Nos. 12-1182; 12-1183

IN THE

Supreme Court of the United States

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

Petitioners,

and

AMERICAN LUNG ASSOCIATION, *et al.*,

Petitioners,

v.

EME HOMER CITY GENERATION, L.P., *et al.*,

Respondents.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA

BRIEF OF RESPONDENTS CALPINE CORPORATION AND EXELON CORPORATION IN SUPPORT OF PETITIONERS

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QUESTIONS PRESENTED

The Clean Air Act, 42 U.S.C. § 7401 *et seq.*, requires the United States Environmental Protection Agency ("EPA") to establish National Ambient Air Quality Standards ("NAAQS") for particular pollutants at levels that will protect the public health and welfare. 42 U.S.C. §§ 7408, 7409. "[W]ithin 3 years" of "promulgation of a [NAAQS]," each State must adopt a state implementation plan ("SIP") with "adequate provisions" that will, *inter alia*, "prohibit [ ]" pollution that will "contribute significantly" to other States' inability to meet, or maintain compliance with, the NAAQS. 42 U.S.C. § 7410(a)(1), (2)(D)(i)(I). If a State fails to submit a SIP or submits an inadequate one, the EPA must enter an order so finding. 42 U.S.C § 7410(k). After the EPA does so, it "shall promulgate a [f]ederal implementation plan" for that State within two years. 42 U.S.C. § 7410(c)(1).

The questions presented are as follows:

1. Whether the court of appeals lacked jurisdiction to consider the challenges on which it granted relief.

2. Whether States are excused from adopting SIPs prohibiting emissions that "contribute significantly" to air pollution problems in other States until after the EPA has adopted a rule quantifying each State's interstate pollution obligations.

3. Whether the EPA permissibly interpreted the statutory term "contribute significantly" so as to define each upwind State's "significant" interstate air pollution contributions in light of the cost-effective

emission reductions it can make to improve air quality in polluted downwind areas, or whether the Act instead unambiguously requires the EPA to consider only each upwind State's physically proportionate responsibility for each downwind air quality problem.

PARTIES TO THE PROCEEDING

Respondents Calpine Corporation and Exelon Corporation herein adopt by reference the parties to the proceeding listed in the briefs of Petitioners United States Environmental Protection Agency and the American Lung Association, *et al.*

RULE 29.6 DISCLOSURE STATEMENT

Respondents Calpine Corporation and Exelon Corporation are publicly traded corporations and have no parent companies. No publicly-held company owns 10% or more of their stock.

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Respondents Calpine Corporation and Exelon Corporation respectfully submit this brief in support of Petitioners United States Environmental Protection Agency, *et. al.* ("EPA") and American Lung Association, *et al.*

OPINION BELOW

The opinion of the United States Court of Appeals for the District of Columbia Circuit is reported at 696 F.3d 7. The opinion may be found in the Appendix to EPA's petition for certiorari (hereinafter "App.") at 1a-116a. The final rule of the EPA at issue in this case (App. 117a-1458a) is reported at 76 Fed. Reg. 48,208.

JURISDICTION

The judgment of the court of appeals was entered on August 21, 2012. Petitions for rehearing were denied on January 24, 2013 (App. 1459a-1462a). Petitions for certiorari were filed on March 29, 2013, and the Court granted certiorari on June 24, 2013. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTES AND REGULATORY PROVISIONS

The relevant statutes and regulatory provisions are set forth by Petitioners in their briefs and in the Appendix at 117a-1458a and 1463a-1498a.

STATEMENT OF THE CASE

I. INTRODUCTION

Respondents Calpine Corporation and Exelon Corporation submit this brief in support of Petitioners and the Cross-State Air Pollution Rule, commonly referred to as the Transport Rule, 76 Fed. Reg. 48,208 (Aug. 8, 2011) (App. 117a-1458a). Respondents are members of the electric generation industry which is regulated by the Rule, own power plants covered by the Rule and have a direct and compelling interest in cost-effective solutions to interstate air pollution.[1] Respondents specifically address only the third Question Presented by EPA in its petition for certiorari: whether EPA permissibly interpreted the statutory term "contribute significantly" so as to define each upwind state's "significant" interstate air pollution contributions in light of the cost-effective emission reductions it can make to improve air quality in polluted downwind areas, or whether EPA must meet a far more restrictive set of limits imposed by the majority in the court of appeals decision below.[2]

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1. Respondents Calpine Corporation and Exelon Corporation own generation capacity of over 63,000 MW, enough to serve over 63 million households. Respondents' generation fleets are comprised primarily of gas-fired, nuclear and other electric generating units emitting far less pollution than uncontrolled coal-fired units.

2. Respondents support Petitioners and Respondent States and Municipalities in support of Petitioners with respect to their arguments regarding the other Questions Presented by EPA related to jurisdiction to hear certain challenges to the Transport Rule and EPA's issuance of a federal implementation plan.

The Clean Air Act ("Act"), 42 U.S.C. § 7401 *et seq.*, and its Good Neighbor Provision, *id.* § 7410(a)(2)(D)(i), afford EPA substantial discretion in formulating a program to address the difficult and complex problem of interstate air pollution when states fail to act.[3] Congress, through the Act, also gave EPA the authority to use market-based mechanisms where appropriate to achieve national air quality standards. EPA exercised this authority in the Transport Rule, establishing a program utilizing both cost and air quality factors in a manner that fits most effectively with the competitive market for electric power generation in the United States. In contrast, the majority opinion below rejected any deference to agency expertise and created artificial, non-statutory limits on EPA authority that will prevent EPA now and in the future from harnessing such market-based measures, thereby driving up the cost of pollution control for the entire industry. For these reasons and the reasons articulated by Petitioners and other Respondents supporting Petitioners, the Court should reverse the majority ruling.

The Transport Rule regulates emissions from power plants throughout 27 states. These power plants, whether fired by coal, natural gas or oil, emit air pollution that adversely affects air quality not only in the states in which they are located, but in downwind states as well. The statutory impetus for the Transport Rule is the failure by upwind states to adopt laws and regulations sufficient to protect downwind states from these upwind pollution

3. Respondents further support Respondent States and Municipalities with respect to their argument that states have the ability to fulfill their statutory obligation under the Good Neighbor Provision, without prior EPA action. *See* Brief for the Respondent States and Cities In Support of Petitions for Certiorari at 13-15.

sources as required by the Good Neighbor Provision. As a result of this failure, many areas of the country and millions of Americans living there experience air quality too poor to meet the minimum health-based National Ambient Air Quality Standards ("NAAQS") established by EPA pursuant to the Clean Air Act. EPA developed the Transport Rule to help downwind areas achieve and maintain the NAAQS for ozone and fine particulate matter ("$PM_{2.5}$") by controlling upwind emissions of precursor pollutants, oxides of nitrogen ("NO_x") and sulfur dioxide ("SO_2").[4] The rule targets power plants because power plants represent one of the largest sources of these pollutants.

EPA tailored the Transport Rule to work within the unique architecture of interstate wholesale electricity markets, and used the processes of those markets to promote necessary emission reductions, to ensure that those emission reductions will be largely sufficient to allow downwind areas to achieve and to maintain the relevant air quality standards, and to accomplish these goals in a cost-effective manner. EPA based the Transport Rule on reasonable policy choices and interpretations of the Act, ensuring that the Rule would work within the context of the electric generation industry to maximize efficiency and to minimize cost. EPA's use of an approach based on industry market dynamics was lawful and should be upheld, whereas the court of appeals' artificial limitations on EPA's authority would significantly inhibit such a cost-effective approach.

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4. For the Transport Rule, the relevant standards are the 1997 $PM_{2.5}$ annual NAAQS, the 2006 $PM_{2.5}$ 24-hour NAAQS and the 1997 8-hour ozone NAAQS. App. 168a. The Rule regulates emissions of NO_x and SO_2 which contribute to the formation of ozone and $PM_{2.5}$.

II. THE GRID AND WHOLESALE ELECTRICITY MARKETS

The Transport Rule was specifically designed to function in a competitive wholesale market for electricity where costs of operation are a key factor determining which plants operate and when. The Rule regulates emissions from over 1,300 generating units at power plants. These power plants, and many more outside the Transport Rule region, are connected to the nationwide network of electric transmission lines commonly referred to as the "grid." The grid is capable of transmitting electricity across state lines and even across entire regions in order to satisfy demand. The grid is managed by independent system operators, regional transmission organizations and local balancing authorities[5] ("grid operators") who bear the responsibility for assuring that adequate electricity is always available.[6] Grid operators must balance the amount of electricity generated with electricity demand in real time, as the grid itself has no storage capacity, and an imbalance between supply and demand can overload transmission lines or yield voltage drops that can cause potentially

5. The grid in the Transport Rule states is administered by several grid operators: PJM Interconnection (thirteen states and D.C.); ISO New England (six states), New York ISO (New York only), Midwest ISO (twelve states); Southwest Power Pool (nine states); and the Electric Reliability Council of Texas (Texas only). The grid in remaining Transport Rule areas is served by local balancing authorities, who perform the same function.

6. EPA, *Regulatory Impact Analysis for the Final Transport Rule* at 226 (June 2011) ("*Regulatory Impact Analysis*"), http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0491-4547.

massive blackouts.[7] Because the grid operator has little control over electricity demand, the operator must control the amount of electricity supplied to the grid in order to maintain equilibrium in the system. This balance must be struck by taking into account many factors, including the magnitude, timing and location of demand, the availability of transmission lines serving those demand areas, the remaining available capacity of power plants, the speed with which those plants can increase their output and, in areas served by competitive energy markets, the price at which generators offer their electricity for sale.[8]

Most states covered by the Transport Rule are served by competitive wholesale electricity markets.[9] In these

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7. The New York Blackout of 2013 was caused by just such an imbalance. NY ISO, Blackout August 15, 2003 Final Report (Feb. 2005), http://www.nyiso.com/public/webdocs/media_room/press_releases/2005/blackout_rpt_final.pdf. For additional information on the role of grid operators, see EPA's *Allowance Allocation Final Rule Technical Support Document*, at 13-19 (June 2011) ("*Allowance Allocation TSD*") (C.A. App. 3054-3060). *See also, e.g.*, ISO New England, http://www.iso-ne.com/nwsiss/grid_mkts/elec_works/oview_brochure.pdf.

8. *See* Federal Energy Regulatory Commission, *Centralized Capacity Market Design Elements*, Commission Staff Report AD13-7-000 (Aug. 23, 2013), http://www.ferc.gov/CalendarFiles/20130826142258-Staff%20Paper.pdf.

