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

STATE PETITIONERS' FINAL OPENING BRIEF

Patrick Morrisey
ATTORNEY GENERAL OF WEST VIRGINIA
Elbert Lin
Solicitor General
Counsel of Record
Thomas M. Johnson, Jr.
Deputy Solicitor General
Katlyn M. Miller
Assistant Attorney General

Office of the Attorney General
State Capitol Building 1,
Room 26-E
Charleston, WV 25305
Tel: (304) 558-2021
Fax: (304) 558-0140
elbert.lin@wvago.gov

Counsel for Petitioner State of West Virginia

Date: October 13, 2016
Final Form: February 3, 2017

Additional Counsel listed on following pages

Luther Strange
ATTORNEY GENERAL OF ALABAMA
Andrew Brasher
Solicitor General
Counsel of Record
501 Washington Avenue
Montgomery, AL 36130
Tel: (334) 353-2609
abrasher@ago.state.al.us

Counsel for Petitioner State of Alabama

Mark Brnovich
ATTORNEY GENERAL OF ARIZONA
Dominic E. Draye
Solicitor General
Counsel of Record
Keith Miller
Assistant Attorney General
Maureen Scott
Janet Wagner
Arizona Corp. Commission,
Staff Attorneys
1275 West Washington
Phoenix, AZ 85007
Tel: (602) 542-5025
dominic.draye@azag.gov
keith.miller@azag.gov

Counsel for Petitioner Arizona Corporation Commission

Leslie Rutledge
ATTORNEY GENERAL OF ARKANSAS
Lee Rudofsky
Solicitor General
Counsel of Record
Nicholas J. Bronni
Deputy Solicitor General
Jamie L. Ewing
Assistant Attorney General
323 Center Street, Suite 400
Little Rock, AR 72201
Tel: (501) 682-5310
jamie.ewing@arkansasag.gov

Counsel for Petitioner State of Arkansas

Pamela Jo Bondi
ATTORNEY GENERAL OF FLORIDA
Jonathan L. Williams
Deputy Solicitor General
Counsel of Record
Jonathan A. Glogau
Special Counsel
Office of the Attorney General
PL-01, The Capitol
Tallahassee, FL 32399-1050
Tel: (850) 414-3300
Fax: (850) 410-2672
jonathan.williams@myfloridalegal.com

Counsel for Petitioner State of Florida

Christopher M. Carr
ATTORNEY GENERAL OF GEORGIA
Sarah Hawkins Warren
Solicitor General
Counsel of Record
40 Capitol Square S.W.
Atlanta, GA 30334
Tel: (404) 656-3300
Fax: (404) 463-9453
swarren@law.ga.gov

Counsel for Petitioner State of Georgia

Derek Schmidt
ATTORNEY GENERAL OF KANSAS
Jeffrey A. Chanay
Chief Deputy Attorney General
Counsel of Record
Bryan C. Clark
Assistant Solicitor General
120 S.W. 10th Avenue, 3rd Floor
Topeka, KS 66612
Tel: (785) 368-8435
Fax: (785) 291-3767
jeff.chanay@ag.ks.gov
bryan.clark@ag.ks.gov

Counsel for Petitioner State of Kansas

Curtis T. Hill, Jr.
ATTORNEY GENERAL OF INDIANA
Thomas M. Fisher
Solicitor General
Counsel of Record
Indiana Government Ctr. South
Fifth Floor
302 West Washington Street
Indianapolis, IN 46205
Tel: (317) 232-6247
tom.fisher@atg.in.gov

Counsel for Petitioner State of Indiana

Andy Beshear
ATTORNEY GENERAL OF KENTUCKY
Joseph A. Newberg, II
Assistant Attorney General
Counsel of Record
700 Capital Avenue
Suite 118
Frankfort, KY 40601
Tel: (502) 696-5611
joe.newberg@ky.gov

Counsel for Petitioner Commonwealth of Kentucky

Jeff Landry
ATTORNEY GENERAL OF LOUISIANA
Steven B. "Beaux" Jones
Counsel of Record
Environmental Section – Civil Division
1885 N. Third Street
Baton Rouge, LA 70804
Tel: (225) 326-6085
Fax: (225) 326-6099
jonesst@ag.state.la.us

Counsel for Petitioner State of Louisiana

Herman Robinson
Executive Counsel
Donald Trahan
Counsel of Record
Spencer Bowman
Elliott Vega
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Legal Division
P.O. Box 4302
Baton Rouge, LA 70821-4302
Tel: (225) 219-3985
Fax: (225) 219-4068
donald.trahan@la.gov
elliott.vega@la.gov

Counsel for Petitioner State of Louisiana Department of Environmental Quality

Bill Schuette
ATTORNEY GENERAL FOR THE PEOPLE OF MICHIGAN
Aaron D. Lindstrom
Michigan Solicitor General
Counsel of Record
Neil D. Gordon
Assistant Attorney General
P.O. Box 30212
Lansing, MI 48909
Tel: (515) 373-1124
Fax: (517) 373-3042
lindstroma@michigan.gov

Counsel for Petitioner People of the State of Michigan

Josh Hawley
ATTORNEY GENERAL OF MISSOURI
D. John Sauer
State Solicitor
Counsel of Record
Laura Elsbury
Assistant Attorney General
P.O. Box 899
207 W. High Street
Jefferson City, MO 65102
Tel: (573) 751-1800
Fax: (573) 751-0774
john.sauer@ago.mo.gov

Counsel for Petitioner State of Missouri

Timothy C. Fox
ATTORNEY GENERAL OF MONTANA
Alan Joscelyn
Chief Deputy Attorney General
Dale Schowengerdt
Solicitor General
Counsel of Record
215 North Sanders
Helena, MT 59620-1401
Tel: (406) 444-7008
dales@mt.gov

Counsel for Petitioner State of Montana

Douglas J. Peterson
ATTORNEY GENERAL OF NEBRASKA
Dave Bydalek
Chief Deputy Attorney General
Justin D. Lavene
Assistant Attorney General
Counsel of Record
2115 State Capitol
Lincoln, NE 68509
Tel: (402) 471-2683
justin.lavene@nebraska.gov

Counsel for Petitioner State of Nebraska

Sam M. Hayes
General Counsel
Counsel of Record
Craig Bromby
Deputy General Counsel
Andrew Norton
Deputy General Counsel
NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
1601 Mail Service Center
Raleigh, NC 27699-1601
Tel: (919) 707-8616
sam.hayes@ncdenr.gov

Counsel for Petitioner North Carolina Department of Environmental Quality

Michael DeWine
ATTORNEY GENERAL OF OHIO
Eric E. Murphy
State Solicitor
Counsel of Record
30 E. Broad Street, 17th Floor
Columbus, OH 43215
Tel: (614) 466-8980
eric.murphy@ohioattorneygeneral.gov

Counsel for Petitioner State of Ohio

Patrick R. Wyrick
SOLICITOR GENERAL OF OKLAHOMA
P. Clayton Eubanks
Deputy Solicitor General
Counsel of Record
313 N.E. 21st Street
Oklahoma City, OK 73105
Tel: (405) 521-4396
Fax: (405) 522-0669
clayton.eubanks@oag.ok.gov

Counsel for Petitioner State of Oklahoma

Alan Wilson
ATTORNEY GENERAL OF SOUTH CAROLINA
Robert D. Cook
Solicitor General
James Emory Smith, Jr.
Deputy Solicitor General
Counsel of Record
P.O. Box 11549
Columbia, SC 29211
Tel: (803) 734-3680
Fax: (803) 734-3677
esmith@scag.gov

Counsel for Petitioner State of South Carolina

Marty J. Jackley
ATTORNEY GENERAL OF SOUTH DAKOTA
Steven R. Blair
Assistant Attorney General
Counsel of Record
1302 E. Highway 14, Suite 1
Pierre, SD 57501
Tel: (605) 773-3215
steven.blair@state.sd.us

Counsel for Petitioner State of South Dakota

Ken Paxton
ATTORNEY GENERAL OF TEXAS
Jeffrey C. Mateer
First Assistant Attorney General
Scott A. Keller
Solicitor General
Counsel of Record
P.O. Box 12548
Austin, TX 78711-2548
Tel: (512) 936-1700
scott.keller@texasattorneygeneral.gov

Counsel for Petitioner State of Texas

Sean Reyes
ATTORNEY GENERAL OF UTAH
Tyler R. Green
Solicitor General
Counsel of Record
Parker Douglas
Chief Federal Deputy
Utah State Capitol Complex
350 North State Street, Suite 230
Salt Lake City, UT 84114-2320
tylergreen@utah.gov
pdouglas@utah.gov

Counsel for Petitioner State of Utah

Brad Schimel
ATTORNEY GENERAL OF WISCONSIN
Misha Tseytlin
Solicitor General
Counsel of Record
Delanie M. Breuer
Chief of Staff
Wisconsin Department of Justice
17 West Main Street
Madison, WI 53707
Tel: (608) 267-9323
tseytlinm@doj.state.wi.us

Counsel for Petitioner State of Wisconsin

Peter K. Michael
ATTORNEY GENERAL OF WYOMING
James Kaste
Deputy Attorney General
Counsel of Record
Erik Petersen
Senior Assistant Attorney General
Elizabeth Morrisseau
Assistant Attorney General
2320 Capitol Avenue
Cheyenne, WY 82002
Tel: (307) 777-6946
Fax: (307) 777-3542
james.kaste@wyo.gov

Counsel for Petitioner State of Wyoming

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), State Petitioners state 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; 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.

