

ORAL ARGUMENT NOT YET SCHEDULED

No. 16-1127 (and consolidated cases)

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

MURRAY ENERGY CORPORATION, et al.

Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, et al.

Respondents.

On Petitions for Review of Final Agency Action of the United States
Environmental Protection Agency, 81 Fed. Reg. 24,420 (Apr. 25, 2016)

BRIEF OF INDUSTRY RESPONDENT INTERVENORS

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Dated: February 10, 2017
(Initial Brief)

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1), Industry Respondent

Intervenors Calpine Corporation and Exelon Corporation provide the following information:

(A) Parties and amici: All parties, intervenors and amici are listed in the Opening Brief of State and Industry Petitioners, with the following exceptions:

Cato Institute is *amicus curiae* in support of Petitioners.

The following are *amicus curiae* in support of Respondent: The American Thoracic Society; National Congress of American Indians; Great Lakes Indian Fish and Wildlife Commission; Bad River Band of Lake Superior Chippewa Indians; Fond du Lac Band of Lake Superior Chippewa; Grand Traverse Band of Ottawa and Chippewa Indians; Lac Courte Oreilles Band of Lake Superior Chippewa Indians; Little River Band of Ottawa Indians; Little Traverse Bay Bands of Odawa Indians; St. Croix Chippewa Indians of Wisconsin; Elsie M. Sunderland; Joel D. Blum; Celia Y. Chen; Charles T. Driscoll, Jr.; David C. Evers; Philippe Grandjean; Daniel A. Jaffe; Robert P. Mason; and Noelle Eckley Selin.

(B) Rulings Under Review: This case addresses petitions for review of final agency action of the United States Environmental Protection Agency, “Supplemental Finding That It Is Appropriate and Necessary To Regulate

Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam
Generating Units,” 81 Fed. Reg. 24,420 (Apr. 25, 2016).

(C) Related Cases: Industry Respondent Intervenors adopt the
statement of related cases set forth in the Brief of Respondent United States
Environmental Protection Agency (“EPA”).

February 10, 2017

/s/ Brendan K. Collins
Brendan K. Collins

CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and Circuit Rule 26.1, Industry Respondent Intervenors Calpine Corporation and Exelon Corporation provide the following disclosure statements.

Calpine Corporation (“Calpine”) is a major U.S. power company which owns 81 primarily low-carbon, natural gas-fired and renewable geothermal power plants in operation or under construction that are capable of delivering approximately 26,000 megawatts of electricity to customers and communities in 18 U.S. states and Canada. Calpine’s fleet of combined-cycle and combined heat and power plants is one of the largest in the nation. Calpine is a publicly-traded corporation (NYSE:CPN), organized and existing under the laws of the State of Delaware. Calpine has no parent company, and no publicly-held company has a ten percent or greater ownership interest in Calpine.

Exelon Corporation (“Exelon”) is a Pennsylvania corporation whose shares are publicly traded (NYSE: EXC). Exelon is a utility holding company with operations and business activities in 48 states, the District of Columbia, and Canada. Its operating subsidiaries include, among others, Exelon Generation Company, one of the largest competitive power generators in the United States. Exelon has no parent corporation, and no publicly-held corporation has a ten percent or greater ownership interest in Exelon.

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GLOSSARY

Industry Respondents' Comments	Comments of Calpine Corporation, Exelon Corporation, and Public Service Enterprise Group, Inc. on the Proposed Supplemental Finding, EPA-HQ-OAR-2009-0234-20549 (Jan. 15, 2016)
EPA or Agency	United States Environmental Protection Agency
EPA Br.	Brief of Respondent, ECF No. 1656539
FCC	Federal Communications Commission
Impact Analysis	EPA, Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards, EPA-452/R-11-011, EPA-HQ-OAR-2009-0234-20131 (Dec. 2011)
JA	Joint Appendix
Pet. Br.	Opening Brief of State and Industry Petitioners, ECF No. 1647029
Standards	Mercury and Air Toxics Standards, <i>National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units</i> , 77 Fed. Reg. 9304 (Feb. 16, 2012)
Supplemental Finding	<i>Supplemental Finding That It Is Appropriate and Necessary To Regulate Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units</i> , 81 Fed. Reg. 24,420 (Apr. 25, 2016)

STATUTES AND REGULATIONS

Applicable statutes and regulations are found in the addendum to the Opening Brief of State and Industry Petitioners and the addendum to the Brief of Respondent EPA.

