

ARGUED APRIL 13, 2012  
DECIDED AUGUST 21, 2012  
ORAL ARGUMENT ON REMAND FEBRUARY 25, 2015  
No. 11-1302 (and consolidated cases) (COMPLEX)

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

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EME Homer City Generation, L.P., et al.,  
*Petitioners,*  
v.

United States Environmental Protection Agency, et al.,  
*Respondents.*

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On Petitions for Review of an Action of the  
United States Environmental Protection Agency

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**OPENING BRIEF  
OF INDUSTRY AND LABOR PETITIONERS ON REMAND**

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Dated: December 10, 2014

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**CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES**

The following information is provided pursuant to D.C. Circuit Rule 28(a)(1):

**(A) Parties and *Amici***

Because these cases were filed as petitions for review in this Court, the requirement of Circuit Rule 28(a)(1)(A) to furnish a list of all parties, intervenors, and *amici* that have appeared before the district court does not apply. The parties, intervenors, and *amici* in this Court are listed below.

**Petitioners***Industry and Labor Petitioners*

AEP Texas North Co.	Georgia Power Co.
AEP Generation Resources, Inc.	Gulf Power Co.
Alabama Power Co.	Indiana Michigan Power Co.
American Coal Co.	International Brotherhood of Electrical Workers, AFL-CIO
American Energy Corp.	Kansas City Board of Public Utilities, Unified Government of Wyandotte County, Kansas City, Kansas
Appalachian Power Co.	Kansas Gas and Electric Co.
ARIPPA	Kenamerican Resources, Inc.
Big Brown Lignite Company LLC	Kentucky Power Co.
Big Brown Power Company LLC	Lafayette Utilities System
Consolidated Edison Company of New York, Inc.	Louisiana Chemical Association
CPI USA North Carolina LLC	Luminant Big Brown Mining Company LLC
Dairyland Power Cooperative	Luminant Energy Company LLC
DTE Stoneman, LLC	Luminant Generation Company LLC
East Kentucky Power Cooperative, Inc.	Luminant Holding Company LLC
EME Homer City Generation, L.P.	Luminant Mining Company LLC
Entergy Corp.	Midwest Food Processors Association
Environmental Committee of the Florida Electric Power Coordinating Group, Inc.	Midwest Ozone Group
Environmental Energy Alliance of New York, LLC	Mississippi Power Co.
GenOn Energy, Inc.	

Municipal Electric Authority of  
Georgia  
Murray Energy Corp.  
National Mining Association  
National Rural Electric Cooperative  
Association  
Northern States Power Co. (a  
Minnesota corporation)  
Oak Grove Management Company  
LLC  
Ohio Power Co.  
Ohio Valley Coal Co.  
OhioAmerican Energy, Inc.  
Peabody Energy Corp.  
Public Service Company of Oklahoma  
Sandow Power Company LLC  
South Mississippi Electric Power Ass'n  
Southern Company Services, Inc.

Southern Power Co.  
Southwestern Electric Power Co.  
Southwestern Public Service Co.  
Sunbury Generation LP  
Sunflower Electric Power Corp.  
United Mine Workers of America  
UtahAmerican Energy, Inc.  
Utility Air Regulatory Group  
Westar Energy, Inc.  
Western Farmers Electric Cooperative  
Wisconsin Cast Metals Association  
Wisconsin Electric Power Co.  
Wisconsin Manufacturers and  
Commerce  
Wisconsin Paper Council, Inc.  
Wisconsin Public Service Corp.

*State and Local Petitioners*

City of Ames, Iowa  
City of Springfield, Illinois, Office of  
Public Utilities, doing business  
as City Water, Light & Power  
Louisiana Department of  
Environmental Quality  
Louisiana Public Service Commission  
Mississippi Public Service Commission  
Public Utility Commission of Texas  
Railroad Commission of Texas  
State of Alabama  
State of Florida  
State of Georgia

State of Indiana  
State of Kansas  
State of Louisiana  
State of Michigan  
State of Nebraska  
State of Ohio  
State of Oklahoma  
State of South Carolina  
State of Texas  
State of Wisconsin  
Texas Commission on Environmental  
Quality  
Texas General Land Office

**Intervenors in Support of Petitioners**

City of New York (Nos. 11-1388 and 11-1395 only)  
San Miguel Electric Cooperative  
State of New York (Nos. 11-1388 and 11-1395 only)

## Respondents

United States Environmental Protection Agency (“EPA”)  
Gina McCarthy, Administrator

## Intervenors in Support of Respondents

### *Industry and Labor Intervenors*

American Lung Association  
Calpine Corporation  
Clean Air Council  
Environmental Defense Fund

Exelon Corporation  
Natural Resources Defense Council  
Public Service Enterprise Group, Inc.  
Sierra Club

### *State and Municipal Intervenors*

City of Bridgeport, Connecticut  
City of Chicago  
City of New York (all but Nos. 11-1388  
and 11-1395)  
City of Philadelphia  
Commonwealth of Massachusetts  
District of Columbia  
Mayor and City Council of Baltimore  
State of Connecticut

State of Delaware  
State of Illinois  
State of Maryland  
State of New York (all but Nos. 11-  
1388 and 11-1395)  
State of North Carolina  
State of Rhode Island  
State of Vermont

## Amici

Industrial Energy Consumers of America  
Putnam County, Georgia  
Southeastern Legal Foundation, Inc.

## (B) Rulings Under Review

These petitions challenge EPA’s final rule, “Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals,” 76 FR 48208 (Aug. 8, 2011) (“Transport Rule” or “the Rule”).

**(C) Related Cases**

The present consolidated cases are Nos. 11-1315, 11-1323, 11-1329, 11-1338, 11-1340, 11-1350, 11-1357, 11-1358, 11-1359, 11-1360, 11-1361, 11-1362, 11-1363, 11-1364, 11-1365, 11-1366, 11-1367, 11-1368, 11-1369, 11-1371, 11-1372, 11-1373, 11-1374, 11-1375, 11-1376, 11-1377, 11-1378, 11-1379, 11-1380, 11-1381, 11-1382, 11-1383, 11-1384, 11-1385, 11-1386, 11-1387, 11-1388, 11-1389, 11-1390, 11-1391, 11-1392, 11-1393, 11-1394 and 11-1395. The consolidated cases on review were previously adjudicated by this Court in *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012). The Supreme Court granted petitions for a writ of certiorari and, in *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014), reversed this Court's judgment and remanded the cases for further proceedings consistent with the Supreme Court's opinion.

This Court severed and consolidated two petitions for review, in Nos. 11-1329 and 11-1333, of EPA's "Approval and Promulgation of Air Quality Implementation Plan; Kansas; Final Disapproval of Interstate Transport State Implementation Plan Revision for the 2006 24-hour PM<sub>2.5</sub> NAAQS," 76 FR 43143 (July 20, 2011). The Court assigned these cases a separate docket number, No. 12-1019, and initially ordered that case held in abeyance. On November 13, 2014, the Court issued an order establishing a briefing schedule in that case. This Court also held in abeyance No. 12-1043, which raises certain issues concerning the Rule's electronic data reporting requirements and which the Court created to hold those issues when it severed them

from No. 11-1358. This Court also initially held in abeyance No. 11-1427, challenging EPA's "Approval and Promulgation of Air Quality Implementation Plan; Georgia; Disapproval of Interstate Transport Submission for the 2006 24-Hour PM<sub>2.5</sub> Standards," 76 FR 43159 (July 20, 2011), but on November 25, 2014, granted a motion for voluntary dismissal of the case. A petition for review of EPA's "Approval of Air Quality Implementation Plans; Indiana and Ohio; Disapproval of Interstate Transport State Implementation Plan Revision for the 2006 24-hour PM<sub>2.5</sub> NAAQS," 76 FR 43175 (July 20, 2011), was filed in the United States Court of Appeals for the Sixth Circuit (No. 11-3988). On November 26, 2014, the Sixth Circuit granted a motion for voluntary dismissal of the case.

EPA published three rules that revised the Transport Rule. Petitions for review of each of those three rules are also pending before this Court. On December 27, 2011, EPA published its "Federal Implementation Plans for Iowa, Michigan, Missouri, Oklahoma, and Wisconsin and Determination for Kansas Regarding Interstate Transport of Ozone," 76 FR 80760. This Court consolidated the petitions for review of that rule under the lead case No. 12-1023. On February 21, 2012, EPA published "Revisions to Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone," 77 FR 10324, and on June 12, 2012, EPA published "Revisions to Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone," 77 FR 34830. This Court consolidated the petitions for review of the February 21, 2012 rule under the lead case

No. 12-1163 and the petitions for review of the June 12, 2012 rule under the lead case

No. 12-1346. This Court has held all of these cases in abeyance.

## RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, the Industry and Labor petitioners provide the following corporate disclosures:

*AEP Texas North Company, Appalachian Power Company, AEP Generation Resources, Inc., Indiana Michigan Power Company, Kentucky Power Company, Ohio Power Company, Public Service Company of Oklahoma, and Southwestern Electric Power Company* state as follows: AEP Texas North Company is a wholly owned subsidiary of AEP Utilities, Inc., which is a wholly owned subsidiary of American Electric Power Company, Inc. All other petitioners are direct subsidiaries of American Electric Power Company, Inc. American Electric Power Company, Inc. is the only publicly held corporation that owns 10% of more of any of the petitioners' stock. Each of the petitioners is a public utility or the owner and/or operator of one or more of the electric generating units that will be subject to the requirements of the final rule at issue in the petition for review in this matter.

*ARIPPA* is a non-profit trade association that represents a membership primarily comprised of electric generating plants using environmentally friendly circulating fluidized bed (CFB) boiler technology to convert coal refuse and/or other alternative fuels such as biomass into alternative energy and/or steam, with the resultant alkaline ash used to reclaim mine lands. ARIPPA was organized in 1988 for the purpose of promoting the professional, legislative, and technical interests of its member facilities. ARIPPA has no outstanding shares or debt securities in the hands of the public and does not have any parent, subsidiary, or affiliate that has issued shares or debt securities to the public.

