

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.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

**On Petition for Review of Final Agency Action
of the U.S. Environmental Protection Agency
80 Fed. Reg. 64,510 (Oct. 23, 2015)**

STATE OF NORTH DAKOTA'S OPENING BRIEF

WAYNE K. STENEHJEM
Attorney General
MARGARET OLSON
Assistant Attorney General
500 N. 9th Street
Bismarck, ND 58501
wstenehjem@nd.gov
maiolson@nd.gov

PAUL M. SEBY
Special Assistant Attorney General
JERRY STOUCK
Special Assistant Attorney General
Greenberg Traurig, LLP
1200 17th Street, Suite 24
Denver, CO 80202
Phone: (303) 572-6584
sebyp@gtlaw.com
stouckj@gtlaw.com

DATED: October 13, 2016
FINAL FORM: February 2, 2017

Counsel for Petitioner State of North Dakota

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), the State of North Dakota states as follows:

A. Parties, Intervenors, and Amici Curiae

These cases involve the following parties:

Petitioners:

No. 15-1381: State of North Dakota.

No. 15-1396: Murray Energy Corporation.

No. 15-1397: Energy & Environment Legal Institute.

No. 15-1399: State of West Virginia; State of Alabama; State of Arizona

Corporation Commission; State of Arkansas; State of Florida; State of Georgia; State of Indiana; State of Kansas; Commonwealth of Kentucky; State of Louisiana; State of Louisiana Department of Environmental Quality; Attorney General Bill Schuette, People of Michigan; State of Missouri; State of Montana; State of Nebraska; The North Carolina Department of Environmental Quality; State of Ohio; State of Oklahoma; State of South Carolina; State of South Dakota; State of Texas; State of Utah; State of Wisconsin; and State of Wyoming.

No. 15-1434: International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers & Helpers, AFL-CIO.

No. 15-1438: Peabody Energy Corporation.

No. 15-1448: Utility Air Regulatory Group and American Public Power Association.

No. 15-1456: National Mining Association.

No. 15-1458: Indiana Utility Group.

No. 15-1463: United Mine Workers of America, AFL-CIO.

No. 15-1468: Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; and Southern Power Company.

No. 15-1469: Chamber of Commerce of the United States of America; National Association of Manufacturers; American Fuel & Petrochemical Manufacturers; National Federation of Independent Business; American Chemistry Council; American Coke and Coal Chemicals Institute; American Foundry Society; American Forest & Paper Association; American Iron and Steel Institute; American Wood Council; Brick Industry Association; Electricity Consumers Resource Council; Lignite Energy Council; National Lime Association; National Oilseed Processors Association; and Portland Cement Association.

No. 15-1481: American Coalition for Clean Coal Electricity.

No. 15-1482: Luminant Generation Company LLC; Oak Grove Management Company LLC; Big Brown Power Company LLC; Sandow Power Company LLC; Big Brown Lignite Company LLC; Luminant Mining Company LLC; and Luminant Big Brown Mining Company LLC.

No. 15-1484: National Rural Electric Cooperative Association; Basin Electric Power Cooperative; East Kentucky Power Cooperative, Inc.; Hoosier Energy Rural Electric Cooperative, Inc.; Minnkota Power Cooperative, Inc.; Sunflower

Electric Power Corporation; and Tri-State Generation and Transmission Association, Inc.

No. 16-1218: Murray Energy Corporation.

No. 16-1220: State of West Virginia; State of Alabama; State of Arizona Corporation Commission; State of Arkansas; State of Florida; State of Georgia; State of Indiana; State of Kansas; Commonwealth of Kentucky; State of Louisiana; State of Louisiana Department of Environmental Quality; Attorney General Bill Schuette, People of Michigan; State of Missouri; State of Montana; State of Nebraska; The North Carolina Department of Environmental Quality; State of Ohio; State of Oklahoma; State of South Carolina; State of South Dakota; State of Texas; State of Utah; State of Wisconsin; and State of Wyoming.

No. 16-1221: Utility Air Regulatory Group and American Public Power Association.

No. 16-1227: Energy & Environment Legal Institute.

Respondents:

Respondents are the United States Environmental Protection Agency (in Nos. 15-1381, 15-1397, 15-1434, 15-1448, 15-1456, 15-1463, 15-1481, 15-1484, 16-1221, 16-1227) and the United States Environmental Protection Agency and Gina McCarthy, Administrator (in Nos. 15-1396, 15-1399, 15-1438, 15-1458, 15-1468, 15-1469, 15-1480, 15-1482, 16-1218, 16-1220).