STATEMENT OF THE CASE

Calpine Corporation and Exelon Corporation (“Industry Respondent Intervenors”) adopt EPA’s Statement of Facts.

SUMMARY OF ARGUMENT

In *Michigan v. EPA*, 135 S. Ct. 2699 (2015), the Supreme Court answered the question of *whether* EPA was required to consider cost in making “the initial decision” to regulate coal- and oil-fired electric utility steam generating units (hereinafter “power plants”) under Section 112 of the Clean Air Act, 42 U.S.C. § 7412; the answer is “yes.” *Michigan*, 135 S. Ct. at 2711-12. However, the Court expressly declined to dictate *how* EPA should do so. *Id.* at 2711 (“It will be up to [EPA] to decide (as always, within the limits of reasonable interpretation) how to account for cost.”). EPA’s preferred approach in its “Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units,” 81 Fed. Reg. 24,420 (Apr. 25, 2016) (“Supplemental Finding”), is consistent with *Michigan* and precedents of this Court. EPA applied reasonable metrics to evaluate the costs of regulating, and qualitatively weighed those costs against other relevant factors.

Petitioners argue that *Michigan* obliged EPA to weigh monetized estimated compliance costs against only monetized benefits. *Michigan* expressly rejected that cramped interpretation of Section 112(n)(1)(A), 42 U.S.C. § 7412(n)(1)(A). Petitioners' contention also is inconsistent with the statutory structure, which provides that EPA first list a source category for regulation and later promulgate hazardous air pollutant emissions standards for that category. Moreover, because EPA developed standards for coal- and oil-fired power plants—the Mercury and Air Toxics Standards, 77 Fed. Reg. 9304 (Feb. 16, 2012) (“Standards”)—*before* it made its Supplemental Finding, EPA used more refined cost estimates than could be expected for a preliminary decision *whether* to regulate.

EPA's Supplemental Finding is also supported by its alternative approach concluding that monetized direct benefits exceed costs. Petitioners' claim that, as a matter of law, EPA is limited to considering only monetized benefits reflecting reductions in particular hazardous air pollutant emissions from power plants is inconsistent with the statutory text and purpose and with *Michigan*. It ignores both fundamental economic principles and the technical reality that hazardous pollutants and criteria pollutants are intertwined and are controlled by the same technologies. Further, record evidence demonstrated that the actual costs

of the Standards are much lower than EPA had predicted, and that monetized benefits from mercury reductions alone exceed those costs.

ARGUMENT

I. EPA REASONABLY CONSIDERED COST IN ITS PREFERRED APPROACH.

In deciding whether regulating power plants was “appropriate,” EPA was not required “to conduct a formal cost-benefit analysis in which each advantage and disadvantage is assigned a monetary value.” *Michigan*, 135 S. Ct. at 2711. Rather, EPA’s task is merely to account reasonably for costs. *See id.* EPA’s preferred approach in the Supplemental Finding satisfied this obligation.

EPA applied reasonable metrics to evaluate the costs of regulating power plants under Section 112. EPA looked to data developed at the time the Standards were promulgated in 2012, when EPA predicted capital, operating, and other costs to be incurred by the electric generation sector to comply with the Standards, predicted retirements, and estimated increases in retail electricity prices the Standards might cause. 80 Fed. Reg. 75,025, 75,032-33, 75,035-36 (Dec. 1, 2015); 81 Fed. Reg. at 24,423-25. EPA’s preferred approach examined these cost data through several lenses, assessing costs in the context of power sector sales and capital expenditures over a twelve-year period, and considering electricity retail rate increases in light of twelve years of variation in average retail prices. 80 Fed. Reg. at 75,033-35; 81 Fed. Reg. at 24,425-26; *see also* EPA Br. 12-13, 17-18, 36-

38. In all cases, EPA concluded that the costs were within reasonable ranges. 80 Fed. Reg. at 75,036; 81 Fed. Reg. at 24,425-27. EPA also looked to estimates of retirements developed when the Standards were promulgated, concluding that the Standards would not adversely impact reliability and that the units projected to retire were older, smaller, and less frequently operated than units expected to continue operating. 80 Fed. Reg. at 75,035-36; 81 Fed. Reg. at 24,424-25.