There are no *amici curiae* in these consolidated cases.

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, and "Reconsideration of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," published on May 6, 2016, at 81 Fed. Reg. 27,442.

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 CO_2 Coalition v. EPA*, No. 15-1480.

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GLOSSARY OF TERMS

BSER	Best System of Emission Reduction
CAA	Clean Air Act
CCS	Carbon Capture and Storage
CO_2	Carbon Dioxide
DOE	Department of Energy
EGU	Electric Generating Unit
EPA	United States Environmental Protection Agency
EPAct	Energy Policy Act of 2005
EPAct TSD	Technical Support Document-Effect of EPAct05 on BSER for New Fossil Fuel-fired Boilers and IGCCs
JA	Joint Appendix
SCPC	Supercritical Pulverized Coal

JURISDICTIONAL STATEMENT

Petitioners seek review of U.S. Environmental Protection Agency ("EPA") final agency actions entitled "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), Joint Appendix ("JA") 1-152 (the "Rule"), and "Reconsideration of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," 81 Fed. Reg. 27,442 (May 6, 2016), JA4403-04. Petitions for review were timely filed in this Court under section 307(b)(1) of the Clean Air Act (the "CAA"), 42 U.S.C. § 7607(b)(1).

STATEMENT OF ISSUES

1. Whether EPA failed to apply the correct legal standard when determining whether its "best system of emission reduction" had been "adequately demonstrated" under CAA section 111(b), 42 U.S.C. § 7411(b), namely, whether the entire selected "system" is commercially available at full-scale facilities;

2. Whether EPA exceeded its authority under the CAA because, regardless of the legal standard applied, it failed to meet its burden of showing that efficient new supercritical pulverized coal ("SCPC") utility boilers implementing partial carbon capture and storage ("CCS") in deep saline formations is in fact the "best system of emission reduction" for CO_2 at fossil-fuel-fired steam generating units;

3. Whether EPA exceeded its authority under the CAA in selecting its "best system of emission reduction" by failing to adequately consider the costs and benefits of the Rule; and

4. Whether EPA failed to properly consider whether CO_2 emissions are "reasonably ... anticipated to endanger public health or welfare," and whether fossil-fuel-fired steam generating units "contribute[] significantly" to that endangerment, as required for EPA to regulate under the CAA § 111(b), 42 U.S.C. § 7411(b).

STATUTES AND REGULATIONS

The Rule is codified in 40 C.F.R. Part 60, Subpart TTTT and Parts 70, 71, and 98. The Statutory and Regulatory Addendum reproduces pertinent portions of cited statutes and regulations.

INTRODUCTION

This Rule is a cornerstone of EPA's agenda to eliminate coal-fired power plants from the mix of energy generation relied on by States. It is designed—by virtue of an impossibly high technology standard—to eliminate the construction of *new* coal-fired power plants. It is also a statutory predicate for the 111(d) Rule ("Power Plan Rule"), which is EPA's tool to eliminate *existing* coal-fired power plants.

But like the Power Plan Rule, which has been separately challenged before this Court, this Rule far exceeds the agency's authority. Congress has not granted EPA the power to choose winners and losers in the energy marketplace. Indeed, even the Federal Energy Regulatory Commission is prohibited under the Federal Power Act

from exercising such authority. The CAA grants EPA the authority to regulate air pollution, but specifically requires that EPA's standards reflect "demonstrated" levels of technology that are also cost-effective, precisely so that pollution regulation does not become a cudgel for EPA to force unwanted industries out of business.

Among many deficiencies, the Rule fails to satisfy the statutory requirement that EPA select a "best system of emission reduction" ("BSER") that has been "adequately demonstrated." Under this Court's case law, EPA must show that the entire selected system is *commercially available* for implementation at new, full-scale facilities. As counsel for EPA recently conceded to this Court, sitting *en banc* to hear challenges to the Power Plan Rule, "the statute directly requires that any system of emission reduction be adequately demonstrated," which means that "*any emission reduction system that isn't already in place and successful within an industry can't be used ....*" Transcript of Oral Argument, *State of West Virginia v. EPA*, No. 15-1363, at 61, JA5269 (emphasis added).

Relatedly, EPA is prohibited under the Energy Policy Act of 2005 ("EPAct") from considering facilities that receive certain federal subsidies or tax credits when determining whether a system has been "adequately demonstrated"—for the very reason that subsidized, emergent technologies have not proven to be commercially viable.

But instead of attempting to show that its BSER is a demonstrated, commercially available technology, EPA employs various sleights of hand to attempt

to reduce its statutory burden. *First*, it erroneously asserts that it need only show that its BSER is "technically feasible," rather than commercially available. *Second*, EPA claims that it need not demonstrate the operation of its "system" as an integrated whole, but need only show the feasibility of each component part of the system. *Third*, EPA relies on a plainly erroneous interpretation of EPAct to conclude that it may consider covered, subsidized facilities to support its adequate demonstration analysis so long as it also considers even a scintilla of other evidence.

EPA cannot cobble together various component technologies that exist only in highly-subsidized, pilot-scale, or experimental form and declare the amalgam "adequately demonstrated." Much like the griffin, which combines parts of the bodies of different animals into one mythical creature, EPA's BSER does not exist in the integrated form mandated by the agency anywhere in the world, and the closest analogues are either small-scale plants or plants that receive significant government funding.

EPA's purpose behind imposing its unproven BSER on regulated plants is clear—to ensure that coal-fired energy has no future in the energy landscape. But EPA cannot set unachievable national emissions standards for new fossil-fuel-fired steam generating units to transform the energy economy in this manner. The Rule is not a faithful application of section 111 and must be vacated.

STATEMENT OF THE CASE

I. Section 111 Of The CAA

Enacted in 1970 and amended in 1977 and 1990, CAA section 111 authorizes EPA to impose nationwide emission limits—a "standard of performance"—on any category of new and modified stationary sources that the agency has found "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7411(b)(1)(A).

CAA section 111(a)(1) defines "standard of performance" to include several important statutory limitations on EPA's power to set emission standards on stationary sources. A "standard of performance" means:

> a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

42 U.S.C. § 7411(a)(1).

II. The President's Climate Action Plan

After Congress repeatedly rejected legislation authorizing greenhouse gas reduction programs, President Obama ordered EPA to use CAA section 111 to force steam generating units to make steep reductions in CO_2 emissions. *See Power Sector Carbon Pollution Standards: Memorandum for the Administrator of the Environmental Protection Agency*, 78 Fed. Reg. 39,535 (June 25, 2013), JA4909-13. On October 23, 2015, EPA

did as directed, simultaneously adopting two major rules under CAA section 111(b) and section 111(d), regulating CO_2 emissions from new, modified, reconstructed, and existing fossil-fuel-fired steam generating units, respectively. *See* 80 Fed. Reg. 64,510 (Oct. 23, 2015), JA1-152; 80 Fed. Reg. 64,662 (Oct. 23, 2015), JA5116-53.

A. The Rule

The Rule requires, among other things, that new fossil-fuel-fired steam generating units limit CO_2 emissions to 1,400 lb. CO_2/MWh-g.[1] To justify this standard, EPA selected as the BSER "a new highly efficient SCPC [electric generating unit ('EGU')] implementing partial post-combustion CCS", 80 Fed. Reg. at 64,542, JA34, in "deep saline formations," *id.* at 64,579, JA71 ("the determination that the BSER is adequately demonstrated ... relies on [geologic sequestration] in deep saline formations"). EPA claims that new units can achieve this standard by implementing a SCPC unit that captures CO_2 post-combustion. *Id.* at 64,513, JA5. EPA concedes in the Rule that even the most efficient, commercially-available new fossil-fuel-fired steam generating units will be unable to meet a 1,400 lb. CO_2/MWh-g standard in the absence of CCS. *Id.* at 64,548, JA40. EPA also notes that Integrated Gasification Combined Cycle technology—though not part of its BSER—can either implement

[1] The Rule also establishes a standard for reconstructed and modified steam generating units. 80 Fed. Reg. at 64,512, JA4. State Petitioners focus here on the requirements for new sources, but agree with Non-State Petitioners that the modified and reconstructed standards are unlawful. Non-State Br. III.

CCS or natural gas co-firing as an alternative method of compliance with the Rule. *Id.* at 64,514, JA6.