Intervenors and *Amici Curiae*:

Lignite Energy Council and Gulf Coast Lignite Coalition are Petitioner-Intervenors.

American Lung Association; Center for Biological Diversity; Clean Air Council; Clean Wisconsin; Conservation Law Foundation; Environmental Defense Fund; Natural Resources Defense Council; Ohio Environmental Council; Sierra Club; State of California by and through Governor Edmund G. Brown, Jr., and the California Air Resources Board, and Attorney General Kamala D. Harris; State of Connecticut; State of Delaware; State of Hawaii; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of Minnesota by and through the Minnesota Pollution Control Agency; State of New Hampshire; State of New Mexico; State of New York; State of Oregon; State of Rhode Island; State of Vermont; State of Washington; Commonwealth of Massachusetts; Commonwealth of Virginia; District of Columbia; City of New York; Golden Spread Electric Cooperative, Inc.; NextEra Energy, Inc.; Calpine Corporation; The City of Austin d/b/a Austin Energy; The City of Los Angeles, by and through its Department of Water and Power; The City of Seattle, by and through its City Light Department; National Grid Generation, LLC; New York Power Authority; Pacific Gas and Electric Company; Sacramento Municipal Utility District; Tri-State Generation and Transmission Association, Inc. are Respondent-Intervenors.

B. Rulings Under Review

These consolidated cases involve final agency action of the United States Environmental Protection Agency entitled, “Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” published on October 23, 2015, at 80 Fed. Reg. 64,510.

C. Related Cases

These consolidated cases have not previously been before this Court or any other court.

Per the Court’s order of March 24, 2016, the following case was severed and is being held in abeyance pending potential administrative resolution of biogenic carbon dioxide emissions issues in the Final Rule: *Biogenic CO2 Coalition v. EPA*, No. 15-1480.

TABLE OF CONTENTS

JURISDICTIONAL STATEMENT	1
STATEMENT OF ISSUES	1
STATUTES AND REGULATIONS	2
INTRODUCTION	2
STATEMENT OF THE CASE.....	2
SUMMARY OF ARGUMENT.....	6
STANDING	6
STANDARD OF REVIEW	8
ARGUMENT	8
I. The Rule Violates the Clean Air Act.	8
A. The BSER in the Rule is Not “Adequately Demonstrated” for Lignite-Fueled EGUs.	9
1. No Lignite-Fueled EGU Employs the BSER.	9
2. EPA Improperly Relied on Government-Subsidized EGUs.	11
3. EPA’s Reliance on Boundary Dam Does Not Provide a Rational Basis for Concluding that the BSER is “Adequately Demonstrated.”	11
4. Sequestration in Deep Saline Formations Has Not Been “Adequately Demonstrated” for <i>Any</i> EGU in North America.....	12
B. The Standard in the Final Rule is Not “Achievable” for Lignite- Fueled EGUs, and EPA Failed to Even Consider Virgin Lignite in Setting the Standard.....	13
II. EPA’s Failure to Subcategorize for Lignite Violates CAA § 307(d)(9) Because it is Arbitrary and Capricious.....	15
CONCLUSION	18

TABLE OF AUTHORITIES¹

Cases

<i>Essex Chem. Corp. v. Ruckelshaus</i> , 486 F.2d 427 (D.C. Cir. 1973)	10
<i>Massachusetts v. EPA</i> , 549 U.S. 497 (2007)	8
<i>Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.</i> , 463 U.S. 29 (1983)	18
* <i>Nat’l Lime Ass’n v. EPA</i> , 627 F.2d 416 (D.C. Cir. 1980)	13, 14
* <i>Portland Cement Ass’n, v. Ruckelshaus</i> , 486 F.2d 375 (D.C.Cir. 1973)	10, 12
* <i>Sierra Club v. Costle</i> , 657 F.2d 298 (D.C. Cir. 1981)	9, 10, 12, 14
<i>Steger v. Def. Investigative Serv.</i> , 717 F.2d 1402 (D.C. Cir. 1983)	18
* <i>United States v. Minnkota Power Coop., Inc.</i> , 831 F. Supp. 2d 1109 (D.N.D. 2011)	5, 9, 14

Statutes

*42 U.S.C. § 15962(i).....	11
Budget Implementation Act, S.C. 2008, c. 28 (Can.)	11
CAA § 111(a)(1), 42 U.S.C. § 7411(a)(1).....	8
*CAA § 111(b), 42 U.S.C. § 7411(b).....	1, 2, 6, 8
CAA § 111(b)(2), 42 U.S.C. § 7411(b)(2).....	16
CAA § 111(d), 42 U.S.C. § 7411(d).....	7
CAA § 111(f)(2)(c), 42 U.S.C. § 7411(f)(2).....	12
CAA § 307(b)(1), 42 U.S.C. § 7607(b)(1).....	1
*CAA § 307(d)(9), 42 U.S.C. § 7607(d)(9)	1, 2, 8
N.D. Cent. Code § 54-17.5-01.....	3, 7

¹ Authorities upon which we chiefly rely are marked with asterisks.