EPA qualitatively weighed costs against other factors, including: that power plants are the largest emitters of many hazardous air pollutants; that emissions of such pollutants are associated with significant hazards to public health and the environment; and that other provisions of the Clean Air Act will not address those risks. 80 Fed. Reg. at 75,028-29, 75,038-39; 81 Fed. Reg. at 24,427; *see* EPA Br. 13-15, 18, 36-42. EPA concluded that the non-monetized advantages of regulation outweighed cost considerations. 80 Fed. Reg. at 75,038-39; 81 Fed. Reg. at 24,427.

Petitioners nonetheless insist that EPA's preferred approach fails to satisfy their narrow vision of *how* EPA must weigh costs. *See* Pet. Br. 33-40. Yet, Section 112(n)(1)(A) does not even delineate the factors relevant to whether regulation is "appropriate," let alone specify *how* EPA must weigh those factors. *See* 42 U.S.C. § 7412(n)(1)(A). Therefore, EPA enjoys considerable deference in deciding *how* to consider costs. *See Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S.

208, 222 (2009) (omission of specific statutory factors provided in other statutory sections reasonably interpreted to suggest that EPA is afforded greater discretion); *Lignite Energy Council v. EPA*, 198 F.3d 930, 933 (D.C. Cir. 1999) (agency afforded “a great degree of discretion in balancing” factors where weight not defined by statute).

EPA’s consideration of non-monetized, qualitative benefits along with costs is consistent with other approaches this Court has endorsed. In *Consumer Electronics Ass’n v. FCC*, 347 F.3d 291 (D.C. Cir. 2003), this Court upheld an order of the Federal Communications Commission (“FCC”) requiring televisions to include a digital tuner when the agency identified the principal benefits as the non-monetized benefits of “speeding the congressionally-mandated conversion to [digital television] and reclaiming the analog spectrum” and “found the estimated costs to consumers to be within an acceptable range.” *Id.* at 303 (internal quotations and citations omitted); *see also* EPA Br. 41-42 (citing cases in which this Court has upheld various approaches to considering costs in implementing the Clean Air Act). EPA’s preferred approach here is similar if not identical to the FCC’s approach. EPA assessed costs, found them to be within an “acceptable range,” and weighed those costs against the non-monetized, qualitative benefits of regulation. 80 Fed. Reg. at 75,036, 75,038-39; 81 Fed. Reg. at 24,425-27. “[A] court is not to substitute its judgment for that of the agency . . . especially . . . when

the agency is called upon to weigh the costs and benefits of alternative policies.”

Consumer Electronics Ass’n, 347 F.3d at 303-04 (internal quotations and citations omitted).

Petitioners’ view that the statute requires EPA to conduct a formal benefit-cost analysis at the listing stage (*see generally* Pet. Br. 33-40) is also inconsistent with the statutory structure. Regulating sources under Section 112 requires first listing the source category under Section 112(c), 42 U.S.C. § 7412(c), and later establishing emission standards for the category under Section 112(d), 42 U.S.C. § 7412(d). *See also* 77 Fed. Reg. at 9330. The listing decision—whether to regulate hazardous air pollutant emissions from a source category—precedes development of the standards that will apply to such sources by at least two years. *See* 42 U.S.C. § 7412(c)(5) (requiring EPA to promulgate standards for additional source categories listed under Section 112(c) by the later of two years after listing or November 15, 2000); *see also* 42 U.S.C. § 7412(e)(5) (establishing a ten-year schedule to promulgate standards for sources initially listed under Section 112(c)(1)).