In the preamble to the Rule, EPA acknowledges that it must show that its BSER is "adequately demonstrated." *Id.* at 64,512, JA4. But contrary to case law, EPA concludes that, to satisfy this standard, it need only show that its proposed system is "technically feasible." *See, e.g.*, *id.* at 64,513, 64,527, 64,538, JA5, 19, 30. EPA reasoned that "[t]here is no requirement, as part of the BSER determination, that the EPA finds that the technology in question is 'commercially available.'" *Id.* at 64,556, JA48. EPA also rejected the conclusion that it must show that a BSER's component parts can operate as a fully-integrated system. *Id.* EPA instead construed the CAA as allowing it to "legitimately infer that a technology is demonstrated as a whole based on operation of component parts which have not, as yet, been fully integrated." *Id.*

EPA also relied on a host of federally-subsidized facilities in support of its analysis that its BSER had been adequately demonstrated. *Id.* at 64,548, 64,551-55, JA40, 43-47. While EPA did not address EPAct when it proposed the Rule, *see* 79 Fed. Reg. 1,430 (Jan. 8, 2014), JA226-315, that statute has prohibited the agency since 2005 from even "consider[ing]" technology as adequately demonstrated under CAA section 111 where the technology is used at a facility receiving certain federal subsidies or tax credits. *See* Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005). But rather than withdraw the Rule, as State Petitioners requested in comments, Comments of West Virginia, et al., EPA-HQ-OAR-2013-0495-9505, at 8, (May 9,

2014) ("West Virginia Comments"), JA1996, (requesting that EPA withdraw its proposal because it violated EPAct on its face), EPA issued a separate request for comment on the effect of EPAct, 79 Fed. Reg. 10,750 (Feb. 26, 2014), JA316-18. And in the final Rule, EPA construed the limitations of EPAct narrowly, concluding that EPAct "preclude[s] [it] from relying solely on the experience of facilities that received [Department of Energy ("DOE")] assistance, but [does] not [] preclude [it] from relying on the experience of such facilities in conjunction with other information." 80 Fed. Reg. at 64,541, JA33.

Despite imposition of this novel BSER on regulated entities, EPA concluded that any costs and benefits associated with the Rule would be negligible because "existing and anticipated economic conditions are such that few, if any, fossil-fuel-fired steam-generating EGUs will be built in the foreseeable future." *Id.* at 64,515, JA7. EPA thus concluded that the Rule would not produce "notable CO_2 emission changes, energy impacts, monetized benefits, costs, or economic impacts." *Id.* at 64,642, JA134.

B. The Power Plan Rule

Having established a section 111(b) rule, EPA then invoked section 111(d) to promulgate its Power Plan Rule, which unlawfully set binding emission limitations that require sharp CO_2 reductions for *existing* fossil-fuel-fired steam generating units. 80 Fed. Reg. at 64,662, JA5117.

State Petitioners challenged the Power Plan Rule in a separate proceeding before this Court and sought a stay pending judicial review. *See West Virginia v. EPA*, No. 15-1363 (and consolidated cases) (D.C. Cir. filed Oct. 23, 2015). On February 9, 2016, the Supreme Court stayed the Power Plan, halting its enforceability and its deadlines pending Supreme Court review. Order in Pending Case, *West Virginia v. EPA*, No. 15A773 (U.S. Feb. 9, 2016); *see Nken v. Holder*, 556 U.S. 418, 428 (2009).

SUMMARY OF ARGUMENT

I. In adopting the Rule, EPA far exceeded the authority provided by Congress under section 111(b) of the CAA to set emission standards for new fossil-fuel-fired steam generating units. The CAA requires a rigorous showing that the selected "best system of emission reduction" be "adequately demonstrated." The text and structure of the CAA, and its consistent interpretation by this Court, make clear that EPA must demonstrate that its preferred "system" is commercially available. *Sierra Club v. Costle*, 657 F.2d 298, 319 (D.C. Cir. 1981); *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973).

Rather than hold itself to this well-established standard, EPA has impermissibly "relaxed" its statutory burden. *Costle*, 657 F.2d at 341 n.157. The agency claims that it need only show that the individual component parts of its selected system are "technically feasible." 80 Fed. Reg. at 64,513, JA5. Worse, EPA's reliance on facilities that receive government funding violates Congress's explicit instruction in EPAct that

such facilities shall not be "considered" in determining whether a particular system has been "adequately demonstrated." 26 U.S.C. § 48A(g).

If permitted to stand, EPA's interpretation would eliminate an important check on the agency's authority under section 111(b). If EPA can require emission reductions based on a system that does not exist at commercial scale anywhere in the world, it has the power to deter the construction of new coal-fired plants in favor of EPA's preferred energy sources. That is inconsistent with the statutory text and this Court's cases. And at a minimum, it is a direct intrusion on the States' traditional authority over electricity generation that requires a clear statement from Congress.

II. Applying the correct legal standard here, there can be no doubt that EPA's BSER has not been adequately demonstrated. Without small-scale pilot programs and facilities that have received federal funding under EPAct, EPA can only identify one facility where it claims its BSER is fully operational—Canada's Boundary Dam. But that facility receives substantial government funding, like the EPAct facilities. It is also less than one-quarter the size of a full-scale power plant, has suffered massive cost overruns, and does not sequester in deep saline formations. It is not sufficient to carry EPA's burden to show adequate demonstration.

III. EPA has also failed to adequately consider the costs and benefits of the new Rule, as required by the CAA. The Supreme Court and this Court have required that EPA engage in a reasoned analysis of costs before engaging in significant rulemaking. *See Michigan v. EPA*, 135 S. Ct. 2699, 2706 (2015); *infra* III.A. Here, EPA

ignored the significant costs that imposing a nationwide CCS-based standard would have in deterring the creation of new plants. And EPA adopted the Rule despite admitting that it would result in negligible CO_2 savings. It violates the CAA for EPA to adopt a costly Rule while conceding that the Rule is unlikely to result in any discernible benefit.

IV. Finally, EPA bypassed critical statutory conditions that it must satisfy before it can even consider the specifics of any 111(b) rule. Specifically, Congress required that EPA find that the air pollutant it seeks to regulate "may reasonably be anticipated to endanger public health or welfare," and that the source category to be regulated actually "contributes significantly" to that endangerment. 42 U.S.C. § 7411(b)(1)(A). Yet EPA failed to comply with these straightforward prerequisites in promulgating the Rule. It erred in concluding that the source category here had already been listed, and even assuming the source category had been listed, EPA was wrong in asserting that it only needs a "rational basis" to regulate a new pollutant from a previously-listed source category.

STANDING

State Petitioners have standing because the Rule is a necessary legal predicate for EPA's Power Plan Rule, which requires States to create and submit state plans to implement EPA's CO_2 emission limits. 80 Fed. Reg. at 64,669, JA5124. The Rule is a but-for cause of the States' obligation to revise or create a section 111(d) state plan,

which is an injury-in-fact sufficient for standing. *West Virginia v. EPA*, 362 F.3d 861, 868 (D.C. Cir. 2004).

State Petitioners also have standing because the Rule mandates a BSER that is not commercially available, which will deter the construction of new coal-fired steam generating units within the States. This intrudes on the States' "traditional authority over the need for additional generating capacity, the type of generating facilities to be licensed, land use, ratemaking, and the like." *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190, 212 (1983).

STANDARD OF REVIEW

This Court's decisions "have established a rigorous standard of review under section 111." *Nat'l Lime Ass'n v. EPA*, 627 F.2d 416, 429 (D.C. Cir. 1980). "EPA must affirmatively show" during the rulemaking process that its BSER is adequately demonstrated. *See id.* at 433. This Court must set aside final EPA 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." 42 U.S.C. § 7607(d)(9)(A)–(C).

ARGUMENT

I. EPA Failed To Apply The Correct Legal Standard When Concluding That Its BSER Was Adequately Demonstrated.

In the Rule, EPA concocts a new legal standard that impermissibly and significantly reduces its statutory burden. As noted, section 111 requires that a standard of performance "reflect[] the degree of emission limitation achievable through the application of the [BSER] which ... has been adequately demonstrated." *Id.* § 7411(a)(1). But EPA concluded that it only needed to show that each individual component of its BSER was "technically feasible." This new standard conflicts with the text, history, and structure of the CAA and this Court's longstanding interpretation of section 111(b). As further explained in Part B, EPA's flawed legal analysis renders most of EPA's supporting evidence inadmissible, and what little evidence remains is insufficient to show that its BSER is adequately demonstrated.

A. Adequate Demonstration Requires Full Commercial-Scale Operation Of The Entire Integrated System.

Contrary to EPA's assertion, the CAA's "adequate demonstration" standard requires EPA to show commercial availability. As this Court has explained, this standard first appeared prior to enactment of the original 1970 CAA in Conference Committee, which rejected earlier versions proposed by both the House and Senate. *Portland Cement*, 486 F.2d at 391. The House had initially proposed a standard similar to what EPA advocates here, namely, that EPA give "'appropriate consideration to

technological and economic *feasibility*.'" *Id.* (emphases added). But that did not become law.