Regulations

40 C.F.R. § 60.22(b)(5).....	16
40 C.F.R. § 60.44Da(a)(1).....	17
40 C.F.R. § 60.5540(a).....	12
40 C.F.R. § 60.5580	8
40 Fed. Reg. 53,340.....	16
*77 Fed. Reg. 9304	5, 15, 17
*80 Fed. Reg. 64,510.....	1, 3, 5, 9, 10, 11, 12, 13, 15, 16, 17
80 Fed. Reg. 64,662.....	7

Other Authorities

DOE, National Energy Technology Laboratory, “Cost and Performance Baseline for Fossil Energy Plants, Vol. 1a: Bituminous Coal (PC) and Natural Gas to Electricity, Rev. 3” at 26 (July 6, 2015).....	14
EPA, Regulatory Impact Analysis for the Final Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, at 2-26 (Aug. 2015, rev. Oct. 23, 2015)	9
EPA, TSD, Literature Survey of Carbon Capture Technology, at 10, 40, 43–44 (July 10, 2015).....	9
U.S. Energy Information Administration, North Dakota Electricity Profile (2013), <i>http://www.eia.gov/electricity/state/NorthDakota</i>	3
IEAGHG, “Integrated Carbon Capture and Storage Project at SaskPower’s Boundary Dam Power Station,” at 24 (Aug. 2015).....	11
Presidential Memorandum on Power Sector Carbon Pollution Standards, 1 Pub. Papers 457 (June 25, 2013)	2

GLOSSARY

BSER	Best System of Emission Reduction
BTU	British Thermal Unit
CAA	Clean Air Act
CCS	Carbon Capture and Sequestration
CO ₂	Carbon Dioxide
CO ₂ /MWh	Carbon Dioxide per Megawatt hour
EGU	Electric Generating Unit
EPA	United States Environmental Protection Agency
EPAct	Energy Policy Act of 2005
JA	Joint Appendix
lb/MMBtu	Pound per million BTUs
MATS Rule	National Emission Standards for Hazardous Air Pollutants From Coal and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9304, 9379 (Feb. 16, 2012)
NDDH	North Dakota Department of Health
NO _x	Nitrogen Oxide

JURISDICTIONAL STATEMENT

Petitioner State of North Dakota (“North Dakota”) seeks review of the final rule promulgated by the U.S. Environmental Protection Agency (“EPA”) entitled “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units; Final Rule,” 80 Fed. Reg. 64,510 (Oct. 23, 2015) (“Rule”), Joint Appendix (“JA”), 1–152. North Dakota’s petition for review was timely filed in this Court under § 307(b)(1) of the Clean Air Act (“CAA”).²

STATEMENT OF ISSUES

1. Whether the Rule violates CAA § 111(b) by establishing a standard for coal-fueled EGUs based on a technology that is not adequately demonstrated for units fueled with “lignite” coal, which differs significantly from other coal forms;
2. Whether the Rule violates CAA § 111(b) by mandating a performance standard that is not achievable for lignite-fueled EGUs; and
3. Whether the Rule violates CAA § 307(d)(9) because it fails to subcategorize for lignite coal, despite EPA’s past practice of subcategorizing for lignite and its acknowledgment in the record that lignite has distinct characteristics, making the Rule arbitrary, capricious, an abuse of discretion, or otherwise unlawful.

² The Table of Authorities provides parallel citations to the U.S. Code.

STATUTES AND REGULATIONS

This case involves regulations promulgated by EPA pursuant to a claim of authority under CAA § 111(b). The Rule is codified in 40 C.F.R. Part 60, Subpart TTTT. The addendum reproduces the pertinent regulations and statutory provisions.

INTRODUCTION

This case involves consolidated petitions for review of the Rule. By Order dated March 24, 2016, the Court allowed North Dakota to file its own briefs, separate from the other States. North Dakota focuses its brief on the Rule's application to electric generating units ("EGUs") that are fueled with lignite coal. As explained below, the Rule's application to lignite-fueled EGUs underscores the Rule's invalidity by showing clearly that the Rule violates the specific requirements of CAA § 111(b) and general requirements of CAA § 307(d)(9).