*Big Brown Lignite Company LLC*, a Texas limited liability company, is the legal entity that owns the lignite reserves associated with the Big Brown generation facility. Big Brown Lignite Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears below.

*Big Brown Power Company LLC*, a Texas limited liability company, is the legal entity that owns the lignite/coal-fueled Big Brown generation facility. Big Brown Power Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears below.

*CPI USA North Carolina LLC* ("CPI NC") CPI NC is a Delaware limited liability company whose sole member is Capital Power (NC Holdings) LLC, a



Delaware limited liability company. CPI NC is an indirect wholly owned subsidiary of Capital Power L.P., an Ontario limited partnership. CPI NC's assets include two electric generating facilities located in Roxboro, North Carolina and Southport, North Carolina.

*Dairyland Power Cooperative ("Dairyland")* is a non-stock, not-for-profit cooperative association organized under the laws of the State of Wisconsin, with its principal office located in La Crosse, Wisconsin. Dairyland is engaged, among other things, in the business of generating and transmitting electric power to its 25 member distribution cooperatives and to other wholesale customers. Dairyland has no corporate parent. No publicly held corporations have a 10% or greater ownership interest in Dairyland.

*Entergy Corporation* is an integrated energy company engaged primarily in electric power production, transmission, and retail distribution operations. Entergy, through its subsidiaries, owns and operates power plants with approximately 30,000 megawatts of electric generating capacity and operates electric utility systems in four states—Louisiana, Arkansas, Mississippi, and Texas. Entergy Corporation is a publicly traded company and no publicly held company has a 10% or greater ownership interest in Entergy Corporation.

*Environmental Committee of the Florida Electric Power Coordinating Group, Inc.* represents the interests of its member utilities, which include investor-owned utilities, electric cooperatives and municipal utilities, on environmental issues that affect Florida's electric utility industry. The Florida Electric Power Coordinating Group, Inc. is a non-profit, non-governmental corporate entity organized under the laws of Florida. It does not have a parent corporation and no publicly held corporation owns 10% or more of the Florida Electric Power Coordinating Group, Inc.'s stock.

*Kansas City Board of Public Utilities—Unified Government of Wyandotte County/Kansas City, Kansas* is a governmental entity organized under the laws of the state of Kansas and is therefore not required to provide a Corporate Disclosure Statement. Accordingly, none has been provided.

*Lafayette Utilities System ("LUS")*, a department within the Lafayette City-Parish Consolidated Government, is a local government utility primarily servicing the citizens of the City of Lafayette, Louisiana. As a customer-owned municipal utility, the Lafayette Utilities System's mission is to provide its customers with quality and affordable electric, water, wastewater, and fiber optic services. The Lafayette Utilities System does not issue stock; it does not have a parent corporation, and no publicly held corporation holds any Lafayette Utilities System stock.

*Louisiana Chemical Association* has no parent companies, and no publicly held company has a 10% or greater ownership interest. The Louisiana Chemical Association is a non-profit Louisiana corporation formed in 1959. Its mission is to promote a positive climate for chemical manufacturing that ensures long-term economic growth for its members. It is a “trade association” within the meaning of D.C. Circuit Rule 26.1.

*Luminant Big Brown Mining Company LLC*, a Texas limited liability company, is the legal entity that owns the mine assets utilized in connection with the Big Brown generation facility. Luminant Big Brown Mining Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears below.

*Luminant Energy Company LLC*, a Texas limited liability company, is the legal entity that conducts the wholesale energy sales and purchases and commodity risk management and trading activities for the Luminant Entities. Luminant Energy Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears below.

*Luminant Generation Company LLC*, a Texas limited liability company, is the legal entity that owns numerous Luminant generation assets, including the Monticello, Martin Lake, Sandow Unit 4, and Comanche Peak generation facilities and a number of additional generation facilities and assets associated with the Luminant Entities’ competitive power generation business in the state of Texas. Luminant Generation Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears below.

*Luminant Holding Company LLC* is the parent company that wholly owns Luminant Generation Company LLC, Sandow Power Company LLC, Big Brown Power Company LLC, Oak Grove Management Company LLC, Luminant Mining Company LLC, Big Brown Lignite Company LLC, Luminant Big Brown Mining Company LLC, and Luminant Energy Company LLC (collectively, the “Luminant Entities”). Luminant Holding Company LLC is a Delaware LLC and is a wholly owned subsidiary of Texas Competitive Electric Holdings Company LLC (“TCEH”). TCEH is a holding company for subsidiaries engaged in competitive electricity market activities largely in Texas including electricity generation, wholesale energy sales and purchases, commodity risk management and trading activities, and retail electricity sales. TCEH owns or leases more than 15,000 megawatts of generation capacity in Texas, which consists of lignite/coal, nuclear and natural gas-fueled generation facilities. In addition, TCEH is the largest purchaser of wind-generated electricity in Texas and the fifth largest in the United States. TCEH provides competitive electricity and related services to approximately two million retail electricity customers in Texas.

TCEH is a wholly owned subsidiary of Energy Future Competitive Holdings Company (“EFCH”). EFCH is a wholly owned subsidiary of Energy Future Holdings Corp. (“EFH Corp.”), formerly TXU Corp., and is a Dallas, Texas-based holding company that conducts its operations almost entirely through TCEH. EFH Corp. is a Dallas, Texas-based holding company with a portfolio of competitive and regulated energy businesses in Texas that conducts its operations principally through its subsidiaries TCEH and Oncor Electric Delivery Company LLC. Substantially all of the common stock of EFH Corp is owned by Texas Energy Future Holdings Limited Partnership, which is a privately held limited partnership. No publicly held entities have a 10% or greater ownership interest in EFH Corp.

*Luminant Mining Company LLC*, a Texas limited liability company, is the legal entity that owns the mine assets utilized in connection with the Monticello and Martin Lake generation facilities as well as certain mine assets utilized in connection with the Sandow generation facilities. Luminant Mining Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears above.

*Midwest Food Processors Association* (“MWFPA”) is a non-profit trade association representing the food processing industry in the Midwest. Its members operate over 100 facilities in Wisconsin, Illinois, and Minnesota. In 2008, the industry generated nearly \$34 billion in product shipments and employed more than 62,000 people in Wisconsin. MWFPA advocates regulatory and legislative positions that are of importance to the food processing industry, including the collection, treatment, reclamation, and disposal of wastewater. MWFPA and its members have represented the industry on various advisory bodies at the state level, as well as before the Legislature, the Wisconsin Department of Natural Resources, and other executive branch agencies, the EPA, and the Courts. MWFPA works with state legislators on a continuing basis to ensure new regulations do not unduly limit the ability of Wisconsin’s food processors to continue operating and expanding in Wisconsin. MWFPA has no parent company, and no publicly held company has a 10% or greater ownership in the entity.

*Midwest Ozone Group* is an unincorporated association of businesses and organizations formed to assist in the development of scientifically sound and effective ozone strategies. Because the Midwest Ozone Group is a continuing association of numerous businesses and organizations operated for the purpose of promoting the general commercial and legislative interests of its membership, no listing of its members that have issued shares or debt securities to the public is required under Circuit Rule 26.1(b).

*National Mining Association* (“NMA”) is a non-profit, incorporated national trade association whose members include the producers of most of America’s coal, metals, and industrial and agricultural minerals; manufacturers of mining and mineral processing machinery, equipment, and supplies; and engineering and consulting firms that serve the mining industry. NMA has no parent companies, subsidiaries, or affiliates that have issued shares or debt securities to the public, although NMA’s individual members may have done so.

*National Rural Electric Cooperative Association* (“NRECA”) is the national association of rural electric cooperatives. NRECA does not have a parent corporation, and no publicly held corporation owns 10% or more of its stock.

*Northern States Power Company—Minnesota* is a wholly owned subsidiary of Xcel Energy Inc. Xcel Energy Inc. is a registered, public utility holding company that is incorporated under the laws of the State of Minnesota. No other publicly held company holds a 10% or greater ownership interest in Northern States Power Company—Minnesota.

*Oak Grove Management Company LLC*, a Delaware limited liability company, is the legal entity that owns the facility and related assets associated with Oak Grove Units 1 and 2, new lignite-fueled generation units near Robertson County, Texas. Oak Grove Management Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears above.

*Sadow Power Company LLC*, a Texas limited liability company, is the legal entity that owns the Sadow Unit 5 facility, a new lignite-fueled generation unit located in Rockdale, Texas, and related assets. Sadow Power Company LLC is a wholly owned subsidiary of Luminant Holding Company LLC, whose complete corporate disclosure statement appears above.

*Southern Company Services, Inc., Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, and Southern Power Company* are all wholly owned subsidiaries of Southern Company, which is a publicly held corporation. Other than Southern Company, no publicly held company owns 10% or more of any of these petitioners’ stock. No publicly held company holds 10% or more of Southern Company’s stock. Southern Company stock is traded publicly on the New York Stock Exchange under the symbol “SO.” Through its subsidiaries, Southern Company is a leading U.S. producer of electricity, generating and delivering electricity to over four million customers in the southeastern United States. Southern Company subsidiaries include four vertically integrated electric utilities—Alabama Power Company, Georgia Power Company, Gulf Power

Company, and Mississippi Power Company—as well as Southern Power Company, which owns generation assets and sells electricity at market-based rates in the wholesale market. These subsidiaries, each a petitioner here, operate more than 42,000 megawatts of coal, natural gas, oil, nuclear, and hydroelectric generating capacity. Southern Company Services, Inc. is the services company for Southern Company and its operating subsidiaries. Southern Company Services, Inc. provides, among other things, engineering and other technical support for the operating companies.

*Southwestern Public Service Company* is a wholly owned subsidiary of Xcel Energy Inc. Xcel Energy Inc. is a registered, public utility holding company that is incorporated under the laws of the State of Minnesota. No other publicly held company holds a 10% or greater ownership interest in Southwestern Public Service Company.

