said *that* it believed the combination of regulatory and uncontrolled data gave an accurate picture of...performance, it never adequately said *why* it believed this.”) (emphasis in original).

¹⁴⁶ EPA cited documents entirely withheld 165 times and partially withheld 112 times.

selected as BAT. These inaccessible documents, expressly referenced by EPA, are part and parcel of the Agency's Response to Comments.

EPA had the latitude to craft its responses and support them with whatever documentation it chose. It was not required to refer to CBI. EPA could have anonymized or sanitized the CBI, presenting the information in a non-confidential fashion. Instead, EPA forsook this opportunity, without justification or explanation.

Without the underlying documents referenced by EPA itself, the "responses" are reduced to summary conclusions. The responses cannot be verified or fully reviewed and, therefore, are legally inadequate. Referring commenters to unavailable CBI is effectively no response at all.

A. EPA Has a Duty To Respond to Public Comments

EPA must give "reasoned responses to all significant comments."¹⁴⁷ A response to comments is adequate only if it allows the reviewing court to determine whether the agency has "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made."¹⁴⁸ As this Court has explained, the precise

¹⁴⁷ *PPG Indus., Inc. v. Costle*, 630 F.2d 462, 466 (6th Cir. 1980). See 5 U.S.C. §553(c) (2015); *Nat'l Wildlife Fed'n v. Costle*, 629 F.2d 118, 134-35 (D.C. Cir. 1980) ("*Costle*").

¹⁴⁸ *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation and citation omitted).

“scope and degree of detail required by §553(c) depends on the scope and detail provided in the comments.”¹⁴⁹

Mere conclusions are insufficient.¹⁵⁰ Moreover, the agency must fully explain responses that reject significant comments, particularly where “the magnitude of the difference” between the commenter’s and agency’s figures “should have alerted the EPA to the possibility that the...objections...were well-founded.”¹⁵¹

B. If EPA Chooses To Rely on a Document in Its Response to Comments, EPA Must Defend the Document

An agency has the prerogative to respond to comments in whatever fashion it chooses, so long as it does so adequately.¹⁵² This prerogative extends to the selection of evidence in support of responses to comments. However, when an agency chooses to refer to other documents in its final decision, “the reasoning [in those documents] becomes that of the agency and becomes its responsibility to defend.”¹⁵³ As the Court explained, “the public interest in knowing the reasons for

¹⁴⁹ *Cent. & S. W. Servs., Inc. v. EPA*, 220 F.3d 683, 692 (5th Cir. 2000), *cert. denied sub nom. Util. Solid Waste Activities Group v. EPA*, 532 U.S. 1065 (2001).

¹⁵⁰ *Am. Mining Cong. v. EPA*, 907 F.2d 1179, 1190-91 (D.C. Cir. 1990).

¹⁵¹ *Texas v. EPA*, 499 F.2d 289, 309 (5th Cir. 1974), *cert. denied sub nom. Exxon Corp. v. EPA*, 427 U.S. 905 (1976).

¹⁵² *See United States v. Nova Scotia Food Prods. Corp.*, 568 F.2d 240, 252 (2d Cir. 1977) (“The agencies certainly have a good deal of discretion in expressing the basis of a rule, but the agencies do not have quite the prerogative of obscurantism reserved to legislatures.”).

¹⁵³ *NLRB v. Sears, Roebuck & Co.*, 421 U.S. 132, 161 (1975).

a policy actually adopted by an agency supports” disclosure of the information in those documents.¹⁵⁴

C. EPA’s Express Reliance on Unavailable CBI in Its Responses to Comments Fails To Satisfy the APA

EPA cannot justify a rule by relying on reports, studies, or data withheld from the public record, even if referenced in its response to comments.¹⁵⁵ The following sections highlight just a few examples of this, where each “response” pertains to objections raised by the public about issues EPA is required to consider under the CWA. EPA’s consideration of, and response to, these objections is therefore of central significance to the Final Rule. EPA’s responses are plainly inadequate due to reliance on CBI.

1. EPA’s Responses Regarding the Impact of Facility Age on Its Selection of BAT

The CWA requires EPA to consider “the age of equipment and facilities involved” when selecting BAT.¹⁵⁶ In its comments, American Municipal Power, Inc. (“AMP”) questioned EPA’s claim “that the age of a plant or unit ‘by itself does not in general affect the wastewater characteristics, the processes in place, or the ability to install the treatment technologies evaluated as part of this

¹⁵⁴ *Id.*

¹⁵⁵ *Ass’n of Pac. Fisheries*, 615 F.2d at 819-20.

¹⁵⁶ 33 U.S.C. §1314(b)(2)(B).

rulemaking.”¹⁵⁷ AMP went on to note that “the age of a plant or unit *does significantly* impact the cost-effectiveness of any new regulatory controls..., as well as the overarching decision of its owner as to whether to make the retrofit or close the facility instead.”¹⁵⁸ AMP’s concern was “that EPA’s failure to establish subcategories (which could vary applicability based on unit age...) ... could needlessly add to the long list of closed coal units and thus negatively impact regional electric reliability...”¹⁵⁹

EPA publicly offers very little in response to this comment. First, it simply restates its original conclusory statement “that neither age nor location of a plant or generating unit ‘by itself in general affect the wastewater characteristics, the processes in place, or the ability to install and operate the treatment technologies evaluated as part of this rulemaking.’”¹⁶⁰ Next, it asserts that “EPA’s analysis shows that all operations covered by the final rule can achieve the final limitations.”¹⁶¹

¹⁵⁷ Index.8765.2 (quoting Proposed Rule, 78 Fed. Reg. at 34,446).

¹⁵⁸ *Id.* (emphasis added).

¹⁵⁹ *Id.*

¹⁶⁰ Index.10078.3-590.

¹⁶¹ *Id.*

EPA supports these assertions entirely by reference to CBI.¹⁶² The response points to a document that has been withheld in its entirety—“CBI Memorandum: Steam Electric Effluent Guidelines – Evaluation of Potential Subcategorization Approaches.”¹⁶³ Because this is the only document EPA offers in its response to comments as containing the full explanation of its required consideration of age, the response is patently inadequate.¹⁶⁴

2. EPA’s Responses Regarding the Effectiveness of Biological Treatment

UWAG questioned in its comments whether biological treatment was demonstrated to effectively treat FGDW with high nitrate or selenium concentrations.¹⁶⁵ EPA again responded by referring to CBI. EPA claims that “GE has conducted a number of pilot and full-scale studies that have demonstrated the effectiveness of the biological treatment system in meeting nitrate-nitrite and selenium limits.”¹⁶⁶ In support of that statement, EPA cites only two documents,

¹⁶² *Id.* at 3-591 (citing DCN-SE05813). In its nearly 6,000-page long Response to Comments, EPA repeatedly refers the reader back to this response as proof of its consideration of age. *See, e.g.*, Index.10080.5-521.