In parsing the legislative history of the "adequate demonstration" requirement, this Court identified the "essential question" as "whether the technology would be available for installation in new plants." *Id.* Thus, under the "final language adopted, … it must be 'adequately demonstrated' that there will be 'available technology.'" *Id.*

In decisions following the CAA's enactment, this Court confirmed and elaborated on the commercial availability requirement. Notably, in *American Petroleum Institute v. EPA*, this Court rejected the EPA's reliance on "'pilot plant data'" to demonstrate the effectiveness of carbon adsorption technology, which the EPA conceded "'needs further development before [the technology] will show the high degree of effectiveness in large-scale operation that it has already shown in pilot plant demonstrations.'" 540 F.2d 1023, 1038 (D.C. Cir. 1976).

Similarly, in *Costle*, this Court noted a distinction between an "innovative or emerging technology" and an "adequately demonstrated" system. *Costle*, 657 F.2d at 341 n.157. In that case, the record indicated that dry scrubbing was *not* an "adequately demonstrated" technology because the record reflected that "'crucial issues such as waste disposal and demonstration of commercial-scale systems, which may continue to limit the overall acceptability of this technology, remain to be answered.'" *Id.* (internal citation omitted). There, EPA conceded that there were "'no full scale dry scrubbers ... presently in operation,'" and relied instead on pilot scale test data. *Id.*

(internal citation omitted). But this Court concluded that this evidence provided "no basis" to conclude "that dry scrubbing is adequately demonstrated for full scale plants throughout this industry." *Id.*[2]

The distinction drawn in *Costle* finds additional support in section 111(j) of the CAA, which specifically refers to an "innovative technological system" as one which has "*not* been adequately demonstrated." 42 U.S.C. § 7411(j) (emphasis added). New sources may employ such systems only if they show that use of the "innovative" system would achieve a "greater" degree of emission reduction and if they can demonstrate that the system "will not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction." *Id.* Because such vanguard technologies would *not* be in ordinary commercial use, and would therefore be untested, Congress required additional safeguards before new sources could adopt them.

Furthermore, Congress is "presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change." *Merrill Lynch, Pierce, Fenner & Smith, Inc. v. Curran*, 456 U.S.

[2] In those instances when this Court *has* permitted EPA to rely in part on pilot-scale data, it is only because EPA has proven that such data is "representative of full-scale performance." *Id.* at 382. And EPA has typically supplemented this data with further evidence of full-scale commercial use. *See, e.g.*, *id.* at 380 (record for achievability of standard for baghouse technology included "limited data from one full scale commercial sized operation," among other evidence); *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 440 (D.C. Cir. 1973) (record included "tests of prototype *and full-scale* control systems," among other evidence).

353, 382 n.66 (1982). Here, Congress amended the CAA in 1977 and 1990, but on neither occasion changed the "adequately demonstrated" standard.

Indeed, if anything, Congress reinforced the commercial availability test when it enacted EPAct in 2005. That statute instructed EPA that no facility that received certain forms of government funding "shall be considered to be ... adequately demonstrated." 42 U.S.C. § 15962(i). Congress explained that those projects "advance efficiency, environmental performance, and cost competitiveness *well beyond* the level of technologies that are *in commercial service or have been demonstrated* on a scale" that DOE "determine[s] is sufficient to demonstrate that commercial service is viable as of [the date of enactment]." 42 U.S.C. § 15962(a) (emphasis added). The statute is clear: If a facility requires subsidies to exist, it is unlikely to be commercially viable at the present time, and therefore, is not "adequately demonstrated."

B. EPA's Attempts To Change The "Adequate Demonstration" Standard Are Unlawful.

EPA attempts to lighten its burden to "affirmatively show" that its BSER is adequately demonstrated. *See Nat'l Lime Ass'n*, 627 F.2d at 433. But none of its maneuvers are permitted under the CAA.

1. The Adequate Demonstration Analysis Requires More Than Showing That The System Is Merely Technically Feasible.

First, EPA improperly attempts to replace the adequately demonstrated standard with a completely novel "technical feasibility" standard. *See, e.g.*, 80 Fed. Reg. at 64,513, JA5. As noted above, Congress specifically considered and rejected a

"technological ... feasibility" standard in drafting the CAA. And unsurprisingly, no federal case interpreting section 111 uses the phrases "technically feasible" or "technical feasibility" in the context of adequate demonstration of its BSER.

To be sure, this Court has discussed whether the system EPA selected had the "technological feasibility" "to achieve mandated pollution control." *Portland Cement*, 486 F.2d at 388 (examining both adequate demonstration and achievability); *see also Costle*, 657 F.2d at 318-19. But these discussions deal with the separate statutory requirement that the emission limits set by EPA be "achievable" by the source. *See Essex*, 486 F.2d at 433. That is, assuming EPA has shown that its BSER is adequately demonstrated, EPA must also show that its selected BSER has the ability to "achiev[e]" the selected "standard for emissions of air pollutants" set by EPA, *id.* at 433.[3] That independent limitation on EPA's authority must not be conflated with the prior, foundational inquiry that the selected BSER be "available for installation in new plants." *Portland Cement*, 486 F.2d at 391. EPA ignores that requirement here.

EPA suggests that the CAA permits it to adopt unproven systems under the guise of "promot[ing] technological development." *See* 80 Fed. Reg. at 64,600, JA92. That too is incorrect. While this Court has acknowledged that "Section 111 looks toward what may fairly be projected for the regulated future, rather than the state of the art at present, since it is addressed to standards for new plants," this Court noted

[3] For other, independently sufficient reasons, EPA has failed to show that its BSER can "achieve" the standard. *See* Non-State Br. I.C. & III.B.

in the same breath that "[t]he essential question [i]s ... whether the technology [is] available for installation in new plants." *Portland Cement*, 486 F.2d at 391; *Costle*, 657 F.2d at 364 n.276 (quoting *Portland Cement*). Therefore, while EPA need not select a technology that represents the current industry standard, it must select a technology that *currently exists* and is *commercially viable*. It has failed to do so here.

2. The Adequate Demonstration Analysis Requires System-Wide Demonstration, Not Demonstration of Individual Components.

EPA also impermissibly attempts to undermine the CAA by applying its invented "technical feasibility" standard not to the CCS system as a whole, but to each of its "components," asserting that it is "[un]necessary that the major components be demonstrated in an integrated process in order to determine the technical feasibility of each component." *See* EPA, Docket EPA-HQ-OAR-2013-0495, *Technical Support Document-Effect of EPAct05 on BSER for New Fossil Fuel-fired Boilers and IGCCs* (2014) at 4, https://www.epa.gov/sites/production/files/2014-01/documents/2013_proposed_cps_for_new_power_plants_tsd.pdf ("EPAct TSD"), JA2006; *see also* 79 Fed. Reg. at 1471, JA267.

EPA's component approach, however, conflicts with EPA's own understanding of the word "system." As EPA argued in the preamble to the Power Plan Rule, the "ordinary, everyday meaning of 'system'" includes "a set of things or parts forming a complex whole;" "a group of interacting, interrelated, or interdependent elements;" and "an assemblage or combination of things or parts

forming a complex or unitary whole."[4] 80 Fed. Reg. at 64,720 & n.314 (collecting dictionaries), JA5142. These definitions, coupled with the statutory text, confirm that EPA must show that the entire, integrated "*system* ... has been adequately demonstrated." 42 U.S.C. § 7411(a)(1) (emphasis added).

This conclusion comports with this Court's precedents instructing that "EPA may not base its determination that a technology is adequately demonstrated ... on mere speculation or conjecture." *Lignite Energy Council v. EPA*, 198 F.3d 930, 934 (D.C. Cir. 1999). By purporting to show merely that components of a system are technically feasible without proving that they can be successfully integrated in a full-scale commercial plant, EPA impermissibly relies on "'crystal-ball' inquiry" to attempt to demonstrate its system. *Portland Cement*, 486 F.2d at 391.

3. EPA Cannot Rely On EPAct-Subsidized Facilities To Meet The Adequate Demonstration Standard.

Finally, EPA improperly purports to reduce its statutory burden by explicitly considering facilities to support its adequate demonstration analysis that are excluded under federal law. EPAct authorizes federal assistance in the form of grants, loan guarantees, and federal tax credits for investment in certain types of energy technology. 80 Fed. Reg. at 64,541, JA33. But it also contains three separate provisions—sections 402(i) (covering facilities receiving assistance under the Energy

[4] Although not relevant here, State Petitioners demonstrated in their briefs challenging EPA's Power Plan Rule that there are other independent limitations on what can qualify as a "system" under CAA. Dkt. 1608991, at *13-15, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed April 15, 2016).