9. Of the 27 Transport Rule states, only eight will not be served in whole or in part by competitive wholesale electricity markets in 2014. In areas served by local balancing authorities, cost plays essentially the same role on an intrastate basis as described below for larger competitive markets, and power can still be imported from other states. *See Allowance Allocation TSD* at 17-18 (C.A. App. 3058-3059).

states, grid operators use a market-based mechanism to determine the order in which to call upon or "dispatch" power plants to feed electricity to the grid, selecting the least expensive generation units first and calling upon progressively more expensive units until demand is satisfied.[10] *See Allowance Allocation TSD* (C.A. App. 3054-3060); EPA, *Documentation for EPA Base Case v.4.10 Using the Integrated Planning Model*, at 2-9 (Aug. 2010) ("*IPM Documentation*")[11] (C.A. App. 2347). The order of dispatch is determined by a bidding process. Each owner of a generating unit submits a "bid" to the grid operator indicating the price at which it is willing to run its unit. Typically, the bid will be no more than the unit's marginal operating cost, which consists of fuel and other variable costs associated with operating the unit. All other things being equal, the grid operator then dispatches units in ascending cost order until demand is met.

Counterintuitively, the price that each generator receives for its power is not necessarily based on its bid. Wholesale markets operate on the principle of the "single market clearing price;" all generators are paid the same price based on the bid of the last unit that "cleared the market," that is, the most expensive unit needed to meet demand.[12] This pricing scheme creates a powerful

10. *See* PJM, Energy Market, http://pjm.com/markets-and-operations/energy.aspx.

11. EPA's *IPM Documentation* can be found at http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0491-0309.

12. *See* Ross Baldick, *Single Clearing Price in Electricity Markets* (Feb. 2009), http://www.cramton.umd.edu/papers2005-2009/baldick-single-price-auction.pdf.

dual incentive to reduce operating costs: units with low operating costs and low bids are both dispatched more frequently than units with higher costs and higher bids, and produce a higher profit margin when they do operate. *See Clean Air Interstate Rule*, 70 Fed. Reg. 25,162, 25,256 (May 12, 2005). This incentive serves to reduce electricity prices to their minimum, but has significant implications for air pollution control. *See Regulatory Impact Analysis* at 236.

Pollution control requirements can impose significant capital costs for equipment such as "scrubbers" to reduce SO_2 and selective catalytic reduction systems to reduce NO_x. The operation of these systems, though, can also entail significant operating costs for higher-priced fuels, treatment chemicals, waste disposal and power and water consumption. Hence, power plants operating pollution controls have higher operating costs, resulting in higher bids and less frequent dispatch compared to uncontrolled units. Every power plant that incurs additional costs to reduce its emissions is at risk of being undercut by cheaper, dirtier plants that do not incur these additional pollution control costs. *See Allowance Allocation TSD* (C.A. App. 3055-3056). Respondents' cleaner environmentally-controlled, gas-fired and nuclear units can be more expensive to own and operate than uncontrolled units, and so they are placed at a disadvantage in competitive electricity markets where there is no incentive for higher emitting but lower-cost units, such as uncontrolled coal-fired plants, to reduce pollution by installing new controls or even operating existing controls.

If all competing generation units faced identical regulatory requirements, operating costs for pollution

controls might make little difference, but these requirements vary from plant to plant and state to state. The mandatory permit limitations applicable to a generation unit are determined by the year of the unit's construction. *See, e.g.,* 40 C.F.R. pt. 60 subpt. Da (new source performance standards for coal-fired units). New units are required to be equipped with state-of-the-art controls, and must operate those controls to meet stringent mandatory permit limits. Older plants are typically required to meet only those permit limits in place at the time they were built, which are far less stringent. More than one-third of the coal-fired units in operation today were in existence when the Clean Air Act was enacted in 1970, and have no pollution controls.[13] Although some older plants have opted to install pollution controls to take advantage of market incentives like those offered by the Transport Rule, they are not required to operate those controls to achieve a permit limit. Rather, they operate those controls only when economic conditions make it profitable to do so. Pollution control requirements also vary from state to state. Many states impose more stringent pollution control requirements than their neighbors because these controls are needed to attain air quality standards, or because they serve some other goal of the adopting state.

The Transport Rule is designed to function in light of the characteristics of the interstate aspects of power production, competition and pollution. Most grid operators

13. Exelon Corporation Comments on the Proposed Transport Rule at 5, citing Exhibit 1, M.J. Bradley & Associates LLC & the Analysis Group, *Ensuring a Clean, Modern Electric Generating Fleet While Maintaining Electric System Reliability* at 16, Tbl. 5 (2010) (C.A. App. 0655, 0665, 0729).

serve multiple states, and power from one region can be sold into another. Power plants do not, therefore, compete only against plants in the same state, subject to the same regulations. They also compete against units in other states, including states where pollution control requirements are less stringent. Accordingly, when a downwind state suffering poor air quality increases pollution control requirements and thus operating costs, the effect may be to drive electric generation from increasingly expensive in-state units to units in upwind states with less stringent pollution control requirements, merely replacing in-state pollution with imported out-of-state pollution. These market forces can make it impossible for any individual downwind state, acting alone, to comply with air quality standards without a corresponding effort by upwind states to eliminate amounts of pollution that "contribute significantly to nonattainment in, or interfere with maintenance by" the downwind state, as required by the Good Neighbor Provision (collectively, "Downwind Impacts").

The Transport Rule incorporates the main model used by the electric generating industry in its own planning and assessment of market dynamics. While the competitive market system is fluid by design, it is not unpredictable. The electric generating industry uses a variety of sophisticated computer models to predict the operating behavior of power plants in response to various stimuli. One such model commonly used in the industry, and also used by EPA in forecasting economic impacts of regulations, including the Transport Rule, is the "Integrated Planning Model" or "IPM," a commercially available model. IPM is designed to "provide[] forecasts

of least cost capacity expansion, electricity dispatch, and emission control strategies while meeting energy demand and environmental, transmission, dispatch, and reliability constraints." *IPM Documentation* at 1-1 (C.A. App. 2333). Using IPM or a similar model, it is possible to predict, under a given set of circumstances, which power plants will be dispatched, and how much pollution they will emit. *See id*. at 2-1 to 2-4 (C.A. App. 2339-2342). IPM is commonly used by grid operators, generators and governments (including EPA and many state and interstate agencies) to plan for or predict amounts of future electricity generation and associated emissions, taking into account various economic and regulatory scenarios. For example, in developing the Transport Rule, EPA used IPM to evaluate which power plants would be dispatched and how emissions would change if generation units were required to incur additional costs for each ton of pollution they emit. This modeling was fundamental to EPA's evaluation of the most likely air quality impacts of different control scenarios, as well as the overall costs that would be borne by regulated sources. *See infra*, Statement of the Case V, Argument II.B.

Thus, the economic calculus of the wholesale electricity market both institutionalizes a disincentive to incur costs to reduce air pollution, and offers a predictable set of principles on which EPA can and did rely in crafting a cost-effective market-based program to reduce pollution from power plants. The Clean Air Act authorizes, and even promotes, market-based regulatory solutions, and EPA, under the Act's authority, has exploited the predictable behavior of the electricity market to implement such solutions before.

III. STATUTORY HISTORY AND AUTHORITY FOR MARKET-BASED REGULATION

Before 1990, the Clean Air Act included many prescriptive operational or "command-and-control" imperatives, including unit-specific limits and directives to employ certain technologies. Because this approach was broadly applied and afforded minimal compliance flexibility, it increased the cost of compliance, sometimes with little or no environmental benefit.[14] The signature achievement of the 1990 Amendments to the Clean Air Act ("1990 Amendments" or "Amendments") was the creation in Title IV of a very successful national trading program to reduce the precursors of acid rain, which provided a market-based alternative to controls based on percentage reductions of emissions through the use of specific technologies for acid gas control. *See* Pub. L. No. 101-549, § 401, 104 Stat. 2399, 2584 (codified as 42 U.S.C. §§ 7651-7651o (1990)); *see generally*, Goffman, *supra*. *See also*, *Regulatory Impact Analysis* at 232-233.

The 1990 Amendments did not limit the application of market mechanisms to acid rain, but included provisions authorizing the use of market mechanisms and regional approaches to address the persistent problems of achieving and maintaining air quality standards under Title I of the Act. First, the Amendments broadened the

14. *See* Joseph Goffman, *Title IV of the Clean Air Act: Lessons for Success of the Acid Rain Emissions Trading Program,* 14 Penn St. Envtl. L. Rev. 177, 184 (2006); Bruce A. Ackerman and William T. Hassler, *Clean Coal/Dirty Air: or How the Clean Air Act Became a Multibillion-Dollar Bail-Out for High-Sulfur Coal Producers And What Should be Done About It* (Yale University Press 1981).

concept of "emission limitations" for the purposes of state and federal implementation plans to include market-based programs in sections 110(a)(2)(A) and 302(y). 42 U.S.C. §§ 7410(a)(2)(A), 7602(y). The Amendments did so by adding the parenthetical "(including economic incentives such as fees, marketable permits, and auctions of emissions rights)" after the existing requirement that state implementation plans ("SIPs") "include enforceable emission limitations and other control measures, means, or techniques," and by adding a definition of "federal implementation plan" that includes the same language. Pub. L. No. 101-549, §§ 101(b), 108(j), 104 Stat. at 2404, 2468 (codified as 42 U.S.C. §§ 7410(a)(2)(A), 7602(y)).

Notably, President George H.W. Bush specifically emphasized the importance of the 1990 Amendments' authorization of market mechanisms in signing the law:

> The innovative use of market incentives in the bill represents the turning of a new page in our approach to environmental problems in this country. . . . By employing a system that generates the most environmental protection for every dollar spent, the trading system lays the groundwork for a new era of smarter government regulation; one that is more compatible with economic growth than using only the command and control approaches of the past. . . . The result will be the dawning of a new era in regulatory policy, one that relies on the market to reconcile the environment and the economy.

President's Statement on Signing of S. 1630, the Amendments to the Clean Air Act (Nov. 15, 1990),

reprinted in 1 S. Comm. on Environment & Public Works, *A Legislative History of the Clean Air Amendments of 1990* at 727 (1998).

Further, Congress demonstrated an evolution in addressing interstate pollution by moving from a source-by-source program to one that focused more regionally, leading the way toward regional trading programs. To that end, the 1990 Amendments modified the same Good Neighbor Provision at issue in this litigation. Prior to the Amendments, the Act required states to adopt provisions prohibiting emissions from particular stationary sources that "will . . . prevent attainment or maintenance" of the NAAQS in downwind states. Pub. L. No. 95-95, § 108, 91 Stat. 685, 693 (codified as 42 U.S.C. § 7410(a)(2)(E) (1977)). Recognizing that this language was inadequate to compel upwind states to address impacts in downwind states, Congress extended the reach of the Good Neighbor Provision beyond a single stationary source to cover "any source or other type of emissions activity," and required states to prohibit emissions that merely "contribute significantly" to downwind nonattainment or "interfere" with maintenance, whether or not those emissions would, on their own, "prevent" attainment. 42 U.S.C. § 7410(a)(2)(D)(i)(I).