STATEMENT OF THE CASE

EPA issued the Rule as a component of the Executive Branch's program to address carbon dioxide ("CO₂") emissions from fossil fuel-fired EGUs. *See* Presidential Memorandum on Power Sector Carbon Pollution Standards, 1 Pub. Papers 457 (June 25, 2013). The Rule establishes "standards of performance" for new, modified, and reconstructed EGUs under CAA § 111(b).

In the Rule, EPA determined that the best system of emission reduction ("BSER") for new coal-fueled EGUs is "a highly efficient supercritical pulverized coal-fired boiler using post-combustion" carbon capture and storage ("CCS"). This

BSER involves new coal-fueled EGUs capturing a significant portion of their CO₂ emissions post-combustion and arranging to have those emissions permanently stored in “deep saline formations.” The Rule establishes a performance standard for new coal-fueled EGUs of 1400 lbs CO₂/MWh, which EPA contends can be met through application of the BSER.³

In reality, the Rule is a *de facto* ban on new coal-fired EGUs—particularly those EGUs fueled with lignite, a distinctive form of coal—because the BSER is not adequately demonstrated for lignite-fueled EGUs, and the standard of performance is not achievable for lignite-fueled EGUs. This is significant to North Dakota, where in 2013, coal accounted for 99.4 percent of the State’s fossil-fuel-powered electricity generation, nearly all of it from lignite coal. *See* U.S. Energy Information Administration, North Dakota Electricity Profile (2013), <http://www.eia.gov/electricity/state/NorthDakota>. North Dakota has an active and robust lignite coal and lignite-fueled energy producing industry, which the State has long promoted through a statutory state-industry partnership aimed at protecting and enhancing future use of North Dakota’s abundant lignite resources. *See* N.D. Cent. Code § 54-17.5-01. The North Dakota lignite industry supports more than 28,000 jobs and produces about 30 million tons of lignite coal annually. *Id.* Lignite’s

³ North Dakota focuses its brief on newly constructed EGUs, although it has similar concerns with the BSER established for reconstructed and modified units, *see* 80 Fed. Reg. 64,512, JA3.

reliability and efficacy allows North Dakota to keep its retail price of electricity low, which is important given the significant increase in demand for electricity projected over the next 20 years due to the Bakken Formation oil reserves in the Williston Basin area, which spans North Dakota, South Dakota, and Montana. NDDH Comments at 8, EPA-HQ-OAR-2013-0495-10870, JA1493.

Lignite coal has characteristics that make it very different from other coals. First, the physical and chemical composition of lignite, including higher CO₂ emissions, typically requires larger, more energy-intensive emission-control technologies than other coal-fired units. LEC Comments at 2, EPA-HQ-OAR-2013-0495-10088, JA1388. Second, lignite's far lower BTU content by weight results in much higher transport costs, because compared to other coal units, substantially greater amounts of lignite must be transported to supply lignite-fueled EGUs. This limits where new lignite-fueled EGUs can be sited, as they invariably must be co-located with the mines that supply their coal. *Id.*; *see also* GCLC Comments at 8, EPA-HQ-OAR-2013-0495-10556, JA1363.

EPA regulations have historically recognized differences in types of coals used in power generation, and the agency acknowledges the distinctive qualities of lignite in the administrative record here. *See* EPA, Regulatory Impact Analysis for the Final Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units ("RIA"), at 2-26 (Aug. 2015, rev. Oct. 23, 2015), EPA-HQ-OAR-2013-0495-11877, JA2829 (showing

lignite has a higher CO₂ emission rate than subbituminous and bituminous coals). Moreover, courts have recognized the uniqueness of lignite in establishing technology-based standards. For example, in *United States v. Minnkota Power Coop., Inc.*, 831 F. Supp. 2d 1109, 1125 (D.N.D. 2011), which involved another CAA provision that similarly required appropriate control technology determinations for EGUs, North Dakota based its determination of “best available control technology” on the unique characteristics of lignite. Against a challenge by EPA, the district court upheld the State’s technology determination, in part because it rested on “the differences between North Dakota lignite and other coals nationwide.” *Id.*; *see also id.* at 1126 (noting research showing the “behavior of the lignites from North Dakota is the most complex and severe of any coals in the world”) (internal quotations omitted). EPA declined to appeal.

In other recent rulemakings, EPA similarly recognized and accounted for the uniqueness of lignite in electric power generation. *See e.g.*, 77 Fed. Reg. 9304, 9379 (Feb. 16, 2012), JA4851 (“MATS Rule”) (subcategorizing coal types, including lignite, based on different heat generation and mercury-emission characteristics). Here, EPA departs from that established practice with the only offered explanation being “we have concluded that these standards are achievable by all the primary coal types.” 80 Fed. Reg. at 64,600, JA92.