*Sunflower Electric Power Corporation* is a Kansas non-profit corporation doing business as a cooperative with its principal place of business in Hays, Kansas. It is not a publicly held corporation; no publicly held corporation holds any ownership interest in it and it has no “parent” corporation. It is owned solely by its seven member distribution cooperatives, all of which are located in western Kansas. Sunflower Electric Power Corporation is engaged in the generation, transmission and sale of electric power and energy at wholesale to its member distribution cooperatives and municipalities in the state of Kansas.

*United Mine Workers of America* (“UMWA”) is a non-profit national labor organization with headquarters in Triangle, Virginia. UMWA’s members are active and retired miners engaged in the extraction of coal and other minerals in the United States and Canada, and workers in other industries in the United States organized by the UMWA. UMWA provides collective bargaining representation and other membership services on behalf of its members. UMWA is affiliated with the American Federation of Labor-Congress of Industrial Organizations. UMWA has no parent companies, subsidiaries, or affiliates that have issued shares or debt securities to the public.

*Utility Air Regulatory Group* (“UARG”) is a not-for-profit association of individual electric generating companies and national trade associations that participates on behalf of its members collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

*Westar Energy, Inc.* is a publicly-traded Kansas corporation with its principal place of business in Topeka, Kansas, and is the parent corporation of Kansas Gas and Electric Company (“KGE”), a Kansas corporation with its principal place of business in Topeka, Kansas. Westar and its wholly owned subsidiary, KGE, are electric utilities engaged in the generation, transmission, distribution and sale of electric power and energy at wholesale and retail to approximately 687,000 customers in the state of Kansas. Westar owns all of the stock of KGE. In addition to Westar’s publicly traded stock, both Westar and KGE have issued debt and bonds to the public. There is no corporation that owns 10% or more of the stock of Westar Energy, Inc.

*Wisconsin Cast Metals Association* (“WCMA”) is a trade association dedicated to enhancing the knowledge and competitiveness of metalcasting in the state of Wisconsin through the collective actions of its members. Wisconsin metal casting is a \$3 billion industry consisting of some 130 foundries employing approximately 18,000 people in communities across the state. Wisconsin metalcasting products support other primary manufacturing located within the state, that in-turn provide jobs and supply product to service a wide variety of industries including mining, construction, transportation, consumer products, energy, and military applications. WCMA has no parent companies, and no publicly held company has a 10% or greater ownership in the entity.

*Wisconsin Paper Council, Inc.* (“WPC”) is a non-profit corporation and operates as a trade association representing the interests of Wisconsin’s pulp and paper manufacturers, and allied industries. WPC is a membership organization and represents the interests of 20 pulp and paper manufacturers plus allied industries in SIC Code 26. These industries employ approximately 32,000 Wisconsin residents in good paying jobs. WPC represents its members on matters of mutual concern before the Legislature, the Wisconsin Department of Natural Resources and other executive branch agencies, the EPA, and the Courts. Since the early 1970s, WPC and its members have taken an active role in advocating policies for Wisconsin which protect the environment while allowing Wisconsin’s paper manufacturers to operate efficiently and competitively with their peers in other states. WPC has no parent company, and no publicly held company has a 10% or greater ownership in the entity.

*Wisconsin Public Service Corporation* (“WPSC”) is a wholly owned subsidiary of the publicly owned corporation Integrys Energy Group, Inc (NYSE: TEG). WPSC is a regulated electric and natural gas utility operating in northeast and central Wisconsin and an adjacent portion of Upper Michigan, covering an 11,000 square mile service area. WPSC owns and operates numerous coal and gas-fired electric generating units (“EGUs”).

*Wisconsin Manufacturers and Commerce* (“WMC”) is a business trade association with nearly 4,000 members and is dedicated to making Wisconsin the most competitive state in the nation to do business through public policy that supports a healthy business climate. Its members are Wisconsin businesses that operate throughout the state in the manufacturing, energy, commercial, health care, insurance, banking, and service industry sectors of the economy. Roughly one-fourth of Wisconsin’s workforce is employed by a WMC member company. WMC has no parent company, and no publicly held company has a 10% or greater ownership in the entity.

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**GLOSSARY**

CAIR	Clean Air Interstate Rule
EPA	Environmental Protection Agency
FIP	Federal Implementation Plan
IPM	Integrated Planning Model
NAAQS	National Ambient Air Quality Standard
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>2.5</sub>	Fine Particulate Matter
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide

## JURISDICTIONAL STATEMENT

EPA published the “Transport Rule” on August 8, 2011. 76 FR 48208. The petitions for review were timely filed on or before October 7, 2011. This Court has jurisdiction under 42 U.S.C. §7607(b)(1).

## STATEMENT OF ISSUES

1. Whether EPA contravened §110(a)(2)(D)(i)(I) of the Clean Air Act by requiring upwind States to reduce emissions by more than the amount necessary to attain and maintain national ambient air quality standards in every downwind State to which they are linked.

2. Whether EPA arbitrarily relied on erroneous air-quality projections, in disregard of available real-world data, to determine which States to regulate and to set emission budgets for those States.

3. Whether EPA arbitrarily relied on flawed electric-generation modeling, in disregard of available real-world data, to set State emission budgets.

## STATUTES AND REGULATIONS

Relevant statutes and regulations are reproduced in the Statutory Addendum.

## STATEMENT OF THE CASE

This case is on remand from *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014). Because the background of this matter is described in that decision and this Court’s prior decision, 696 F.3d 7 (D.C. Cir. 2012), we set forth only the points relevant to this remand proceeding.

Under the Clean Air Act, EPA sets national ambient air quality standards (“NAAQS”), which States are primarily responsible for meeting within their borders. 42 U.S.C. §7407(a). The Act’s “good-neighbor” provision addresses interstate emissions by requiring upwind States to prohibit emissions in “amounts which will ... contribute significantly” to downwind States’ nonattainment of NAAQS or “interfere with maintenance” of NAAQS by downwind States. *Id.* §7410(a)(2)(D)(i)(I).

EPA adopted the Transport Rule to replace the Clean Air Interstate Rule (“CAIR”), 70 FR 25162 (May 12, 2005). This Court invalidated CAIR because, *inter alia*, EPA had not tailored emission-reduction obligations (“emission budgets”) to upwind emissions that “contribute significantly” to downwind nonattainment. *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir.), *on reh’g*, 550 F.3d 1176 (D.C. Cir. 2008). Like CAIR, the Transport Rule limits sulfur dioxide (“SO<sub>2</sub>”) and nitrogen oxide (“NO<sub>x</sub>”) emissions for certain upwind States. Both emissions contribute to formation of fine particulate matter (“PM<sub>2.5</sub>”), and NO<sub>x</sub> contributes to ozone formation.

Although the vast majority of downwind locations attained the national standards under CAIR, *see* EPA, *Progress Report 2011: Environmental Health Results* 12, 14 (2013), the Transport Rule generally required deeper emission reductions, 76 FR 70091, 70099 (Nov. 10, 2011); 75 FR 45210, 45217 (tbl.III.A-4) (Aug. 2, 2010). In the Rule, EPA imposed what it deemed “cost-effective” and “reasonable” emission budgets on upwind States, without regard to whether those obligations were necessary to satisfy NAAQS in downwind States. *See, e.g.*, 76 FR at 48248–49, 48257.

This Court held that EPA exceeded its statutory authority in “at least three independent” respects: by requiring upwind States to (i) eliminate more emissions than necessary to achieve downwind attainment (“overcontrol”); (ii) reduce emissions below levels that cause only “insignificant” downwind contribution; and (iii) eliminate more than their proportionate share of the upwind contribution to downwind attainment problems. *EME Homer*, 696 F.3d at 23–28. This Court did not reach Industry/Labor petitioners’ other arguments.

The Supreme Court reversed and remanded. As to this Court’s three bases for finding that EPA exceeded its statutory authority, the Supreme Court disagreed with only one—the “proportionality” holding. *EME Homer*, 134 S. Ct. at 1603–07. The Supreme Court expressly “agree[d]” with this Court’s statutory analysis of the overcontrol and “insignificance” threshold issues. *Id.* at 1608.

As to overcontrol, the Supreme Court held that “[i]f EPA requires an upwind State to reduce emissions by more than the amount necessary to achieve attainment in every downwind State to which it is linked, the Agency will have overstepped its authority.” *Id.* Regarding the “insignificance” threshold, the Supreme Court held that EPA cannot “demand reductions that would drive an upwind State’s contribution to every downwind State to which it is linked below” the level EPA had determined was “insignificant.” *Id.*

On these two issues, the Supreme Court disagreed only regarding the remedy. Although the Court concluded that the possibility that EPA had overstepped its

authority did not “justif[y] wholesale invalidation” of the Rule, it held that an upwind State may maintain an “as-applied” challenge if “it has been forced to regulate [insignificant] emissions ... or beyond the point necessary to bring all downwind States into attainment.” *Id.* at 1608–09. In this regard, the Supreme Court accepted EPA’s suggestion that as-applied challenges to the Rule could be considered by this Court on remand. Tr. of Oral Arg. 27–28, *EME Homer*.

### SUMMARY OF ARGUMENT

In its prior good-neighbor rulemakings, EPA took steps to avoid overcontrol. 63 FR 57356, 57403 (Oct. 27, 1998) (“none of the upwind reductions required ... is more than necessary to ameliorate downwind nonattainment”); 70 FR at 25175 (ensuring emission budgets were not “more than is necessary for downwind areas to attain” national air-quality standards). By contrast, in the Transport Rule, EPA ignored its “statutory duty to avoid over-control,” 134 S. Ct. 1608–09. *See also* 696 F.3d at 27 (“EPA did not try to take steps to avoid such over-control.”).

It is therefore unsurprising that the Transport Rule, in fact, overcontrolled many upwind States. EPA’s own air-quality projections demonstrate that EPA imposed emission-reduction obligations on many upwind States far greater than necessary for all downwind locations to which they are linked to attain and maintain national air-quality standards. Indeed, in many instances, EPA’s air-quality projections demonstrate that affected downwind locations would all attain and maintain air-



quality standards with *no*, or only very modest, good-neighbor emission-reduction obligations. *See infra* §I.