¹⁶³ Index.12128. EPA also cites to Chapter 5 of its Regulatory Impact Analysis (“RIA”), which is irrelevant. *See* Index.10078.3-591. That chapter makes no mention of “age” at all. *See* Index.12842.5-1–5-26. The RIA certainly does not explain *why* or *how* EPA’s economic analysis eliminates age as a determining factor for projecting generating unit retirements, as EPA claims. *See id.* Nor does the RIA provide any reasoning in response to AMP’s comment that age significantly impacts the cost-effectiveness of new regulatory controls.

¹⁶⁴ *See* Index.12840.5-2 (briefly summarizing EPA’s consideration of age, but citing repeatedly to the same withheld memorandum for detailed explanation).

¹⁶⁵ Index.9778.148–50.

¹⁶⁶ Index.10080.5-447.

both of which are entirely withheld as CBI: “CBI_Additional GE Response to Post Proposal Questions,” and “CBI_GE Written Responses to Additional Follow Up Questions.”¹⁶⁷

Apart from CBI, EPA offers nothing to support its belief that “[t]he ability of the biological technology to effectively operate under varying conditions of chlorides, TDS and other characteristics is well-demonstrated by the record for the rule.”¹⁶⁸ EPA cites to recommendations on “how plants can (and should) ensure the proper operation of the treatment system, including steps that should be taken to condition the influent wastewater prior to the bioreactor.”¹⁶⁹ But even assuming that EPA’s recommended steps *might* help biological treatment systems treat high levels of selenium and nitrate, those steps do not *demonstrate* the ability of the system to meet the specific limits.

Given that the only possible demonstration is withheld as CBI, EPA has failed to respond to comments adequately.¹⁷⁰

3. EPA’s Responses Regarding the Costs of BAT

Most striking are EPA’s inadequate responses regarding the costs of BAT, and therefore overall costs of the Final Rule. In one remarkable example, UWAG

¹⁶⁷ *Id.* (citing Index.11781 and Index.11846, respectively).

¹⁶⁸ Index.10080.5-448. “TDS” means total dissolved solids.

¹⁶⁹ *Id.* at 5-447.

¹⁷⁰ Commenters also questioned whether EPA had adequately considered whether high chloride levels impeded biological systems. *See supra* at 38-40. As noted previously, EPA used CBI to withhold the information supporting EPA’s position. *Id.*

identified transcription errors in EPA’s economic model that resulted in estimated costs being “*off by a factor of 10*, underestimating the overall capital costs for dry fly ash retrofits for the industry.”¹⁷¹

EPA conceded these mistakes in its Response to Comments.¹⁷² EPA’s cursory response says that it corrected its equations, but does not reveal the new equations themselves. And EPA does not show that these changes were actually made. Confirmation of this is presumably contained only in the withheld CBI sections of the Final ICPR.

Indeed, EPA frequently referenced withheld sections of the Final ICPR in its Response to Comments. For instance, EPA says that it considered all of the following when finalizing the Rule, yet offers no details as to *how* it did so:

- costs of jurisdictional regulatory approvals, and the impact of equipment retired or rendered obsolete;¹⁷³
- costs for a chemical addition system that will add a chemical reducing agent into the FGDW chemical precipitation system when needed to respond to elevated ORP levels;¹⁷⁴
- costs for the treatment and disposal of the backwash from the biological system in the chemical precipitation component of FGDW BAT;¹⁷⁵

¹⁷¹ Index.9778.96–98 (emphasis added).

¹⁷² Index.10081.6-234 (“EPA acknowledges the errors in the three capital cost equations....”).

¹⁷³ Index.10079.4-194 (citing Final ICPR, Index.12134.§5.1).

¹⁷⁴ Index.10080.5-382 (citing §6.2).

¹⁷⁵ *Id.* at 5-384, 5-401 (citing §6.2).

- costs for additional instrumentation to allow for appropriate monitoring and control of FGDW characteristics entering treatment;¹⁷⁶ and
- costs for adequate staffing for O&M of the treatment system, as well as staffing associated with disposal of treatment residuals.¹⁷⁷

Commenters presented specific concerns about specific cost issues, yet

EPA's position is simple: "trust us."¹⁷⁸

Under the APA, EPA must show its work to enable the Court to "engage in a substantial inquiry."¹⁷⁹ EPA's repeated failure to respond adequately to comments is fatal to the Final Rule. Vacatur is the required remedy.¹⁸⁰

III. EPA Failed To Demonstrate That Biological Treatment is Technologically "Available" for Plants Burning Subbituminous or Lignite Coals

None of the plants on which EPA based its biological treatment-based limits burns subbituminous or lignite coal.¹⁸¹ Indeed, not one of the subbituminous- or

¹⁷⁶ *Id.* at 5-513 (citing §§6.1, 6.2).

¹⁷⁷ *Id.* at 5-401 (citing §6.2).

¹⁷⁸ *See also id.* at 5-537 ("The absence of cost curves due to the presence of CBI prevents EPA from comparing the differences between EPA's costs and the commenter's costs for the biological treatment system."). Similar concerns apply to the responses to comments about fly ash transport water. City Utilities warned in comments that EPA's conclusion that retrofitting controls was economically feasible was based on studies performed under vastly different fly ash market conditions that no longer existed. Index.8692.3 ("EPA's final EGU mercury rule and proposed coal combustion residual (CCR) rule have induced a chilling effect on the ash recycling market," such that "the cost-effectiveness of future dry flyash conversion projects should in no way be gauged by comparison to projects completed prior to the mercury MACT and CCR publication."). However, EPA's detailed cost methodology on this issue is withheld as CBI. *See* Index.12134 (entire section titled "Fly Ash Transport Water Cost Methodology" redacted).

¹⁷⁹ *Overton Park*, 401 U.S. at 415.

