ORAL ARGUMENT SCHEDULED FOR APRIL 17, 2017

No. 15-1381 (and consolidated cases)

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF NORTH DAKOTA, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Petitions for Review of Final Agency Action of the United States Environmental Protection Agency 80 Fed. Reg. 64,510 (Oct. 23, 2015) and 81 Fed. Reg. 27,442 (May 6, 2016)

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MISCELLANEOUS

GLOSSARY OF TERMS

APA	Administrative Procedure Act
CAA	Clean Air Act
CCS	Carbon Capture and Storage (or Sequestration)
CO_2	Carbon Dioxide
EELI	Energy & Environment Legal Institute
EPA	United States Environmental Protection Agency
EPAct	Energy Policy Act of 2005
FOIA	Freedom of Information Act
JA	Joint Appendix
MW	Megawatt
MWh	Megawatt-Hour
NETL	National Energy Technology Laboratory
RIA	Regulatory Impact Analysis
RTC	Response to Comments

SUMMARY OF ARGUMENT

The United States Environmental Protection Agency's ("EPA") "Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," 80 Fed. Reg. 64,510 (Oct. 23, 2015) ("Rule"), JA2-152, exceed the limits of the Clean Air Act ("CAA" or "Act") for several reasons.

For new fossil fuel-fired steam generating units (which primarily combust coal), EPA's "best system of emission reduction" —a supercritical pulverized coal boiler employing post-combustion partial carbon capture and storage ("CCS") with permanent storage in deep underground saline formations— is not "adequately demonstrated." Although EPA relies on CCS technology recently installed on a small Canadian steam unit called Boundary Dam, that unit does not employ EPA's best system, differs fundamentally from the units to which the Rule applies, and has encountered a wide range of problems with the CCS. Although EPA also relies on a handful of pilot-scale or non-utility projects, including subsidized projects EPA cannot consider under the Energy Policy Act of 2005 ("EPAct"), these projects differ fundamentally from new steam units.

In addition, EPA's "best system" unlawfully relies on unregulated third parties to achieve emission reductions. Under the CAA, the source must be able to reduce its emissions on its own using the system—not by relying on third parties.

EPA failed to show that the standard is "achievable" by new steam units using its system. EPA examined only "best performing" units (rather than a representative sample) to calculate what emission limits the source category could achieve. This methodology violates section 111 and EPA's own past practice, which require consideration of variable conditions affecting emissions throughout the industry, not just the "best."

Although EPA must "tak[e] into account … cost," CAA § 111(a)(1), its treatment of new unit cost was arbitrary and failed to balance cost against environmental benefits.

The Rule is also unlawful because EPA treated steam units and gas-fired combustion turbines inconsistently. EPA required coal-fired (but not gas-fired) units to adopt CCS. Such discrimination is the essence of arbitrary decisionmaking and demonstrates that the standard for steam generating units must be vacated.

The standards for modified and reconstructed steam units also must be vacated because they are not achievable or adequately demonstrated.

Finally, EPA failed to make the required "endangerment" and "significant contribution" findings.

ARGUMENT

I. The New Steam Unit Performance Standard Is Unlawful.

The Rule imposes a single nationally-applicable performance standard on all new steam units. To justify that standard, EPA must establish that (i) its "best system

of emission reduction" is "adequately demonstrated," and is available to and could be applied by regulated units nationwide; and (ii) the performance standard is "achievable" by those units at "reasonable cost." EPA identified partial CCS, with sequestration of the captured carbon dioxide ("CO_2") in deep saline formations, as its "best system of emission reduction." Because EPA cannot rely on EPAct-funded projects to show "adequate demonstration," EPA places principal reliance on Boundary Dam, a 110 megawatt ("MW") unit in Canada owned by SaskPower, as the basis for the standard.

EPA's "best system" comprises two parts: (i) CO_2 capture at the source; and (ii) transportation of the CO_2 to deep saline formations with permanent sequestration there by third parties. Experience at Boundary Dam confirms that CO_2 capture is not yet demonstrated. And EPA failed to show that its standard will be achievable under the range of operating conditions characteristic of the industry nationwide.

EPA found only sequestration in deep saline formations to be demonstrated; yet, EPA concedes these formations cannot be found in all regions of the country. Furthermore, EPA does not find that this type of sequestration can be applied by any individual source, instead recognizing the required CO_2 reductions depend on the actions of third parties unregulated by the Rule. Notably, Boundary Dam uses its captured CO_2 for enhanced oil recovery, which fundamentally changes sequestration's cost and is not available nationwide.

Because numerous key showings were never made—and could not have been made—the standard for new steam units must be vacated.

A. EPA's "System" Is Not Adequately Demonstrated.

1. The Boundary Dam Unit Does Not Support EPA's Adequate Demonstration Determination.

EPA claims Boundary Dam supports its determination that its "best system" has been adequately demonstrated as an integrated whole. EPA Br. 40. Although EPA's best system relies on sequestration in deep saline formations to store captured CO_2, Boundary Dam does not. Instead, it sells the vast majority of its captured CO_2 for use in enhanced oil recovery and uses deep saline storage only as a limited backup alternative (for less than 8 percent of its captured CO_2 to date) when enhanced oil recovery cannot accommodate its CO_2. *Id.* at 22; EPA, Response to Comments, Ch. 6, at 6-47 (Aug. 3, 2014) ("RTC"), EPA-HQ-OAR-2013-0495-11865, Joint Appendix ("JA") 2547; SaskPower Br. 3, 4.

This distinction is significant. An adequately demonstrated system must be available at a reasonable cost. *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973). Enhanced oil recovery reduces the cost of a new steam unit with CCS by offering additional revenues: a steam unit's owner profits by selling CO_2 for enhanced oil recovery, but must pay to dispose of CO_2 in a deep saline formation. 80 Fed. Reg. at 64,566, JA58. The former has revenue generation potential; the latter adds cost. Boundary Dam's business case assumed that 100 percent of the unit's captured CO_2

would be sold to offset the project's costs. SaskPower Br. 6. The fact that less than 8 percent of Boundary Dam's captured CO_2 has gone to deep saline formations does nothing to prove that a new steam unit relying *entirely* on deep saline storage would be available at reasonable cost. *Id.* at 3, 4. If anything, it raises questions about the adequacy of enhanced oil recovery, which is not part of EPA's "best system," to accommodate the CO_2 generated by a commercial-scale boiler.

Boundary Dam's business case also relied on government subsidies (which would not be available to new steam units) to pay 20 percent of the system's capital cost.[1] *Id.* at 6. Moreover, as SaskPower, Boundary Dam's owner, makes clear in its *amicus curiae* brief, the fact that the Boundary Dam project was a retrofit of a fully depreciated existing facility with all ancillary infrastructure already in place, rather than a new facility, was a "key element essential to the business case analysis." *Id.* at 5-6.