In the 1990 Amendments, Congress also specified that one of the purposes of the Act was "to encourage and assist the development and operation of regional air pollution prevention and control programs." 42 U.S.C. § 7401(a)(1), (b)(4); Pub. L. No. 101-549, § 108(k), 104 Stat. at 2468. Congress further provided for the creation of interstate transport regions and corresponding interstate transport commissions "[w]henever . . . the Administrator has reason to believe that the interstate transport of air pollutants

from one or more States contributes significantly to a violation of a national ambient air quality standard in one or more other States." Pub. L. No. 101-549, § 102(f)(1), 104 Stat. at 2419 (codified as 42 U.S.C. § 7506a). Congress directly created an ozone transport region consisting of eleven northeastern states and the District of Columbia, and established the Ozone Transport Commission. 42 U.S.C. § 7511c.

In accordance with these expressions of Congressional intent, the Ozone Transport Commission initiated the first effort to address the persistent problem of interstate contribution to ozone formation by developing budgets and a trading program for NO_x. EPA sought to encourage this program and other programs by proposing a model open market trading rule. *See* 60 Fed. Reg. 39,668 (Aug. 3, 1995). A larger group of states, industry and non-governmental organizations formed the Ozone Transport Advisory Group ("OTAG") which "concluded that widespread NO_x reductions [we]re needed in order to enable areas to attain and maintain the ozone NAAQS." 62 Fed. Reg. 60,318, 60,320 (Nov. 7, 1997). Based on those recommendations and modeling conducted by the states and others in the OTAG effort, EPA proposed and ultimately adopted a regulation known as the "NO_x SIP Call." *Id.*; 63 Fed. Reg. 57,356 (Oct. 27, 1998). The NO_x SIP Call was upheld by the D.C. Circuit in *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 903, 904 (2001). It employed largely the same methodology for selecting states to be included in an interstate emissions trading program and for determining the emission reduction requirements that EPA used again in the Clean Air Interstate Rule ("CAIR"), 70 Fed. Reg. 25,162 (May 12, 2005), and the Transport Rule.

IV. SUITABILITY AND HISTORY OF MARKET-BASED REGULATION OF THE ELECTRIC GENERATION SYSTEM IN THE INTERSTATE EMISSIONS CONTEXT

The Transport Rule not only drew its market-based regional approach from Congressional direction, but it built upon the Agency's preceding interstate pollution prevention programs, the NO_x SIP Call and CAIR, modifying any portions that had been determined unlawful and strengthening provisions to better ensure that necessary emission reductions occur. Each of these programs focuses on the electric power generation industry, which is appropriate since power plants, particularly older coal-fired plants lacking modern pollution controls, are among the most significant sources of NO_x and SO_2 emissions, which cause interstate pollution having Downwind Impacts. *Regulatory Impact Analysis* at 228-229. Moreover, each of the three programs harnesses the grid's ability to shift generation in accordance with cost stimuli to achieve the goals of balancing and leveling the costs of emission reductions while achieving the most cost-effective emission reductions with the least regulatory burden. *See id.* at 275. The Transport Rule, like its predecessors, employs a market-based allowance trading program, also referred to as a "cap-and-trade" program. In such a program, EPA establishes a total amount of permissible emissions for each covered state in tons per year (the "budget" or "cap"), creates an equal number of tradable "allowances," and requires each power plant in those states covered by the regulation to turn in one allowance for every ton of pollution it emits.

These allowances are the "marketable permits" that were expressly authorized by the 1990 Amendments.[15]

Under the trading mechanisms used by the Transport Rule and its predecessors, the owner of any power plant is free to decide whether to comply with the law by buying allowances from other plants to cover its emissions, or reducing its emissions by installing or operating pollution controls.[16] *See Regulatory Impact Analysis* at 255-56 (C.A. App. 3192-93). Owners who operate controls will include those additional operating costs in their bids into wholesale electricity markets, and owners who opt to purchase allowances will also need to increase their bids to account for the cost of those allowances. *Allowance Allocation TSD* at 14-15 (C.A. App. 3055-3056) (explaining that the economic determination of unit dispatch will

15. The economics literature discussing trading programs (including cap-and-trade) often refers to "marketable permits" rather than "allowances." *See, e.g.*, Tom Tietenberg, *Tradable Permits in Principle and Practice*, 14 Penn St. Envtl. L. Rev. 251 (2006).

16. Aside from geographic scope, the trading program established in the Transport Rule differed from that in the prior programs only as necessary to address criticisms in *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008). In that case, the court of appeals invalidated CAIR's trading program not because it faulted EPA's method of identifying pollution that "contributes significantly" to Downwind Impacts or disapproved of trading programs in general, but because EPA did not calculate budgets on a state-by-state basis, and CAIR's trading program failed to employ measures to ensure that every state would reduce its emissions as necessary to eliminate their significant contribution to Downwind Impacts and "maintain" the NAAQS in the long run. *Id.* at 906-908.

reflect the market value of emitting, *i.e.*, the allowance price). As the electricity market responds to these changing bid patterns, air pollution is reduced in two ways. Plants equipped with controls have the financial incentive necessary to operate those controls, producing less pollution. Correspondingly, uncontrolled plants that must raise their bids no longer undercut cleaner plants, and will thus be dispatched less frequently in favor of plants operating controls or plants that inherently emit less pollution per unit of electricity generated. In the longer term, this approach will also encourage greater investment in plants that emit little or no air pollution, such as solar, wind and nuclear generation. *Regulatory Impact Analysis* at 262, Fig. 7-5 (projected generation mix) (C.A. App. 3198). The electric power industry has uniformly preferred this market-based approach to the alternatives: EPA-imposed limits on specific power plants affecting downwind states, or uniform limits on all power plants. *See* App. 426a, 430a-431a (noting "great majority of public comments" supported Transport Rule trading program over "direct control" approach). EPA, in fact, considered a "direct control" alternative and rejected it because it would not be cost-effective, would be inflexible and could lead to issues threatening the reliability of electricity supply. *Id.*

A cap-and-trade program is particularly well-suited to the electricity system. As demonstrated in the Title IV Acid Rain Program and the other market-based programs noted above, industry will respond to clear cost signals in an economically rational fashion to achieve the necessary emission reductions. This allows EPA (or states) to use IPM or similar models to predict changes in emission patterns, which can in turn be modeled to predict the

impact on air quality.[17] Generators will buy allowances when they are cheaper than the cost of reducing emissions, and reduce emissions when it is cheaper than buying allowances. *Regulatory Impact Analysis* at 259-260 (C.A. App. 3195-3196). Industry will incorporate the same logic into decision-making regarding construction of new power plants, building new low- or zero-emission plants and closing older high-emission plants where economically justified.[18] *Id.* at 255-256 (C.A. App. 3192-3193).

Conversely, these established behaviors will undermine approaches that do not incorporate market factors. Because generation dispatch decisions are based on lowest cost, requirements that emissions be reduced at some but not all power plants will simply shift generation, and the pollution that comes with it, to plants not subject to those requirements. Rather than decreasing the total amount of pollution, such more "surgical" approaches merely relocate the pollution on the map. *See* 70 Fed. Reg. at 25,256-25,257.

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17. EPA's use of IPM to predict emission reductions in response to market-based programs has been upheld by the courts. *See, e.g.*, *Appalachian Power Co., et al. v. EPA*, 249 F.3d 1032, 1052-53 (D.C. Cir. 2001).

18. In proposing the NO_x SIP Call in 1997, EPA found that the proposed cap-and-trade program "provides a proven and cost-effective method for achieving and maintaining a fixed tonnage budget while providing maximum compliance flexibility to affected sources." EPA noted that the reductions produced by the program "will be those of lowest cost, since each source will identify and implement the specific control technology, pollution-minimizing fuel, energy efficiency, or production mix that offers the greatest amount of pollution reduction at the least cost." 62 Fed. Reg. at 60,371.

EPA's prior market-based approaches to interstate pollution reduction (NO_x SIP Call and CAIR) as well as the Title IV Acid Rain Program created thriving interstate markets for allowances, characterized by rational pricing and liquidity.[19] Once emission budgets[20] (and therefore the number of allowances available) are set, the market establishes the price of the allowances. The effectiveness of the program will ultimately be determined by how this market allowance price compares to the real cost of reducing emissions. Ideally, once the emission reduction goals of the program are met, allowance prices will tend to fall, reflecting a sufficient supply, or even a surplus. Past programs exhibited this behavior, achieving notable reductions in emissions at relatively low cost. *See* App. 541a. However, CAIR was vacated because it could not ensure that upwind states would make the reductions required by the Good Neighbor Provision.[21] The Transport Rule was promulgated to remedy this issue. App. 134a-137a. EPA developed a program based on a uniform cost structure to ensure the necessary emission reductions while balancing the obligations of upwind and downwind states.

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19. The prices for Title IV Acid Rain Program allowances and CAIR allowances are monitored and publicly available. *See* Evolution Markets, http://www.evomarkets.com/environment/emissions_markets (listing current market prices).

20. Some confusion can arise from EPA's varying use of the term "budget" in the various rules. Here we use the term "budget" to be synonymous with the statewide cap, as EPA used the term in the Transport Rule.

21. For example, the court of appeals found that CAIR did not require sufficiently prompt emission reductions to achieve revised air quality standards on the schedule required by the Act. *North Carolina*, 531 F.3d at 911-12, *reh'g granted*, 550 F.3d 1176, 1177-1178 (D.C. Cir. 2008).

V. EPA'S APPROACH TO DEVELOPING BUDGETS IN THE TRANSPORT RULE, AND THE IMPORTANCE OF COST CONSIDERATIONS

The nature of the electricity market and the myriad upwind contributions to Downwind Impacts demand a comprehensive approach to address interstate pollution. In the Transport Rule, EPA modeled both air quality and cost factors to determine precisely what levels of control are necessary to prevent emissions from upwind states that "contribute significantly" to these Downwind Impacts. *See* App. 316a-323a. EPA used essentially the same procedures it developed from state efforts and modeling in the OTAG process and first used in the NO_x SIP Call and then again in CAIR; this methodology had been upheld by the court of appeals. In each of these rules, EPA employed a two-step process: first, a "Screening Analysis" to identify the states to consider for inclusion in the program; and second, a "Control Analysis" to determine the emissions budgets or caps that would be necessary to attain and maintain the relevant air quality standards.

Although EPA describes its methodology as a two-step approach, the method is actually a more complex, iterative, technical process.[22] In this process, EPA performed air quality modeling of thousands of air pollution sources and their impacts on downwind points

22. Although it is a complex technical task, this should not be read to mean it is beyond the ken of the states. As noted above, EPA relied on state efforts and modeling in the OTAG to develop the method in the NO_x SIP Call, 63 Fed. Reg. at 57,362, and states continue to have and to demonstrate their capacity to make these assessments. *See* App. 89a-91a (Rogers, J., dissenting).

across the eastern United States. EPA then conducted economic modeling to determine how the thousands of parties involved in electricity generation, transmission and distribution would respond to the economic signals provided by the emission budgets in the Transport Rule. Such responses would include installation of controls, switching of fuels and changes in the dispatch of power plants, which were then assessed to evaluate impacts on emissions across the geographic areas affected by the Transport Rule. These changes in emissions and dispatch were fed back into air quality models to determine the program's overall effectiveness from an air quality standpoint. The complexity of this analysis is further increased by the fact that interstate transport can come from thousands of sources, located in many states, with varying downwind impacts that decrease over distance at hundreds of downwind monitoring points. *See* App. 282a-309a (tables showing "linkages" of upwind states to downwind monitoring points).