Policy Act of 2005), 421(a) (adding sections 3103(e) and 3104(d) to the Energy Policy Act of 1992 to cover facilities receiving assistance under the Clean Air Coal Program), and 1307(b) (adding section 48A(g) to the Internal Revenue Code to cover facilities receiving the Qualifying Advanced Coal Project Credit)—that contain substantively identical language prohibiting EPA from considering any EPAct-assisted facilities when determining whether a particular system has been adequately demonstrated.

EPA admits that these related provisions "were part of the same legislation and address the same issue," and that there is no "indicati[on] that they were meant to have different meanings." EPAct TSD at 13, JA2015. One representative section, and the last to be enacted into law, provides that:

> No use of technology (or level of emission reduction solely by reason of the use of the technology), and no achievement of any emission reduction by the demonstration of any technology or performance level, by or at one or more facilities with respect to which a credit is allowed under this section, shall be considered to indicate that the technology or performance level is ... adequately demonstrated for purposes of section 111 of the Clean Air Act ....

26 U.S.C. § 48A(g); *see also* 42 U.S.C. §§ 13573(e), 13574(d), 15962(i).

In interpreting this statute, EPA admits that the provisions collectively cover any "technology or emissions reduction for which assistance was given" or the "credit is allowed." 80 Fed. Reg. at 64,541, JA33. EPA nonetheless attempts to parse each of these provisions to reach its strained and implausible reading of the statute. That is, EPA concludes that these provisions merely "bar[] consideration where EPAct[]-assisted facilities were the sole support for the BSER determination," but permit

consideration to "support a BSER determination so long as there is additional evidence supporting the determination." *Id.*[5] EPA makes two arguments in support of this reading, neither of which comport with the plain language of the statute.

First, EPA argues that the phrase "considered to indicate," which appears only in section 48A(g), should be interpreted to mean "*deemed to prove*." Response to Comment at 2-122, EPA-HQ-OAR-2013-0495-11861, JA2157; Chloe Kolman Memorandum to Section 111(b) Docket on EPAct05 at 5 (July 29, 2015), EPA-HQ-OAR-2013-0495-11334, JA3218. This reading, however, is plainly erroneous. The term "considered," when directed at EPA, has been interpreted as a direction *to that agency* to take a particular factor into account. *Ethyl Corp. v. EPA*, 541 F.2d 1, 32 n.66 (D.C. Cir. 1976) (mandatory "consideration" of factors requires "actual good faith consideration of the specified evidence and options"). EPA's contorted interpretation, which would permit it to "consider" EPAct-assisted facilities so long they are not "deemed to prove" a technology is adequately demonstrated, cannot be accepted.

Second, EPA argues that the phrase "solely by reason of," as it appears in sections 402(i) and 421(a) (but not section 48A(g)), indicates that EPA can "rely on information from EPAct[] facilities even where that information is a *necessary* component of its determination, so long as the information from these facilities is not

[5] Contrary to EPA's assertion, its interpretations of EPAct are due no deference, because EPAct is not a statute that EPA has been "entrusted to administer." *Chevron, U.S.A., Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 844 (1984); *see also SW General, Inc. v. Nat'l Labor Relations Bd.*, 796 F.3d 67, 74 n.4 (D.C. Cir. 2015).

the *sole* support for the determination." Response to Comments at 2-118 to 2-120, EPA-HQ-OAR-2013-0495-11861, JA2153-55; *see also* 80 Fed. Reg. at 64541, JA33. But EPA's interpretation is contrary to the plain meaning of the statute. If consideration of EPAct-assisted pilot-scale projects is a deciding factor that tips the balance in favor of EPA finding a technology to be adequate demonstrated, then EPA's adequate demonstration determination is "solely by reason of" its consideration of the pilot-scale projects. In other words, EPA would not have been able to make a finding of adequate demonstration *but for* the pilot-scale projects. Thus, EPA is prohibited from considering covered facilities to support the Rule.

EPA effectively claims that the phrase "solely by reason of" introduces a "mixed motive" standard of causation, whereby EPA can consider covered facilities as long as it considers *any other* evidence not covered by EPAct. But courts have rejected this narrow meaning of "solely by reason of" where context shows that Congress intended to adopt a "but-for" causation standard. *See, e.g.*, *Price Waterhouse v. Hopkins*, 490 U.S. 228, 241 (1989) (absence of word "solely" in Title VII indicated that Congress intended to adopt mixed-motive standard, rather than but-for standard); *Severino v. N. Fort Myers Fire Control Dist.*, 935 F.2d 1179, 1184-85 (11th Cir. 1991) (prohibition in Rehabilitation Act against discrimination "solely by reason of ... handicap," 29 U.S.C. § 794(a), must signify "but-for" cause or similar standard). Applying the proper standard, EPA must show that it would have made the same decision in the absence of considering any EPAct-assisted facilities.

This is the only interpretation that makes sense when reading the words "'in ... context and with a view to their place in the overall statutory scheme.'" *King v. Burwell*, 135 S. Ct. 2480, 2489 (2015) (quoting *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000)). Otherwise, EPA could always circumvent EPAct merely by pointing to some small article of additional evidence to support its adequate demonstration analysis. Indeed, EPA does not dispute that under its reading of the statute, it could avoid EPAct's restrictions by "including a mere scintilla of evidence from non-EPAct05 facilities," but merely asserts that such an "extreme hypothetical ... is not presented here." 80 Fed. Reg. at 64,541, JA33. This Court should not allow an interpretation that would undermine Congress's goal of precluding EPA from relying on government-subsidized facilities.

C. To The Extent That There Is Any Ambiguity As To EPA's Burden, The CAA And EPAct Should Be Interpreted To Prevent EPA From Intruding On The States' Traditional Authority Over Energy Production.

If there were any doubt as to the proper interpretation of EPAct or of section 111 of the CAA, such doubt should be resolved in favor of State Petitioners' reading, which protects the States' traditional interest in energy policy from federal encroachment. It is a "well-established principle that it is incumbent upon the federal courts to be certain of Congress' intent before finding that federal law overrides the usual constitutional balance of federal and state powers." *Bond v. United States*, 134 S. Ct. 2077, 2089 (2014) (internal quotations omitted). "This principle applies when

Congress 'intends to pre-empt the historic powers of the States' or when it legislates in 'traditionally sensitive areas' that 'affec[t] the federal balance.'" *Raygor v. Regents of Univ. of Minn.*, 534 U.S. 533, 544 (2002).

The statutes, as interpreted by EPA, cannot be squared with that principle. EPA's interpretation of section 111(b) and EPAct would allow it to promulgate emission requirements premised on technology that is commercially available nowhere in the world. In practical effect, this would require States either to expend enormous sums on highly experimental and costly control technology or else abandon coal in favor of EPA's preferred forms of energy generation.

Under either option, EPA's interpretation of section 111 effectively usurps the long-recognized authority that States possess over significant "questions of need, reliability, cost and other related state concerns" in the "field of regulating electrical utilities." *Pac. Gas*, 461 U.S. at 205. The States' authority over the intrastate generation and consumption of energy is "one of the most important … functions traditionally associated with the police powers of the States." *Ark. Elec. Coop. Corp. v. Ark. Pub. Serv. Comm'n*, 461 U.S. 375, 377 (1983). And historically, the "economic aspects of electrical generation"—which lie at the very heart of the Rule—"have been regulated for many years and in great detail by the states." *Pac. Gas*, 461 U.S. at 206.

Thus, any ambiguity in the CAA or EPAct should be read to preserve the States' traditional authority over energy generation by requiring, at a minimum, that

EPA demonstrate that technology is commercially available before imposing it as a nationwide standard on new sources under section 111(b).

II. EPA Failed To Show In The Record That Its BSER Is Adequately Demonstrated.

A. The Record Does Not Contain Any Evidence Of Fully-Integrated, Commercial-Scale Operations.

Had EPA applied the correct legal standard, it could not have provided an adequate justification for the Rule, because the record reflects that EPA's selected BSER is not commercially available anywhere in the world. Therefore, the Rule must be vacated.

Most of the evidence that EPA cites to support the Rule cannot be considered once the correct legal standard is applied. EPA concedes, as it must, that it "prominently discussed" several facilities in the proposed rule (Kemper, Hydrogen Energy California Project, and Texas Clean Energy Project) that received both Clean Coal Power Initiative funding and section 48A tax credit allocations, and were therefore covered by EPAct. EPAct TSD at 20, JA2022; 79 Fed. Reg. at 10,750-52, JA316-18; 80 Fed. Reg. at 64,526 & n.74, JA18. But as explained above, EPA cannot justify the Rule unless it can show that it would have selected the same BSER even had it not unlawfully "considered" these highly-subsidized facilities.[6]

[6] As Non-State Petitioners explain (Non-State Br. Part I.A.), EPA would not have satisfied its burden even if it could consider EPAct-funded facilities. None of these projects is fully operational. Additionally, all three would substantially deviate from EPA's BSER, because they would use IGCC technology rather than SCPC, and would

EPA also relies on a handful of small-scale demonstration projects that reflect non-utility operations, include only one component of the CCS system, or have not been completed, in an effort to show that partial CCS is "feasible." *Id.* at 64,550-56, JA42-48. But as noted above, these small demonstration projects cannot meet the adequate demonstration standard where, as here, they are not "representative of full scale performance," *Costle*, 657 F.2d at 382, and are not bolstered by other evidence of full-scale viability. *See* Non-State Br. I.A.