EPA also relies on Boundary Dam as the principal basis for finding that post-combustion CO_2 separation has been adequately demonstrated. But both the record and SaskPower's brief show that Boundary Dam's performance cannot support this finding. Even ignoring the design and operational failures it has experienced to date,

[1] Although EPA tries to downplay as "partial[]" the size of the subsidies Boundary Dam received from "the Canadian government," EPA Br. 25, 20 percent of the cost of the CCS system is substantial. Also, EPA omits the implicit subsidy provided by the provincial government of Saskatchewan, which wholly owns SaskPower. *See* SaskPower Br. ii. This public ownership enables SaskPower to take risks to further the development of new technologies that privately-owned entities cannot afford. *See id.* at 6.

Boundary Dam is fundamentally different from the new steam units to which the Rule applies. Non-State Br. 32. The 110 MW Boundary Dam unit is much smaller than the average steam unit, which is 385 MW. EPA, Greenhouse Gas Mitigation Measures Technical Support Document at 2-7 (Aug. 3, 2015) ("Mitigation TSD"), EPA-HQ-OAR-2013-0495-11879, JA2997. While EPA argues that half of domestic coal-fired plants are 149 MW or smaller, EPA Br. 22, that logically means the other half are larger. EPA also neglects to mention that newer plants are significantly larger, *see* EPA, Regulatory Impact Analysis at 2-6, Tbl. 2-3 (Aug. 2015, rev. Oct. 23, 2015) ("RIA"), EPA-HQ-OAR-2013-0495-11877, JA2809 (units' average age decreases as size increases).

But even if Boundary Dam were representative of new steam units generally, EPA's attempts to portray Boundary Dam as a "successful, full-scale commercial operation" are unavailing. EPA Br. 21. EPA does not dispute that in Boundary Dam's first year of operation with CCS—during which EPA finalized the Rule—the unit's capture system operated only 40 percent of the time due to design defects and never reached its designed capture rate. Non-State Br. 31. Instead, EPA argues that Boundary Dam's problems related only to "ancillary operating systems" that have been resolved. EPA Br. 24. That is untrue.

SaskPower's brief explains that Boundary Dam's problems afflicted the CO_2 capture system itself, "the fundamental core of the facility." SaskPower Br. 8. The capture system has suffered from "design defects; deficient equipment; flue gas heat

issues; and, amine degradation challenges." *Id.* Specifically, Boundary Dam's design proved incapable of meeting the unit's target capture rate because high flue gas temperatures and particulate content interfered with its amine chemical system for separating CO_2, reducing the capture rate, and requiring more frequent cleaning of CCS components. *Id.* These problems reflect the difficulty of integrating a post-combustion capture system into the new, unique context of a commercial-scale coal-fired steam generating unit.[2] SaskPower emphasized that the particulate (as opposed to the CO_2) removal systems had "worked to design," but this merely emphasizes the need to rework how CO_2 capture is integrated into the plant. *Id.*

Likewise, SaskPower's brief contradicts EPA's incorrect statement that Boundary Dam's operational issues have been "successfully resolved" after a September-October 2015 outage. EPA Br. 24. In fact, "a number of remaining deficiencies" with the capture facility will not be addressed until "a further outage in the summer of 2017"—three years after Boundary Dam came online and two years after the Rule was finalized. SaskPower Br. 8. The additional repairs are needed to "significantly improve[]" the unit's "daily capture rates and reliability." *Id.* Recent

[2] This illustrates why an adequate demonstration finding must be based on demonstration of the system as an integrated whole, not its individual components. *See infra* Section I.A.2; Non-State Br. 21-26.

public statements indicate the unit continues to experience substantial amine contamination issues.[3]

EPA also argues Boundary Dam has "at times exceed[ed] its design capacity." EPA Br. 21. But EPA's adequate demonstration finding was premised on Boundary Dam's ability to *consistently* operate at 90 percent capture, 80 Fed. Reg. at 64,550, JA42, whereas SaskPower's brief confirms that it has reached that design capture level only over a three-day testing period in 2015, SaskPower Br. 9. As recently as December 2016, it was online only 76 percent of the time and captured just 58 percent of its maximum capacity for the month.[4] Thus, Boundary Dam's control system has not "been shown to be reasonably reliable" in practice. *Essex Chem. Corp.*, 486 F.2d at 433. A new steam unit designed to meet the Rule's emission limits would not have the same leeway to so significantly underperform, even over the course of a year.

EPA contends that, even at less than full CO_2 capture, Boundary Dam's operation is sufficient for adequate demonstration because it exceeds the 16-23

[3] SaskPower recently announced that Boundary Dam's annual expenses for amine replacement are still triple the amount anticipated at commencement, and that improved performance following the 2015 outage "doesn't mean the issue is solved." Mike Marsh, *A Word from the President on Smart Meters and Carbon Capture and Storage* (Dec. 16, 2016), http://www.saskpower.com/about-us/blog/a-word-from-the-president-on-smart-meters-and-carbon-capture-and-storage/, JA5377.

[4] SaskPower, *BD3 Status Update: December 2016* (Jan. 5, 2017), http://www.saskpower.com/about-us/blog/bd3-status-update-december-2016/, JA5381.

percent capture EPA estimates the Rule requires.[5] EPA Br. 21. But EPA's "adequate demonstration" determination relies entirely on the premise that "the same carbon capture equipment" used to achieve full capture at the 110 MW Boundary Dam—i.e., equipment capable of operating consistently at a 90 percent capture rate—"could be used to treat … 20 percent of the flue gas from a 550 MW facility" to produce the 16-23 percent capture needed to meet the Rule. 80 Fed. Reg. at 64,550, JA42; EPA Br. 22. In sum, EPA assumes *full* carbon capture at the small Boundary Dam unit as the basis for its *partial* capture "adequate demonstration" determination for full-scale units, but full capture at Boundary Dam has been shown not to be sustainable. EPA's system is not demonstrated.

2. EPA's Reliance on Individual Components Is Improper in Making Its "Adequate Demonstration" Determination.

EPA claims that as long as it has separately addressed the technical feasibility of each individual component of its system, it may reasonably conclude that the system as a whole is adequately demonstrated. EPA Br. 41. But this is not the applicable standard. It is the "best *system* of emission reduction"—not its components—that must be "adequately demonstrated." CAA § 111(a)(1) (emphasis added). EPA's reliance on *Portland Cement*, EPA Br. 41, is inapposite as that case dealt with the

[5] Because EPA significantly underestimated coal-fired units' pre-capture CO_2 emission rates, new units would actually have to capture much more than 16-23 percent of their CO_2 emissions. *See* Non-State Br. 41-47; *see also* EPA, Basis for Denial of Petitions to Reconsider at 18 (Apr. 2016) ("Reconsideration Denial Basis"), EPA-HQ-OAR-2013-0495-11918, JA4427.

achievability of a section 111 standard—not whether the designated "best system" had been *adequately demonstrated*, *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973) ("It is the 'achievability' of the proposed standard that is in issue.").