In its "Screening Analysis," EPA determined which states should be subject to further analysis. At this step, EPA excluded only those states whose contributions to downwind pollution levels *at all possible downwind nonattainment or maintenance receptors* was so insubstantial that, in EPA's judgment, the exclusion of those states would be immaterial. App. 136a, 255a-258a. EPA took the position that if a state's emissions increased ambient concentrations of pollutants above a threshold (1% of the relevant NAAQS) in at least one downwind area that faced Downwind Impacts, it should be subject to further analysis. In this step, EPA asked whether the *maximum* contribution from a given State at *all* downwind receptors fell below that threshold level. If so, EPA could safely conclude that imposing highly cost-effective controls

on sources in that state would not materially improve downwind maintenance and attainment and so exclude the state from coverage of the Rule. If the state exceeded the screening level at even one downwind nonattainment or maintenance area, it was included, even if its contributions at the vast majority of downwind points would *not* exceed the screening level.

Once EPA completed its Screening Analysis, it employed a "Control Analysis" to establish emission control obligations for each covered upwind state based on the "amounts" of pollution from the state that "contribute significantly" to Downwind Impacts. App. 310a. The Agency did so by testing the impact of cost thresholds — hypothetical allowance costs — on electric generation patterns, and modeling the effect on downwind air quality. *See* App. 316a-323a. Using the power industry's IPM, EPA first identified and quantified the emission reductions that would occur at various cost per ton thresholds in each covered state. EPA then used an air quality assessment tool to estimate the impact that the combined reductions available from upwind states and downwind states at each of the identified cost-thresholds would have on air quality. *Id.*

EPA evaluated a number of cost thresholds, beginning with the minimum cost of operating controls. Using information from the power industry, EPA concluded that $500 per ton was a reasonable approximation of the incremental operating cost necessary to remove one ton of NO_x or one ton of SO_2 in the absence of an interstate program (for some states, a higher SO_2 control cost was ultimately required). App. 355a. Below $500 per ton, few emission reductions will actually occur, as it would be cheaper for generators to purchase a sub-$500

allowance than to incur $500 in costs to eliminate one ton of emissions. EPA also tested several higher cost assumptions, and plotted these costs and the emission reductions they produced. *See* App. 361a. These data revealed "break points" in the cost curve at which large upwind reductions from sources occur and above which higher costs do not yield material reductions. EPA then examined how the emission reductions reflected by these cost-effective "break points" would impact air quality in states where Downwind Impacts affect compliance with the relevant NAAQS. EPA concluded that the emission reductions at these break points would be sufficient to eliminate pollution that contributes significantly to Downwind Impacts in nearly all downwind areas, whereas cost levels below the break points would be insufficient to incentivize operation of controls or other strategies to reduce emissions. App. 349a-365a; EPA, *Significant Contribution and State Emissions Budgets Final Rule Technical Support Document* (July 2011) (C.A. App. 2930-2985). *See generally*, App. 310a-392a.

Notably, the "break points" did not themselves represent "significant contribution," but rather served as uniform starting points for that determination on a state-specific basis. *See, e.g.*, App. 310a. This uniformity was necessary in order to balance the obligations among states under EPA's multi-factor analysis of "contribute significantly," so that all covered sources contributing at all levels to Downwind Impacts were presented with the same minimum pollution control cost needed to achieve and maintain the NAAQS under EPA's modeling. EPA established each state budget based on the amount of pollution that covered power plants in the state would produce in an average year, after applying the cost

threshold (*e.g.*, $500 per ton of NO_x emissions). Having determined that these cost-effective state budgets would eliminate nearly all Downwind Impacts, EPA concluded that the "amount" of pollution that must be prohibited under the Good Neighbor Provision is the difference between those budgets and the amount of pollution that upwind states would emit absent the Transport Rule. That is, the state budget is the amount of pollution that the covered power plants in the state will produce in an average year, once the state eliminates those amounts that "contribute significantly" to nonattainment or "interfere with maintenance" in downwind areas. App. 323a. Unlike CAIR, which relied on a regional cost analysis, EPA determined emission budgets for the Transport Rule on state-specific factors, following the dictates of *North Carolina*. *See North Carolina*, 531 F.3d at 908-909, 917-18. *See also*, App. 316a-320a.

While the cost of reducing emissions was a key factor EPA used to define "amounts" that "contribute significantly," cost was not used to reduce or to increase an upwind state's obligation to make emission reductions. Rather, EPA used cost to balance responsibility between upwind and downwind states. EPA recognized that the goal of the Good Neighbor Provision is not to shift responsibility for achieving or maintaining the NAAQS to upwind states. *See* App. 316a-320a. However, downwind states having nonattainment or maintenance areas already require control measures costing far more than the modest costs imposed by the Transport Rule.[23] EPA

23. Downwind states "have already implemented successful programs at much greater per ton costs (some are even greater than $40,000/ton)." NESCAUM Comments on the Proposed Transport Rule (Oct. 1, 2010) (C.A. App. 0825, 0829).

interpreted the Good Neighbor Provision to assure that all contributing states require that sources incur at least a minimum cost to reduce pollution, when their collective emissions cause Downwind Impacts.

The resulting Transport Rule is highly cost-effective and redressed significant regional inequities between upwind areas that incur very low emission control costs and downwind areas that incur very high emission control costs but suffer the impacts of emissions from upwind areas. EPA's cost-benefit analysis determined that "the annual net benefit (social benefits minus social costs)" of the Transport Rule in 2014 would be $110 to $280 billion, vastly exceeding 2014 compliance costs of less than $1 billion. App. 611a.; *see also*, Exelon Corporation Comments on the Proposed Transport Rule at 3-5, 13-15 (C.A. App. 0655, 0663-0665, 0673-0675), and Exhibit 2, Dr. Charles J. Cicchetti, Ph.D., *The True Cost of Harmful Pollution to Downwind Families and Business* (Sept. 2010) (concluding that EPA's cost-benefit analysis likely understates the benefits of implementing the proposed Transport Rule and overstates the likely compliance costs) (C.A. App. 0738-0805).

VI. THE DECISION BELOW

A summary of the court of appeals' decision appears in the Petitioners' briefs and is incorporated herein by reference.

SUMMARY OF ARGUMENT

The Transport Rule is based on EPA interpretations of the Good Neighbor Provision of the Clean Air Act. That provision is ambiguous, and Congress has commended the implementation of that provision to the expert judgment of EPA when states have failed to fulfill their obligations under that provision. EPA's judgment in this regard must be afforded the highest degree of deference under *Chevron U.S.A. Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984), and must not be disturbed unless it is unreasonable or prohibited by law.

The Transport Rule represents a reasonable interpretation of the Good Neighbor Provision. EPA employed a methodology that it adopted in two prior rules and that had been upheld by the court of appeals. The methodology works within the framework of the electricity market in a way that achieves the goals of the Act by deploying the type of market-based program that Congress prefers, minimizing overall cost and disruption to the electric power industry and balancing cost and responsibility equitably and efficiently among the states. EPA's approach is reasonable and permissible under the Act.

The court of appeals erred by usurping the authority of the Executive Branch, enshrined in the Act and in this Court's holdings in *Chevron* and its progeny. Clumsily trespassing in the province of the expert administrative agency, the court of appeals ignored its prior holdings and found that the Transport Rule violated three constraints of the court's own invention. These "red lines" are not found in the statute, and therefore have no place in a *Chevron*

analysis. Moreover, the three constraints minted by the court of appeals are impracticable and based on a gross oversimplification of the complex economic and scientific problems addressed by the Transport Rule. The court of appeals' criteria effectively eliminate the possibility that EPA will be able to implement the Good Neighbor Provision using a cost-effective, market-based solution, but will instead be forced to deploy more coercive unit-specific "command-and-control" requirements in derogation of Congressional preference and to the detriment of the electric power industry.

The Court should reverse the decision of the court of appeals and reinstate the Transport Rule.

ARGUMENT

I. THE GOOD NEIGHBOR PROVISION IS AMBIGUOUS, AND EPA, AS THE EXPERT ADMINISTRATIVE AGENCY CHARGED BY CONGRESS WITH IMPLEMENTING THE PROVISION, IS ENTITLED TO DEFERENCE IN ITS INTERPRETATION.

This Court laid out the framework for analyzing the propriety of an agency's interpretation of its rulemaking authority in *Chevron*, and reaffirmed that framework earlier this year in *City of Arlington, et al. v. Federal Communications Commission, et al.*, 133 S. Ct. 1863 (2013). This analysis must begin with the statute itself, for if the statute unambiguously authorizes or prohibits the agency's interpretation, the Court's inquiry ends there. If, however, the statute is silent or ambiguous as to its mandate, the Court is required to give deference

to the agency's interpretation, and must not disturb the agency's interpretation or policy choices so long as they are reasonable and not prohibited by other, unambiguous provisions of the statute. *Chevron*, 467 U.S. at 844-45 (citing *United States v. Shimer*, 367 U.S. 374, 382-383 (1961)). *See also*, *City of Arlington*, 133 S. Ct. at 1868.

The Transport Rule was issued to implement the Clean Air Act's Good Neighbor Provision. That provision requires that each state adopt a State Implementation Plan, or SIP, that shall:

> (D) contain adequate provisions—
>
> (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—
>
> (I) *contribute significantly* to nonattainment in, or *interfere* with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard . . .

42 U.S.C. § 7410(a)(2)(D) (emphasis added). The statute does not define the key terms "contribute significantly" or "interfere," nor does it provide any direction as to how these terms should be quantified.

In developing a program to satisfy these requirements, states, or as here, EPA in the absence of state action, must determine the "amounts" of pollution that must be prohibited, a task which requires them to interpret the

terms "contribute significantly" and "interfere." In this specialized context, the ordinary definitions of these terms are not dispositive. *Nat'l R.R. Passenger Corp. v. Boston & Me. Corp.*, 503 U.S. 407, 418 (1992) ("The existence of alternative dictionary definitions of the word, each making some sense under the statute, itself indicates that the statute is open to interpretation.") [24] All pollution that reaches a nonattainment area "contributes" to exceeding the standard. All pollution that reaches a maintenance area — an area at risk of exceeding the standard — pushes air quality closer to the edge, and thereby "interferes" with the area's ability to maintain compliance. The term "significantly" inherently requires a value judgment as to what amounts of contribution are meaningful enough to prohibit under the Good Neighbor Provision, and what amounts are not. These key statutory terms are ambiguous, and beg for definition, quantification, and elaboration by the expert agency. *Boston & Me. Corp.*, 503 U.S. at 418 ("Few phrases in a complex scheme of

24. The "ordinary meanings" of these statutory terms are as ambiguous as the terms themselves, and do not suggest any particular means of quantification. *See, e.g.*, *Webster's Dictionary* (2d International Unabridged Ed. 1948) (defining "significant" as "having a meaning" and "deserving to be considered"); *Webster's Third New International Dictionary* 2116 (2002) (as, *inter alia,* "having meaning," "having or likely to have influence or effect"); *Oxford English Dictionary* (2d ed.1989) ("important, notable"); *Webster's Third New International Dictionary* 2116 (3rd ed.1986) ("having meaning"). *See also*, Merriam-Webster Online Dictionary, http://www.merriam-webster.com/dictionary/interfere (defining "interfere" as, *inter alia*, "to interpose in a way that hinders or impedes"). *See also*, Merriam-Webster Online Dictionary, http://www.merriam-webster.com/dictionary/contribute (defining "contribute" as, *inter alia*, "to give or supply in common with others" or "to play a significant part in bringing about an end or result").

regulation are so clear as to be beyond the need for interpretation when applied in a real context").