EPA also relies on vendor guarantees to support its technical feasibility finding, but admits that "it is unlikely that a single technology vendor would provide a guarantee for 'the system as a whole.'" 80 Fed. Reg. at 64,555, JA47. EPA cannot rely on vendor guarantees relating to particular component parts to show that the fully-integrated "system" had been adequately demonstrated. *See Essex*, 486 F.2d at 440; *Costle*, 657 F.2d at 364.

Eliminating EPAct-covered facilities, pilot-scale facilities, and vendor guarantees, EPA's sole purported evidence of an operating commercial-scale CCS system at an EGU is Boundary Dam.[7] *See* 80 Fed. Reg. 64,549-50, JA41-42. EPA

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inject the CO_2 for enhanced oil recovery purposes rather than into deep saline formations. *See id.*

[7] EPA identifies Dakota Gasification, which did not receive EPAct funding, as a "full-scale commercial operation that is successfully implementing pre-combustion CCS technology." 80 Fed. Reg. at 64,556, JA48. But as a pre-combustion process that manufactures natural gas, Dakota Gasification does not generate power and is not representative of the operations of a full-scale commercial system. *See* Comments of

concludes that Boundary Dam, by itself, shows the "technical feasibility of full-scale, fully integrated implementation of available post-combustion CCS technology, which in this case also appears to be commercially viable." *Id.* at 64,550, JA42. But Boundary Dam cannot bear the weight that EPA assigns to it. As further discussed by Non-State Petitioners (*see* Non-State Br. at I.A.), Boundary Dam is a small-scale facility that does not incorporate all elements of EPA's BSER, such as sequestration in deep saline formations. *Id.* at 64,556; JA48. It has also been heavily reliant on financial assistance from both the Canadian federal government and Saskatchewan provincial government. *Id.* at 64,550-51, JA42-43. It therefore implicates the same concerns as the EPAct facilities that Congress expressly forbade EPA to consider, namely, it provides no evidence that the enterprise would be commercially viable for full-scale, non-subsidized plants. Because EPA "has relied on factors which Congress has not intended it to consider" in touting Boundary Dam as commercially available technology, it has acted arbitrarily and capriciously. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

B. EPA Fails To Meet Even Its Incorrect, Reduced Legal Standard.

EPA's BSER would fail even if its reduced evidentiary burden—showing technical feasibility of component parts—were the law. *See* Non-State Br. I.A. Of

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the Utility Air Regulatory Group, EPA-HQ-OAR-2013-0495, at 5 (May 9, 2014), JA1597.

particular importance to State Petitioners, EPA has utterly failed to demonstrate the technical feasibility of storage in deep saline formations on a nationwide basis.

For a "system of ... emission reduction" to be "demonstrated," EPA must show that the system can be implemented on a nation-wide basis. *Costle*, 657 F.2d at 330. But as EPA recognizes, "whether all new steam-generating sources can implement" its BSER is "dependent on the geographic scope," 80 Fed. Reg. at 64,541, JA33, and large areas of the U.S.—11 States and parts of many more—do not have any identified deep saline formations, *id.* at 64,576-77, JA68-69.

Formations that may be accessible in the remaining States have not been demonstrated to be capable of permanent storage.[8] In fact, EPA acknowledges that not all formations are suitable for sequestration, that site-specific evaluations are critical to selecting a geological site that can permanently contain injected CO_2, *id.* at 64,573, JA65, and that no effort has been made to identify formations that are capable of permanent sequestration. In addition, there is no established industry sector operating deep saline formations demonstrated to be capable of permanent CO_2 storage. Developers of new fossil-fuel-fired units thus face significant unknowns in determining how and where to site new units.

[8] The State of Wisconsin filed a Petition for Reconsideration regarding this issue. *See* Request for Reconsideration of New Source Performance Standards (NSPS) for Greenhouse Gas Emissions From Stationary Sources: Electric Utility Steam Generating Units, Docket ID No. EPA-HQ-OAR-2013-0495 (Dec. 22, 2015), http://dnr.wi.gov/topic/AirQuality/documents/WI111bReconsiderationRequest20151222.pdf ("WI Petition"), JA4551-55.

Furthermore, no CO_2 pipeline system exists to transport CO_2 throughout the country, and the development of any such system will be costly and time-consuming. For States such as Wisconsin that lack proven sequestration resources, EPA failed to consider the costs of transporting captured CO_2 to sequestration sites. WI Petition at Attachment-2, JA4553; *see also* EPA, Basis for Denial of Petitions to Reconsider CAA Section 111(b) Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Utility Generating Units, at 6 (April 2016), JA4415. Until deep saline formation disposal sites capable of permanent sequestration are identified, developed, and tested by developers of such facilities, and until the pipeline infrastructure is developed to move CO_2 to such sites, even this component of EPA's system cannot be shown to be "adequately demonstrated."[9]

III. EPA Failed To Adequately Consider The Costs And Benefits Of The Rule.

A. EPA Has A Statutory Obligation To Consider Costs And Benefits Under The CAA.

The CAA requires EPA to consider costs and benefits before imposing a nationwide standard under section 111(b). EPA has failed to adequately satisfy this

[9] EPA argues that any issue regarding geographic availability of geologic sequestration is "moot[ed]" by EPA's assessment that new utility boilers and IGCC units can "co-fir[e] with natural gas in lieu of installing partial CCS." 80 Fed. Reg. at 64,541, JA33. But EPA admits that co-firing is not part of its BSER, *id.* at 64,514, JA6, and therefore it cannot moot EPA's burden to adequately demonstrate its BSER which specifically includes sequestration in "deep saline formations," *id.* at 64,579, JA71.

statutory prerequisite, which provides another, independent basis for vacating the Rule.

Section 111 requires EPA to "tak[e] into account the costs of achieving such [emission] reduction," 42 U.S.C. § 7411(a)(1), which "clearly refers to the possible economic impact of the promulgated standards," *Portland Cement*, 486 F.2d. at 387. To be "adequately demonstrated," therefore, a system cannot be "exorbitantly costly in an economic ... way." *Essex*, 486 F.2d at 433; *see also Lignite Energy Council*, 198 F.3d at 933; *Portland Cement Ass'n v. Train*, 513 F.2d 506, 508 (D.C. Cir. 1975). EPA must consider not only the costs of installation and maintenance, but also whether those costs would be passed on to consumers. *See, e.g.*, *Portland Cement*, 486 F.2d at 387-88.

EPA cannot simply consider these costs in a vacuum; rather, it must determine whether any costs are justified by corresponding, offsetting benefits. The CAA limits EPA's authority to "prescrib[ing] such regulations as are *necessary* to carry out" the agency's functions. 42 U.S.C. § 7601(a)(1) (emphasis added). In interpreting analogous language elsewhere in the CAA, the Supreme Court held that EPA must, as a component of "rational" rulemaking, compare the "economic costs" of a rule to its purported "health or environmental benefits." *Michigan*, 135 S. Ct. at 2707.

Indeed, the current Administration has required agencies like EPA to "propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs," and to "select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits." Exec. Order No. 13,563, Improving

Regulation and Regulatory Review, 76 Fed. Reg. 3,821 (Jan. 18, 2011), JA4837-39. Similarly, this Court has held in the analogous context of arbitrary and capricious review under the Administrative Procedure Act that it is unlawful for an agency to fail to consider a rule's "cost[s] at the margin," *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1151 (D.C. Cir. 2011), or to fail to consider the existing regulatory and market "baseline" in considering whether a rule will yield any incremental benefits, *Am. Equity Inv. Life Ins. Co. v. SEC*, 613 F.3d 166, 177-78 (D.C. Cir. 2009).

In at least two ways discussed below, EPA has failed to engage in this type of reasoned cost-benefit analysis, and therefore, has violated the CAA, requiring that the Rule be vacated.

B. The Rule Should Be Vacated Because EPA Admits That The Rule Is Not Projected To Yield Any Benefits.

First, EPA effectively concedes that the Rule is not "necessary" to carry out the purposes of the CAA (42 U.S.C. § 7601(a)(1)), by admitting that the Rule "will result in negligible CO_2 emission changes, quantified benefits, and costs by 2022 as a result of the performance standards for newly constructed EGUs." 80 Fed. Reg. at 64,515, JA7. EPA predicts that "the owners of newly constructed EGUs will likely choose technologies, primarily [natural gas combined cycle], which meet the standards even in the absence of this rule due to existing economic conditions as normal business practice." *Id.* at 64,640, JA132.