Although *Portland Cement* and other cases Petitioners cited made projections about the performance of the best system of emission reduction, nothing in those cases allows EPA to project that a system that does not exist now will come into being by assembling component parts and will then function successfully as an integrated whole. For example, the Court in *Sierra Club* upheld EPA's determination as to how a baghouse system would perform in the future in new plants; it did not address a situation where baghouses had never been operated as an integrated system of emission reduction. EPA Br. 41 (citing *Sierra Club v. Costle*, 657 F.2d 298, 381-82 (D.C. Cir. 1981)). EPA otherwise cites irrelevant cases dealing with statutory provisions that do not require the "adequate demonstrat[ion]" of the "system[s]" on which those requirements are based. *See Sur Contra La Contaminación v. EPA*, 202 F.3d 443 (1st Cir. 2000) (addressing "best achievable control technology" limits); *Native Vill. of Point Hope v. Salazar*, 680 F.3d 1123 (9th Cir. 2012) (assessing oil spill response plans).

EPA's citation of *Sur Contra La Contaminación*, a case addressing the Act's preconstruction permitting program, is telling. The CAA's permitting program gives States the primary "responsibility" to make case-by-case decisions "depending on site," and affords them the authority to require "the adoption of improvements in

technology … far more rapidly" than EPA can require with uniform national standards under section 111. *See* S. REP. NO. 94-717, at 22-23 (1976), JA4591-92. That EPA relies on cases addressing the different authority of States in *case-by-case* permitting confirms that EPA has exceeded its section 111 authority in setting performance standards applicable to *all* sources within the source category nationwide.

Finally, contrary to EPA's assertion, EPA Br. 43, the record shows that the scrubbers at issue in *Essex Chemical Corp.* and the baghouses at issue in *Sierra Club* were far more mature technologies than CCS, which is in the early development stage. Extensive demonstration work with the operation of fully-developed scrubbers occurred before the standard was adopted,[6] and at least 26 baghouse-equipped steam units were operating prior to adoption of that standard. *Sierra Club*, 657 F.2d at 381. By contrast, EPA's "best system" has never been implemented at full scale on a steam unit.

3. Other Projects Do Not Establish that Post-Combustion CO_2 Separation Has Been Adequately Demonstrated.

In addition to Boundary Dam, EPA claims other pilot-scale or non-utility post-combustion capture projects support a determination that CO_2 separation has been adequately demonstrated. EPA ignores Petitioners' arguments and the record. First,

[6] Utility Air Regulatory Group, Comments on New Source Standards, Attach. 2 at 2-2 (May 9, 2014) ("UARG Comments"), EPA-HQ-OAR-2013-0495-9666, JA1678.

the operating issues Non-State Petitioners identified with translating this non-utility experience to utility applications are not limited to full capture or to retrofits; rather, these issues concern operational differences between non-utility and utility applications that make it more difficult for utilities to capture CO_2. Non-State Br. 34-35. EPA offers no response to these differences.

Second, the amount of CO_2 captured by these pilot-scale projects is not "slightly smaller" than the Rule requires. EPA Br. 26. EPA's claim assumes baseline CO_2 emissions from supercritical steam units are roughly 1,600 pounds per megawatt hour ("lb/MWh"), which is false. *See* 80 Fed. Reg. at 64,562, Tbl. 8, JA54. EPA's "best unit" has emitted over 1,800 lb/MWh, Reconsideration Denial Basis at 16, JA4425, and other supercritical units emit at rates typically exceeding 2,000 lb/MWh, *see* Utility Air Regulatory Group, Petition for Reconsideration of Final Rule at 13-14 & Ex. J (Dec. 22, 2015) ("UARG Reconsideration Petition"), EPA-HQ-OAR-2013-0495-11894, JA4509-10, 4521-50. At those rates, the amount of CO_2 capture needed to meet the performance standard would be several times greater than what the pilot projects have achieved. *See* 80 Fed. Reg. at 64,574 & Tbl. 12, JA66.

Third, as discussed in Section I.A.1 above, EPA ignores that the cited units' sale or productive reuse of captured CO_2 gives those units financial incentives and leeway unavailable to a new steam unit implementing EPA's "best system," which relies on deep saline storage.

Finally, EPA claims "vendor guarantees" support its adequate demonstration finding. EPA Br. 28; 80 Fed. Reg. at 64,555, JA47. But the record contains no guarantees, just vague promotional materials describing various capture technologies or touting tiny demonstration projects. *See, e.g.*, Linde & BASF, Flue Gas Carbon Capture Plants at 3 (undated), EPA-HQ-OAR-2013-0495-11652, JA3933 (promoting experience at 1.5 MW plant). Conversely, a leading developer of CCS technology testified before Congress that "the industry is not in a position to make proper commercial warranties and guarantees" because "[t]he technology is not fully developed." UARG Comments at 45-46, JA1616-17 (citing testimony of Vice President of Alstom Power).

4. EPA Did Not Establish That CO_2 Sequestration in Deep Saline Formations Is Available Throughout the Country.

In defining the best system of emission reduction, EPA "assum[ed] only storage in deep saline formations," EPA Br. 12, but sequestration in such formations is unavailable in many areas. EPA again ignores Petitioners' argument, waving its hands at the problem by claiming that significant CO_2 storage capacity is potentially available. *Id.* at 31. EPA does not rebut Non-State Petitioners' point that, as the record shows, most of this potential capacity is confined to relatively few States and that, even for those States, no information exists about that capacity's suitability for permanent storage. That question cannot be answered without costly and time-consuming site-specific evaluations. Non-State Br. 27-28. Likewise, EPA claims the

nation's CO_2 pipeline infrastructure is growing, EPA Br. 33-34, but ignores that this growth is limited to a small part of the country, Non-State Br. 28-29.

EPA also claims problems at foreign sequestration projects were "minor" and "addressed." EPA Br. 38. Yet, In Salah never resumed operations after injection caused fractures in the caprock and created a leakage risk, and Snøhvit resumed operations only because its first, faulty reservoir was uniquely located above another, more suitable reservoir. UARG Comments at 56, JA1627.