EPA initially addressed the ambiguity in the meaning of the Good Neighbor Provision in developing and adopting the Transport Rule's first predecessor, the NO_x SIP Call, in which EPA also first employed the two-step method used in the Transport Rule. In proposing and ultimately adopting the NO_x SIP Call, EPA expressly found that the term "contribute significantly" required definition. 62 Fed. Reg. at 60,325, 60,335 (there is no "bright line" for determining what constitutes significant contribution). When called upon to evaluate this conclusion, and the methodology adopted by EPA in the NO_x SIP Call, the court of appeals agreed that the term "significantly" as used in the Good Neighbor Provision is undefined in the Act and ambiguous, and therefore required that the courts afford EPA's determinations the highest degree of deference. *Michigan*, 213 F.3d at 674, 677-79.

While it may be fair to conclude that EPA's interpretations reflected in the two-step method used to develop the Transport Rule are not the *only* ones permitted by the statute, it is impossible to find that the Clean Air Act unambiguously requires a different scheme. *See id.* at 677-680 (the statute does not unambiguously conflict with EPA's two-step approach for determining substantial contribution); *North Carolina*, 531 F.3d at 916-917 (court again declining to disturb EPA's use of the same two-step approach in CAIR). *Chevron* and its progeny call for the Court to proceed past an initial analysis of the statutory language, and to evaluate the reasonableness of EPA's interpretation of the Act. The Court must uphold EPA's interpretation as long as it is reasonable and permissible under the Act. *Chevron*, 467 U.S. at 844-45.

II. EPA'S INTERPRETATION OF THE GOOD NEIGHBOR PROVISION, AND SPECIFICALLY THE ROLE OF COST IN THAT INTERPRETATION, IS REASONABLE, AND NOT PROHIBITED BY THE STATUTE.

A. EPA Acted Reasonably In Designing The Transport Rule To Harness The Structure Of The Wholesale Electricity Markets To Achieve The Goals Of The Good Neighbor Provision.

In light of the clear Congressional preference for market-based systems and the characteristics of the electric generation system, in the Transport Rule, as in CAIR and the NO_x SIP Call, EPA adopted an allowance trading program that allows the market to dictate where emission reductions will occur at the lowest cost. Industry uniformly favors such systems due to their economic efficiency and flexibility, as compared to more expensive command-and-control approaches. There was broad support among industry proponents and detractors of the Transport Rule for a market-based approach, and many urged EPA not to adopt direct controls. App. 430a-431a.[25]

The Transport Rule reduces emissions by limiting the number of available allowances, causing allowance prices to increase until the price justifies operation of emission controls or causes dispatch to switch to generation sources that inherently emit less pollution. Emission reductions come from switching electric generation from otherwise

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25. *See also,* EPA, *Transport Rule Primary Response to Comments* at 883-889, 1554-1562 (June 2011), http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0491-4513.

cheaper, uncontrolled units to units using cleaner fuels or technologies or to units that operate pollution control technologies. For units that have controls, the cost of operating those controls to achieve reductions is offset by the sale of surplus allowances to units that operate without controls. Units that emit pollutants but lack air pollution controls will need to absorb the cost of allowances as operating costs, raising their minimum bids into the wholesale electricity market. As the minimum bid of uncontrolled units rises, those units will be dispatched less frequently, while cleaner units will be dispatched more frequently.

EPA can implement a state budget-based market system only if it possesses the tools to predict that the market will produce reductions that actually "achieve something measurable" in response to those budgets. *North Carolina*, 531 F.3d at 907-908. In developing state emission budgets for the Transport Rule, EPA used both an air pollution transport model and IPM to evaluate how pollution control costs would shift generation among power plants, and how downwind air quality would be affected by these shifts. EPA used existing data to predict how individual sources within each state would respond to a certain fixed cost (yielding the state budgets), and how the resulting change in emission patterns would affect downwind pollution (eliminating the most significant upwind contributions to Downwind Impacts).

B. EPA's Use Of Cost In Developing The Transport Rule Was Both Reasonable And Permissible.

Because the Good Neighbor Provision is ambiguous, EPA's interpretation of the term "contributes significantly" must be evaluated under *Chevron* Step 2. *Chevron*, 467

U.S. at 843 ("question for the court is whether the agency's answer is based on a permissible construction of the statute.").

As an initial matter, it is important to recall that the methodology of the Transport Rule is merely the most recent iteration of the same methodology used in regulatory programs that have existed for more than a decade. EPA's use of cost in the Transport Rule is fully consistent with its past practice which was specifically approved by prior judicial decisions. For example, in the NO_x SIP Call, EPA used the two-step analysis, first determining which states were covered under an air-quality analysis, and then using uniform "highly cost-effective controls" or "cutback costs" to determine the amount of upwind state emissions considered to be significant under the Good Neighbor Provision. The D.C. Circuit expressly approved of this approach, holding that "in selecting the 'significant' level of 'contribution' under section 110(a)(2)(D)(i)(I), [EPA could] choose a level corresponding to a certain reduction cost." *North Carolina*, 531 F.3d at 917 (citing *Michigan*, 213 F.3d at 676-77). *Michigan* further allowed EPA to apply uniform control costs across states. *Michigan,* 213 F.3d at 679-80. This Court referenced *Michigan*'s ruling on cost consideration, leaving it in place. *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 469 n.1 (2001).[26]

26. This case does not implicate the permissibility of considering cost *to establish* an air quality standard, as in *Whitman,* 531 U.S. at 468-471. Rather, this case involves only the extent to which EPA may consider cost in interpreting the Good Neighbor Provision's requirement that upwind states eliminate their "significant" contributions to Downwind Impacts — the same issue addressed in *Michigan,* which the *Whitman* court distinguished. *Id.* at 469, n.1.

EPA employed a similar two-step process in CAIR. While striking the rule down on other grounds, the *North Carolina* court expressly declined to disturb the use of such an approach, allowing EPA again to use cost data "unrelated to [the air quality] criterion" to determine the amount of each covered state's significant contribution as well as application of a "uniform cost-criterion across states." *North Carolina*, 531 F.3d at 904, 916-917. EPA referenced these court decisions in detail and explained how it developed the Transport Rule in conformity with them. App. 418a-422a, 576a-582a.

Under a *Chevron* Step 2 analysis, EPA's methodology is entirely reasonable and permissible. *See Michigan*, 213 F.3d at 679 ("there is nothing in the text, structure, or history of [the Good Neighbor Provision] that bars EPA from considering cost in its application"). EPA adequately explained the basis for its use of uniform cost thresholds or "break points" and why it chose to analyze these inputs on a state-by-state basis, as directed by *North Carolina*. Moreover, EPA made sure its approach would be fully consistent with, and addressed the practical realities of, the electric generation system. The agency did so by taking into account emission reductions that could reasonably be made by contributing upwind states that would allow a given downwind state to attain or maintain NAAQS. In doing so, EPA considered the emission impacts on the downwind state from multiple upwind sources as well as from within the downwind state, and considered the relative costs of reducing emissions from all of these sources. That way, EPA could be assured that sources in upwind states would need to operate their controls or take other actions to reduce their pollution so that downwind states would not bear the burden of reductions entirely on

their own. EPA also reduced incentives for cheaper, less controlled power to move from a downwind state to an upwind state, a result that would negate the effectiveness of the emission reductions.

Comity aside, upwind states have a powerful disincentive to reduce their emissions to promote air quality in downwind states. This is not a problem of capacity; states are fully capable of doing the same modeling EPA did for the Transport Rule. *See supra*, note 3. Rather, it is a problem of opportunism; when one state limits emissions and a second fails to do so, plants in the second will operate more frequently, generating additional income while exporting additional pollution to downwind states and harming the businesses, health and economy of the downwind areas. Dr. Charles J. Cicchetti, Ph.D., *The True Cost of Harmful Pollution to Downwind Families and Business* (Sept. 2010) (Exhibit 2 to Exelon Corporation Comments on the Proposed Transport Rule) (C.A. App. 0738-0805).

EPA's selected "break points" were also reasonably determined, based on cost analyses and air quality monitoring. For example, in selecting a cost level for ozone-season NO_x, EPA examined several levels: $500, $1,000 and $2,500 per ton and determined that the $500 per ton control cost was the threshold above which returns would "rapidly diminish[]." App. 351a. EPA determined that the $500 figure adequately reflected the costs of installing and operating available combustion controls to reduce NO_x emissions to a point where most but not all Downwind Impacts could be eliminated. A lower cost threshold could cause sources to cease operating their controls, potentially increasing emissions, whereas

a higher cost threshold would achieve only minimal additional reductions, bypassing less expensive reductions that could be secured from other industries, and could result in shifting some burden of attainment to upwind states. App. 320a-325a, 349a-356a. For annual NO_x, EPA made the same determination as to costs below $500 as it did for ozone season NO_x, and determined higher cost thresholds were not necessary if an adequate SO_2 cost threshold were used. App. 349a-356a.

As to SO_2, EPA also considered a range of cost thresholds: $500, $1,600, $2,300, $2,800, $3,300 and $10,000 per ton. App. 330a. EPA determined that for some upwind states, the $500 figure again adequately captured emission reductions feasible by operating existing controls to achieve the necessary reductions. EPA called these "Group 2" states. However, EPA determined that a number of other states, called "Group 1" states, would not eliminate their Downwind Impacts at the $500 threshold. For Group 1 states, EPA found that a higher cost-threshold, reflecting installation of further pollution controls, would provide cost-effective reductions that would, in almost all cases, reduce those states' significant contributions to Downwind Impacts. EPA selected a $2,300 per ton cost for Group 1 states to reflect the more expensive controls that would be necessary to make the emission reductions required in 2014. Costs below that figure were insufficient to cause power plants in Group 1 states to install the necessary controls, and costs above that figure would result in smaller gains per dollar. App. 329a-334a, 356a-360a. In every case, the cost thresholds used by EPA for upwind states were far lower than costs already required within many downwind states struggling to achieve air quality standards. EPA, *Significant*

Contribution and State Emissions Budgets Final Rule Technical Support Document (July 2011) (C.A. App. 2930-2985).[27]

C. A Uniform Cost Structure Is A Prerequisite For An Effective Interstate Trading System.

More importantly, EPA's methodology was developed so that it could be easily and effectively implemented within the structure of the national power system.[28] EPA applied its cost considerations uniformly across the upwind states to allow covered sources within upwind states to determine how best to meet required reductions. Covered sources could comply by operating existing controls, retrofitting units, switching to less polluting fuels or purchasing allowances in the market from more controlled sources. In this way, the Transport Rule could accomplish the necessary reductions required by the Good Neighbor Provision in a cost-effective manner.