EPA cannot impose a nationwide emission standard on all new fossil-fuel-fired steam generating units if it does not believe that the Rule is likely to actually result in reduced levels of pollution. This Court has rejected similar attempts by agencies to promulgate superfluous rules where the "baseline" level of regulation would produce the same effect. *See, e.g.*, *Am. Equity*, 613 F.3d at 177-78. EPA's conclusion that the Rule is unnecessary under prevailing economic conditions alone renders it unlawful.

C. The Rule Should Be Vacated Because EPA's BSER Is Exorbitantly Costly And Therefore Has Not Been Adequately Demonstrated.

A second, independent failure by EPA is that it dramatically underestimated the Rule's costs. EPA failed to recognize that it would be "exorbitantly costly" for a new source to actually implement EPA's BSER. *Essex*, 486 F.2d at 433.

EPA claims that any costs will be "negligible" because "substantial new construction of uncontrolled fossil steam units is not anticipated under existing prevailing and anticipated future economic conditions." 80 Fed. Reg. at 64,563, JA55. But EPA cannot minimize potential costs by arguing that the Rule will not have its intended effect. EPA's rationale "is tantamount to saying the saving grace of the rule is that it will not entail costs if it is not used," which this Court has described as "unutterably mindless." *Bus. Roundtable*, 647 F.3d at 1156.

Assuming that the Rule will actually be *applied* to new sources, as EPA must, the costs to such sources and to energy consumers are prohibitive. The projects cited by EPA that feature some form of CCS technology are more expensive than originally

estimated and depend on government subsidies. For example, at the Kemper facility in Mississippi, total project costs have risen significantly from their original estimates, and, despite receiving substantial federal funding, the project is several years behind schedule. In fact, the facility is not yet fully operational. Moreover, Kemper is dependent on numerous "site-specific characteristics" that "cannot be consistently replicated on a national level." Comments of Southern Company, EPA-HQ-OAR-2013-0495-10101, at 22 (May 9, 2014), JA1555. Boundary Dam, likewise, despite being less than one-quarter the size of a full-scale power plant, has incurred a total cost of C$1.24 billion and required C$240 million in subsidies from the Canadian federal and Saskatchewan provincial governments, as well as proceeds from sales of carbon captured, merely to stay afloat. Comments of Utility Air Regulatory Group, EPA-HQ-OAR-2013-0495-10938, at 129 (May 9, 2014), JA1645.

Furthermore, Deputy Assistant Secretary of Energy Julio Friedmann confirmed in congressional testimony the exorbitant costs associated with CCS and testified that CCS would increase electricity prices by as much as 80%. West Virginia Comments, at 6, JA1994. EPA and the Congressional Budget Office have made similar findings. *See* 77 Fed. Reg. 22,391, 22,415-16 (Apr. 13, 2012), JA195-96; Congressional Budget Office, Federal Efforts to Reduce the Cost of Capturing and Storing Carbon Dioxide, June 2012, at 7-9, JA4872-74. EPA's failure to meaningfully consider these costs, and to reject this system in light of the significant costs to new sources and negligible projected environmental benefits, requires that the Rule be vacated.

The record also reflects that gas-fired units have been treated differently from coal-fired units. "Inter-industry comparison in the case of industries producing substitute or alternative products ... bears on the issue of 'economic cost.'" *Portland Cement*, 486 F.2d at 390. EPA's failure to justify its differential treatment of new baseload gas-fired units versus new baseload gas-fired units violates the CAA's requirement to appropriately consider costs and necessitates vacatur of the Rule. *See* Non-State Br. II (citing *Airmark Corp. v. FAA*, 758 F.2d 685, 691, 694 (D.C. Cir. 1985)).

IV. EPA Failed To Make The Statutorily-Required Endangerment And Significant Contribution Findings.

Finally, EPA exceeded its authority by imposing a new nationwide emission standard without first making two findings required by section 111(b) of the CAA. EPA's failure to consider these required factors renders the Rule unlawful. *See State Farm*, 463 U.S. at 43.

Section 111(b) requires EPA to make two findings before issuing new emission limits for new sources. *First*, EPA must find that the air pollutant it seeks to regulate "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7411(b)(1)(A). *Second*, EPA must find that the source category "contributes significantly" to that endangerment. *Id.*

EPA bypassed these straightforward prerequisites when, for the first time in the Rule, it regulated a *new* pollutant (CO_2) from a *new* source category (fossil-fuel-

fired electricity generating units). To accomplish this sleight-of-hand, EPA first claimed erroneously that it previously regulated this same source category. 80 Fed. Reg. at 64,529, JA21. That is not so. *See* Non-State Br. IV.

Separately, EPA claims that the statute empowers it to regulate *any* pollutant from a previously listed source category so long as it made an endangerment finding with respect to *any* pollutant emitted from the source category at some point in the past. *See id.* But EPA's construction of the statute fails scrutiny. As a textual matter, the endangerment requirement modifies, and relates back to, "air pollution," not "sources." 42 U.S.C. § 7411(b)(1)(A). Only when EPA determines that a particular pollutant poses a threat to health or welfare must the agency inquire whether the "sources" significantly contribute to that pollution. *See id.*

Any other reading, in context, would impermissibly modify and undermine the entire statutory scheme. *Cf. Burwell*, 135 S. Ct. at 2489. It would make no sense for Congress to have provided EPA with a blank check to regulate multiple pollutants from a given source category so long as it had initially made an endangerment finding with respect to a single, unrelated pollutant. But that is the logical result of EPA's interpretation.

Ultimately, EPA recognizes that its reading of the statute cannot be correct, because it adopts and applies an extra-textual test that it claims should apply when it regulates new pollutants from previously-listed source categories, i.e., that EPA needs

a "rational basis" for the Rule. 80 Fed. Reg. at 64,530, JA22. EPA's invented test exceeds its discretion under the CAA, however, for multiple independent reasons.

First, EPA cannot adopt a new standard that has no mooring whatsoever in the text of the CAA, and indeed, conflicts with the standard that the CAA explicitly adopts for the same analysis.

Second, the "rational basis" test also undermines the structure of the statute in the same way as EPA's principal position that the CAA imposes no endangerment requirement for new pollutants from previously-listed sources. It is implausible that Congress would have imposed one, more rigorous standard to whatever pollutant EPA decided to regulate first from a listed source category, and then one more relaxed standard for whatever subsequent pollutants EPA decided to regulate from that same source category. That conclusion is confirmed by other endangerment provisions in the CAA, which EPA concedes require findings for each specific pollutant. 80 Fed. Reg. at 64,530 (citing the CAA §§ 202(a)(1), 211(c)(1), 231(a)(2)(A)), JA22.

Third, a "rational basis" test does not address the key question that the endangerment findings were designed to answer, namely, the scientific inquiry into whether a particular pollutant causes significant harm to health or welfare. *See Coal. for Responsible Regulation*, 684 F.3d 102, 118 (D.C. Cir. 2012). Instead, the "rational basis" test is a standard of review that asks whether the government's selected policy has "some legitimate governmental purpose." *Heller v. Doe*, 509 U.S. 312, 320 (1993). The

Supreme Court, however, has "rebuffed an[y] attempt by EPA itself to inject considerations of policy into its [emission] decision[s]," because "[t]he statute speaks in terms of endangerment, not in terms of policy." *Coal. for Responsible Regulation*, 684 F.3d at 118 (citing *Massachusetts v. EPA*, 549 U.S. 497, 534-35 (2007)). Thus, EPA's invented "rational basis" test addresses itself to the wrong question, and this Court should reject it.

CONCLUSION

For the foregoing reasons, the petitions should be granted and the Rule vacated.

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Respectfully submitted,

/s/ Elbert Lin

Patrick Morrisey
Attorney General of West Virginia
Elbert Lin
Solicitor General
Counsel of Record
Thomas M. Johnson, Jr.
Deputy Solicitor General
Katlyn M. Miller
Assistant Attorney General
State Capitol Building 1, Room 26-E
Tel. (304) 558-2021
Fax (304) 558-0140
Email: elbert.lin@wvago.gov
Counsel for Petitioner State of West Virginia

/s/ Andrew Brasher
Luther Strange
ATTORNEY GENERAL OF ALABAMA
Andrew Brasher
Solicitor General
Counsel of Record
501 Washington Avenue
Montgomery, AL 36130
Tel: (334) 353-2609
abrasher@ago.state.al.us

Counsel for Petitioner State of Alabama

/s/ Dominic E. Draye
Mark Brnovich
ATTORNEY GENERAL OF ARIZONA
Dominic E. Draye
Solicitor General
Counsel of Record
Keith Miller
Assistant Attorney General
Maureen Scott
Janet Wagner
Arizona Corp. Commission,
Staff Attorneys
1275 West Washington
Phoenix, AZ 85007
Tel: (602) 542-5025
dominic.draye@azag.gov
keith.miller@azag.gov

Counsel for Petitioner Arizona Corporation Commission

/s/ Lee Rudofsky
Leslie Rutledge
ATTORNEY GENERAL OF ARKANSAS
Lee Rudofsky
Solicitor General
Counsel of Record
Nicholas J. Bronni
Deputy Solicitor General
Jamie L. Ewing
Assistant Attorney General
323 Center Street, Suite 400
Little Rock, AR 72201
Tel: (501) 682-5310
jamie.ewing@arkansasag.gov