Admitting "there are certain areas in which no[] … suitable storage opportunities have been identified," EPA Br. 33, EPA offers alternatives to the Rule's "best system." *Id.* at 30 (listing enhanced oil recovery, alternative storage methods, and natural gas co-firing). But under section 111, EPA must show that the system on which the standard is based is adequately demonstrated and available to allow sources throughout the country to achieve the standard cost effectively. CAA § 111(a)(1); *see also* 76 Fed. Reg. 24,976, 25,061 (May 3, 2011) (rejecting technology as "best system" because performance standards are "a national standard and [suggested technology] is not appropriate in every situation" or "particular site"), JA4844. That alternative compliance measures *might* be available in *some* States, *see, e.g.*, EPA Br. 12 ("29 states … have active oil recovery operations or geology amenable to such operations"), is irrelevant to whether EPA's best system—which specifically includes deep saline storage—is adequately demonstrated. And none of the "alternatives" EPA lists has been shown to be adequately demonstrated or cost-effective in any event.

EPA then argues that if deep saline storage is not available at the desired site, the new unit should relocate to another State where sequestration is available and transmit its generation through the electric grid to States where it is needed. *Id.* at 33. This response underscores that the Rule is not a "national" performance standard because it impermissibly disadvantages States without storage capacity. Non-State Br. 27; *Sierra Club*, 657 F.2d at 325; *see also* 75 Fed. Reg. 54,970, 54,994-95 (Sept. 9, 2010), JA4735-36 (rejecting technology as "best system" where it could not be used effectively at specific sites).

Moreover, EPA's lack of authority to impose section 111(b) standards that cannot be applied nationally is confirmed by the CAA's preconstruction permitting program, which allows States and EPA to impose more stringent emission limits on a case-by-case basis. 123 Cong. Rec. 18,022-23 (1977) (statement of Sen. Muskie), JA4626-27. Section 111's limits, when combined with case-by-case permitting, allow differences between States "to be accommodated and still maximize the use of improved technology." *Id.* at 18,023, JA4627. But Congress did not permit, nor has any court endorsed, national performance standards under section 111 that are based on technology not available nationwide.

EPA fails to distinguish governing precedent. EPA Br. 36. *Sierra Club* states that when setting standards under section 111, EPA must consider the availability and environmental effects of its chosen "best system" on a nationwide scale, accounting for regional variations. 657 F.2d at 329-30. Likewise, while EPA tries to distinguish

National Lime Ass'n v. EPA, it cannot refute the Court's legal determination that a performance standard must account for regional differences in sources' ability to implement the best system. 627 F.2d 416, 441-43 (D.C. Cir. 1980).

5. EPA Improperly Relied on Government-Subsidized Projects.

EPA's response to arguments that its reliance on government-subsidized projects violated EPAct, State Br. 19-28; Non-State Br. 19-20, is twofold: (i) Boundary Dam alone is sufficient to support its adequate demonstration finding; and (ii) the government-subsidized projects merely provided "corroborative" evidence. EPA Br. 52.

This argument lays bare the flimsiness of EPA's justification for the Rule. EPA concludes that the unreliable operation of one small, government-owned and -subsidized, underperforming unit in Canada that uses almost all of its captured CO_2 for enhanced oil recovery (along with a handful of pilot-scale or non-utility projects) adequately demonstrates CCS for the entire source category. This is totally implausible.

Furthermore, EPA's reliance on EPAct-funded projects as "corroborative" evidence is unlawful. EPA's reading of EPAct would render that statute's numerous prohibitions on considering EPAct-funded projects in a section 111 rulemaking

meaningless.[7] EPAct's subsidies are available only for projects that "advance efficiency, environmental performance, and cost competitiveness well beyond the level of technologies that are in commercial service or have been demonstrated…." 42 U.S.C. § 15962(a). But under EPA's reading, it could base nationwide standards on these nascent technologies provided it relied on some scintilla of other supporting evidence. *See* EPA Br. 54 (EPA may consider EPAct facilities if they are not the "exclusive" support for adequate demonstration finding). EPA's interpretation of EPAct thwarts the purpose of Congress's prohibition.

B. EPA's System for New Steam Units Requires the Involvement of Off-Site, Unregulated Third Parties To Achieve Emission Reductions.

Non-State Petitioners showed that EPA's system for new steam units is unlawful because it cannot be applied *by regulated sources* to reduce emissions. Non-State Br. 39-40. EPA admits that "a system … that captured a pollutant only to re-emit it elsewhere would not be a best system." EPA Br. 50. EPA's response otherwise evades this point entirely. Section 111(a)(1) requires EPA to designate a "best system of emission reduction" that can be applied *by the regulated source*—the new steam unit—to achieve the *emission reductions* called for by the standard. But the *only* component of EPA's system that would actually ensure a *reduction* in emissions is the part of the

[7] Contrary to EPA's assertions, EPA Br. 54, the district court in *Nebraska v. EPA* never reached the merits of this issue and thus did not affirm EPA's reading of EPAct. *Nebraska v. EPA*, No. 4:14-CV-3006, 2014 WL 4983678, at *4 n.1 (D. Neb. Oct. 6, 2014) ("The merits of this claim are not before the Court.").

system over which the source has no control—i.e., the part that permanently sequesters the captured CO_2 in deep saline formations.

EPA apparently believes the "application of" language in section 111(a)(1) can be read in isolation, without regard to the entity to which the system must be "appli[ed]"—the regulated source. But applying one part of the system to the source and another part to an off-site third party entity violates section 111. Regardless of whether sources can achieve the standard using other means (which section 111(b)(5) allows), EPA still must show that its "best system of emission reduction" is adequately demonstrated for application by a source to achieve the performance standard. EPA admits it did not do this, stating that "there is no new source that would be restricted from achieving the standard of performance due to lack of access to sequestration capacity, both because there is adequate capacity *and because alternative means of compliance are readily available*." EPA Br. 39-40 (emphasis added). In other words, EPA concludes that its system is adequately demonstrated because sources can comply with the standard with means *other than the system*. *Id.* This is unlawful.

EPA attempts to avoid the statutory language by asserting that its system is "no different" than dozens of previous applications of control technologies that require disposal off-site of the waste generated by that pollution control system. *Id.* at 29, 48-49. But none of those examples incorporated "downstream management" of the very emissions being regulated into the designated "best system of emission reduction." *Id.* at 49. The "best system of emission reduction" in these examples was the application

of control equipment at the source to reduce emissions in the gas stream, creating a waste byproduct (e.g., scrubber sludge or ash) for disposal. In contrast, the *key* component of EPA's best system here—indeed, the part that is essential for actual "emission reduction"—is the permanent geological sequestration that must be accomplished by a third party off-site and cannot by definition be accomplished through control technology at the unit.