Regulating power plants under Section 112 is no different in this respect. To be sure, Congress provided for a different process to list power plants for regulation than for other source categories. *Michigan*, 135 S. Ct. at 2707; *White Stallion Energy Center, LLC v. EPA*, 748 F.3d 1222, 1230-31 (D.C. Cir.

2014). Before listing power plants, EPA must determine that regulation is “appropriate and necessary.” 42 U.S.C. § 7412(n)(1)(A). However, once EPA listed power plants under Section 112(c) based on its “appropriate and necessary” finding, Congress provided EPA with up to two years to develop emission standards. *See* 42 U.S.C. § 7412(c)(5); *see also White Stallion*, 748 F.3d at 1243 (noting “the plain statutory language” supports listing power plants under Section 112(c) and regulating under Section 112(d)).

Petitioners’ view cannot be reconciled with this statutory scheme.

The costs and benefits of a rule (to the extent they can be monetized) can be monetized only when the precise requirements of the rule are known. Only then can the agency assess the ways regulated parties are likely to comply and the costs and benefits associated with those choices. At the listing stage, Congress could have expected EPA to make no more than a “preliminary” assessment of the cost of regulating as one factor among many in determining whether regulation is “appropriate and necessary.” *See Michigan*, 135 S. Ct. at 2711 (a “preliminary estimate” of cost is one factor in the “initial decision” to regulate). A “preliminary estimate” of cost made long before the actual standards must be developed would not be amenable to the precise quantification Petitioners demand. Rather, at the listing stage Congress’s design supplies EPA only with qualitative factors to assess whether regulation was “appropriate.”

In the Supplemental Finding, EPA used a more refined, less uncertain estimate of costs and benefits than Congress could have anticipated, based on data from the Regulatory Impact Analysis for the Standards (“Impact Analysis”).¹ 80 Fed. Reg. at 75,031, 75,032-33; 81 Fed. Reg. at 24,432-33. The Impact Analysis identified a host of costs and benefits arising from the *particular standards* EPA promulgated in 2012. The cost estimates were drawn from the Integrated Planning Model, which allows EPA to assess projected costs for the entire generation sector—such as costs of investments in new generation sources—not just costs to units directly regulated under the Standards. 80 Fed. Reg. at 75,032-33 and n.25, *see also* Impact Analysis 3-13, JA__.

Petitioners do not criticize EPA’s data choices or cost predictions, except in one respect: they contend that EPA “vastly underestimated” retirements caused by the Standards. Pet. Br. 66. Citing a daily newsletter from the Energy Information Administration, Petitioners allege that approximately 20 gigawatts of coal capacity retired because of the Standards. Pet. Br. 66. However, the newsletter does not ascribe those retirements exclusively to the Standards, but rather “to a mix of competitive pressure from low natural gas prices and the costs and technical challenges of environmental compliance measures.” U.S. Energy

¹ EPA, Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards, EPA-452/R-11-011, EPA-HQ-OAR-2009-0234-20131 (Dec. 2011), JA__.

Information Administration, Today in Energy: EIA Electricity Generator Data Show Power Industry Response to EPA Mercury Limits (July 7, 2016), <https://www.eia.gov/todayinenergy/detail.php?id=26972> (last visited Feb. 10, 2017).² In fact, retirement decisions involve many factors other than compliance costs, including age of the plant, capacity factors, and fuel prices. Comments of Calpine Corporation, Exelon Corporation, and Public Service Enterprise Group, Inc. on the Proposed Supplemental Finding, at 9, EPA-HQ-OAR-2009-0234-20549 (Jan. 15, 2016), JA___ (“Industry Respondents’ Comments”); *see also* 81 Fed. Reg. at 24,437 (referencing same), *id.* at 24,433 (referencing information on significant economic pressures on coal-fired plants).³