SUMMARY OF ARGUMENT

EPA knows from experience, and indeed recognized here, lignite’s distinctive emissions characteristics. Moreover, the administrative record reflects that lignite’s unique characteristics present distinctive technological challenges, including with respect to emission-control technologies. EPA nevertheless failed to establish that the Rule’s BSER is “adequately demonstrated” or that the performance standard is “achievable,” as CAA § 111(b) explicitly requires, for new lignite-fueled EGUs. That makes the Rule invalid, because this Court has held that performance standards must meet those requirements as applied to the entire source category—here, coal-fueled EGUs, including lignite-fueled units.

Despite commenters’ requests to treat lignite-fueled EGUs separately as EPA has done in prior similar rulemakings, here EPA refused to create a subcategory for lignite-fueled EGUs. That decision was arbitrary and capricious.

The Rule is unlawful and must be vacated.⁴

STANDING

North Dakota has standing, first, because the Rule imposes a CO₂ performance standard that is unachievable for lignite-fueled EGUs and, as a result, is a *de facto* ban on use of North Dakota’s abundant lignite resources in new EGUs. Glatt Decl. ¶¶ 7, 9.

⁴ North Dakota fully supports—and incorporates by reference—the additional arguments made in the other State Petitioners’ brief, and in the Non-State Petitioners’ brief, explaining why the Rule is invalid.

Second, the Rule significantly impairs North Dakota's sovereign authority under both state law and the CAA. North Dakota has a statutory obligation to protect, preserve, and enhance development of the State's lignite resources for the benefit of its citizens. N.D. Cent. Code § 54-17.5-01; *see also* Fine Decl. ¶¶ 4, 8. By effectively banning new lignite-fueled facilities, the Rule fundamentally preempts North Dakota law, and installs EPA as dictator of energy policy—displacing the traditional and statutory role held by State agencies. Christmann Decl. ¶¶ 9–12; Fine Decl. ¶ 11; Glatt Decl. ¶¶ 8–9. North Dakota's Public Service Commission is vested with regulatory authority over new EGU additions. Christmann Decl. ¶¶ 3–4. The North Dakota Department of Health administers federal and state laws governing air quality, which includes permitting new EGUs. Glatt Decl. ¶¶ 3–4. The North Dakota Industrial Commission implements special programs to foster the State's development of new lignite resources. Fine Decl. ¶¶ 3–4, 6–10. By effectively banning new lignite-fueled EGUs, the Rule divests these State agencies of their respective statutory roles and authorities.

Third, North Dakota has standing because the Rule for new EGUs is a legal prerequisite for EPA's separate rule under CAA § 111(d) for existing EGUs, which injures North Dakota because it forces the State to either formulate a state plan or accept a federal plan, and it forces the shutdown or curtailment of lignite-fueled EGUs in the state. EPA admits the 111(d) rule could not legally exist without the Rule. 80 Fed. Reg. 64,662, 64,702 (Oct. 23, 2015), JA5140.

These factors are more than sufficient to meet the causation, traceability, and redressability required for standing, especially in light of the “special solicitude” North Dakota must be afforded in this case. *Massachusetts v. EPA*, 549 U.S. 497, 520 (2007).

STANDARD OF REVIEW

Pursuant to CAA § 307(d)(9), the Court must set aside a final agency action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; contrary to constitutional right, power, privilege, or immunity; or in excess of statutory jurisdiction, authority, or limitations or short of statutory right.”

ARGUMENT

I. The Rule Violates the Clean Air Act.

EPA’s authority under CAA § 111(b) to set “standards of performance for new sources” is subject to important limitations: EPA must define the standards to “reflect[] the degree of emission limitation *achievable* through the [BSER] which . . . the Administrator determines has been *adequately demonstrated*.” CAA § 111(a)(1) (emphasis added). Critically, “achievability” and “adequately demonstrated” are *separate* requirements, and both must be independently proven by EPA for the entire source category.

Because EPA explicitly seeks to regulate lignite-fueled EGUs under the Rule, 40 C.F.R. § 60.5580 (“[c]oal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite . . . ”), the agency must show that the BSER is “adequately

demonstrated” for lignite-fueled EGUs and that the standard of performance is “achievable” for lignite-fueled EGUs. EPA fails on both accounts.