¹⁸⁰ *See* 5 U.S.C. §706(2); *Cent. & S. W. Servs.*, 220 F.3d at 692 (identifying limited circumstances, which are not present here, when remand without vacatur would be appropriate upon finding an agency's responses to comments inadequate).

lignite-burning coal plants in EPA’s database has biological treatment as part of its FGDW system, nor were any pilot test data for biological treatment available for such facilities in the record. Therefore, based on EPA’s record, *the Agency has not demonstrated—and cannot demonstrate—the feasibility of biological treatment for 16-25% of all plants subject to the new FGD limits.*¹⁸²

As this Court has stated, “EPA bears the burden of producing a reasonable basis on the record for its regulations.”¹⁸³ Here, as in *Chemical Manufacturers*, the decision to regulate FGDW discharged by these plants without any performance data for biological treatment is arbitrary and capricious and in violation of the statutory command that EPA consider those factors.

¹⁸¹ The Rule’s analytical database includes some data from Hatfield’s Ferry, a plant that at the time burned a blend of PRB and Eastern bituminous coal. However, that plant did not have a biological treatment system for its FGD wastewater. *See* Index.1653.1.3-5. It also includes data from We Energies’ Pleasant Prairie Plant which burns PRB coal but which also did not have biological treatment. *See* Index.9778.206.

¹⁸² EPA based its estimates of plants burning subbituminous and lignite coals on EPA survey data. The survey collected information through 2009. But at the final rule stage, EPA asserted that, after accounting for “announced retirements,” there were no lignite-burning plants discharging FGD wastewater. Index.10078.3-525. However, industry comments demonstrate that several lignite-burning plants are authorized to discharge FGD wastewater. *See* Index.9753.5.

¹⁸³ *Chem. Mfrs. Ass’n v. EPA*, 885 F.2d 253, 265 (5th Cir. 1989), *cert. denied sub nom. PPG Indus. v. EPA*, 495 U.S. 910 (1990) (vacating/remanding ELG where lack of performance data in the record for in-plant biological treatment meant EPA’s decision to derive limits for 20 pollutants based on in-plant biological treatment was “no more than an educated guess”).

A. Differences Among Coal Types Have Significant Implications for the Performance and Cost of Biological Treatment

According to EPA, out of 100 plants identified as discharging FGDW in 2009, 15 to 20 plants burn subbituminous coal and 1 to 5 burn lignite.¹⁸⁴ This is important because coals vary greatly not only in their price,¹⁸⁵ availability, and heating value, but also in the air emissions they produce when burned,¹⁸⁶ the applicability and performance of air emissions control technologies,¹⁸⁷ and the characteristics of wastewater resulting from use of those air emissions control technologies.¹⁸⁸ None of these facts is disputable.

Nor can there be any dispute that steam electric units are typically designed to handle a certain coal type or types. A unit designed to burn a subbituminous coal such as PRB coal cannot simply switch to burning bituminous coal. The same is true for lignite plants.

¹⁸⁴ Index.12840.6-5(Table 6-2). EPA also identified 10-15 plants that burn two or more coal types. *Id.* Whether those plants can meet the limits is also in question.

¹⁸⁵ *See, e.g.*, Index.12372.215 (listing coal prices by types—bituminous, subbituminous, lignite, and anthracite—for selected years from 1949-2011).

¹⁸⁶ Different coals contain differing amounts and combinations of pollutants, including sulfur, hydrogen chloride, and mercury, which are important factors for designing and operating air emission technologies and managing the resulting wastewaters. *See* Index.12377.9-12.

¹⁸⁷ EPA has acknowledged differences between electric generating units based on coal types in other rulemakings. In the Mercury and Air Toxics Rule, EPA set different hazardous air pollutant emission standards based on coal ranks. 79 Fed. Reg. 24,073, 24,088 (Apr. 24, 2013).

¹⁸⁸ Index.47.4-17 (noting pollutant concentrations in FGD scrubber purge vary due to, among other factors, “air pollution control systems operated upstream of the FGD system.”).

At no point over the course of this rulemaking did EPA purport to restrict, or consider the feasibility and cost of restricting, the type of coal a plant could burn or the type of air emissions control technology a facility might use in meeting applicable air emissions control requirements. Thus, each affected facility's choice of coal and its air emissions control technology must be taken as a given and not as a collateral factor that can simply be changed in order to achieve the ELGs.

B. FGD Wastewater from Subbituminous Coal is Very Different from FGD Wastewater from Bituminous Coal

EPA claims that subbituminous-burning plants can achieve the FGD limits because biological treatment systems provide “a mechanism to reduce selenium and nitrate/[nitrite]” and because the selenium and nitrate/nitrite present in FGDW, whether derived from bituminous or subbituminous coal, “is not different.”¹⁸⁹ The record refutes this flawed conclusion. The effectiveness and cost of wastewater treatment systems depend on the full pollutant “matrix”—that is, the specific mixture of pollutants as well as their individual characteristics—of the wastewater being treated.

The record demonstrates that FGDW from subbituminous-burning plants is substantially different from FGDW from bituminous-burning plants. The table below summarizes four-day average EPA data for FGDW exiting the chemical precipitation portions of the FGDW treatment systems at Allen and Belews Creek

¹⁸⁹ Index.10080.5-450-5-451.

Stations, which burn Eastern bituminous coal, and at Pleasant Prairie Power Plant, which burns PRB coal.¹⁹⁰ The table uses dissolved values after chemical precipitation, because biological treatment is designed to remove dissolved fractions of constituents.¹⁹¹ Allen and Belews Creek use both chemical precipitation and biological treatment to treat their FGDW,¹⁹² while Pleasant Prairie uses a chemical precipitation system.¹⁹³

For nitrates, the dissolved fraction of Pleasant Prairie's chemical precipitation effluent is more than *8 times* the values for both Allen and Belews Creek. For selenium, Pleasant Prairie's effluent is about *23 times* that of Allen and almost *twice* the Belews Creek value.¹⁹⁴

¹⁹⁰ At Belews Creek and Allen, this is a midpoint sample in the wastewater treatment system, prior to biological treatment. But at Pleasant Prairie, the sampling point is the end of the FGDW treatment system since it has no biological treatment.

¹⁹¹ See Index.1992.4-7-4-10(Table 4-2); Index.1954.4-16-4-18(Tables 4-4,4-5); Index.1966.4-12-4-14(Tables 4-3,4-4).

¹⁹² Index.1992.2-2; Index.1954.2-3.

¹⁹³ Index.1966.2-3.