² Petitioners also cite comments from Ohio Environmental Protection Agency alleging that several power plants in Ohio had retired because of the Standards. Pet. Br. 66. Yet those included power plants that announced their planned retirement even before the Standards were adopted in 2012. For example, the retirements of six units at the W.C. Beckjord Generation Station and of four units at the Muskingum River Plant were announced in 2011, and the Beckjord units retired before the Standards took effect in April 2015. *Compare* Comments of Ohio Environmental Protection Agency at 3 & Enclosure (Jan. 15, 2016), EPA-HQ-OAR-2009-0234-20542, JA___,___, *with* Duke Energy, About Us, W. C. Beckjord Station, <https://www.duke-energy.com/our-company/about-us/power-plants/w-c-beckjord-station> (last visited Feb. 10, 2017) *and* American Electric Power, Environment, Power Plant Retirements, Muskingun River, <https://www.aep.com/environment/PlantRetirements/MuskingumRiver.aspx> (last visited Feb. 10, 2017).

³ Because of the mix of factors that affect retirement decisions, using a prospective modeling approach, as EPA did in the Supplemental Finding (80

More importantly, EPA considered projected retirements primarily to assess the potential for a “cost” in the form of reduced electric reliability. 80 Fed. Reg. at 75,035-36. Two years after the Standards went into effect, there have been no reliability impacts, regardless of the amount of capacity that has retired as a direct consequence of the Standards.

In summary, EPA’s preferred approach fulfilled the Agency’s obligation to consider cost in determining that regulating hazardous air pollutant emissions from power plants is “appropriate and necessary.”

II. EPA’S ALTERNATIVE APPROACH REASONABLY ASSESSED COSTS AND BENEFITS OF THE STANDARDS.

EPA’s Supplemental Finding is independently supported by its alternative conclusion that monetized direct benefits of the Standards far exceed their costs. This determination can be reversed only if the Court both accepts Petitioners’ contention that EPA was *legally required* to ignore whole classes of significant benefits contrary to well-accepted principles of economics, and ignores recent studies showing that industry’s actual costs to comply with the Standards have been far lower, and the monetized benefits of mercury reductions far higher, than EPA estimated.

Fed. Reg. at 75,032, 75,035-36), is a more reliable way to isolate the impact of a regulatory development.

Petitioners' argument rests almost exclusively on the canard that the \$9.6 billion in compliance costs predicted by EPA "would result in a paltry \$4 to \$6 million in purported health benefits from reducing the pollutants it aims to address." Pet. Br. 2. In the Supplemental Finding, EPA considered that argument and flatly rejected it. 81 Fed. Reg. at 24,441. The inquiry should stop there. Questions of the costs and benefits of a regulation are technical, factual issues falling within EPA's peculiar expertise. This Court has held that it "must . . . give an 'extreme degree of deference' to the EPA's evaluation of 'scientific data within its technical expertise,' . . . especially where, as here, we review the 'EPA's administration of the complicated provisions of the Clean Air Act.'" *Mississippi Comm'n on Env'tl. Quality v. EPA*, 790 F.3d 138, 150 (D.C. Cir. 2015) (quoting *City of Waukesha v. EPA*, 320 F.3d 228, 247 (D.C. Cir. 2003) and *Catawba County, North Carolina v. EPA*, 571 F.3d 20, 41 (D.C. Cir. 2009)).

Petitioners attempt to circumvent this rule of judicial review by contending that in determining whether it is "appropriate" to regulate power plant emissions under Section 112, EPA must, *as a matter of law*, ignore a whole class of monetized health benefits directly resulting from that regulation—the benefits of reducing "fine particulates" (PM_{2.5}) and "acid gases"—merely because EPA characterized those direct benefits as "ancillary" or "co-benefits." Pet. Br. 41-51. EPA considered and rejected that contention. 81 Fed. Reg. at 24,437-41.

EPA concluded that Section 112 and its legislative history supported consideration of co-benefits. Congress was well aware of the inextricable connection between hazardous air pollutants regulated under Section 112 and criteria pollutants regulated elsewhere in the Clean Air Act and understood that efforts to control one type of pollutant often reduce others as well. As EPA noted, “[t]he statutory text [of Section 112(n)(1)(A)] thus recognizes the relevance of benefits associated with concomitant reductions in pollutants other than the targeted pollutants.” 81 Fed. Reg. at 24,438-39. Moreover, EPA recognized that Section 112’s legislative history supported this view, quoting from a report by the Senate Committee on Environment and Public Works:

When establishing technology-based [MACT] standards under this subsection, the Administrator may consider the benefits which result from control of air pollutants that are not listed but the emissions of which are, nevertheless, reduced by control technologies or practices necessary to meet the prescribed limitation.