EPA also erred by using air-quality and emission models at odds with its own real-world, measured data. Departing from its historical practice, EPA arbitrarily dismissed contrary “recent ‘real world’ data” as “simply ... irrelevant,” EPA Opp. 15 (Dkt. 1333987), and relied on computer modeling to project air quality for 2012–14, *see also* 76 FR at 48230–32. EPA’s air-quality model, however, implausibly predicted that downwind air quality would be *worse* after implementing the Transport Rule’s stringent emission budgets. Had it considered real-world data, EPA could have identified and resolved deficiencies in its air-quality modeling that caused such patent overstatement of downwind air-quality problems, resulting in more stringent emission budgets than necessary for downwind locations to attain and maintain air-quality standards. *See infra* §II.A.

The modeling EPA used to determine the amount of emissions that could be reduced in a State at a given cost was likewise flawed. EPA’s model ignored real-world constraints on how electricity is generated and transmitted. Indeed, EPA knew its model did not accurately predict emissions at the level of individual generating units, but assumed—incorrectly—that these errors would “wash out” when aggregated at the State level. EPA would have recognized the flaws in that assumption had it not arbitrarily refused to compare the model’s projections with EPA’s own real-world emission data. *See infra* §II.B.

## STANDING

Industry/Labor petitioners include companies regulated by the Transport Rule, associations representing members regulated by the Rule, and other entities that will be injured by the Rule. The relief requested will redress those harms. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561–63 (1992).

## STANDARD OF REVIEW

This Court may set aside EPA action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; [or] in excess of statutory jurisdiction, authority, or limitations.” 42 U.S.C. §7607(d)(9).

## ARGUMENT

### I. THE TRANSPORT RULE OVERCONTROLS NUMEROUS UPWIND STATES.

The Supreme Court “agree[d]” with this Court that EPA has a “statutory duty to avoid over-control.” 134 S. Ct. at 1608–09. In so holding, the Court rejected EPA’s contentions that overcontrol could be excused because EPA did not “set out” to overcontrol, EPA S. Ct. Br. 54, and that overcontrol is “unavoidable” because *some* upwind States are linked to multiple downwind nonattainment locations, EPA S. Ct. Reply Br. 22. The Court instead held that the Transport Rule unlawfully overcontrols any upwind State that is linked solely to locations that would attain and maintain the relevant NAAQS with lesser upwind emission reductions. 134 S. Ct. at 1609.

As explained below, the Transport Rule, in fact, overcontrols many States. This overcontrol results from flaws in EPA's approach to setting emission budgets. EPA first used air-quality modeling to project downwind locations that would not attain or maintain adequate air quality in 2012 if EPA imposed *no* good-neighbor limits, including CAIR's limits. 76 FR at 48211, 48223. (EPA called this the "base case.") EPA then set thresholds at 1% of each NAAQS. *Id.* at 48236.<sup>1</sup> States whose projected base-case "contribution" to one of these locations met or exceeded the 1% threshold were deemed "linked" to that location and subjected to budgets. *Id.*

EPA set each upwind State's budgets by determining the emission reductions that could be achieved by adopting the emission controls available at "cost thresholds" (the cost of removing one ton of emissions). *Id.* at 48248; *see also id.* at 48258. EPA set 2012 SO<sub>2</sub> budgets for all States using a \$500/ton threshold and set 2014 SO<sub>2</sub> budgets by splitting States into two groups, using thresholds of \$2,300/ton for Group 1 and \$500/ton for Group 2. *Id.* at 48252. EPA based 2012 and 2014 annual and ozone-season NO<sub>x</sub> budgets on a \$500/ton threshold. *Id.* at 48250, 48257.

Two overarching flaws in this approach led EPA to overcontrol many upwind States. *First*, EPA failed to consider whether less-restrictive emission budgets would achieve attainment. *Id.* at 48256–58. EPA ignored data showing downwind attainment

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<sup>1</sup> The relevant attainment thresholds for the NAAQS are 15.0 µg/m<sup>3</sup> for annual PM<sub>2.5</sub>; 35 µg/m<sup>3</sup> for 24-hour PM<sub>2.5</sub>; and 0.08 ppm for 8-hour ozone. 76 FR at 48218. For ozone, when measured in parts-per-billion, as in the Transport Rule, the threshold is 85 ppb. 76 FR at 48236.

could be achieved and maintained in many areas at cost thresholds below \$500/ton. *See* JA1062–69, 1374. As to SO<sub>2</sub>, EPA offered no reason for its refusal. As to NO<sub>x</sub>, it stated only that it “did not find cost thresholds lower than \$500/ton ... to be reasonable” because they might cause sources “to stop operating existing pollution control equipment.” 76 FR at 48257. EPA thus simply ignored that it lacks authority under the good-neighbor provision to require operation of existing controls if they are unnecessary to attain and maintain NAAQS.

*Second*, EPA’s budgets did not account for EPA’s own projections of improving air quality. EPA’s base-case projections found that downwind air quality would substantially improve *even without any good-neighbor controls*. *See* JA2546–637, 2959–62 (2014 base case projected air quality superior to 2012 base-case air quality).<sup>2</sup> In fact, EPA projected that some areas modeled to have air-quality problems in 2012 would satisfy NAAQS by 2014 without the Transport Rule or CAIR. *Id.* But EPA ignored these projections when setting 2014 budgets. EPA Br. 82–83 (Dkt.1364178) (“EPA did not make *any* decisions about Transport Rule applicability based on the design values it projected in the 2014 no-CAIR base case.”) (citing 76 FR at 48229).

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<sup>2</sup> This is because of State regulations and other initiatives to reduce emissions. For example, EPA found that Georgia’s SO<sub>2</sub> emissions would decline by more than 50% even without any good-neighbor obligations because of independent State mandates. JA2940, 2943.

### A. Overcontrol Of Texas For PM<sub>2.5</sub> And Ozone<sup>3</sup>

1. Texas clearly was required “to reduce emissions by more than the amount necessary to achieve attainment in *every* downwind State to which it is linked.” *EME Homer*, 134 S. Ct. at 1608. EPA found that Texas would significantly contribute to PM<sub>2.5</sub> nonattainment at a single receptor (171191007)<sup>4</sup> in Madison, Illinois. *See* 76 FR at 48241 (tbl.V.D-2) (annual PM<sub>2.5</sub>), 48243 (tbl.V.D-5) (24-hour PM<sub>2.5</sub>).<sup>5</sup> For every other downwind location, EPA found that, even without any good-neighbor regulation, either (i) Texas would make “insignificant” contributions (*i.e.*, less than 1% of the PM<sub>2.5</sub> NAAQS) or (ii) the downwind location would attain and maintain NAAQS regardless of upwind contributions. *See* JA2715–27 (linkages between upwind States and projected downwind locations).

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<sup>3</sup> As noted, the Supreme Court also “agree[d]” with this Court that EPA cannot “demand reductions that would drive an upwind State’s contribution to every downwind State to which it is linked below one percent of the relevant NAAQS.” 134 S. Ct. at 1608. EPA conceded it did not “analyze claims of over-control with respect to the 1% screening threshold during the rulemaking.” EPA Resp., Harvey Decl. ¶12 (Dkt.1508914). EPA also does not dispute that Texas’s *maximum* contribution to any downwind location in the Rule was only 0.03 µg/m<sup>3</sup> above the “insignificance” threshold for PM<sub>2.5</sub>, 76 FR at 48240 (tbl.V.D-1), yet EPA required Texas to make substantial emission reductions, *see infra* n.7. Nonetheless, relying on impermissible *post-hoc* arguments, EPA contends it is “unlikely” that the Rule requires Texas to reduce “insignificant” emissions. EPA Resp., Harvey Decl. ¶12 (Dkt.1508914). Petitioners are not, however, pressing this issue on remand, and the Court need not resolve it, because it is beyond dispute that EPA overcontrolled Texas.

<sup>4</sup> Metropolitan areas typically have multiple “receptor” locations, with unique identification numbers.

<sup>5</sup> Although Texas was linked to Madison for both annual and 24-hour PM<sub>2.5</sub>, EPA did not issue a FIP to Texas for 24-hour PM<sub>2.5</sub>, 76 FR at 48214, and Texas’s emission

EPA made “remedy-case” projections—*i.e.*, projections of air quality in 2014 after imposition of the Transport Rule’s budgets—and found that Madison (171191007) was projected to achieve PM<sub>2.5</sub> “design values”<sup>6</sup> superior to NAAQS. *See* JA2586 (“2014 remedy average value” of 13.28 µg/m<sup>3</sup>, below annual PM<sub>2.5</sub> NAAQS of 15 µg/m<sup>3</sup>); JA2615 (“2014 remedy average value” of 29.2 µg/m<sup>3</sup>, below 24-hour PM<sub>2.5</sub> NAAQS of 35 µg/m<sup>3</sup>). EPA also concluded that Madison would “maintain” NAAQS by a substantial margin even under the worst-case projections it adopted as its test to address the “interfere with maintenance” language of §110(a)(2)(D)(i)(I). *See* 76 FR at 48228 (defining “maintenance” standards as a worst-case scenario that assumes meteorological conditions “promoting ozone or fine particle formation”). EPA predicted that, after imposition of its emission budgets, even “maximum” levels of PM<sub>2.5</sub> that could be expected in Madison would amply satisfy NAAQS. *See* JA2586, 2615 (“2014 remedy maximum values” of 13.51 and 30.5 µg/m<sup>3</sup> for annual and 24-hour PM<sub>2.5</sub>, respectively, below corresponding NAAQS of 15 and 35 µg/m<sup>3</sup>). Thus, even if Texas’s emission budget (or, for that matter, every upwind State’s budget) was substantially increased, Madison would still attain *and* maintain the PM<sub>2.5</sub> NAAQS.