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27. EPA retained the $500 figure for Group 2 states which could make the necessary reductions using less costly available controls. Notably, EPA determined that the two groups could not trade in each other's allowances, as they were based on separate cost benchmarks. App. 386a-387a, 425a.

28. In promulgating CAIR, EPA concluded that electric generation units "are part of a highly interconnected electricity grid that makes utilization shifting likely and even common. The units are large and offer the same market product (*i.e.*, electricity), and therefore the units that are least expensive to operate are likely to be operated as much as possible. If capped and uncapped units are interconnected, the uncapped units' costs would tend to decrease relative to the capped units, which must either reduce emissions or use or buy allowances, and the uncapped units' utilization would likely increase." 70 Fed. Reg. at 25,256.

EPA's methodology is the approach most likely to yield cost-effective reductions necessary to reduce emissions across the sector and across state borders. By using uniform cost benchmarks, EPA maximized both the flexibility and cost-effectiveness of the Transport Rule. The cost assumptions used by EPA were surrogates for anticipated allowance costs. If EPA were to use different cost assumptions for each state, the price of allowances would be different in each state — unless those allowances could be purchased by out-of-state power plants, in which case the price would be bid higher. For example, if Pennsylvania's budget were determined based on a $500 allowance price, and Ohio's was based on a $400 allowance price, Ohio would have a proportionately higher cap, and therefore more plentiful allowances, each representing a theoretical $400 investment in control. Pennsylvania sources would rush to buy Ohio allowances in lieu of reducing their own emissions at a real cost of $500 per ton, and Pennsylvania would not reduce its *actual* emissions to the degree predicted.

By using uniform cost benchmarks, EPA is able to accommodate some degree of interstate allowance trading, which increases flexibility, promotes the liquidity of the allowance market, lowers compliance costs and better assures compliance with the statutory air quality mandates. Were EPA unable to employ a market-based national approach because, for example, costs were not uniform but different for each state, EPA would have little alternative but to prohibit interstate allowance trading, or even to establish specific limits on sources within upwind states. *See infra,* Argument, III.C. Such a limitation would likely result in more extensive and costly controls, with less flexibility for state implementation, and in even

greater possibilities for over-control than feared by the court of appeals. *See* App. 34a-35a. EPA clearly had the discretion to interpret "contribute significantly" in such a manner as to ensure the most feasible and cost-effective solution. *See, e.g., Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 218 (2009) (in considering a Clean Water Act "best technology available" standard, the term could be used to describe the technology that is "most efficient[].").

D. The Transport Rule Presents A Viable, Predictable Template For Reduction Of Interstate Transport To Meet Evolving Air Quality Standards.

In promulgating the Transport Rule, EPA created a program that would ensure the most cost-effective reductions necessary to implement the Good Neighbor Provision, consistent with the Act and prior D.C. Circuit directions. *See* App. 418a-422a, 576a-582a. The *North Carolina* court particularly instructed EPA to secure meaningful reductions in an expeditious manner to help downwind states achieve air quality standards set five to fifteen years earlier, and so to protect public health. *North Carolina*, 531 F.3d at 911-912, *reh'g granted*, 550 F.3d at 1177-1178. EPA intended its methodology not only to be consistent with the Act and legal precedent, but also to serve as a precedent for "quantifying upwind state emission reduction responsibilities with respect to potential future NAAQS." App. 138a, *see id.* at 310a, 314a.

Although the Transport Rule addresses compliance with the 1997 8-hour ozone, 1997 annual $PM_{2.5}$ NAAQS and 2006 24-hour $PM_{2.5}$ NAAQS, EPA was well aware of the possibility that those standards would be made

more stringent in the future. The Act requires that EPA regularly review and revise NAAQS to ensure air quality protection, 42 U.S.C. § 7409(d)(1), and in fact, on January 15, 2013, EPA issued a new annual $PM_{2.5}$ standard that significantly tightened the current standards. 78 Fed. Reg. 3086 (Jan. 15, 2013). Similarly, EPA strengthened the NAAQS for 8-hour ozone in 2008 and is currently developing a new ozone standard that will most likely be more stringent than the prior standards. App. 132a-133a; 75 Fed. Reg. 2938 (Jan. 19, 2010) (proposed revision to ozone standard); *see also*, *Notice of Availability of Integrated Science Assessment for Ozone and Related Photochemical Oxidants*, 78 Fed. Reg. 11,172 (Feb. 15, 2013). Ensuring that states comply with the Good Neighbor Provision will remain a challenge and could become more difficult for EPA in the coming years as air quality standards are revised.

Following the court of appeals decision below, the Agency is left with limited ability to address interstate pollution in a cost-effective way for the relevant NAAQS now in place and will face the same problem for newly-issued and future NAAQS. *See infra*, Argument, III.C. Indeed, EPA will likely be forced to abandon a regional market-based program of the type preferred by Congress and employed for nearly twenty years, and to fulfill its mandate through a costly, inflexible command-and-control approach. *See* EPA Petition for Certiorari at 30 (acknowledging that any regulatory approach following the dictates of the court of appeals "would likely be much more costly and burdensome in its application to certain States.") Such a result would be particularly harmful to the power industry to which Respondents belong, which has universally preferred lower cost

market approaches to more expensive and less flexible regulatory approaches. EPA's cost-based interpretation of "contribute significantly" is fully consistent with the statute, past practice and case law, and should be upheld to allow effective implementation of the Good Neighbor Provision now and in the future.

III. THE COURT OF APPEALS ERRED IN EXCEEDING THE BOUNDARIES ON ITS JURISDICTION SET BY THE CLEAN AIR ACT AND *CHEVRON*, AND IMPOSED REQUIREMENTS THAT ARE TECHNICALLY INFEASIBLE AND CONFLICT WITH THE CONGRESSIONAL PREFERENCE FOR MARKET-BASED REGULATORY PROGRAMS.

A. The Court Of Appeals Failed To Apply The Standard Of Review Set Forth In The Act And In *Chevron*.

Although the court of appeals cited both *Chevron* and Section 307(d)(9) of the Clean Air Act, 42 U.S.C. § 7607(d)(9), it is by no means clear how the court applied the standard of review prescribed by these authorities. App. 29a-30a, n.17. The court cited the Act's judicial review provision just once, in a footnote. *Id.* As for its *Chevron* analysis, the court made no finding as to whether the Good Neighbor Provision is ambiguous, but, in fact, appears to have founded its decision on its own competing interpretation of statutory language. *See, e.g.,* App. 22a. This failure to address the issue of ambiguity is particularly strange in light of the prior holdings of the same court on the same point in *Michigan* and *North Carolina*. *See Michigan,* 213 F.3d at 674, 677-79; *North Carolina,* 531 F.3d at 916-917 (declining to disturb EPA's

methodology). Had the court found the statutory text to be ambiguous, it would unavoidably have proceeded to the next inquiry required by *Chevron:* whether the Transport Rule is reasonable and permissible under law. However, the court appears never to have evaluated the Transport Rule under *Chevron* Step 2; it neither asks nor answers the question of whether EPA's interpretation of "contribute significantly" or "interfere" is reasonable.[29] In fact, the court seems to have eschewed "reasonableness" as a guiding principle altogether. Stating: "Congress did not authorize EPA to simply adopt limits on emissions as EPA deemed reasonable," App. 2a, the court went on to substitute its own interpretations of statutory text for those of EPA.

Instead of following the direction laid out by the statute and this Court, the court of appeals found that the Transport Rule runs afoul of three criteria the court purported to derive from "the statute's text and [the court of appeals'] decisions in *Michigan* and *North Carolina*[.]" App. 22a. The court's analysis, however, "rests on reasoning divorced from the statutory text." *Massachusetts, et al. v. EPA*, 549 U.S. 497, 532 (2007). Indeed, the court's textual analysis is, at best, minimal. The court begins with a truism (pollution must reach a downwind state to "contribute" (App. 23a)), follows with a circular argument (whether an upwind state "contributes significantly" "depends on the relative contribution of that upwind State, of other upwind State contributors, and of the downwind State itself" (App. 24a)), and finally abandons any specific reference to statutory text at all

29. This failure contrasts with the court of appeals' explicit reference to *Chevron* as applied to the SIP/FIP issue, albeit in another cursory footnote. App. 55a, n.32.

("to conform to the text of the statute, EPA must also ensure that the combined obligations of the various upwind States, as aggregated, do not produce more than necessary 'over-control'" (App. 27a)).

Had the court of appeals properly fulfilled its role prescribed by this Court in *Chevron* and more recently in *City of Arlington*, or followed its own prior rulings, the court would have inevitably concluded that EPA's interpretation and implementation of the Good Neighbor Provision were reasonable, regardless of whether the judges would have preferred that EPA create a floor for reductions, or establish a proportionality requirement, or more rigorously avoid "over-control." *See City of Arlington,* 133 S. Ct. at 1868 ("Statutory ambiguities will be resolved, within the bounds of reasonable interpretation, not by the courts but by the administering agency") (citation omitted); *Am. Elec. Power Co. Inc., et al. v. Connecticut, et al.*, 131 S. Ct. 2527, 2539 (2011) (on complex scientific and technical matters, EPA is the "first decider" in the case and the courts the second); *Chevron*, 467 U.S. at 843 (court should not "impose its own construction on the statute").

B. The Three Requirements Created By The Court Of Appeals Are Unjustified And Impracticable.

The wisdom of the *Chevron* rule is that it consigns expert tasks to the expert agencies chosen by Congress, and empowers those agencies to implement the law in harmony with Congressional intent. Here, the court of appeals wrested that authority from EPA, but lacked the knowledge and expertise necessary to fulfill the mission which Congress assigned to EPA. Without the agency's expertise and resources, the court of appeals

unwittingly invented constraints that effectively prohibit EPA from using a market-based approach to fulfill its Congressional mandate to address interstate pollution transport when states fail to meet their Good Neighbor Provision obligations. Indeed, the court of appeals' "red lines" could make any approach other than command-and-control impossible. Moreover, the court of appeals' Threshold, Proportionality, and Over-control Constraints have no basis in the Act, and cannot be met simultaneously in the real world.

Threshold Constraint. The Threshold Constraint — EPA may not require a state to reduce its contributions below 1% of the NAAQS — ignores the reality that many upwind states contribute small amounts of pollution to each downwind state, but that these small amounts must also be addressed in order to eliminate Downwind Impacts. In its Screening Analysis, EPA identified states that contribute at least 1% of the standard at any point where a downwind state fails to achieve NAAQS, or where long-term NAAQS compliance is at risk, so as to screen out only those states that do not meet this threshold at any point. The threshold was not used to determine "amounts" that "contribute significantly" to Downwind Impacts. *Compare* App. 310a-392a *with* App. 30a-31a.