Counsel for Petitioner State of Arkansas

/s/ Jonathan L. Williams
Pamela Jo Bondi
ATTORNEY GENERAL OF FLORIDA
Jonathan L. Williams
Deputy Solicitor General
Counsel of Record
Jonathan A. Glogau
Special Counsel
Office of the Attorney General
PL-01, The Capitol
Tallahassee, FL 32399-1050
Tel: (850) 414-3300
Fax: (850) 410-2672
jonathan.williams@myfloridalegal.com

Counsel for Petitioner State of Florida

/s/ Sarah Hawkins Warren
Christopher M. Carr
ATTORNEY GENERAL OF GEORGIA
Sarah Hawkins Warren
Solicitor General
Counsel of Record
40 Capitol Square S.W.
Atlanta, GA 30334
Tel: (404) 656-3300
Fax: (404) 463-9453
swarren@law.ga.gov

Counsel for Petitioner State of Georgia

/s/ Thomas M. Fisher
Curtis T. Hill, Jr.
ATTORNEY GENERAL OF INDIANA
Thomas M. Fisher
Solicitor General
Counsel of Record
Indiana Government Ctr. South
Fifth Floor
302 West Washington Street
Indianapolis, IN 46205
Tel: (317) 232-6247
tom.fisher@atg.in.gov

Counsel for Petitioner State of Indiana

/s/ Jeffrey A. Chanay
Derek Schmidt
ATTORNEY GENERAL OF KANSAS
Jeffrey A. Chanay
Chief Deputy Attorney General
Counsel of Record
Bryan C. Clark
Assistant Solicitor General
120 S.W. 10th Avenue, 3rd Floor
Topeka, KS 66612
Tel: (785) 368-8435
Fax: (785) 291-3767
jeff.chanay@ag.ks.gov
bryan.clark@ag.ks.gov

Counsel for Petitioner State of Kansas

/s/ Joseph A. Newberg, II
Andy Beshear
ATTORNEY GENERAL OF KENTUCKY
Mitchel T. Denham
Assistant Deputy Attorney General
Joseph A. Newberg, II
Assistant Attorney General
Counsel of Record
700 Capital Avenue
Suite 118
Frankfort, KY 40601
Tel: (502) 696-5611
joe.newberg@ky.gov

Counsel for Petitioner Commonwealth of Kentucky

/s/ Steven B. "Beaux" Jones
Jeff Landry
ATTORNEY GENERAL OF LOUISIANA
Steven B. "Beaux" Jones
Counsel of Record
Environmental Section – Civil Division
1885 N. Third Street
Baton Rouge, LA 70804
Tel: (225) 326-6085
Fax: (225) 326-6099
jonesst@ag.state.la.us

Counsel for Petitioner State of Louisiana

/s/ Donald Trahan
Herman Robinson
Executive Counsel
Donald Trahan
Counsel of Record
Spencer Bowman
Elliott Vega
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Legal Division
P.O. Box 4302
Baton Rouge, LA 70821-4302
Tel: (225) 219-3985
Fax: (225) 219-4068
donald.trahan@la.gov
elliott.vega@la.gov

Counsel for Petitioner State of Louisiana Department of Environmental Quality

/s/ Aaron D. Lindstrom
Bill Schuette
ATTORNEY GENERAL FOR THE PEOPLE OF MICHIGAN
Aaron D. Lindstrom
Michigan Solicitor General
Counsel of Record
Neil D. Gordon
Assistant Attorney General
P.O. Box 30212
Lansing, MI 48909
Tel: (515) 373-1124
Fax: (517) 373-3042
lindstroma@michigan.gov

Counsel for Petitioner People of the State of Michigan

/s/ D. John Sauer
Josh Hawley
ATTORNEY GENERAL OF MISSOURI
D. John Sauer
State Solicitor
Counsel of Record
Laura Elsbury
Assistant Attorney General
P.O. Box 899
207 W. High Street
Jefferson City, MO 65102
Tel: (573) 751-1800
Fax: (573) 751-0774
john.sauer@ago.mo.gov

Counsel for Petitioner State of Missouri

/s/ Dale Schowengerdt
Timothy C. Fox
ATTORNEY GENERAL OF MONTANA
Alan Joscelyn
Chief Deputy Attorney General
Dale Schowengerdt
Solicitor General
Counsel of Record
215 North Sanders
Helena, MT 59620-1401
Tel: (406) 444-7008
dales@mt.gov

Counsel for Petitioner State of Montana

/s/ Justin D. Lavene
Douglas J. Peterson
ATTORNEY GENERAL OF NEBRASKA
Dave Bydalek
Chief Deputy Attorney General
Justin D. Lavene
Assistant Attorney General
Counsel of Record
2115 State Capitol
Lincoln, NE 68509
Tel: (402) 471-2683
justin.lavene@nebraska.gov

Counsel for Petitioner State of Nebraska

/s/ Sam M. Hayes
Sam M. Hayes
General Counsel
Counsel of Record
Craig Bromby
Deputy General Counsel
Andrew Norton
Deputy General Counsel
NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
1601 Mail Service Center
Raleigh, NC 27699-1601
Tel: (919) 707-8616
sam.hayes@ncdenr.gov

Counsel for Petitioner North Carolina Department of Environmental Quality

/s/ Eric E. Murphy
Michael DeWine
ATTORNEY GENERAL OF OHIO
Eric E. Murphy
State Solicitor
Counsel of Record
30 E. Broad Street, 17th Floor
Columbus, OH 43215
Tel: (614) 466-8980
eric.murphy@ohioattorneygeneral.gov

Counsel for Petitioner State of Ohio

/s/ P. Clayton Eubanks
Patrick R. Wyrick
SOLICITOR GENERAL OF OKLAHOMA
P. Clayton Eubanks
Deputy Solicitor General
Counsel of Record
313 N.E. 21st Street
Oklahoma City, OK 73105
Tel: (405) 521-4396
Fax: (405) 522-0669
clayton.eubanks@oag.ok.gov

Counsel for Petitioner State of Oklahoma

/s/ James Emory Smith, Jr.
Alan Wilson
ATTORNEY GENERAL OF SOUTH CAROLINA
Robert D. Cook
Solicitor General
James Emory Smith, Jr.
Deputy Solicitor General
Counsel of Record
P.O. Box 11549
Columbia, SC 29211
Tel: (803) 734-3680
Fax: (803) 734-3677
esmith@scag.gov

Counsel for Petitioner State of South Carolina

/s/ Steven R. Blair
Marty J. Jackley
ATTORNEY GENERAL OF SOUTH DAKOTA
Steven R. Blair
Assistant Attorney General
Counsel of Record
1302 E. Highway 14, Suite 1
Pierre, SD 57501
Tel: (605) 773-3215
steven.blair@state.sd.us

Counsel for Petitioner State of South Dakota

/s/ Scott A. Keller
Ken Paxton
ATTORNEY GENERAL OF TEXAS
Jeffrey C. Mateer
First Assistant Attorney General
Scott A. Keller
Solicitor General
Counsel of Record
P.O. Box 12548
Austin, TX 78711-2548
Tel: (512) 936-1700
scott.keller@texasattorneygeneral.gov

Counsel for Petitioner State of Texas

/s/ Tyler R. Green
Sean Reyes
ATTORNEY GENERAL OF UTAH
Tyler R. Green
Solicitor General
Counsel of Record
Parker Douglas
Chief Federal Deputy
Utah State Capitol Complex
350 North State Street, Suite 230
Salt Lake City, UT 84114-2320
tylergreen@utah.gov
pdouglas@utah.gov

Counsel for Petitioner State of Utah

/s/ Misha Tseytlin
Brad Schimel
ATTORNEY GENERAL OF WISCONSIN
Misha Tseytlin
Solicitor General
Counsel of Record
Delanie M. Breuer
Chief of Staff
Wisconsin Department of Justice
17 West Main Street
Madison, WI 53707
Tel: (608) 267-9323
tseytlinm@doj.state.wi.us

Counsel for Petitioner State of Wisconsin

/s/ James Kaste
Peter K. Michael
ATTORNEY GENERAL OF WYOMING
James Kaste
Deputy Attorney General
Counsel of Record
Erik Petersen
Senior Assistant Attorney General
Elizabeth Morrisseau
Assistant Attorney General
2320 Capitol Avenue
Cheyenne, WY 82002
Tel: (307) 777-6946
Fax: (307) 777-3542
james.kaste@wyo.gov

Counsel for Petitioner State of Wyoming

CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a)(7)(B), (f), and (g) 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 Petitioners' Final Opening Brief contains 8,899 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 /s/ Elbert Lin

Elbert Lin

CERTIFICATE OF SERVICE

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

/s/ Elbert Lin
Elbert Lin