Indeed, Madison attained the annual PM<sub>2.5</sub> NAAQS at the *higher* CAIR emission levels. *See* 76 FR 29652, 29654 (May 23, 2011) (“EPA has determined that

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budgets are based only on the annual PM<sub>2.5</sub> NAAQS. Nonetheless, for completeness, we demonstrate that EPA overcontrolled with respect to both PM<sub>2.5</sub> NAAQS.

<sup>6</sup> “Design value” is EPA’s statistic for measuring air quality. A lower design value denotes better air quality.

the most recent air quality data establish that the area meets the [annual] PM<sub>2.5</sub> NAAQS.”); 76 FR at 70099 (Transport Rule “mandates even greater reductions than have already occurred under CAIR”). Where attainment has been achieved at higher levels of upwind emissions, further reductions are not necessary to ensure downwind attainment—and are therefore unlawful under the good-neighbor provision.

The Rule requires Texas to reduce SO<sub>2</sub> emissions by almost 50% from pre-Rule levels, and to substantially reduce annual NO<sub>x</sub> emissions, despite Madison’s attainment of NAAQS at Texas’s existing, higher level of emissions under CAIR.<sup>7</sup> This overcontrol resulted from EPA’s failure to consider whether less-restrictive budgets would achieve downwind attainment. As noted, EPA based Texas’s budgets on the amounts of SO<sub>2</sub> and NO<sub>x</sub> emissions EPA believed could be eliminated in that State at \$500/ton. 76 FR at 48257. EPA never considered whether downwind attainment could be achieved at lower cost thresholds. *Id.* at 48256–58.

Although EPA disregarded this critical statutory issue when setting final emission budgets, it *did* measure the impact of lower cost thresholds when it proposed the Rule. And those data confirm that Madison would still attain and maintain NAAQS even if the relevant States’ budgets were substantially increased. EPA’s data showed that *all* attainment problems at Madison would be resolved if the relevant States implemented SO<sub>2</sub> controls costing only \$100/ton, and that Madison would also

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<sup>7</sup> JA3497 (2008–2010 actual SO<sub>2</sub> emissions of 453,947–484,271 tons and 2012–2014 SO<sub>2</sub> budget of 243,954 tons); *see also* JA3499 (required NO<sub>x</sub> reductions).

“maintain” NAAQS at these higher emission levels.<sup>8</sup> Indeed, even under EPA’s worst-case modeling, Madison’s maintenance problems were almost entirely resolved *without any good-neighbor obligations*.<sup>9</sup>

2. EPA’s data also show that the Transport Rule overcontrols Texas with regard to ozone. The Rule linked Texas to projected ozone problems in only two areas: Allegan, Michigan and East Baton Rouge, Louisiana. 76 FR at 48246 (tbls.V.D-8–9). But those two areas attained the relevant ozone NAAQS under CAIR. *See* 75 FR 58312 (Sept. 24, 2010); 75 FR 54778 (Sept. 9, 2010). Further, NO<sub>x</sub> emissions that contribute to ozone formation have been declining steadily—a trend EPA projected would continue, both nationwide and in Texas, even without the Rule (or CAIR).<sup>10</sup>

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<sup>8</sup> EPA found that Madison (171191007) was projected to have an “average” annual PM<sub>2.5</sub> design value of 16.56 µg/m<sup>3</sup> and a “maximum” annual PM<sub>2.5</sub> design value of 16.85 µg/m<sup>3</sup> with no good-neighbor controls. JA2231 (tbl.3-1). But EPA found that PM<sub>2.5</sub> levels would, by 2014, decline by 2.13 µg/m<sup>3</sup>—to below the NAAQS of 15 µg/m<sup>3</sup>—with \$100/ton SO<sub>2</sub> controls. *Id.* Similarly, for 24-hour PM<sub>2.5</sub>, \$100/ton SO<sub>2</sub> controls would, by 2014, reduce projected “average” (40 µg/m<sup>3</sup>) and “maximum” (40.6 µg/m<sup>3</sup>) 24-hour PM<sub>2.5</sub> levels by 6.97 µg/m<sup>3</sup>—to well below the NAAQS of 35 µg/m<sup>3</sup>. *See* JA2237 (tbl.3-4).

<sup>9</sup> EPA predicted “maximum” design values for downwind locations under the base-case assumption that States had no good-neighbor obligations. *See generally* 76 FR at 48228–29; JA2549–637. Madison’s projected “maximum” design values under the 2014 base case were less than 1% above NAAQS. *See* JA2586, 2615 (projected “maximum” annual and 24-hour PM<sub>2.5</sub> base-case design values for Madison of 15.02 µg/m<sup>3</sup> and 35.3 µg/m<sup>3</sup> relative to NAAQS of 15 µg/m<sup>3</sup> and 35 µg/m<sup>3</sup>).

<sup>10</sup> *See* EPA, *Air Quality Trends*, available at <http://www.epa.gov/airtrends/aqtrends.html>; EPA, *Emission Inventory Final Rule TSD*, Document EPA-HQ-OAR-2009-0491, at 99–100 (tbl.7-1) (June 28, 2011), <http://www.epa.gov/airtransport/pdfs/EmissionsInventory.pdf>.



The steep reductions imposed in the Rule beyond CAIR are thus unnecessary for East Baton Rouge and Allegan to attain and maintain the ozone NAAQS.

### **B. Overcontrol Of Alabama, Georgia, And South Carolina For PM<sub>2.5</sub>**

As with Texas, the emission budgets imposed on Alabama, Georgia, and South Carolina to address PM<sub>2.5</sub> were based on the amounts of SO<sub>2</sub> and NO<sub>x</sub> emissions EPA believed could be reduced at \$500/ton. 76 FR at 48257. But, as noted, EPA ignored its own data showing that relevant downwind locations could attain and maintain the PM<sub>2.5</sub> NAAQS at *lower* cost thresholds and less-restrictive upwind-state emission budgets. *See supra* pp. 7–8.

EPA linked each of these three States to a location projected to have attainment or maintenance problems in 2012 without good-neighbor regulation.<sup>11</sup> Data from EPA’s proposed rule showed that the only downwind locations to which these States were linked would attain and maintain NAAQS with SO<sub>2</sub> controls costing less than \$500/ton. JA2231–32 (tbl.3-1), 2237–40 (tbl.3-4).<sup>12</sup>

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<sup>11</sup> *See* JA2715–24 (linking these upwind States to one or more receptors in the following counties: Butler, Ohio; Fulton, Georgia; Hamilton, Ohio; Jefferson, Alabama; Marion, Indiana; Montgomery, Alabama; Washtenaw, Michigan).

<sup>12</sup> For example, EPA linked Georgia to two receptors in Jefferson, Alabama for the PM<sub>2.5</sub> NAAQS. *See* JA2715, 2718, 2721 (Jefferson receptors 10730023 and 10732003). EPA imposed \$500/ton controls on Georgia despite its earlier analysis showing these Jefferson receptors would attain and maintain NAAQS with less costly controls. JA2231–32 (tbl.3-1), JA2237 (tbl.3-4) (showing controls of \$400/ton for SO<sub>2</sub> and \$0/ton for NO<sub>x</sub> would reduce “average” and “maximum” PM<sub>2.5</sub> levels for Jefferson receptors to below annual and 24-hour PM<sub>2.5</sub> NAAQS of 15 µg/m<sup>3</sup> and 35 µg/m<sup>3</sup>, respectively). Moreover, EPA redesignated Jefferson to attainment for PM<sub>2.5</sub> under CAIR—demonstrating the Transport Rule’s greater emission-reduction obligations

EPA predicted its emission budgets would cause these same downwind locations to achieve air quality substantially superior to NAAQS. *Compare* JA2715–24 (downwind linkages for Alabama, Georgia, and South Carolina for both PM<sub>2.5</sub> NAAQS), *with* JA2580–608 (projected remedy-case annual PM<sub>2.5</sub> below NAAQS of 15 µg/m<sup>3</sup> for downwind locations of concern); JA2609–37 (projected remedy-case 24-hour PM<sub>2.5</sub> below NAAQS of 35 µg/m<sup>3</sup> for downwind locations of concern). Thus, higher emission budgets would still allow the downwind locations to which Alabama, Georgia, and South Carolina were linked to attain and maintain NAAQS.

### **C. Overcontrol Of Several States With Regard To Ozone**

EPA imposed NO<sub>x</sub> ozone-season emission budgets on 14 upwind States—Florida, Iowa, Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Virginia, West Virginia, and Wisconsin—that were linked only to receptors that EPA projected would attain and maintain the ozone NAAQS in 2014 without any good-neighbor obligations.<sup>13</sup> This is the very definition of overcontrol.

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were unnecessary. *See* 78 FR 4341, 4241–42 (Jan. 22, 2013); 78 FR 5306 (Jan. 25, 2013).

<sup>13</sup> These upwind States were linked only to one or more of the following downwind locations: Fairfield (90011123) and New Haven (90093002), Connecticut; Harford, Maryland (240251001); Allegan, Michigan (260050003); and Harris, Texas (482010029 and 482011050). 76 FR at 48246 (tbl.V.D-9). EPA's base-case air-quality modeling projected that none of these locations would have attainment or maintenance concerns in 2014 even without good-neighbor regulation. *See* JA2550, 2560–61, 2575–76 (2014 base-case projected average and maximum design values lower than 85 ppb attainment threshold for each location). Although EPA did not impose ozone-season

EPA's regulation of Florida starkly illustrates this overcontrol. EPA imposed steep emission reductions on Florida based solely on linkages to two downwind locations in Harris, Texas. 76 FR at 48246 (tbl.V.D-9) (linking Florida to receptors 482010029, 482011050). EPA, however, projected that those receptors would have no attainment or maintenance issues in 2014 *even without the Transport Rule or CAIR*. See JA2575–76 (projecting 2014 base-case “maximum” values less than 85 ppb that would satisfy even EPA's stringent “maintenance” standard). EPA also ignored that Houston (including the Harris receptors to which Florida was linked) has until 2019 to achieve ozone attainment. 76 FR at 48277–79. Thus, EPA required immediate upwind-state emission reductions for downwind problems that would be resolved even without any good-neighbor obligations and even when the downwind locations of concern had until 2019 to meet the relevant air-quality standard.