Petitioners argue, and Respondents agree, that the court of appeals lacked jurisdiction to consider whether the Act imposes the Threshold Constraint. However, even assuming it was appropriate to consider the question, the court's analysis is fraught with error. Among other things, the court overlooked the critical distinction between a state that does not exceed the threshold *anywhere*, and a state that exceeds the threshold at *some* downwind

locations, but has smaller, sub-threshold contributions to many other downwind areas. App. 34a-38a. As a result, the court muddies the waters with an oversimplified pronouncement: "If amounts below a numerical threshold do not contribute significantly to a downwind State's nonattainment, EPA may not require an upwind State to do more." App. 37a. It is unclear whether the court of appeals found that the Act prohibits EPA from requiring a state to reduce its *maximum contribution* below the 1% threshold, or prohibits EPA from requiring a state to reduce its contribution *to any location* below the threshold. If the former, as Petitioners argue, there is no evidence in the record that the Transport Rule fails to comply, so the constraint is unnecessary and unjustified. If the latter, however, the court's mandate is completely inconsistent with the fact patterns that prevail in the real world.

For example, EPA identified 21 states that contribute more than 1% of the standard (0.35 $\mu g/m^3$) to eight downwind states where concentrations exceed the 24-hour $PM_{2.5}$ NAAQS (35 $\mu g/m^3$).[30] Each of these 21 states contributes a different amount to each nonattainment area. Maryland, for example, contributes barely over 1% of the NAAQS (0.36 $\mu g/m^3$) to the nonattainment area in Cuyahoga County, OH, but contributes over 8% of the NAAQS (2.84 $\mu g/m^3$) to the one in Lancaster County, PA. *Id.* If EPA required Maryland to do no more than halve its contribution to Lancaster County, Maryland's contribution to Cuyahoga County would be reduced well

30. *See* EPA's *Air Quality Modeling Final Rule Technical Support Document*, Appendix D-11 to D-12 (2011) (C.A. App. 2710-11) ("*Air Quality TSD*"), which was part of the administrative record for the Transport Rule.

below the 1% floor, in violation of the court of appeals' Threshold Constraint. *See* App. 34a-38a.

Theoretically, EPA might be able to satisfy the court of appeals' Threshold Constraint, thus interpreted, reducing Maryland's contribution to Lancaster County without materially reducing Maryland's contribution to Cuyahoga County, by imposing limits on specific power plants in Maryland, provided that different Maryland facilities affect the two nonattainment areas. However, the court of appeals also held that EPA lacks authority to prescribe individual facility limits in the first instance, and must initially go no farther than giving states emission budgets to incorporate into their SIPs. App. 42a-45a. With no more refined tool at its disposal than its budget-fixing power, EPA cannot honor the Threshold Constraint while assuring that each upwind state's maximum contribution is reduced to the extent required to eliminate Downwind Impacts.

Proportionality Constraint. The court's Proportionality Constraint — emission budgets must "be allocated among the upwind States in proportion to the size of their contributions to the downwind State's nonattainment" — is likewise impossible to find in any statutory text, or to accommodate in the real world. App. 25a. The court's examples to "illustrate the point" are grossly oversimplified, and the court's invention of the term "NAAQS Units" reveals a profound misunderstanding of the problem EPA is trying to address and the nature of the relevant pollutants. App. 26a-27a. As a simple matter, air quality standards are measured in *concentrations* (micrograms per cubic meter of air), while emissions are measured in mass (tons per year, or

pounds per unit of fuel).[31] Neither are simply measured in "units" of compliance. More fundamentally, however, the court of appeals failed to recognize that the emissions regulated by the Transport Rule — NO_x and SO_2 — are not the same pollutants as the standards the Rule is designed to achieve. NO_x and SO_2 from power plants in multiple states contribute to violations of the ozone and $PM_{2.5}$ NAAQS only after long-range distribution, intermingling, photochemical reactions and other vagaries of atmospheric chemistry which EPA considered as part of its analysis.

The court of appeals ignored this complex reality when it suggested that a specific number of compliance "units" could simply be identified from each upwind state, without understanding the impact of these other variables. There is no static, linear correlation between the pollution emitted upwind (measured in tons of NO_x or SO_2 per year) and the concentrations experienced downwind (measured in micrograms per cubic meter or parts per billion, averaged over periods as short as eight hours). *See generally*, 75 Fed. Reg. 45, 210, 45,234-237 (Aug. 2, 2010). The court of appeals would require EPA to evaluate proportionality at a single, isolated point in time, but the constantly changing nature of emissions and Downwind Impacts over time makes such an effort unrealistic and overly rigid. The court's simplistic analysis fails to capture the dynamic challenge that EPA faces.

Contrary to the court's examples, each nonattainment area is affected by multiple upwind states, most of which also contribute to other areas in differing proportions. If

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31. The court of appeals misread the term "amounts" to mean downwind concentrations. Congress very well knew how to designate contributions to "concentrations" and to specify those, as it did in section 163 of the Act. 42 U.S.C. § 7473.

EPA meets the court's Proportionality Constraint for one nonattainment area at one point in time, it will necessarily run afoul of this requirement at every other area to which the same upwind states contribute. This problem is readily apparent from the administrative record. For example, Illinois, Indiana and Ohio each contribute to Downwind Impacts in Milwaukee, WI and Brooke County, WV.[32] Illinois and Indiana contribute roughly equal amounts of pollution to Milwaukee (about 25% of the NAAQS), while Ohio contributes less (about 15%). *See Air Quality TSD* (C.A. App. 2710-11). To follow the court's directive, EPA would have to develop budgets for Illinois and Indiana that reduce their contributions to Milwaukee by about the same amount, and a budget for Ohio requiring smaller reductions. App. 26a-27a. The court of appeals would also require that EPA's budgets for these states reduce proportionately those states' contributions to Brooke County, as well. *Id.* However, Illinois (6%), Indiana (13%), and Ohio (45%) contribute to nonattainment in Brooke County in dramatically different proportions. Figure 1 is a chart derived from data in EPA's *Air Quality TSD*, Appendix D, and illustrates that the court of appeals mandates what is mathematically impossible: that EPA devise budgets for Illinois, Indiana and Ohio that are both in a ratio of 5:5:3 and in a ratio of 1:2:6. (C.A. App. 2628-2635, 2710-2711). This example is typical of the problem of interstate pollution transport, and why EPA reasonably chose a method that would achieve a more rational allocation of responsibility among the upwind states.

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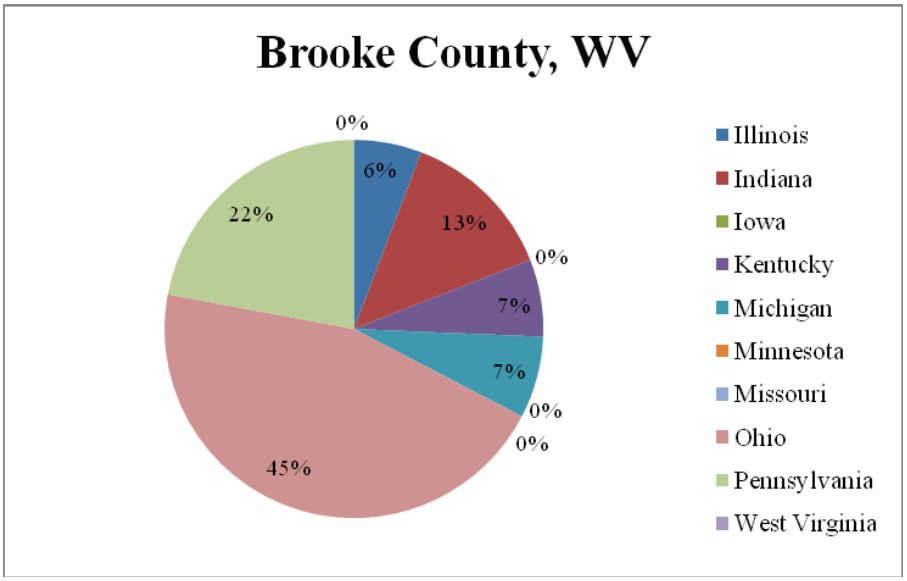
32. Typical of interstate transport, the real picture is far more complicated than even these examples show. The Milwaukee, WI nonattainment area receives contributions from 27 states, ten of which contribute more than 1% of the 24-hour $PM_{2.5}$ NAAQS. *See Air Quality TSD* (C.A. App. 2710-11). The Brooke County, WV nonattainment area receives contributions from 30 upwind states, six of which exceed the 1% threshold. *Id.*

FIGURE 1


Brooke County, WV
0%
6%
13%
0%
7%
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0%
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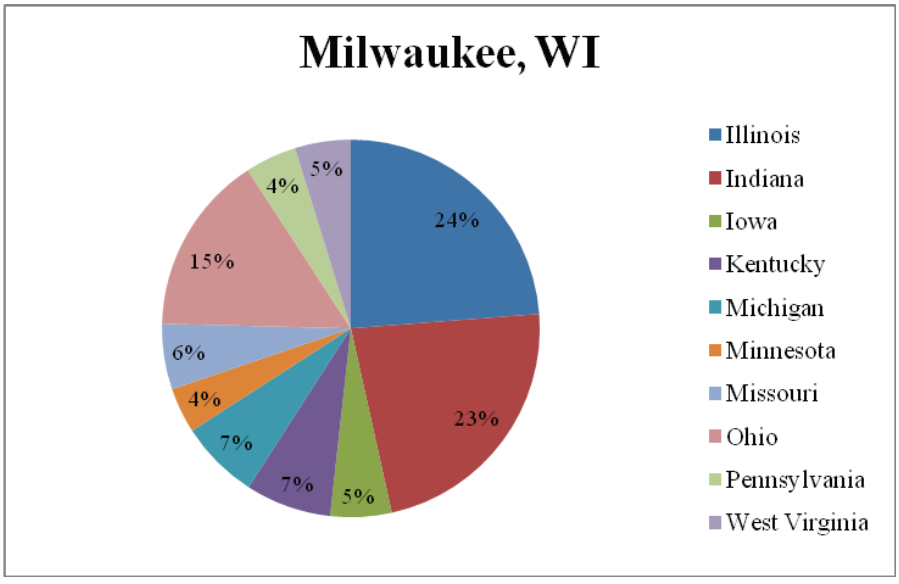
45%
22%
Illinois
Indiana
Iowa
Kentucky
Michigan
Minnesota
Missouri
Ohio
Pennsylvania
West Virginia


Milwaukee, WI
24%
23%
5%
7%
7%
4%
6%
15%
4%
5%
Illinois
Indiana
Iowa
Kentucky
Michigan
Minnesota
Missouri
Ohio
Pennsylvania
West Virginia

Contradicting its finding that the Proportionality Constraint, found nowhere in the statute, is a "red line" requirement of the statutory text (App. 24a-27a), the court of appeals explained that EPA has discretion to disregard this boundary when necessary to satisfy the Over-control Constraint. App. 28a-29a. The court certainly did not afford EPA any such discretion when reviewing EPA's determination of "contribute significantly," and failed even to discuss the agency's rationale for considering but rejecting a proportionality rule.[33] Further, the court's acknowledgement that some disproportionality may be unavoidable gives the agency neither clear authority nor helpful guidance on whether or when it can determine it is "safe" to disregard the Proportionality Constraint in favor of other, perhaps "more statutory," imperatives. More immediately, this concession does not solve the unsolvable mathematical problem described above that the court of appeals has imposed on EPA.