¹⁹⁴ The record contains additional documentation of the substantial differences in FGD wastewater influent between bituminous and subbituminous plants. See, e.g., EPRI, *Pilot-Scale and Full-Scale Evaluation of Treatment Technologies for the Removal of Mercury and Selenium in Flue Gas Desulphurization Water*, Index.12102.3-4,3-5,3-8,3-23 (showing much higher selenium and nitrate levels for the subbituminous plant).

**Comparison of 4-Day Average FGDW Treatment After Chemical
Precipitation at Allen, Belews Creek, and Pleasant Prairie¹⁹⁵**

Analyte	Unit	4-Day Average Dissolved Effluent, Allen (E. Bituminous)	4-Day Average Dissolved Effluent, Belews Creek (E. Bituminous)	4-Day Average Dissolved Effluent, Pleasant Prairie (PRB)
Aluminum	(ug/l)	NQ ¹⁹⁶	ND	NQ
Arsenic*	(ug/l)	NQ	NQ	4.85
Boron	(ug/l)	58,600	150,000	9,930
Calcium	(ug/l)	1,750,000	3,490,000	639,000
Chloride	(mg/l)	3,300	7,780	1,950
Magnesium	(ug/l)	396,000	738,000	3,560,000
Manganese	(ug/l)	393	NQ	10,800
Mercury	(ng/l)	342	46,200	22.3
Nitrate/Nitrite	(mg/l)	13.3	19.8	160
Selenium	(ug/l)	91.1	1,210	2,080
Sodium	(ug/l)	31,300	48,900	518,000
Sulfate	(mg/l)	1,400	1,380	15,500
TDS	(mg/l)	7,560	20,100	22,400

*The pollutants highlighted are those for which EPA set new BAT limits.

In addition to the pollutants EPA chose to regulate, the values for many pollutants that EPA chose *not* to regulate—but which may affect the efficiency or proper operation of the treatment system—are also quite different. For instance, the 4-day average sulfate level in the Pleasant Prairie influent is more than 11

¹⁹⁵ Index.1992.4-7-4-10; Index.1954.4-16-4-18; Index.1966.4-12-4-14.

¹⁹⁶ “NQ” means the analyte was measured above the detection limit but below the quantitation limit for all four sampling days. “ND” means the analyte was below the detection limit and could not be quantified.

times that of Allen or Belews Creek. Sulfate levels can affect the operation of the system by causing calcium sulfate scaling, in which mineral deposits build up inside the treatment system's piping and equipment.¹⁹⁷ At Pleasant Prairie, even with lime addition as a pretreatment step, the remaining high sulfate levels necessitate weekly cleaning of the secondary clarifier.¹⁹⁸ Without this regular cleaning, "excessive scale would build up and affect the performance of the clarifier."¹⁹⁹ This scaling issue is likely to impact both the denitrification system²⁰⁰ EPA has added to the model technology treatment chain and the biological treatment system meant to target nitrate/nitrite and selenium removal.

The presence of high TDS also can complicate treatment of FGDW. Within the biological treatment system, high TDS may interfere with attachment sites for bacteria, lessening the effectiveness of treatment.²⁰¹ As indicated in the table above, EPA's 4-day average for Pleasant Prairie demonstrates a TDS level that is about 3 times that of Allen and also higher than Belews Creek. Data in the record

¹⁹⁷ Index.12102.4-3.

¹⁹⁸ Index.11876 (response to Question 19).

¹⁹⁹ *Id.*

²⁰⁰ EPA has not demonstrated the use of a denitrification system as part of FGD wastewater treatment at any plant burning subbituminous coal, even though it accounted for denitrification costs at Pleasant Prairie and Hatfield's Ferry (which burns a blend of subbituminous and bituminous coals). Index.12264.Worksheet-List_of_Plants. Nonetheless, EPA simply assumes the additional technology will not be subject to operational issues such as scaling.

²⁰¹ EPRI, Index.12102.4-4.

show that TDS levels can be as high as 50,000 mg/l,²⁰² which is approximately 6 *times* the Allen 4-day average and almost 2.5 *times* the Belews Creek average.

EPA tries to negate the TDS issue by pointing to a pilot study at Petersburg Station in which TDS “ranged as high as 27,000 mg/L.”²⁰³ But Petersburg burns bituminous coal, so its results are irrelevant for subbituminous- and lignite-burning plants. Moreover, since FGDW influent can contain TDS at levels almost double the amount documented at Petersburg,²⁰⁴ the pilot study fails to demonstrate that biological treatment systems can handle high TDS levels from subbituminous fuels equally as well as TDS levels from bituminous fuels.

Without data, it is not reasonable to *assume*—as EPA has done—that biological treatment systems will work for wastewater generated by subbituminous- and lignite-burning plants. The feasibility of biological treatment for subbituminous and lignite-burning plants must be demonstrated through actual data from these types of facilities.

C. Including Pleasant Prairie Data Does Not Remedy the Lack of Biological Treatment Data for Subbituminous Plants

Industry members commented extensively on the viability of biological treatment systems for subbituminous-burning plants. We Energies, the owner of

²⁰² Index.126.2-3.

²⁰³ Index.10080.5-365 (citation omitted).

²⁰⁴ Index.126.2-3.

Pleasant Prairie, commented that “nothing in the rulemaking record demonstrates that facilities burning subbituminous coal can meet the proposed selenium and nitrate/nitrite limitations.”²⁰⁵ The company urged EPA to “recalculate effluent limitations for FGD wastewater using a more robust set of data that represents the variability of FGD wastewater across the industry” and to include data from at least one plant burning solely subbituminous coals.²⁰⁶

In response, EPA explained that, between the proposed and final rules, it decided to include Pleasant Prairie data in the database used to derive FGD limits.²⁰⁷

By including Pleasant Prairie in the dataset, the effluent limitations are based on data that include plants burning bituminous coal, subbituminous coal, and blends of bituminous and subbituminous coals. The record demonstrates that the chemical precipitation plus biological treatment BAT basis is effective at removing the pollutants present in FGD wastewater regardless of the type of coal that is burned, and in particular those pollutants for which EPA is establishing effluent limitations. See, e.g., the pollutant removal performance for arsenic and mercury.

EPA’s response is misleading. The Pleasant Prairie data are relevant only to the mercury and arsenic limits, which are based on chemical precipitation. The facility did not have biological treatment. The performance of Pleasant Prairie’s chemical precipitation system as to arsenic and mercury is irrelevant to the

²⁰⁵ Index.8923.3.