A. The BSER in the Rule is Not “Adequately Demonstrated” for Lignite-Fueled EGUs.

1. No Lignite-Fueled EGU Employs the BSER.

EPA fails to cite any real-world, commercial-scale usage of the entire BSER. *See* EPA, TSD, Literature Survey of Carbon Capture Technology at 10, 40, 43–44 (July 10, 2015), EPA-HQ-OAR-2013-0495-11773, JA3131, 3161, 3164–65. This undermines the Rule as applied to *any* coal-fired EGU, but it is especially fatal for lignite-fired EGUs, which, as EPA acknowledges, are technologically and operationally distinct from traditional coal-fired EGUs due to lignite’s lower BTU content, higher CO₂ emissions and different chemical composition, *see e.g.*, RIA at 2-26, JA2829. These differences pose unresolved technical challenges for the deployment of CCS at lignite-fueled EGUs. *See Minnesota*, 831 F.Supp. 2d at 1126 (recognizing the “unique characteristics” of lignite “present significant challenges to successful application of” control technologies).

EPA’s failure to present real-world, commercial-scale usage of the BSER is fatal, because to be “adequately demonstrated,” a “system” must be in commercial use or capable of commercial deployment. *Sierra Club v. Costle*, 657 F.2d 298, 341, n.157 (D.C. Cir. 1981). It must be more than just “technically feasible,” 80 Fed. Reg. 64,513; rather, EPA must show that a BSER is commercially available, *Costle*, 657 F.2d

at 364; *Portland Cement Ass'n, v. Ruckelshaus*, 486 F.2d 375, 391 (D.C.Cir. 1973), “reasonably efficient,” *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973), and not “unreasonably costly,” *Costle*, 657 F.2d at 343.

The record does not establish that the Rule’s BSEER meets these requirements as applied to lignite-fueled EGUs, or any EGUs. EPA describes multiple facilities—some of which are fueled by lignite—that employ individual components of the BSEER. However, EPA does not cite a single EGU in the entire world that employs (or can employ) *all* the components of its BSEER. Moreover, the Rule’s performance standard is not “achievable” through the BSEER, *see* discussion *infra* Part I.B, and thus is a *de facto* ban on lignite-fueled EGUs. As a result, the BSEER is not only “unreasonably costly” for lignite-fueled EGUs, *Costle*, 657 F.2d at 343, it effectively nullifies EPA’s statutory obligation to “take into account the costs of achieving the emission reductions” prescribed for lignite-fueled EGUs. *Portland Cement*, 486 F.2d at 387.

The Rule acknowledges the “system” it requires is not in use anywhere and takes the position that EPA can find a system is “demonstrated” if the system’s *components* are “technically feasible,” 80 Fed. Reg. at 64,556, JA48. That is contrary to this Court’s instruction in the decisions cited above that “adequately demonstrated” means a BSEER is commercially “available” to be “install[ed] in new plants,” “reasonably efficient” and not “unreasonably costly.”

2. EPA Improperly Relied on Government-Subsidized EGUs.

The Energy Policy Act of 2005 (“EPAct”) prohibits EPA from considering projects subsidized by the U.S. Department of Energy’s Clean Coal Power Initiative (“CCPI”) to support a finding that a BSER is “adequately demonstrated.” *See* 42 U.S.C. § 15962(i).

As EPA confesses, 80 Fed. Reg. at 64,526 n.74, JA18, it did just that. *All but one* of the EGUs used to support its finding that the BSER is “adequately demonstrated” received CCPI funding. While reliance on these facilities is problematic for myriad other reasons, it is plainly prohibited by EPAct.

3. EPA’s Reliance on Boundary Dam Does Not Provide a Rational Basis for Concluding that the BSER is “Adequately Demonstrated.”

Ironically, the lone EGU on which EPA relied that was *not* subsidized by the U.S. government, SaskPower’s Boundary Dam, was heavily subsidized by the Canadian government. Budget Implementation Act 2008, S.C. 2008, c. 28, s. 138 (Can.), JA4668. This undeniably violates the logic behind EPAct—that projects are subsidized because they are otherwise nonviable—and SaskPower even admitted that “[f]ederal funding was the catalyst for the project.” IEAGHG, “Integrated Carbon Capture and Storage Project at SaskPower’s Boundary Dam Power Station,” at 24 (Aug. 2015), JA5063.

EPA’s reliance on Boundary Dam is improper for other reasons. The project had numerous financial and operational failings, *see e.g.*, UARG Reconsideration

Petition at 3–8, EPA-HQ-OAR-2013-0495-11894, JA4499–4504, and its capital costs are exorbitant—at proposal, it was expected to cost \$1.355 billion and is already \$115 million over budget. NDDH Comments at 6, JA1491. Power production, by comparison, is miniscule, with the unit only producing 160 MW gross and 110 MW net due to a 31 percent parasitic load—most of it consumed by CCS—which is well above the normal 7–12 percent. *Id.* at 7, JA1492.