Over-control Constraint. The third requirement the court of appeals coaxed from the Act's text is the Over-control Constraint — state budgets must "not

33. EPA considered a proportionality element among several policy alternatives in the rulemaking, but concluded, in its expert judgment, that a requirement similar to that ultimately imposed by judicial fiat would be neither feasible nor cost-effective. The court of appeals only fleetingly referred to this important fact in a footnote, without explaining why EPA's conclusion was not reasonable. *See* App. 40a n.24 (citing EPA, *Alternative Significant Contribution Approaches Evaluated Technical Support Document* (July 2010) (C.A. App. 2311-12)). It appears that this approach was neither advocated or asserted to be required by commenters and none took issue with EPA's approach in this regard. *See* App. 97a-101a, 111a-112a (Rogers, J., dissenting).

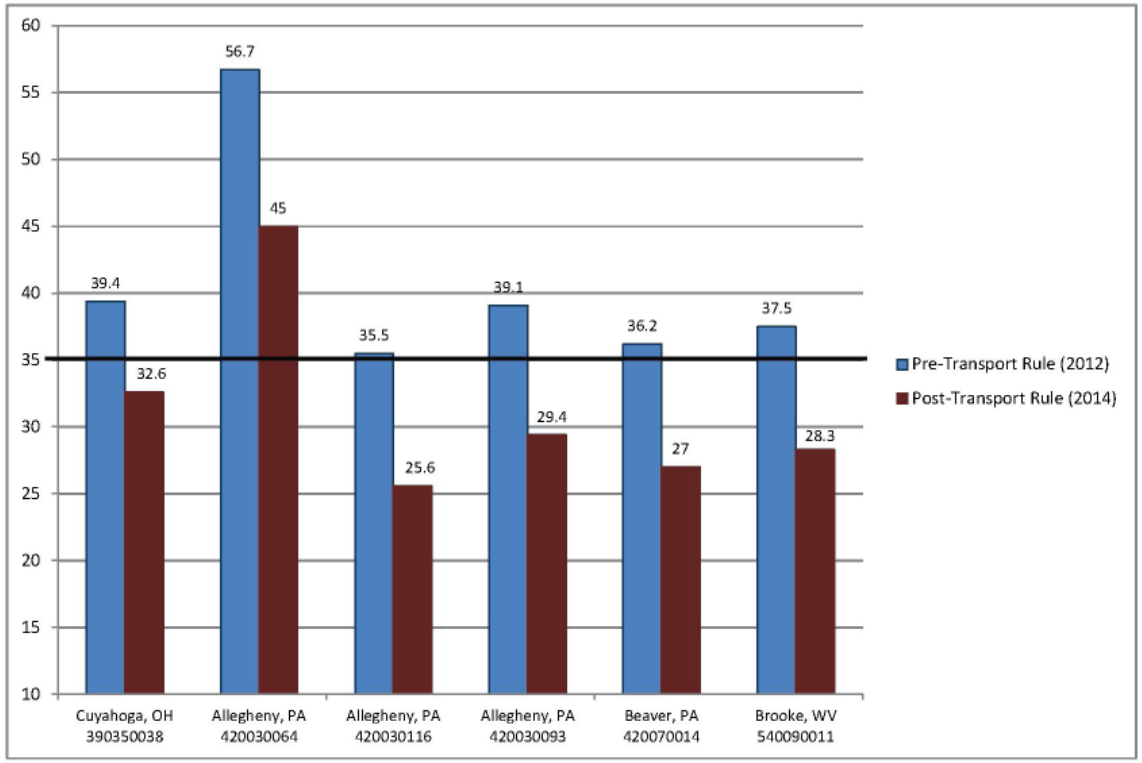
produce more than necessary 'over-control' in the downwind States." App. 27a. However, the court did not answer the question, "More than necessary…for what?" The court's opinion admits a number of equally plausible interpretations of this murky mandate: more than necessary to attain the standard at the area most affected by the state; more than necessary to attain the standard at all areas affected by the state; more than necessary to maintain compliance after the standard is achieved; more than necessary to reduce the state's maximum contribution to the 1% threshold; more than necessary to reduce the state's emissions in proportion to those of other states, etc.[34] Without further clarification, the court's term "necessary" is no more helpful than the statute's term "significant."

As a practical matter, emissions throughout the Transport Rule region are so inseparably intertwined that it is difficult to see how EPA could satisfy this Over-control Constraint regardless of the interpretation used. For example, Ohio, West Virginia, Pennsylvania and Indiana are the four largest contributors to five different nonattainment areas in three states. Figure 2 shows the modeled concentrations before and after implementation of the Transport Rule. *Air Quality TSD* (C.A. App. 2628-35, 2710-11). After full implementation of the rule, one of these areas (Allegheny, PA 420030064) will remain far above the

34. The most benign interpretation — that the state's budget cannot require reductions beyond what is necessary to attain compliance at all locations affected by the state — is addressed by Petitioners, who note that this particular concern is entirely hypothetical. Even after complete implementation of the Rule, there will still be some areas in nonattainment. App. 312a-316a; *Air Quality TSD,* Appendix B (C.A. App. 2546-2637).

FIGURE 2

24-Hour $PM_{2.5}$ Design Values (µg/m3) for Downwind Areas Before and After Implementation of the Transport Rule



air quality standard and one (Cuyahoga, OH 390350038) will narrowly achieve the standard. The others, however, will achieve the standard by a comfortable margin, and might represent the sort of "over-control" that the court of appeals found to be prohibited by the Act. If EPA were to relax the requirements on these four states to avoid this "over-control," air pollution would be even farther above the standard at the Allegheny receptor, and would rise above the razor-thin margin of compliance at the Cuyahoga receptor.

Taken all together, the Threshold, Proportionality and Over-control Constraints weave an impassible thicket for EPA to navigate using only its budget-fixing authority. Focusing only on opportunities to fulfill its perceived requirement that EPA relax the emission reduction obligations of upwind states, the court of appeals lost sight of the fundamental goals of the Act — to promote cleaner air — and the Good Neighbor Provision — to provide relief within our federal system for downwind states.[35]

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35. Although the court of appeals found that EPA lacks the authority to adopt a program that would result in air that is cleaner than the NAAQS, this is not true. The Good Neighbor Provision also requires that State Implementation Plans prohibit pollution that would "interfere with measures required to be included in the applicable implementation plan for any other State [under those sections] to prevent significant deterioration of air quality or to protect visibility." 42 U.S.C. § 7410(a)(2)(D)(i)(II). The "prevention of significant deterioration" program is designed to prevent the degrading of air quality in areas that already meet air quality standards. *Id.* §§ 7471-7492. EPA cannot meet that mandate if its regulation cannot address upwind contributions beyond those necessary merely to attain and maintain the NAAQS. Prevention of "over-control" is also inconsistent with the many technology-forcing requirements of the Clean Air Act, which

C. The Court Of Appeals' Extra-Statutory Constraints Bar EPA From Addressing Interstate Pollution With A Market-Based System.

Even assuming that the court's three constraints could theoretically be met and otherwise comport with the Act, these requirements effectively bar EPA from utilizing any market-based system to address interstate pollution from the electric power industry, contrary to clear expressions of Congressional intent and EPA's long-established implementation of the Good Neighbor Provision. As noted above, Congress determined market-based programs to be the most appropriate method for addressing the problem of interstate air pollution from the power industry when it created the Title IV Acid Rain Program and specifically authorized the use of market-based approaches under Title I of the Act to achieve and maintain compliance with NAAQS because market-based programs promote environmental improvement with maximum economic efficiency. *See supra*, Statement of the Case, III. Utilizing this authority, EPA created vibrant trading programs under the NO_x SIP Call and CAIR to address interstate pollution.

The court of appeals discarded without discussion EPA's complex technical analysis which incorporated economics, market structure and atmospheric pollution transport modeling, and instead substituted its own judgment, based primarily on oversimplified and unrealistic hypotheticals.

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seek to drive new technologies that will clean up the air beyond the minimum required to meet NAAQS or other risk-based air quality standards. *See id.* §§ 7411, 7412.

In order to develop a market-based program that satisfies the Threshold, Proportionality and Over-control Constraints, assuming that it is theoretically possible to do so at all, EPA would have to adjust incrementally each state's budget by adjusting the control cost used for each state. Thus, while EPA used a control cost of $500 per ton of emissions as a starting point in all states, EPA would need to use a lower control cost in some states (relaxing their budgets) to attempt to tune each state's budget to comply with the court of appeals' three constraints. Notably, the court of appeals would prohibit EPA from tuning a budget in the other direction, using higher control costs in certain states, resulting in more restrictive budgets. App. 11a.

Such an approach based on different control costs for each state effectively prohibits a market-based program relying on interstate allowance trading, like the Transport Rule and all of its predecessors. For example, if EPA established State A's budget using a $500 control cost, but State B's budget using a $400 control cost, EPA would predict higher reductions in State A than in State B. Because electric generation is fluid, EPA would expect that the higher control costs in State A would either cause plants to operate controls costing $500 or less, or shift generation from State A to State B, reducing emissions in State A. However, if power plants in State A could purchase $400 allowances from plants in State B rather than incurring $500 in costs to operate their controls, they would do so. As a result, State A would effectively "lose" $100 worth of emission controls, and might exceed its *actual* emission budget, regardless of whether each power plant in the state meets its obligation to surrender

allowances. If EPA cannot ensure that each state will stay within its budget, EPA cannot predict whether its Downwind Impacts will be eliminated. When EPA used different SO_2 control costs in two groups of states (Group 1 and Group 2), it prohibited trading between those groups of states to ensure that emission reductions occur in the states where they are needed. *See supra*, note 27. If EPA were to adjust incrementally the cost benchmarks used for each state in order to satisfy the court of appeals' constraints, interstate trading would also have to be prohibited.

The court of appeals thus effectively stripped EPA of the primary tool that the agency has used to address the intractable problem of interstate air pollution. The court of appeals found in *Michigan* that EPA's interpretation of the Good Neighbor Provision is reasonable, and neither the Act nor *Michigan* nor *North Carolina* nor any other authority suggests that EPA fundamentally erred in choosing the Transport Rule's market-based system as a remedy. While the court of appeals characterized its holdings as extensions or clarifications of these earlier decisions, the practical consequences of its holdings are entirely inconsistent with the Act, with the Congressional preference for market-based systems, and with the court of appeals' prior endorsement of EPA's fundamental market-based approach.

CONCLUSION

Respondents Calpine Corporation and Exelon Corporation respectfully request that the Court reverse the decision of the court of appeals and reinstate the Transport Rule.

Respectfully Submitted,

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