²⁰⁶ *Id.*; see also Index.9778.116 (UWAG).

²⁰⁷ Index.10084.9-368.

performance of the biological treatment portion of the technology. Thus, EPA is wrong that “[t]he record demonstrates that the chemical precipitation plus biological treatment BAT basis is effective at removing the pollutants present in FGD wastewater regardless of the type of coal that is burned.”²⁰⁸

EPA further misleads by claiming: “The data in the record also shows that the biological treatment technology is effective at removing nitrate-nitrite and the different forms of selenium present in FGD wastewater; *that is proven true for every type of coal that has been tested with the technology.*”²⁰⁹ Note EPA’s qualified language: biological treatment is effective for “every type of coal *that has been tested with the technology.*” That is the point. Subbituminous and lignite coal have not been tested with the technology, and thus the *technology is not demonstrated for those coal types.* To set limits without appropriate supporting data is arbitrary and capricious.²¹⁰

²⁰⁸ Contrary to EPA’s assertion, it also has not demonstrated that plants burning a blend of bituminous and subbituminous coals can meet the selenium and nitrate/nitrite limits. The only plant burning a blend of coals during EPA’s sampling was Hatfield’s Ferry, which had no biological treatment system.

²⁰⁹ *Id.* (emphasis added).

²¹⁰ See *Chemical Mfrs.*, 885 F.2d at 265 (EPA failed to demonstrate a “reasonable basis for its conclusion” where it tried to use data from end-of-pipe biological treatment systems to justify in-plant biological treatment systems).

D. EPA’s Theorizing About the Efficacy of Biological Treatment is Nothing More Than an Impermissible “Educated Guess”

Lacking data, EPA nonetheless declares there is no “theoretical reason” why biological treatment would not be effective at plants burning subbituminous coal.²¹¹ It bases its “theoretical” judgment on two specious arguments.

First, EPA says that “[t]here is nothing unique about the form of selenium or nitrate-nitrite that is present in FGD wastewater at plants burning subbituminous (or any other type of coal). . . .”²¹² This statement misses the point. Although the specific types of selenium and nitrate/nitrite in FGDW may generally be the same across coal types, the differences between FGD *wastewater* from bituminous coals and that from subbituminous coals is significant. As shown by EPA’s own data for the Allen, Belews Creek, and Pleasant Prairie plants, the wastewaters differ in material ways.

Nonetheless, EPA simply asserts that “the characteristics of wastewater from subbituminous plants (as evidenced by the data for Pleasant Prairie. . . .) are similar to the characteristics of wastewater from plants burning bituminous coal (i.e.,. . .Belews Creek. . .).”²¹³ It is simply not true that all concentrations and characteristics of FGDW from subbituminous plants are similar to those for

²¹¹ Index.10084.9-368.

²¹² *Id.*

²¹³ *Id.*

bituminous plants.²¹⁴ But even if they were “similar,” comparing pollutant concentrations is not sufficient for demonstrating that biological treatment is feasible and available for subbituminous and lignite plants.

Second, the Agency claims it considered and ruled out whether other pollutants or wastewater characteristics unique to subbituminous coal would potentially interfere with biological treatment.²¹⁵ With this statement, EPA waves away possible operational difficulties from scaling (as can be caused by high sulfate levels) or from high TDS (which can potentially impact biological treatment performance). Yet, these problems occur at facilities burning subbituminous coals, and EPA’s responses on the record are inadequate, as discussed above.

It is telling that EPA urges all plants to perform site-specific pilot studies before installing FGDW equipment.²¹⁶ These studies are necessary, according to EPA, to assess wastewater characteristics and determine the most appropriate technologies and their design (*e.g.*, sufficient capacity and residence time) to handle the variability of the particular FGD wastewater.²¹⁷ EPA specifies that the studies should be conducted “over a long enough period of time that will include

²¹⁴ *See supra* at 54-58.

²¹⁵ Index.10084.9-368.

²¹⁶ Index.12006.14-16.

²¹⁷ *Id.*

variability in plant operations such as shutdowns, fuel switches (preferably for all fuel types burned at the plant), variability in electricity generating loads, periods with high [oxidation reduction potential], etc.”²¹⁸ These pilot studies are necessary because of the unpredictable variability of FGDW.²¹⁹ EPA recommends that a plant “identify the ‘worst case’ scenario and design a sufficient FGDW treatment system that can operate under the worst case conditions and achieve the effluent limits.”²²⁰

In short, EPA acknowledges the uniqueness of each FGDW at each given plant. This acknowledgement demonstrates that EPA could not have taken into account all of the site-specific technologies needed to achieve the final effluent limits for FGD wastewater. Without a full consideration of site-specific design factors, EPA could not have properly derived costs for FGD compliance at all facilities.

For lignite, EPA claims its data are “representative of the plants discharging FGD wastewater.”²²¹ Even though EPA’s survey documented 1-5 lignite plants discharging FGDW, the Agency claims that, once “announced retirements” are

²¹⁸ *Id.* at 15–16.

²¹⁹ GE, a vendor of biological treatment systems, acknowledges the “*extreme variability* in effluent quality [i.e., FGD wastewater influent to the treatment system] due to the variety of coal sources, limestone sources, and scrubber operation....” J. Sonstegard, et al., *ABMet: Setting the Standard for Selenium Removal*, Index.250.2 (emphasis added).

²²⁰ Index.12006.16.

²²¹ Index.10078.3-525.

accounted for, there are no lignite plants discharging FGDW.²²² But, as Luminant informed EPA, although its lignite plants had not discharged FGDW in some time, the plants are fully authorized to discharge FGDW.²²³ Clearly, the ability to discharge FGDW is important to those plants. Otherwise, they would not retain that flexibility in their permits. Luminant also explained to EPA that lignite “is a basic fuel in the Texas fleet.”²²⁴

EPA also retorts that commenters provided no data demonstrating that subbituminous- or lignite-burning plants would be unable to meet the effluent limitations.²²⁵ Since no subbituminous- or lignite-burning plants have installed the biological treatment system that EPA claims is BAT, it would be difficult indeed to produce such data. But that is beside the point. The burden is on EPA to demonstrate that the BAT technology is technologically “available” for the whole industrial category.

In any event, the law does not tolerate rules based on theoretical possibilities. A strikingly similar issue arose in this Court.²²⁶ There, industry challenged effluent limitations based on biological treatment, just as in this case.