In the rules EPA cites, a source that applies the designated pollution control system will actually achieve the standard *and* reduce its emissions irrespective of how the air pollution control waste is managed. For those standards, the disposal of the air pollution control waste is incidental to and not part of the defined system. *See, e.g.*, 54 Fed. Reg. 34,008, 34,009 (Aug, 17, 1989), JA4632; 75 Fed. Reg. at 54,990, JA4731. Failing to properly dispose of the solid residue or slurry that results from "scrubbing" sulfur dioxide from a unit's emissions stream, for example, does not reverse or negate the emission reductions the scrubber achieved.

C. EPA's "Achievability" Assessment Was Unlawful.

1. EPA Failed To Consider the Full Range of Units.

EPA applied its system of emission reduction to only the "best performing" individual units for each coal type to calculate an "achievable" emission limit for all new steam units. EPA Br. 60. This is a radical departure from section 111, including how EPA calculated the new gas-fired standard in this very rulemaking.

A section 111 standard must be achievable "for the industry as a whole" by applying the best system of emission reduction "under the range of relevant conditions which may affect the emissions to be regulated." *Nat'l Lime*, 627 F.2d at 431, 433. EPA must account for the "most adverse conditions which can reasonably be expected to recur." *Id.* at 431 n.46. The Court's "[c]hief … concern" in evaluating whether this standard has been met is "the representativeness for the industry as a whole of the tested plants on which [EPA] relies." *Id.* at 432.

While the precise level of an achievable standard *itself* "need not be one already routinely achieved in the industry" prior to its adoption, *id.* at 431 n.46, new sources throughout "the industry as a whole" must be able to achieve it when applying the best system, even under adverse conditions affecting the regulated emissions. Thus, the Court in *National Lime* found a standard unlawful because the emissions data on which it was based did not reflect the full range of variation in sources' pre-control emissions.

That is precisely the case here. EPA does not argue that the emission rates from the "best-performing" units it analyzed represent the source category as a whole. *See* Non-State Br. 45-47. Indeed, some supercritical units have emission rates 25 percent higher than the "best performing" units EPA used in setting the standard, due to factors beyond their control (e.g., different coal types, weather, elevations). *Id.* at 46-47.

EPA's approach here directly conflicts with its past practice. *See, e.g.*, 71 Fed. Reg. 9866, 9871 (Feb. 27, 2006) (basing standards "on limits that can be achieved on a consistent basis for a broad range of boiler and coal types"), JA4666. In its most recent proposal for conventional pollutant emissions from combustion turbines, EPA proposed a standard with an estimated compliance rate of "greater than 99 percent." 77 Fed. Reg. 52,554, 52,558 (Aug. 29, 2012), JA4892. Similarly, here, EPA's approach to establishing the standard for gas-fired turbines relied on a survey of emission data from 345 turbines over an eight-year period. *See* 80 Fed. Reg. at 64,618-20, JA110-12; EPA, Achievability of NSPS for Fired Combustion Turbines at 2 (Aug. 2015) ("Turbine Achievability TSD"), EPA-HQ-OAR-2013-0495-11812, JA2944. EPA ultimately set the standard at a level that *only one* of the 345 turbines would have violated based on historical performance. Turbine Achievability TSD at 7, JA2949.

EPA's refusal to consider data that reflect the range of relevant conditions, including the most adverse conditions reasonably expected, is contrary to law and arbitrary.

2. EPA Did Not Account for Factors Affecting a Steam Unit's CO_2 Emission Performance.

In response to Non-State Petitioners' explanation that the National Energy Technology Laboratory ("NETL") report from which the Rule's standard was derived does not reflect the "best system" on which the Rule is based or the range of industry emission characteristics, *see* Non-State Br. 41-42, EPA recounts ways in which it

tested the report's optimistic assumptions. EPA Br. 57-58. But EPA's response ignores important boiler characteristics affecting emissions, and therefore does not satisfy *National Lime*'s requirement to account for adverse conditions. 627 F.2d at 431 n.46.

EPA did not account for the emissions impacts of steam units operating at lower capacity factors than reflected in the NETL report. Non-State Br. 43, 46-47. Instead, EPA assumed away the problem, without any record support, by asserting that new steam units would serve baseload demand. EPA Br. 57 & n.27. In fact, the record shows substantial year-to-year variation in capacity factor for steam units. *See* Mitigation TSD at 2-36, JA3026. Furthermore, a key driver for new steam units is to maintain fuel diversity as a "hedge" against natural gas price increases. 80 Fed. Reg. at 64,559, JA51. New units built for this purpose will have different operational characteristics than baseload units, as relative fuel prices change to make operation of gas or coal units more favorable.

Similarly, EPA did not account for efficiency degradation in its achievability analysis. Non-State Br. 44. EPA's response that its "cost estimates included the cost of maintaining the entire system," EPA Br. 63, is irrelevant because a unit's efficiency degrades over time even with proper maintenance. Utility Air Regulatory Group, Comments on Modified and Reconstructed Standards ("UARG Modified/Reconstructed Comments"), Attach. B at 4-3 (Oct. 16, 2014), EPA-HQ-OAR-2013-0603-0215, JA4140.

Finally, EPA suggests that even if its assumptions are wrong, the standard is still achievable because new units can capture a higher share of their emissions at higher cost than is reflected by EPA's "best system." EPA Br. 61-62. This response fails. A performance standard must be achievable based on application of EPA's "best system of emission reduction," not some other system with different emission and cost characteristics. Also, EPA's adequate demonstration finding relies on its assumption that the same equipment used at the 110 MW Boundary Dam unit for full capture could be scaled up and applied at a 550 MW unit for roughly 20 percent capture. If higher CO_2 capture is required to achieve the standard, EPA's conclusion that its system is adequately demonstrated is no longer supported, even assuming its Boundary Dam analysis is correct.

3. EPA Improperly Based the Standard on Ultra-Supercritical Unit Performance.

EPA's achievability analysis improperly relied on the estimated performance of rare *ultra-supercritical* boiler design, rather than the more common *supercritical* boiler design that constitutes EPA's "best system." Non-State Br. 44-46. This distinction is not just "semantics." EPA Br. 64. EPA cannot credibly claim that its use of the term "highly efficient supercritical" boiler design was meant to indicate only ultra-supercritical design. *Id.* The Rule explicitly states that EPA's reference to "highly efficient" design in identifying the best system "assumes that a new project developer will construct … a supercritical *or* ultra-supercritical utility boiler." 80 Fed. Reg. at

64,548, JA40 (emphasis added). EPA clearly envisioned the best system would encompass standard supercritical design.