## **II. EPA'S RELIANCE ON FLAWED MODELING WAS ARBITRARY AND CAPRICIOUS.**

EPA relied on flawed modeling to determine which upwind States to regulate and to set the emission budgets for those States. Rather than follow its historical practice of consulting current air-quality data, EPA arbitrarily dismissed contrary “recent ‘real world’ data” as “simply ... irrelevant,” EPA Opp. 15 (Dkt.1333987), and relied exclusively on computer modeling to project air quality for 2012–14, 76 FR at

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NO<sub>x</sub> budgets on Iowa, Michigan, Oklahoma, and Wisconsin in the Transport Rule, it did so shortly thereafter, based on the Rule's air-quality modeling. See *generally* 76 FR 80760 (Dec. 27, 2011).

48230–32. Had EPA compared its air-quality projections with available “real-world” data, it would have discovered that its air-quality model produced implausible and unreliable predictions.

EPA similarly erred regarding the modeling it used to estimate the extent to which emissions could be reduced at various cost levels. Rather than use recent emission data to project future emissions, EPA relied on a model that it knew did not accurately predict unit-level emissions to determine the amounts that could be reduced in a State at EPA’s chosen cost thresholds. Had EPA considered actual emission data, it would have learned that its model produced unrealistic projections that rendered its budgets arbitrary and unlawful.

**A. EPA Arbitrarily Ignored Relevant, Real-World Data In Making Its Air-Quality Projections.**

1. EPA used its air-quality model to project base-case air quality for downwind locations assuming no good-neighbor obligations would be in place in 2012. 76 FR at 48223–24, 48229–30, 48238–46. After identifying projected locations that would not attain or maintain NAAQS without good-neighbor regulation, EPA used its air-quality model to estimate upwind States’ “contributions” to these locations. *Id.* at 48233–36. For upwind States “linked” to these downwind locations, EPA established each State’s emission budget by analyzing the cost-effectiveness of emission reductions. *Id.* at 48259; *see also id.* at 48248. EPA then used its air-quality model to project a “remedy

case”—*i.e.*, to project how its proposed emission budgets would affect downwind air quality. *Id.* at 48259; *see also id.* at 48248.

2. This approach departed sharply from EPA’s approach in prior good-neighbor rulemakings. Previously, EPA checked the reliability of its modeling against real-world air-quality data. *See, e.g.*, 70 FR at 25241 (CAIR) (“In light of the uncertainties inherent in regionwide modeling many years into the future, ... we have the most confidence in our projection of nonattainment for those counties that are not only forecast to be nonattainment in 2010 ... but that also measure nonattainment for the most recent period of available ambient data ....”). Here, EPA abruptly and arbitrarily changed course and decided that it did not need to “verif[y] the nonattainment and maintenance receptors [EPA was projecting] against the most recent ambient data.” 76 FR at 48230. EPA asserted that such real-world air-quality data were *irrelevant* because they reflected reductions resulting from CAIR, while EPA was projecting emissions without CAIR. *Id.*

3. Rather than rely exclusively on air-quality modeling, EPA should have used actual air-quality data to test its predictions. Whether to use projected or actual air-quality data was not an either/or proposition: EPA could have used models to estimate unregulated air quality without treating measured, real-world air quality as “irrelevant.” Real-world air-quality data should have been used to verify the relationship between upwind emissions and downwind air quality, in order to test the reliability of EPA’s projections.

The unreliability of EPA's projections is evident: Most downwind receptors that EPA projected to have attainment or maintenance problems in 2012 in fact had *already attained* NAAQS. Well over 90% of the “nonattainment” and “maintenance” locations in the Rule had measured air quality that met NAAQS prior to the Rule.<sup>14</sup> But the Transport Rule's *raison d'être* is that upwind States needed to make substantial emission reductions *from pre-Rule levels* for these downwind locations to achieve attainment. *See* 76 FR at 48233–36, 48255; JA2546–699. This makes no sense. If downwind locations achieved attainment at the higher upwind emission levels before the Rule, further reductions are unnecessary to achieve attainment—and thus EPA lacks authority to require them.

Indeed, as the following charts illustrate, EPA's model implausibly predicted that, in many instances, air quality would be *worse* after implementing the Transport Rule's emission budgets than before the Rule, when upwind emissions were *higher*.<sup>15</sup>

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<sup>14</sup> This measure of pre-Rule attainment can be determined by comparing the 73 locations EPA projected to have attainment and maintenance problems, *see* JA2436–41 (tbls.IV-1–5), with measured air-quality data for these locations, *see* EPA, *Design Values—Archives*, “2010 PM<sub>2.5</sub> Detailed Information” (tbl.6) and “2010 Ozone Detailed information” (tbl.7), *available at* [http://www.epa.gov/airtrends/values\\_previous.html](http://www.epa.gov/airtrends/values_previous.html). For the Court's convenience, this information and the relevant NAAQS are reproduced in tabular form at Addendum 1–3 to this brief. For the Court's reference, these tables also include EPA's projected 2014 “remedy-case” air quality for the relevant downwind locations of concern. *See* JA2549–637.

<sup>15</sup> These tables were derived by comparing EPA's air-quality data, *see* “2010 PM<sub>2.5</sub> Detailed Information” (tbl.6) and “2010 Ozone Detailed Information” (tbl.7), with EPA's 2014 remedy-case projections for locations projected to have attainment and maintenance problems, *see* JA2436–39 (tbls.IV-1–4); JA2549–637. *See supra* n.14.

**Table 1: Annual PM<sub>2.5</sub>**

State	County	Site ID	Measured Air Quality Design Value Prior to Transport Rule ( $\mu\text{g}/\text{m}^3$ )	2014 Projections ( $\mu\text{g}/\text{m}^3$ )
AL	Jefferson	10732003	12.7	13.11
AL	Jefferson	10730023	13.7	13.94
GA	Fulton	131210039	11.4	12.99
MI	Wayne	261630033	12.3	13.59

**Table 2: 24-hour PM<sub>2.5</sub>**

State	County	Site ID	Measured Air Quality Design Value Prior to Transport Rule ( $\mu\text{g}/\text{m}^3$ )	2014 Projections ( $\mu\text{g}/\text{m}^3$ )
AL	Jefferson	10732003	28	30.5
AL	Jefferson	10730023	29	31.1
IL	Cook	170312001	28	29.4
IL	Cook	170316005	30	31.9
IL	Madison	171191007	29	29.2
IN	Lake	180890022	31	32.1
MI	St. Clair	261470005	28	32.2
MI	Washtenaw	261610008	27	28.4
MI	Wayne	261630016	30	33.7
MI	Wayne	261630019	30	34.7
MI	Wayne	261630033	32	34.3
PA	Allegheny	420030093	25	29.4
PA	Lancaster	420710007	33	34.7
PA	York	421330008	30	30.8

**Table 3: 8-hour Ozone**

State	County	Site ID	Measured Air Quality Design Value Prior to Transport Rule (ppb)	2014 Projections (ppb)
CT	Fairfield	090011123	81	81.8
CT	New Haven	090093002	76	80.9
LA	East Baton Rouge	220330003	78	84.0
MI	Allegan	260050003	74	80.4
TX	Brazoria	480391004	84	84.4
TX	Harris	482010029	81	82.3
TX	Harris	482010051	77	84.1
TX	Harris	482010055	82	91.1
TX	Harris	482010062	72	86.9
TX	Harris	482010066	75	85.4
TX	Harris	482011035	76	78.2
TX	Harris	482011039	81	86.8
TX	Harris	482011050	75	81.1

For instance, as shown in Table 1, before the Transport Rule, Wayne, Michigan (261630033) had a measured design value of 12.3  $\mu\text{g}/\text{m}^3$  for annual  $\text{PM}_{2.5}$ . EPA's modeling, however, counterfactually projected that, after implementation of the Transport Rule's substantial emission reductions,<sup>16</sup> the downwind receptor's air quality would be *worse*, with a design value of 13.59  $\mu\text{g}/\text{m}^3$ . Similarly, EPA's model projected that, after imposition of the Rule's budgets—which required steep reductions compared to relevant upwind State emissions before the Rule<sup>17</sup>— $\text{PM}_{2.5}$  levels at Fulton, Georgia (131210039) would increase (from 11.4 to 12.99  $\mu\text{g}/\text{m}^3$ ). EPA's model makes directionally incorrect predictions for both Jefferson, Alabama receptors (10730023, 10732003) as well.

These errors go beyond EPA's annual  $\text{PM}_{2.5}$  projections. As shown above in Table 2, comparing EPA's measured to projected air quality for 24-hour  $\text{PM}_{2.5}$  reveals that EPA made counterfactual projections for Jefferson, Alabama; Cook and Madison, Illinois; Lake, Indiana; St. Clair, Washtenaw, and Wayne, Michigan; and

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<sup>16</sup> Illinois, Indiana, Kentucky, Ohio, Pennsylvania, West Virginia, and Wisconsin were linked to this Wayne receptor. 76 FR at 48241 (tbl.V.D-2). The Transport Rule required these States collectively to reduce their emissions below pre-Rule levels, *see id.* at 48262 (tbl.VI.D-3) (emission budgets); EPA, *Air Markets Program Query*, available at <http://ampd.epa.gov/ampd/QueryToolie.html> (state-searchable database of historical emission data) (query: CAIR- $\text{NO}_x$ , Emissions (annual: 2008–2010) by State).

<sup>17</sup> Alabama, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, Tennessee, and West Virginia were linked to Fulton. 76 FR at 48241 (tbl.V.D-2). The Transport Rule required these States collectively to reduce their emissions substantially below pre-Rule levels, *see id.* at 48261–62 (tbl.VI.D-3) (emission budgets); *Air Markets Program Query*, *supra* n.16.