²²² *Id.*

²²³ Index.9753.5.

²²⁴ *Id.* at 18.

²²⁵ Index.10080.5-166, .10078.3-525.

²²⁶ *See Chem. Mfrs.*, 885 F.2d 253 (remanding portions of ELG for the organic chemicals, plastics, and synthetic fibers industries).

EPA designated in-plant biological treatment as the model BAT technology.²²⁷ However, EPA had no data from in-plant biological treatment systems, just as here there is no performance data for biological treatment systems at plants burning subbituminous or lignite coals. Instead, EPA “relied on a data base consisting solely of three end-of-pipe biological treatment plants.”²²⁸ In the case at hand, EPA relies on data from two biological treatment systems located at plants burning *bituminous* coals to set the selenium and nitrate/nitrite limits at issue.²²⁹ In *Chemical Manufacturers*, industry petitioners explained that the detention time for the three end-of-pipe treatment systems used to derive the limits exceeded the maximum time used by EPA to estimate the costs of in-plant treatment systems. Therefore, industry claimed, EPA had not demonstrated that the limits could be achieved since “detention time is a key variable determining the effectiveness of biological treatment....”²³⁰

EPA tried to justify its use of end-of-pipe treatment data by noting that the in-plant and end-of-pipe systems use similar biological processes and treated comparable wastestreams. EPA also claimed that the concentration of biodegrading organisms in the aeration basin would decrease the amount of

²²⁷ *Id.* at 264.

²²⁸ *Id.*

²²⁹ Index.12840.13-39.

²³⁰ *Chem. Mfrs.*, 885 F.2d at 265 (footnote omitted).

detention time necessary to reach the prescribed level of treatment.²³¹ But this Court was unmoved by these factors. It found that “the record contains no performance data for in-plant treatment of the twenty priority pollutants at issue....”²³² The court rejected EPA’s theoretical point about the concentration of biodegrading organisms affecting detention time as “no more than an educated guess.”²³³ EPA failed to “make clear exactly what level of pollution would result from any given combination of shorter detention time and increased [concentration of biodegrading organisms].”²³⁴ The Court thus found that EPA had not demonstrated a reasonable basis for its conclusion that in-plant biological treatment would be as effective as end-of-pipe biological treatment.²³⁵

In the case at hand, EPA is also guessing. It says there is no evidence of possible interferences with biological treatment stemming from FGDW derived from subbituminous coal.²³⁶ But that is a theoretical judgment unsupported by any performance data. It says a “well operated” PRB-burning plant should have no

²³¹ *Id.*

²³² *Id.*

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ Index.10084.9-368.

issues meeting the limits.²³⁷ Again, that is all theory, unsupported by any credible analysis.

With as much as 25% of the coal fleet dependent upon subbituminous or lignite coals, EPA's speculation is no small matter. It is certainly not clear "exactly what level of pollution" would result from applying biological treatment at subbituminous- and lignite-burning plants.²³⁸ For these reasons, EPA's FGDW limits must be vacated as to subbituminous- and lignite-burning plants.

IV. EPA's Failure To Solicit Comments Before Stripping Plants from the Baseline Violated the APA and Undermined EPA's Economic Impact Assessment

EPA undertook significant analyses of the CPP's impacts on the Final Rule without notice or public comment.²³⁹ Based on those analyses, it stripped 47 plants out of the baseline entirely, and another 19 partially. This allowed the Agency to substantially reduce its estimate of the number of plants that would close, convert to gas, or change their ash management practices as a result of the Final Rule, which in turn profoundly affected the Agency's assessment of the Rule's economic impact on the industry. It also deprived the Industry Petitioners and the public of any opportunity to raise questions about the accuracy of EPA's assessment, or to understand and address the assumptions EPA made about the remaining useful life

²³⁷ Index.10080.5-148. If, in the absence of data, it is sufficient merely to say that a "well operated" plant should be able to meet a limit, then EPA could justify any conceivable limit.

²³⁸ *Chem. Mfrs.*, 885 F.2d at 265.

²³⁹ Index.12840.4-45.

of facilities that EPA projected would stay open beyond its chosen compliance deadline of December 31, 2023 (but not necessarily very far beyond that date). By failing to provide for public comment on its CPP analyses, EPA violated the APA. The Rule must be vacated and remanded to EPA to consider public comments because EPA’s analyses implicate the entire Rule.

A. The APA Requires EPA To Solicit Comments on Significant New Information That Arises After the Close of the Comment Period

Under the APA, EPA must set forth in its notice of proposed rulemaking “either the terms or substance of the proposed rule or a description of the subjects and issues involved.”²⁴⁰ “The notice should be sufficiently descriptive of the ‘subjects and issues involved’ so that interested parties may offer informed criticism and comments.”²⁴¹

As this Court has explained, “fairness requires that the agency afford interested parties an opportunity to challenge the underlying factual data relied on by the agency.”²⁴² “[I]f new data are considered after the agency receives comments on the data it initially provides, the nature of the change...in the newly-considered data determines whether it must again publish notice and invite

²⁴⁰ 5 U.S.C. §553(b)(3).

²⁴¹ *Ethyl Corp. v. EPA*, 541 F.2d 1, 48 (D.C. Cir. 1976) (en banc), *cert. denied*, 426 U.S. 941 (1976).

²⁴² *Chem. Mfrs. Ass’n v. EPA*, 870 F.2d 177, 200 (5th Cir. 1989), *cert. denied sub nom. PPG Indus. v. EPA*, 495 U.S. 910 (1990).

additional comments.”²⁴³ “A petitioner who objects to an agency’s failure to publish data for comment must indicate with reasonable specificity what portions of the document it objects to and how it might have responded if given the opportunity.”²⁴⁴

B. EPA Was Required To Solicit Comments on the Effect of the CPP on the Rule, and Its Failure To Do So Prejudiced Industry

A major new rule proposed by EPA after the close of the comment period on the proposed ELG rule, which would regulate the same industry as the Final Rule, is significant new data in the Agency’s possession requiring additional notice and comment under the APA.²⁴⁵ The same is true of EPA’s own analysis of the impact of the CPP on the Final Rule. Yet EPA failed to release this analysis for comment before finalizing the Rule.