Beyond these flaws, Boundary Dam cannot properly be relied upon as an “adequate demonstration” because it commenced operation only ten months prior to the Rule being signed. 80 Fed. Reg. at 64,549, JA41. Because compliance with the Rule’s performance standard is measured over an EGU’s 12-month operating period, *see* 40 C.F.R. § 60.5540(a), EPA’s determination is deficient and exactly the sort of “crystal ball inquiry” it is prohibited from making. *Portland Cement*, 486 F.2d at 391.

4. Sequestration in Deep Saline Formations Has Not Been “Adequately Demonstrated” for *Any* EGU in North America.

Because the Rule’s performance standard is nationally applicable, *see* CAA § 111(f)(2)(c), it must be based on a BSER that has been “adequately demonstrated” for use anywhere in the country. In *Costle*, for example, this Court found that a water-dependent control technology cannot be a *nationwide* “best system” because it would have “disastrous” effects on the water supply in arid western states. *See* 657 F.2d at 330; *see also Nat’l Lime Ass’n v. EPA*, 627 F.2d 416, 441–43 (D.C. Cir. 1980) (rejecting standard that did not account for “regional variations”). Here, the Rule’s “system”

will have disastrous effects on North Dakota because it effectively bans new lignite-fueled EGUs.

Even assuming that EPA need only prove “components” of the BSER are adequately demonstrated, the Rule fails because individual components are not “adequately demonstrated” for use in North Dakota. As the Rule recognizes, “whether all new steam-generating sources can implement” the BSER is “dependent on the geographic scope.” 80 Fed. Reg. at 64,541, JA33. EPA admits that large areas of the U.S.—including significant portions of North Dakota—do not have *any* identified deep saline formations, *id.* at 64,576-77, JA68–69, and even in areas that supposedly do, EPA acknowledges that not all such formations are suitable for sequestration. *Id.* at 64,573, JA65.

B. The Standard in the Final Rule is Not “Achievable” for Lignite-Fueled EGUs, and EPA Failed to Even Consider Virgin Lignite in Setting the Standard.

EPA must establish that the standards derived from the BSER are “achievable” by sources in “the industry as a whole,” *Nat’l Lime*, 627 F.2d at 429, 431 & n.46, 433, and EPA must account for “regional variations” in setting the standards. *Id.* at 442. Here, EPA failed to show that its standard is achievable for new lignite-fueled units (it is not), and EPA failed to even consider the virgin lignite that prevails in North Dakota, which EPA conceded has different CO₂ emission characteristics. *See supra* pp. 4, 9.

EPA's "one size fits all coal-fueled EGUs" performance standard is based, not on any real-world evidence, but instead on a National Energy Technology Laboratory report that analyzes only one type of coal, Illinois No. 6 Coal, which is a medium-BTU, bituminous coal that burns more efficiently than low-BTU virgin lignite coal, the predominant coal in North Dakota. DOE, National Energy Technology Laboratory, "Cost and Performance Baseline for Fossil Energy Plants, Vol. 1a: Bituminous Coal (PC) and Natural Gas to Electricity, Rev. 3" at 26 (July 6, 2015), DOE/NETL-2015/1723, EPA-HQ-OAR-2013-0495-11341 ("NETL July 2015 Report"), JA3517. The report's analysis is thus not "representative of potential industry-wide performance, given the range of variables that affect the achievability of the standard," *Costle*, 657 F.2d at 377, or of the "regional variations" of coal types. *Nat'l Lime*, 627 F.2d at 441–43. Therefore, EPA's claim that the standard for new coal-fueled units is achievable "for all fuel types, under a wide range of conditions, throughout the United States," 80 Fed. Reg. at 64,513, JA5, lacks record support particularly for lignite-fueled EGUs. EPA's claim is wrong as applied to lignite, because lignite's "unique characteristics" "present significant challenges to successful application of control technologies. *Minnkota*, 831 F. Supp. 2d at 1126.

In its "achievability" discussion, EPA discusses utilities "burning bituminous coal" as well as utilities "burning subbituminous coal or 'dried lignite,'" 80 Fed. Reg. at 64,513, JA5, but nowhere does EPA address achievability for a unit burning virgin, *non-dried*, lignite—which differs significantly from dried lignite and is what most

lignite-fueled EGUs in North Dakota use. Indeed, EPA's many references to "dried lignite" in the Rule's preamble highlight the lack of *any* discussion of virgin, non-dried lignite, which is lower in BTUs, higher in moisture content and produces more CO₂ emissions. *See* 80 Fed. Reg. 64,513, 64,548, 64,560, 64,562, 64,574, JA5, 40, 52, 54, 66. Moreover, as recognized in a study that EPA cites in a footnote, drying lignite requires another undemonstrated technology for which "cost and techno-economic information is limited" and "[t]he actual cost depends both on the properties of the lignite in question and the operational parameters." *See id.* at 64,513, n.7, JA5 (citation omitted).