Allegheny, York, and Lancaster, Pennsylvania. Over one-third of EPA's projections for 24-hour PM<sub>2.5</sub> are directionally wrong.<sup>18</sup> And, as Table 3 shows, EPA incorrectly projected that in the vast majority of cases ozone levels would be higher after the Rule's emission-reduction obligations were imposed.<sup>19</sup>

EPA *conceded* these errors. EPA acknowledged that in nearly half the instances where it made predictions, its model projected downwind air quality would be worse after relevant upwind emissions were reduced. EPA Br. 79 n.43 (Dkt. 1364178). And if a model's predictions are directionally wrong nearly half the time, its directionally "correct" predictions are likely to be flawed as well.

EPA asserted these anomalies were irrelevant because they were based on "extra-record" data. *Id.* at 74–75. But these comparisons were based on *EPA's own data*, and the data most reflective of the period immediately before the Transport Rule (2008–2010).<sup>20</sup> EPA thus ultimately contended that these data must be ignored because when the Rule was issued, 2010 air-quality data were only "preliminary." *Id.*

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<sup>18</sup> EPA projected 41 "problem" sites for 24-hour PM<sub>2.5</sub>. JA2438–39. For 14 of these sites, EPA's model predicted air quality would be worse after imposition of the Transport Rule's budgets. Tbl.2.

<sup>19</sup> EPA projected 16 "problem" sites for ozone. JA2440–41. For 13 of these sites, EPA's model predicted air quality would be worse after imposition of the Transport Rule's budgets. Tbl.3.

<sup>20</sup> EPA calculates design values based on the most recent three years of data. *See, e.g.,* EPA, *Design Values*, available at <http://www.epa.gov/airtrends/values.html>.

EPA fails to confront the real issue. EPA ignores that the model produces numerous similar anomalies if 2007–2009 data are used.<sup>21</sup> EPA disregards its own reliance, without any caveats, on preliminary 2010 data in the Transport Rule.<sup>22</sup> And, most fundamentally, EPA misses petitioners' point: that EPA acted arbitrarily in not using available real-world data to benchmark its model's projections.

4. EPA's predictions cannot be right—and EPA had an obligation to consider and reconcile the stark inconsistencies between what its model predicted and reality. *Cf. NRDC v. Jackson*, 650 F.3d 662, 665–66 (7th Cir. 2011) (“The way to test” predictive models is to “compare [the] projection against real outcomes.... An agency that clings to predictions rather than performing readily available tests may run into

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<sup>21</sup> For example, relative to EPA's 2007–2009 measured air-quality data (which were finalized at the time of the Rule), EPA predicted that annual PM<sub>2.5</sub> levels in Fulton, Georgia (131210039) would be higher (rising from 9.8 to 12.99 µg/m<sup>3</sup>) after the Rule's budgets were imposed. *Compare* “2009 PM<sub>2.5</sub> Detailed Information” (tbl.6), *available at* [http://www.epa.gov/airtrends/values\\_previous.html](http://www.epa.gov/airtrends/values_previous.html), *with* JA2584. EPA's model predicted that 24-hour PM<sub>2.5</sub> levels would *rise* in Lake, Indiana (180890022); St. Clair (261470005) and Wayne (261630016, 261630019), Michigan; and Cuyahoga, Ohio (390350038) after upwind emissions were *reduced*. *Compare* “2009 PM<sub>2.5</sub> Detailed Information” (tbl.6), *with* JA2616, 2622, 2628. Half of EPA's ozone projections suffer from this problem. *Compare* EPA's 2007–2009 Design Value data for Ozone, “2009 Ozone Detailed information” (tbl.5), *available at* [http://www.epa.gov/airtrends/values\\_previous.html](http://www.epa.gov/airtrends/values_previous.html) (measured 8-hour ozone design values for 220330003 (East Baton Rouge, Louisiana) and 480391004, 482010051, 482010055, 482011050 (Brazoria and Harris, Texas)), *with* JA2559, 2575–76.

<sup>22</sup> *See* 76 FR at 48231 (using preliminary 2010 data to conclude that PM<sub>2.5</sub> and ozone were “considerably higher” in 2010 than in previous years).

trouble.”) (citing *Bechtel v. FCC*, 10 F.3d 875 (D.C. Cir. 1993)).<sup>23</sup> If EPA is going to impose emission-reduction obligations based on complex modeling and “but-for” projections, it must use available means to verify those projections. EPA may use “predictive models” only where it “provides a complete analytic defense” and “addresse[s] what appear to be stark disparities between its projections and real world observations.” *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1054 (D.C. Cir. 2001).

Here, EPA arbitrarily ignored *its own* air-quality data and attainment findings in implausibly projecting worse downwind air quality after imposing the Rule’s emission reductions compared to actual air quality under the higher emissions before the Rule. *See Motor Vehicle Mfrs. Ass’n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (agency rule is “arbitrary and capricious” where the agency “failed to consider an important aspect of the problem” or “offered an explanation for the decision that runs counter to the evidence before the agency”). It did so even though the agency had recognized the “uncertainties inherent” in relying solely on projected air quality, 70 FR at 25241, and even though commenters specifically urged EPA to continue its historical practice of disregarding projections that were inconsistent with measured air quality, JA1049–51. Unexplained contradictions between EPA’s predictions and real-

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<sup>23</sup> In related proceedings, EPA examined its air-quality modeling and real-world data and concluded that its model predicted “anomalous results that do not indicate the true effects” of the emission scenarios modeled. 76 FR 82219, 82228 (Dec. 30, 2011).

world observations undermine the accuracy of EPA's air-quality projections and render the emission budgets based on those projections arbitrary and unlawful.

**B. EPA Arbitrarily Failed To Validate Its Projections Of Cost-Effective Emission Reductions With Available Real-World Data.**

EPA's emission budgets were arbitrary for another reason. As noted, EPA determined State emission budgets based on the amounts of emissions it believed generating units in the State could reduce at various "cost thresholds." *See supra* pp. 7–8. As with its air-quality projections, EPA used a model rather than real-world data to make these determinations. JA2090 ("EPA does not use historic emissions data to set the Transport Rule state budgets, but instead relies on projected emissions data"). Specifically, EPA projected statewide emissions using an economic model known as the Integrated Planning Model ("IPM") that assumed the "least cost operation of the power generation system." 76 FR at 48225.

EPA developed State emission budgets by aggregating its model's unit-level emission predictions for the covered power plants within a State. JA2090 ("unit level data is aggregated to get the state totals"). EPA relied on these unit-level predictions even though it *knew* its model did *not* accurately predict generation and emissions at the unit level. JA2089 ("there will be discrepancies between IPM unit level projections and a unit's actual future operations due to non-economic or other variables that IPM does not capture."); *see also, e.g.*, JA1366–67, 1427–31, 1439–69. EPA simply *assumed* that unit-level flaws would cancel each other out when aggregated at the State level.

JA2047. This assumption was incorrect. As a result, EPA arbitrarily relied on modeling that overstated the degree to which emissions could be reduced. *Cf. Appalachian Power*, 249 F.3d at 1053 (“model assumptions” must “have a ‘rational relationship’ to the real world”).

EPA knew that methodological constraints introduced significant errors into the model. For example, “[w]ithin each model region, IPM assumes that adequate transmission capacity exists to deliver any resources located in, or transferred to, the region.” JA2919; *see also* JA830. That is, EPA assumed electricity generated within a region can travel anywhere in that region, unimpeded by transmission constraints, and thus the model allows the dispatch of low-emitting units wherever they are located within the region. In the real world, however, low-emitting units cannot always be utilized: dispatch is constrained by intraregional load pockets,<sup>24</sup> voltage requirements,<sup>25</sup> and local reliability requirements.<sup>26</sup> These constraints often require dispatching higher-emitting units that IPM predicts are shut off as uneconomic.<sup>27</sup>

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<sup>24</sup> A load pocket is an area with units that must run, often because power cannot be imported to meet demand. *See, e.g.*, JA1306.

<sup>25</sup> Voltage requirements are requirements to maintain electricity-grid voltage at prescribed levels.

<sup>26</sup> Certain geographic areas have local reliability constraints that are not accounted for in the model. *See, e.g.*, JA830.

<sup>27</sup> *See, e.g.*, JA1208–12. EPA, however, opted to “retai[n] the current approach that does not attempt to account for ‘must run’ units.” JA2820.

“Aggregating” such errors does not eliminate them, but results in systematic bias that overstates the amount of emissions that can be reduced at a specified cost level.

Similarly, EPA’s model underestimates emissions from steam production by cogeneration units.<sup>28</sup> The model predicts cogeneration-unit operation based only on *electricity* demand; it does not account for cogeneration-unit operation to meet *steam* demand. *See* JA497, 604, 830. Accordingly, cogeneration-unit emissions projected by EPA were significantly understated, yielding budgets that were lower than they would have been with accurate assumptions. JA2770. EPA’s response—applying a multiplier to the “power-only” emissions—does not solve the problem because its model erroneously predicts that many cogeneration units will not operate at all.<sup>29</sup> Even with a multiplier, EPA’s model incorrectly predicts zero emissions from these units.

EPA’s failure to account for these constraints resulted in significantly flawed budgets. Because EPA’s model overstated the extent to which emissions could be reduced at a particular cost threshold, EPA set emission budgets that could not be met at its assumed cost. As in *Columbia Falls Aluminum Co. v. EPA*, “EPA kn[ew] that ‘key assumptions’ underlying the [model were] wrong and yet ... offered no defense of its continued reliance on it.” 139 F.3d 914, 923 (D.C. Cir. 1998). EPA should have

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<sup>28</sup> Cogeneration units are units that generate both electricity and steam for industrial or institutional use.

<sup>29</sup> *See, e.g.*, JA603–06 (explaining that while certain units must run to provide steam service, EPA’s model predicts they will not run for electric service and therefore erroneously predicts no emissions from the units).

taken the required step of testing its model results against real-world data.<sup>30</sup> *See Jackson*, 650 F.3d at 665–66.