Supercritical and ultra-supercritical units are different, as EPA recognized by consistently classifying them separately. *See, e.g.*, *id.* at 64,594, JA86 (approximately 70 percent of new coal-fired generation since 2010 is supercritical and only one ultra-supercritical unit has been built in the U.S.). Despite acknowledging these differences and identifying supercritical boilers as the relevant boiler type for its best system, EPA relied only on performance data for the one ultra-supercritical boiler operating in the U.S. when setting the standard. EPA took the opposite tack when setting the standard for large reconstructed units. There, EPA also selected supercritical boiler design as the "best system of emission reduction," *id.*, yet, it set the standard for those units based on supercritical unit performance—not ultra-supercritical, *see* EPA, Best System of Emissions Reduction for Reconstructed Steam Generating Units and Integrated Gasification Combined Cycle Facilities at 8 (June 2014), EPA-HQ-OAR-2013-0603-0046, JA4241.

D. EPA's Assessment of Costs Was Arbitrary and Unreasonable.

By EPA's own estimates, the Rule increases new steam units' cost by one-quarter to one-third without achieving any ascertainable emission reductions. By comparison, the Rule imposes zero additional costs for new combustion turbines. This violates section 111.

EPA admits that adding CCS to a new steam unit increases the unit's cost substantially. RIA 4-24, Tbl. 4-5, (31 percent increase), JA2887; *see also* EPA Br. 67 n.31 (EPA now arguing 21-23 percent is "most appropriate measure").[8] This is not "reasonable." *Sierra Club*, 657 F.2d at 343. EPA says it satisfied its legal obligation by "reasonably" or "carefully consider[ing]" costs. EPA Br. 2, 65, 66. But section 111(a)(1) mandates the system's cost be considered *in light of* the environmental benefits the system will achieve. CAA § 111(a)(1). As discussed by State Petitioners, State Reply Br. 14-16, even absent section 111(a)(1)'s clear mandate, agency determinations of the reasonableness of a rule's costs must include consideration of benefits. *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015). EPA's cost assessment is arbitrary and unreasonable.

II. EPA's Disparate Treatment of Baseload Fossil Fuel Units Independently Renders the Rule Unlawful.[9]

EPA does not dispute that "capturing carbon from coal-fired units is even more difficult, even more expensive, and even less proven than capturing carbon from gas-fired units" specifically designed and operated to provide baseload electricity. Non-State Br. 54. Instead, EPA attempts to distract from this critical fact

[8] EPA asserts this cost increase is "at the high end of" those imposed by other performance standards. EPA Br. 67. But, as EPA admits, the 1971 standard for steam units increased cost by 15.8 percent, and the 1978 increased cost by 10-20 percent. 80 Fed. Reg. at 64,559-60, JA51-52. These increases are significantly less than the RIA's predicted 31 percent increase and less than the 21-23 percent increase in EPA's brief.

[9] Petitioners in No. 15-1469 do not join this argument.

by focusing on non-baseload gas-fired units. This does not save EPA's inconsistent and therefore arbitrarily faulty evaluation of the important factors for setting performance standards for baseload units.

EPA does not dispute it rejected a finding that efficiency improvements were the best system for coal-fired units because that system "'does not achieve emission reductions beyond the sector's business as usual,'" yet it accepted "the 'normal business practice' of efficient generation technology as the best system for baseload gas-fired units." *Id.* at 53 (quoting 80 Fed. Reg. at 64,548, 64,594, 64,640, JA40, 86, 132). EPA also does not dispute it selected CCS for coal-fired units to "'drive new technology deployment,'" but "cited no similar technology-forcing ambitions" when EPA considered CCS for baseload gas-fired units. *Id.* (quoting 80 Fed. Reg. at 64,596, JA88). While EPA asserts the right to consider "the amount of emission reduction" below business-as-usual levels and "fostering technological innovation," EPA Br. 5, and even claims these factors are "required," *id.* at 19, it offers no defense for its decision to consider these factors only for baseload coal units and ignore them for baseload gas units, *id.* at 106. Rather, EPA dismisses these fundamental inconsistencies in the record by asserting that "it is irrelevant." *Id.* Such disregard of reasoned decisionmaking violates "[e]lementary even-handedness" requirements. *Airmark Corp. v. FAA*, 758 F.2d 685, 692 (D.C. Cir. 1985).

Rather than responding to Petitioners' argument, EPA details issues with capturing carbon from "some" *non-baseload* gas-fired units that are designed and

operated to "to accommodate fluctuations in electricity demand." EPA Br. 15. But EPA admits that "large, efficient combined-cycle units" using natural gas "are *most likely* to operate *continuously at high load*," and these units are "designed and operated to *provide uninterrupted baseload power*." *Id.* at 102, 104 (emphases added). EPA identifies no distinction between these gas units and the coal units EPA found "'would, *most likely*, be built to *serve [baseload] power demand*.'" *Id.* at 106 (quoting 80 Fed. Reg. at 64,614 n.535, JA106) (emphases added).

EPA asks this Court to ignore the inconsistent treatment of baseload units burning coal and natural gas because "there are no clear lines distinguishing 'true baseload' units" from non-baseload units. *Id.* at 105 (citing 80 Fed. Reg. at 64,609, JA101). EPA admits, however, that "design efficiency," "cycling speed," "unit size," and "technology type" are all characteristics that "make [a unit] more likely to be used in one manner or another." *Id.* at 102-03 n.53, 105. EPA further states that the specialized intermediate units it cites "are specifically designed" "'to follow load demand'" (i.e., non-baseload). *Id.* at 106 (quoting 80 Fed. Reg. at 64,614 n.535, JA106). As a result of this specialization, fast-start gas-fired units "have lower design efficiencies than … designs intended to only operate as base load units," and are readily distinguishable on that basis alone. 80 Fed. Reg. at 64,610, JA102; *cf. id.* at 64,612 ("the net design efficiency of the fast-start [gas-fired] units intended for peaking and intermediate load applications is 49 percent"), JA104. Likewise, capacity

factors,[10] electric sales,[11] and running time per start[12] are additional readily available criteria that can be used to distinguish baseload units. Accordingly, EPA does not identify any record support for the suggestion that it was forced to treat "true baseload" units inconsistently by an inability to identify baseload versus non-baseload units.

In the end, EPA is left with nothing more than its policy agenda to punish coal-fired units by imposing a harsh and unreasonable regulatory mandate for all coal-fired units to use nascent but undemonstrated CCS technology, while shielding baseload gas-fired units from that same mandate. EPA reached this inconsistent outcome by setting the coal standard based on an unsubstantiated determination that CCS is adequately demonstrated for baseload coal-fired units while finding the same considerations irrelevant in setting the baseload gas unit standard.

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[10] Comments cited by Power Company Respondent-Intervenors correctly observe that "[s]ome natural gas units will be built solely to provide constant energy … and would be expected to run at higher capacity factors." *See* California Air Resources Board, Comments on the Modified and Reconstructed Standards at 5 (Oct. 16, 2014), EPA-HQ-OAR-2013-0603-0225, JA4177.