EPA's failure to account for regional variations or consider virgin lignite in its achievability analysis, or consequently to show that the Rule's performance standard can be met by the "industry as a whole," makes the Rule invalid.

II. EPA's Failure to Subcategorize for Lignite Violates CAA § 307(d)(9) Because it is Arbitrary and Capricious.

Despite subcategorizing for lignite in other, similar rulemakings, *see e.g.*, MATS Rule at 9379, JA4851, EPA refused to subcategorize in this Rule, even though the agency received comments "suggest[ing] that due to high moisture content and high relative CO₂ emissions of lignite, lignite-fired units should have its own [sic] subcategory." 80 Fed. Reg. at 64,600, JA92. EPA offers no explanation for its refusal to subcategorize, asserting only that it "concluded that these standards are achievable by all the primary coal types." *Id.* This conclusion is arbitrary and capricious.

In setting new source performance standards, CAA § 111(b)(2) provides that “[t]he [EPA] Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.” EPA’s implementing rules for existing sources go even further, stating that “the Administrator . . . *will* specify different emission guidelines or compliance times or both for different sizes, types, and classes of designated facilities when costs of control, physical limitations, geographical location, or similar factors make subcategorization appropriate.” 40 C.F.R. § 60.22(b)(5) (emphasis added). Here, the physical and operational differences between EGUs that use lignite versus other coal types, along with its regional abundance in North Dakota, make subcategorization for lignite-fueled EGUs appropriate.

Long ago, EPA recognized it must establish subcategories to set emission guidelines based on “what is reasonably achievable *by particular classes* of existing sources.” State Plans for the Control of Certain Pollutants from Existing Facilities, 40 Fed. Reg. 53,340, 53,343 (Nov. 17, 1975), JA4576 (emphasis added). Hence, EPA anticipated that subcategorization would be appropriate “[i]n most if not all cases” with “substantial variation in the degree of control required for particular sources rather than identical standards for all sources.” *Id.* Thus, EPA knows not only when to subcategorize, but how to do it. As shown in the MATS Rule, that same logic applies to new sources.

The MATS Rule established for both existing *and* new sources a subcategory for lignite under the larger coal category, based on lignite’s distinctive composition and emission characteristics, and because lignite units are “universally constructed ‘at or near’ a mine containing” lignite. MATS Rule at 9379, JA4851.⁵ That limitation makes CCS particularly difficult to implement for lignite-fueled EGUs in North Dakota, significant portions of which, as EPA recognizes, have no deep saline formations. 80 Fed. Reg. at 64,576-77, JA68–69.

Subcategorization was not only appropriate here, it made practical sense. Commenters insisted on subcategorization because “[l]ignite-fired power plants are technologically and operationally distinct from traditional coal-fired power plants and include different design elements that warrant and require a separate subcategory.” GCLC Comments at 8, JA1363; *see also* NDDH Comments at 1, JA1486 (referencing *Minnkota*, where North Dakota’s control technology determination for lignite was upheld because of lignite’s unique characteristics). In the MATS Rule, EPA found these same factors warranted subcategorization. Here, EPA’s failure to adequately address these comments or explain why EPA reached the opposite conclusion is arbitrary and capricious. *See Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *cf. Steger v. Def. Investigative Serv.*, 717 F.2d 1402, 1406 (D.C. Cir.

⁵ In recognizing North Dakota lignite’s distinctive qualities in particular, the MATS Rule set a NO_x emission limit of 0.8 lb/MMBtu for lignite mined in North Dakota, South Dakota, and Montana, versus a limit of 0.6 lb/MMBtu for other lignites. *See* 40 C.F.R. § 60.44Da(a)(1).

1983) (providing that an agency cannot “treat similar situations dissimilarly and, indeed, can be said to be at its most arbitrary when it does so.”).

CONCLUSION

For the foregoing reasons, the State of North Dakota’s petition should be granted, and the Rule should be vacated.

CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure and Circuit Rules 32(a)(1) and 32(a)(2)(C), I hereby certify that the foregoing State of North Dakota's Opening Brief contains 3,975 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 2, 2017

/s/ Paul M. Seby

CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of February, 2017, a copy of the foregoing State of North Dakota's Opening Brief was served electronically through the Court's CM/ECF system on all ECF-registered counsel.

/s/ Paul M. Seby