EPA agrees that the CPP, which sets greenhouse gas emission guidelines for existing power plants, is a major new rule affecting the same plants targeted by the Final Rule; that is why EPA conducted its analysis.²⁴⁶ But EPA should have given the public an opportunity to comment on the impact of this major regulation on the Final Rule. It had plenty of time to do so, given that EPA proposed and finalized

²⁴³ *Id.* at 201.

²⁴⁴ *Id.* at 202 (internal quotations and citation omitted).

²⁴⁵ *See id.* at 201.

²⁴⁶ *See* EPA Fact Sheet: Overview of the Clean Power Plan (CPP is a “historic and important step in reducing carbon pollution from power plants” that generated 4.3 million public comments) (available at www.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan) (last accessed Dec. 2, 2016).

the CPP nearly 17 months and 3 months, respectively, before it published the Final Rule at issue here.²⁴⁷

A recent—and strikingly similar—example demonstrates the critical importance of public comments in this situation. In virtually identical circumstances, the public was given the opportunity to comment on EPA’s analysis of the CPP’s impacts in the recent Cross-State Air Pollution Rule Update. EPA decided to drop the CPP analysis altogether after acknowledging that commenters were correct that the analysis was performed inappropriately.²⁴⁸

If given that opportunity here, the industry would not only have addressed errors in EPA’s analysis, it also would have demonstrated to EPA that the Final Rule’s deadlines should be synchronized with the CPP’s, to avoid unnecessary waste of resources and compliance costs. As issued, the Rule specifies that the new limits become applicable “as soon as possible.”²⁴⁹

Although permitting authorities have discretion to consider the CPP in deciding what constitutes “as soon as possible” for a given facility,²⁵⁰ the Final Rule requires application of the new limits “no later than” December 31, 2023.

²⁴⁷ See 79 Fed. Reg. at 34,830 (June 18, 2014); 80 Fed. Reg. 64,662, 64,941 (Oct. 23, 2015) (noting finalization date of August 3, 2015).

²⁴⁸ 81 Fed. Reg. 74,504, 74,529 (Oct. 26, 2016) (“We agree that the CPP should not be included in the base case modeling for this rule.”).

²⁴⁹ See, e.g., 80 Fed. Reg. at 67,894-95 (to be codified at 40 C.F.R. §423.13(g)(1)(i)) (requiring compliance with the new FGD wastewater limits “as soon as possible beginning November 1, 2018, but no later than December 31, 2023”).

²⁵⁰ See *id.* at 67,894 (to be codified at 40 C.F.R. §423.11(t)(2)(ii)).

Consequently, the Rule’s outer deadline of 2023 is inconsistent with the CPP’s requirements to achieve greenhouse gas performance rates between 2022 and 2030.²⁵¹ Competing deadlines will necessarily have an impact on EPA’s analysis of the respective costs of the rules—and, as noted earlier, cost is a statutory factor EPA is required to consider.

Without the benefit of comments on the impact of the CPP on the proposed ELG rule, EPA did not fully consider the ways in which the Final Rule’s deadlines would lead to unanticipated consequences. And, the failure to solicit comments on this point has deprived the Court of the opportunity to evaluate the reasonableness of EPA’s conclusions.²⁵²

In conclusion, Industry Petitioners have indicated with “reasonable specificity” what information EPA withheld from public comment “and how [they] might have responded if given the opportunity.”²⁵³ EPA’s consideration of the CPP, as well as the Agency’s internal analyses of the impacts on the Final Rule, is significant, “newly-considered data” in the Agency’s possession that required it to

²⁵¹ 80 Fed. Reg. at 64,664.

²⁵² See *Gen. Tel. Co. of the Sw. v. United States*, 449 F.2d 846, 862 (5th Cir. 1971) (quoting *Automotive Parts & Accessories Ass’n v. Boyd*, 407 F.2d 330, 338 (D.C. Cir. 1968)) (responses to comments enable court “to see what major issues of policy were ventilated...and why the agency reacted to them as it did”).

²⁵³ *Chem. Mfrs.*, 870 F.2d at 202 (internal citation omitted).

“again publish notice and invite additional comments.”²⁵⁴ The APA requires vacatur where the agency’s error infects the entire rule.²⁵⁵

V. The Gasification Wastewater Limits Are Arbitrary and Capricious

The absence of any data regarding Crystallizer Effluent at IGCC facilities, and EPA’s failure to explain how it could set the GWW limits without those data, undermines the GWW limits themselves and EPA’s cost analysis of those limits. EPA has not explained why VCE Effluent-based GWW limits are achievable or how it was able to reach that conclusion without any Crystallizer Effluent data from an IGCC facility. Given that Duke Energy’s Edwardsport facility will combine VCE and Crystallizer Effluent for additional treatment before discharge, and that there is insufficient data in the record regarding the performance of Edwardsport’s GWW treatment system to know whether the Edwardsport facility can comply with the GWW limits, EPA’s assumption that there would be no capital costs of compliance due to the GWW limits is arbitrary and capricious.

²⁵⁴ *Id.* at 201. Notably, EPA twice re-opened the public comment period for the CPP when new information became available. *See* 79 Fed. Reg. 64,543 (Oct. 30, 2014); 79 Fed. Reg. 67,406 (Nov. 13, 2014). *See also Gerber v. Norton*, 294 F.3d 173, 184 (D.C. Cir. 2002) (appellants “presented enough to show that on remand they can mount a credible challenge...and were thus prejudiced by the absence of an opportunity to do so before...”).

²⁵⁵ *Chem. Mfrs.*, 870 at 200.

A. When Evaluating Two-Step Treatment for FGD Wastewater, EPA Concluded It Could Not Set Effluent Limits Based Solely on VCE Effluent But Did the Exact Opposite for Gasification Wastewater Without Explanation or Basis in the Record

In the Final Rule, EPA evaluated the ability of Two-Step Treatment to treat two types of wastewater—FGDW and GWW—but adopted starkly different approaches for setting BAT limits based on that technology. For FGDW, EPA explicitly stated the pollutant concentrations in Crystallizer Effluent are greater than the pollutant concentrations in VCE Effluent.²⁵⁶ It also recognized the possibility that a facility might combine the two streams prior to discharge and concluded:²⁵⁷

Setting the limitations [based] on the higher concentration stream [Crystallizer Effluent] is necessary to ensure plants ... can meet the limitations, regardless of whether they sample the effluent streams separately or as a combined stream.