[11] While EPA points out its statement in the record that two combustion turbines "'may have similar electric sales, but very different operating characteristics,'" EPA Br. 102 (quoting 80 Fed. Reg. at 64,609, JA101), EPA omits the critical qualification that this is true only "[i]n the transition zone from peaking to base load operation (*i.e.*, cycling and intermediate load)," 80 Fed. Reg. at 64,609, JA101, and that this cannot be said for traditional baseload units specifically designed and operated to serve continuous levels of power demand as efficiently as possible.

[12] Turbine Achievability TSD, Attach., New Source GHG NSPS Combined Cycle Standard TSD (July 31, 2015), JA2954-62.

III. The Modified and Reconstructed Steam Generating Unit Standards Violate the CAA.

A. The Modified Standard Is Not Achievable.

EPA relies on the simplistic and incorrect assumption that because a steam unit emitted CO_2 at a particular rate at some point in the past under ideal conditions, it can replicate and sustain that performance into the future upon modification under all relevant conditions. *See* EPA Br. 93. EPA says reliance on an annual average will ensure that all variable conditions average out over the course of a year. *Id.*

In fact, the record demonstrates there are significant factors beyond any unit's control that lead to year-to-year variation in CO_2 emission rates. Non-State Br. 56-57. EPA's claim that it has accounted for the full range of relevant conditions affecting emissions by considering performance over a 12-month period ignores the substantial *year-to-year* variation caused by capacity factor, ambient temperature, market conditions, and other variables beyond the unit's control. UARG Reconsideration Petition, Ex. J at 3-2 to 3-5, JA4534-37.

EPA otherwise alludes to a "broad range of efficiency measures" available to improve a steam generating unit's CO_2 emission rate. EPA Br. 94. But the Rule failed to supply *any* reasoned demonstration that the listed efficiency measures are actually available to any individual steam unit and, if they were, would be sufficient to achieve the unit's best historical CO_2 emission rate. EPA did not undertake any analysis to estimate by how much steam units would need to reduce current CO_2 emissions to

meet their best historical rates. And its supporting documentation merely lists efficiency improvement measures, with little information as to whether they have already been deployed throughout the industry or how significantly they might reduce a unit's CO_2 emissions. *Id.* (citing Mitigation TSD at 2-11 to 2-15, JA3001-05). In fact, many of the listed measures are already routinely applied at steam units and therefore would not be a means of achieving additional emission reductions. UARG Modified/Reconstructed Comments at 44, JA4122.

EPA also claims the modified standard can be considered "achievable" even if modified units cannot actually meet it, because steam units can simply take steps to avoid triggering the Rule's modification criteria. EPA Br. 95. This reads the "achievability" requirement out of section 111 altogether. By EPA's logic, a modified standard of *zero emissions* would be "achievable" provided units could avoid modification. This Court's holding in *Portland Cement Ass'n v. EPA*, 665 F.3d 177, 190 (D.C. Cir. 2011) (cited at EPA Br. 95-96), does not help EPA, as it addressed a situation where only a small subset of sources would be unable to meet the standard if the modification threshold were triggered. *See* 75 Fed. Reg. at 54,996, JA4737. Here, EPA has not shown that *any* modified steam generating unit could replicate its best historical CO_2 emission rate on a continuous basis, let along under most adverse conditions.

B. The Reconstructed Unit Standard Is Not Achievable or Based on an Adequately Demonstrated System.

In response to Non-State Petitioners' argument that conversion from subcritical to supercritical boiler design has not been adequately demonstrated, EPA claims it is "reasonable to expect" it could be done given the large capital expenditure required to trigger the reconstructed unit standard. EPA Br. 98-99. This is "mere speculation or conjecture." *Lignite Energy Council v. EPA*, 198 F.3d 930, 934 (D.C. Cir. 1999). EPA did not address the fact that such a major boiler conversion has never been performed in any source category, did not explain why the reconstruction cost threshold is the point at which such design conversion would be feasible, and did not address how a large-scale capital project would enable a source to overcome the technical difficulties of converting the boiler and supporting systems to accommodate supercritical conditions.

Likewise, EPA failed to show its standards for reconstructed units are achievable. Non-State Br. 60-62. EPA concedes it based the reconstructed standards on its assessment of "the best performing units" in both the large and small steam unit subcategories. EPA Br. 97. As discussed above in section I.C.1, neither section 111, case law, nor EPA practice supports basing a standard on the "best performing" units in a source category alone. Indeed, here, EPA set a standard for reconstructed combustion turbines that reflects the performance of the "best performing units," for *all but one* of the turbines EPA evaluated. Turbine Achievability TSD at 7, JA2949.

EPA also failed to provide a reasoned explanation for the various adjustments it made to "normalize" emissions data from these "best performing" units. Non-State Br. 61-62.

EPA attempts to circumvent the statutory requirement of achievability by arguing that because a unit is considered "reconstructed" only if compliance with the standard is "feasible," 40 C.F.R. § 60.15(b)(2), the standard will never apply to a unit that cannot achieve it. EPA Br. 100-01. But as with the modified standard, this would render section 111's achievability requirement meaningless. The "feasibility" criteria in EPA's regulatory definition of "reconstruction" does not relieve EPA of its duty to promulgate a standard that is consistent with section 111, including the achievability requirement.

IV. Endangerment and Significant Contribution

Section 111 requires EPA to "publish (and from time to time thereafter … revise) a list of categories of stationary sources." CAA § 111(b)(1)(A). A source category is listed if EPA determines "it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." *Id.* This language requires EPA to make two findings: (i) the "air pollution" to be regulated must be "reasonably … anticipated to endanger public health or welfare"; and (ii) the source category must "cause[], or contribute[] significantly to" that endangering air pollution. *Id.* EPA argues it did not need to make these findings. EPA Br. 108-09.

Instead, EPA claims that because it listed steam generators more than 45 years ago, 36 Fed. Reg. 5931 (Mar. 31, 1971), JA4567, and listed gas turbines almost 40 years ago, 42 Fed. Reg. 53,657 (Oct. 3, 1977), JA4628, based on endangerment risks posed by other pollutants, it may now regulate CO_2 emissions from those sources without examining whether CO_2 endangers public health or welfare or whether those source categories contribute significantly to that endangerment. EPA asserts that section 111(b)(1)(B)'s direction to propose new regulations for listed categories within one year of the listing, without expressly mentioning which pollutants EPA can regulate, creates a "gap" that EPA has discretion to fill. EPA Br. 109-10. But reading section 111(b)(1)(B) in conjunction with section 111(b)(1)(A), the pollutants for which EPA must promulgate regulations is clear: those pollutants found to endanger public health and welfare that the source category emits in amounts large enough to contribute significantly to that endangerment. There is no gap.