Indeed, EPA ignored obvious signs that its model's predictions were inaccurate and that unit-level errors did not simply “wash out” when aggregated to the State level. In many cases, the model's base-case predictions, which purport to represent upwind emissions in 2012 *without* good-neighbor regulation, were *substantially lower* than recent actual emissions that were subject to CAIR. For example, the base-case 2012 ozone-season NO<sub>x</sub> emission projections for Louisiana and Illinois were 42% and 24% below actual 2010 ozone-season NO<sub>x</sub> emissions, respectively. *Compare* JA3498 (actual emissions), *with* JA2939 (base-case projections). These red flags should have alerted EPA to test its predictions against real-world data.

### **RELIEF**

This Court should vacate the Transport Rule's ozone-season NO<sub>x</sub> requirements for the States identified in §I.C. EPA's own projections demonstrate that no basis exists for imposing ozone-season NO<sub>x</sub> emission budgets on these States.

As to the other errors identified above, this Court should remand to EPA to recalculate emission budgets. EPA has begun implementing the Rule and, by the time

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<sup>30</sup> At the proposal stage, EPA acknowledged that historical emission data provided a more accurate basis for estimating future emissions. *See* 75 FR at 45290 (“EPA believes that the actual performance units achieved in 2009 is more representative of expected emissions than what EPA modeled using IPM.”).

the Court decides the case, EPA will have begun allocating allowances for 2015 and allowance trading will have commenced. Vacatur thus is not appropriate.

EPA should not, however, be allowed to maintain unlawful emission budgets indefinitely by delaying rulemaking on remand. Thus, this Court should direct EPA to complete the necessary rulemaking before January 1, 2016, so that EPA can promulgate lawful emission budgets, and make any necessary adjustments to allowance allocations for 2016, before that year's compliance period commences.<sup>31</sup>

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<sup>31</sup> Industry/Labor petitioners' arguments and request for relief do not necessarily require eliminating regulation under the Transport Rule, but will in many cases require only adjustments to emission budgets. For example, the remedy for EPA's overcontrol of Texas is adoption of a higher budget for Texas. Likewise, correcting errors in EPA's generation model will require increased budgets for upwind States, not elimination of good-neighbor regulation.



## CONCLUSION

This Court should hold that the Transport Rule is beyond EPA's statutory authority and constitutes arbitrary agency action, and direct the remedy discussed above.

Dated: December 10, 2014

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## CERTIFICATE OF COMPLIANCE

In accordance with Circuit Rule 32(a) and Rule 32(a)(7) of the Federal Rules of Appellate Procedure, the undersigned certifies that the accompanying brief has been prepared using 14-point Garamond Roman typeface, and is double-spaced (except for headings and footnotes).

The undersigned further certifies that the brief is proportionally spaced and contains 7,018 words exclusive of the certificate required by Circuit Rule 28(a)(1), table of contents, table of authorities, glossary, signature lines, and certificates of service and compliance. The combined words of the Industry and Labor Petitioners' Opening Brief and the State and Local Petitioners' Opening Brief do not exceed 14,000 words, as mandated by this Court's October 23, 2014 Order. Dkt.1518738. The undersigned used Microsoft Word 2007 to compute the count.

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**CERTIFICATE OF SERVICE**

I hereby certify that on December 10, 2014, I caused the foregoing brief to be served on all registered counsel through the Court's CM/ECF system.

/s/ Peter D. Keisler

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## ADDENDUM

### Annual PM<sub>2.5</sub>

State	County	Site ID	<sup>1</sup> Transport Rule NAAQS attainment threshold ( $\mu\text{g}/\text{m}^3$ )	<sup>2</sup> Measured Air Quality Design Value Prior to Transport Rule ( $\mu\text{g}/\text{m}^3$ )	<sup>3</sup> 2014 Remedy Case Projections ( $\mu\text{g}/\text{m}^3$ )
AL	Jefferson	10730023	15	13.7	13.94
AL	Jefferson	10732003	15	12.7	13.11
GA	Fulton	131210039	15	11.4	12.99
IL	Madison	171191007	15	13.8	13.28
IN	Marion	180970081	15	13.6	12.01
IN	Marion	180970083	15	13.2	11.86
MI	Wayne	261630033	15	12.3	13.59
OH	Cuyahoga	390350038	15	13.6	12.99
OH	Cuyahoga	390350045	15	12.9	12.15
OH	Cuyahoga	390350060	15	13.4	12.70
OH	Cuyahoga	390350065	15	13.4	11.69
OH	Hamilton	390610014	15	14.4	12.47
OH	Hamilton	390610042	15	14.2	12.16
OH	Hamilton	390617001	15	13.6	11.48
OH	Hamilton	390618001	15	15.1	12.73
PA	Allegheny	420030064	15	16.0	14.62

<sup>1</sup> 76 FR 48208, 48233 (Aug. 8, 2011)

<sup>2</sup> EPA's 2008–2010 Design Value data for PM<sub>2.5</sub> available at [http://www.epa.gov/airtrends/pdfs/PM25\\_DesignValues\\_20082010\\_FinalRevised.xlsx](http://www.epa.gov/airtrends/pdfs/PM25_DesignValues_20082010_FinalRevised.xlsx) (columns J, AC in worksheet "Table6, site DV history")

<sup>3</sup> Air Quality Modeling Final Rule Technical Support Document, App. B-35 to B-63 (June 2011) (reproduced at JA2580-2608)



**24-hour PM<sub>2.5</sub>**

State	County	Site ID	<sup>1</sup> Transport Rule NAAQS attainment threshold ( $\mu\text{g}/\text{m}^3$ )	<sup>2</sup> Measured Air Quality Design Value Prior to Transport Rule ( $\mu\text{g}/\text{m}^3$ )	<sup>3</sup> 2014 Remedy Case Projections ( $\mu\text{g}/\text{m}^3$ )
AL	Jefferson	10730023	35	29	31.1
AL	Jefferson	10732003	35	28	30.5
IL	Cook	170310052	35	31	29.5
IL	Cook	170311016	35	33	32.6
IL	Cook	170312001	35	28	29.4
IL	Cook	170313301	35	32	30.2
IL	Cook	170316005	35	30	31.9
IL	Madison	171190023	35	N/A	28.3
IL	Madison	171191007	35	29	29.2
IN	Lake	180890022	35	31	32.1
IN	Lake	180890026	35	33	30.3
IN	Marion	180970043	35	30	26.6
IN	Marion	180970066	35	30	27.6
IN	Marion	180970081	35	30	26.9
MI	St. Clair	261470005	35	28	32.2
MI	Washtenaw	261610008	35	27	28.4
MI	Wayne	261630015	35	31	30.8
MI	Wayne	261630016	35	30	33.7
MI	Wayne	261630019	35	30	34.7
MI	Wayne	261630033	35	32	34.3
OH	Butler	390170003	35	29	26.1
OH	Cuyahoga	390350038	35	33	32.6
OH	Cuyahoga	390350045	35	31	25.5
OH	Cuyahoga	390350060	35	32	29.8
OH	Cuyahoga	390350065	35	30	25.1
OH	Hamilton	390618001	35	31	25.6
OH	Jefferson	390811001	35	28	25.1
OH	Montgomery	391130032	35	29	22.8
PA	Allegheny	420030064	35	48	45.0
PA	Allegheny	420030093	35	25	29.4
PA	Allegheny	420030116	35	N/A	25.6
PA	Allegheny	420031008	35	31	24.0
PA	Allegheny	420031301	35	35	24.5
PA	Allegheny	420033007	35	30	24.5
PA	Beaver	420070014	35	30	27.0
PA	Lancaster	420710007	35	33	34.7
PA	York	421330008	35	30	30.8
WV	Brooke	540090011	35	31	28.3
WI	Milwaukee	550790010	35	32	30.7
WI	Milwaukee	550790026	35	33	29.9
WI	Milwaukee	550790043	35	35	31.6

<sup>1</sup> 76 FR 48208, 48234 (Aug. 8, 2011)<sup>2</sup> EPA's 2008–2010 Design Value data for PM<sub>2.5</sub> available at [http://www.epa.gov/airtrends/pdfs/PM25\\_DesignValues\\_20082010\\_FinalRevised.xlsx](http://www.epa.gov/airtrends/pdfs/PM25_DesignValues_20082010_FinalRevised.xlsx) (columns J, AW in worksheet "Table6, site DV history")<sup>3</sup> Air Quality Modeling Final Rule Technical Support Document, App. B-64 to B-92 (June 2011) (reproduced at JA2609-2637)

**8-hour Ozone**

State	County	Site ID	<sup>1</sup> Transport Rule NAAQS attainment threshold (ppb)	<sup>2</sup> Measured Air Quality Design Value Prior to Transport Rule (ppb)	<sup>3</sup> 2014 Remedy Case Projections (ppb)
CT	Fairfield	090011123	85	81	81.8
CT	New Haven	090093002	85	76	80.9
LA	East Baton Rouge	220330003	85	78	84.0
MD	Harford	240251001	85	89	82.3
MI	Allegan	260050003	85	74	80.4
TX	Brazoria	480391004	85	84	84.4
TX	Harris	482010024	85	83	82.1
TX	Harris	482010029	85	81	82.3
TX	Harris	482010051	85	77	84.1
TX	Harris	482010055	85	82	91.1
TX	Harris	482010062	85	72	86.9
TX	Harris	482010066	85	75	85.4
TX	Harris	482011015	85	N/A	80.7
TX	Harris	482011035	85	76	78.2
TX	Harris	482011039	85	81	86.8
TX	Harris	482011050	85	75	81.1

<sup>1</sup> 76 FR 48208, 48236 (Aug. 8, 2011)

<sup>2</sup> EPA's 2008–2010 Design Value data for 8-hour Ozone (“Ozone Design Value Spreadsheet”) available at [http://www.epa.gov/airtrends/pdfs/Ozone\\_Design\\_Values\\_20082010\\_UPDATE.xlsx](http://www.epa.gov/airtrends/pdfs/Ozone_Design_Values_20082010_UPDATE.xlsx) (columns G, L in worksheet “Table7”)

<sup>3</sup> Air Quality Modeling Final Rule Technical Support Document, App. B-4 to B-34 (June 2011) (reproduced at JA2549-2579)