For GWW, EPA discarded the only available data regarding Crystallizer Effluent because the Agency concluded the data reflected an ongoing malfunction of Polk’s crystallizer.²⁵⁸ But, in spite of EPA’s understanding that Crystallizer Effluent has a higher pollutant concentration than VCE Effluent—as well as the Agency’s statement that effluent limits for Two-Step Treatment needed to be based on the “higher concentration stream”—EPA did not go back to Polk to obtain

²⁵⁶ Index.12840.13-25.

²⁵⁷ *Id.* at 13-25–13-26 (emphasis added).

²⁵⁸ *Id.* at 13-27.

additional data regarding Polk’s Crystallizer Effluent after the malfunction was resolved. Instead, and without explanation, EPA simply set the GWW limits based on the pollutant concentration of VCE Effluent—the *lower* concentration stream.²⁵⁹

In doing so, EPA has run afoul of its obligation to provide a reasoned explanation in the record for treating similarly situated matters differently.²⁶⁰ The record contains no evidentiary basis to conclude the chemical content of Crystallizer Effluent is lower than the content of VCE Effluent at IGCC Facilities, and EPA has provided no explanation—even a purely theoretical one—as to why this would be the case.²⁶¹ Nor has EPA explained why it believes the GWW limits (unlike FGDW) do not need to be based on the “higher concentration stream” or why IGCC facilities will be able to reliably meet the GWW limits (based on VCE Effluent) when the Agency determined this was not possible with respect to FGDW. The Court should vacate and remand the GWW limits to EPA to explain

²⁵⁹ *Id.*

²⁶⁰ See *Lilliputian Sys., Inc. v. PHMSA*, 741 F.3d 1309, 1313-14 (D.C. Cir. 2014) (remanding because agency failed to provide “reasoned explanation and substantial evidence in the record” justifying disparate treatment of products regulated by final rule); *Costle*, 629 F.2d at 133 (remanding because agency failed to explain basis for its disparate treatment of dredged and nondredged waste).

²⁶¹ See *Lilliputian Sys.*, 741 F.3d at 1313-14 (noting record demonstrated similar safety hazards existed from articles subject to air transport ban and articles that were not and that agency failed to articulate how or why it chose to treat them differently); *Costle*, 629 F.2d at 135 (“In short, the record is devoid of any statement, concise and general or otherwise, of the basis for the choices made.”).

the basis for its disparate treatment of GWW and FGDW and how EPA was able to proceed in this manner without any data in the record regarding the chemical content of Crystallizer Effluent at IGCC Facilities.

B. The Central Premises Behind EPA's Cost Analysis for the Gasification Wastewater Limits Are Erroneous

In the Final TDD, EPA stated that all three IGCC facilities in existence during the agency's development of the GWW limits already used the treatment technology it selected as BAT and, on that basis, asserted there would be no capital costs of compliance associated with the final GWW limits.²⁶² This assertion ignores the effect of combining VCE and Crystallizer Effluent into a single stream, *i.e.*, that the concentration of pollutants in the combined stream will be higher than the concentration of pollutants in the VCE Effluent alone as well as EPA's own conclusion (regarding FGDW) that Crystallizer Effluent, if kept as a separate stream, will have a higher pollutant concentration than VCE Effluent.²⁶³

Contrary to EPA's unsupported assertion, any facility employing Two-Step Treatment before discharging GWW *will* incur capital costs to comply with the GWW limits because, based on the data and analysis in the record: (i) a combination of VCE and Crystallizer Effluent will not be able to reliably meet effluent limits based on the lower pollutant concentration of VCE Effluent; and

²⁶² Index.12840.9-7.

²⁶³ *Id.* at 13-25–13-26.

(ii) Crystallizer Effluent, if handled separately, will have a higher pollutant concentration that exceeds limits based on the cleaner VCE Effluent. Thus, in either scenario, a facility would need to modify its wastewater treatment process by: (i) installing additional treatment for separate Crystallizer Effluent streams or to counter the effects of combining the streams, (ii) modifying the system to keep the streams separate, and/or (iii) eliminating discharges of Crystallizer Effluent entirely. Each alternative would necessarily involve a capital expense and would produce additional ongoing compliance costs as well. In other words, facilities like Polk or Duke Energy’s Edwardsport plant will—as a matter of logic—incur significant compliance costs due to the GWW limits that EPA’s cost analysis did not consider.²⁶⁴

As such, with respect to GWW, EPA has failed to satisfy its obligation to make a “serious, careful, and comprehensive study of the costs which compliance will impose on the industry.”²⁶⁵ The Court should vacate and remand the rule to EPA to correct its cost analysis for GWW, including the development of additional data regarding the actual performance of Edwardsport’s GWW treatment system. EPA will then be in a position to make a reasoned, data-based analysis of whether

²⁶⁴ NPDES Permit No. IN0002780, Duke Energy Indiana, Inc. – Edwardsport, Index.123.132 (explaining Edwardsport would recombine both streams for additional treatment via reverse osmosis before discharge).

²⁶⁵ *Am. Petroleum Inst.*, 661 F.2d at 355 (internal citation omitted).

the GWW limits will produce capital compliance costs at Edwardsport and whether to proceed in light of those costs.²⁶⁶

CONCLUSION

For the reasons above, Industry Petitioners request that the Court vacate the Final Rule in its entirety. In the alternative, the Court should vacate the FGDW limits as applied to plants burning subbituminous or lignite coals, and vacate the GWW limits.

²⁶⁶ See *id.* at 355-57; *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1030-31 (D.C. Cir. 1978) (refusing to consider post hoc agency analysis suggesting erroneous assumptions included in cost analysis did not affect substance of final rule).

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CERTIFICATE OF SERVICE

I certify that on December 5, 2016, a true and correct copy of the foregoing was filed through the Court's ECF system, and thereby served on all counsel of record in the consolidated cases.

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Ameren*

CERTIFICATE OF COMPLIANCE

Certificate of Compliance With Type-Volume Limitation, Typeface Requirements, and Type Style Requirements

I certify that the foregoing Industry Petitioners' Opening Brief filed through the Court's ECF system, is an exact copy of the paper document, 5th Cir. R. 25.2.1, does not contain any personal identifiers requiring redaction, 5th Cir. R. 25.2.13, and has been scanned for viruses with the most recent version of a commercial virus scanning program and is free of viruses.

I further certify that:

1. this brief complies with the type-volume limitation of this Court's Order dated Sept. 28, 2016, because this brief contains 17,567 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii); and

2. this brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14-pt font.

Date: December 5, 2016

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