EPA's interpretation leads to absurd results: it would allow EPA to regulate *anything* emitted from a listed source category no matter how innocuous. Under EPA's interpretation, it could regulate pure water vapor (steam) from any listed source category without having to show how or whether the emitted steam endangers health or welfare. This cannot be what Congress intended.

Realizing its interpretation's limitless nature, EPA falls back on a so-called "rational basis" test entirely of its own creation and without any statutory foundation. Section 111 does not include the word "rational." Thus, EPA searches instead to find

the word in case law, citing cases regarding review of agency action under the Administrative Procedure Act ("APA") finding agency action to be acceptable when "rational." EPA Br. 114-15. The APA, however, is not the statute that defines the scope of EPA's authority to undertake this rulemaking, and the cases cited by EPA therefore do not apply.[13] EPA's promulgation of the Rule without having made a proper endangerment and significant contribution finding violated section 111(b)(1)(A) and exceeded the scope of EPA's CAA authority.

EPA's final retreat is to say that even if pollutant-specific endangerment and source category-specific significant contribution findings were required here, the record would support such a finding. *Id.* at 116-19. In support, EPA cites portions of the "Background" section of the preamble, which are intended to provide background material, as the title suggests. *Id.* at 116 (citing 80 Fed. Reg. at 64,517-24, JA9-16). Absent from this section is a discussion of the endangerment and significant contribution standard of section 111(b)(1). Whether findings *could* be made (if EPA were to conduct the requisite endangerment and significant contribution analyses) is irrelevant because the analyses were not conducted. EPA incorrectly asserts that it need not do so. 80 Fed. Reg. at 64,529, JA21. EPA cannot cure this deficiency by

[13] One of the cited cases, *Motor & Equipment Manufacturers Ass'n v. EPA*, 627 F.2d 1095, 1106 (D.C. Cir. 1979), involved section 209 of the CAA. That provision is not listed in section 307 of the CAA, and thus is subject to the APA, unlike the Rule at issue here. The other case, *ADX Communications of Pensacola v. FCC*, 794 F.3d 74, 79 (D.C. Cir. 2015), involved the Communications Act.

pointing to the background section of the preamble in its brief (EPA Br. 116), or by blithely stating that "the information and conclusions described above should be considered to constitute the requisite endangerment finding" and the "cause-or-contribute significantly finding." 80 Fed. Reg. at 64,530, JA22. This vaguely referenced material, which is outdated, relates to *other* sources and *other* pollutants. *See* Non-State Br. 68. The CAA demands more.

V. *Ex Parte* Communications[14]

EPA errs in its attack on EELI's argument regarding the ex parte communications that were not properly docketed with this Rule. First, EPA questions EELI's standing. EPA contends that EELI has suffered no injury beyond a general frustration of purpose, which is insufficient. EPA also contends EELI is not included in the standing statement in Non-State Petitioners' opening brief. EPA Br. 121. However, EELI has demonstrated the injury it will suffer from the Rule. As EPA noted, *id.* at 121-22, EELI explained that it "engages in advisement related to coal energy as an economically sound and environmentally safe method of energy generation." EELI Docketing Statement, ECF No. 1586461. Petitioners' opening briefs explained the Rule's effect would be to prevent the construction of new fossil fuel generating units, particularly coal-fired power plants, and that the Rule is a legal prerequisite for the Clean Power Plan, which will substantially reduce the number of

[14] This argument is raised only by Petitioner Energy & Environment Legal Institute ("EELI").

coal-fired power plants. A rule which has this effect clearly injures an organization which exists in part to give advice on how best to utilize coal-fired power.

EPA next contends that the failure to docket material relevant to the rulemaking was harmless because this material would not have substantially affected the rulemaking's outcome even had it been present. Yet, as EPA notes in the background to the rulemaking, the central purpose of this Rule is as part of the larger effort to combat global warming, and that the need for such an effort is based on rigorous scientific evidence. *See* 80 Fed. Reg. at 64,517, JA9. However, the evidence uncovered through Freedom of Information Act ("FOIA") requests by EELI shows that this Rule was enacted in large measure to fulfill the agenda of outside groups who had a specific rule they wished to see promulgated. Outside organizations such as Sierra Club, Natural Resource Defense Council, and Clean Air Task Force gave clear instructions on the rule they wished to see. JA4456-91. This evidence raises doubts as to one of the underlying justifications for the Rule that is part of a larger necessary scheme to combat global warming developed through scientific consensus. Given the public and political opposition to other proposals pushed by these same outside groups such as a carbon tax or cap-and-trade, all of which have failed in Congress, it is unreasonable for EPA to claim that had the activist origins of this Rule been clear, that additional public awareness and attention would not have caused substantial changes to the Rule.

Finally, EPA claims the evidence uncovered by EELI through FOIA is irrelevant because it predates the existing rules, and EPA proposed, withdrew, and immediately replaced the rule under discussion at the time the uncovered emails were sent. Yet, while EPA has repeatedly made conclusory claims that the two rules are unrelated, the facts simply do not bear this out. The 2012 proposal (77 Fed. Reg. 22,392 (Apr. 13, 2012)) and the 2014 proposal (79 Fed. Reg. 1430 (Jan. 8, 2014)) are deeply connected and the latter proposal builds on the work done for the 2012 proposal. EPA cannot simply disclaim this earlier work and claim the current rule is newborn and unaffected by discussions and communications which tainted the earlier rule. Moreover, the evidence uncovered by EELI shows that EPA was continuously being pressured to impose standards that were ever harder to meet—the final result embodied in the Rule. Thus, EPA's claim that the evidence has no bearing on the Rule is incorrect. Indeed, EELI uncovered evidence showing EPA was told the Rule's purpose should be to support the deployment of certain preferred power sources, exactly the final Rule's result. JA4484.

CONCLUSION

The petitions should be granted, and the Rule vacated.

Dated: February 3, 2017

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CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a)(7)(B), (f), and (g) of the Federal Rules of Appellate Procedure and Circuit Rules 32(e)(1) and 32(e)(2)(C), I hereby certify that the foregoing final form Reply Brief of Non-State Petitioners contains 8,990 words, as counted by a word processing system that includes headings, footnotes, quotations, and citations in the count, and therefore is within the word limit set by the Court.

Dated: February 3, 2017

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CERTIFICATE OF SERVICE

I hereby certify that, on this 3rd day of February 2017, a copy of the foregoing final form Reply Brief of Non-State Petitioners was served electronically through the Court's CM/ECF system on all ECF-registered counsel.

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