Legal Memorandum Accompanying the Proposed Supplemental Finding, 25 n.28, EPA-HQ-OAR-2009-0234-20519 (undated), JA__ (quoting 5 A Legislative History of the Clean Air Act Amendments of 1990, at 8512); *see also* EPA Br. 46-47; 81 Fed. Reg. at 24,439. Further, in a case decided after the Supplemental Finding, this Court upheld EPA’s consideration of co-benefits in deciding whether to establish a health-based limitation under 42 U.S.C. § 7412(d)(4), holding that “considering co-benefits . . . is consistent with the [Clean Air Act’s] purpose—to

reduce the health and environmental impacts of hazardous air pollutants.” *United States Sugar Corp. v. EPA*, 830 F.3d 579, 625 (D.C. Cir. 2016).

Far from requiring EPA to ignore direct ancillary benefits, if anything *Michigan’s* reasoning requires EPA to consider these benefits. *Michigan* emphasized the “capaciousness” of the phrase “appropriate and necessary,” holding that the word “appropriate” “includes consideration of all the relevant factors,” including cost. 135 S. Ct. at 2707 (internal quotations and citation omitted). Petitioners read a limitation into “appropriate” with no grounding in the words or intent of the statute, fact, or science.

Moreover, EPA’s decision to recognize these co-benefits is not strictly a legal interpretation, but a technical judgment commended to the Agency’s expertise. EPA determined that “fine particulates” are indivisible mixtures of hazardous and criteria pollutants acting together to impact health and are subject to the same treatment technologies, and that acid gas hazardous air pollutants are reduced by the same controls that reduce other acid gases. *See* 81 Fed. Reg. at 24,438 and n.29; 80 Fed. Reg. at 75,041. So, too, the benefits of reducing emissions of these mixtures are indivisible. Petitioners offer no reason why EPA should veer from well-established economic principles and reject its own guidance documents to exclude from its benefit-cost analysis the monetized benefits of reducing fine particulates and acid gases. *See* 81 Fed. Reg. at 24,439.

Petitioners also suggest that EPA failed to consider costs beyond compliance costs, and point to a variety of secondary and tertiary effects, such as alleged impacts on coal mining jobs or coal refuse cleanup. Pet. Br. 63-70. All of these impacts were either adequately addressed by EPA or amount to little more than speculation. While EPA did not include the costs attributable to remote, secondary impacts in the benefit-cost analysis, neither did EPA include benefits from secondary impacts. Some independent economic analyses found that if secondary impacts of the Standards had been considered, EPA would have calculated far greater net monetized benefits (as much as nearly \$140 billion) and greater job growth than EPA estimated. *See* 77 Fed. Reg. at 9415.

Even the benefit of hindsight cannot help Petitioners. The Supplemental Finding rulemaking elicited studies showing that actual costs of compliance have been far lower than EPA estimated, 81 Fed. Reg. at 24,432, and that the monetized benefits of mercury reduction are far higher, *id.* at 24,441, in fact exceeding compliance costs. Industry Respondent Intervenors submitted Dr. James E. Staudt's analysis of actual costs incurred by industry (Industry Respondents' Comments at 3 and Exhibit A, JA_, __-__), "which was the only retrospective analysis of [the Standards'] costs submitted to the EPA in comments." 81 Fed. Reg. at 24,434. While EPA's Impact Analysis predicted an annual \$9.6 billion cost, Dr. Staudt's analysis of actual costs showed that "the total

cost of the [Standards] is now slightly less than \$2 billion per year, with almost half of that cost amortized capital that has already been committed” so that “remaining costs will likely be less than \$1 billion.” Industry Respondents’ Comments at Exhibit A ¶ 15, JA__.

EPA also cites recent scientific research monetizing additional benefits from the Standards’ mercury reductions. 81 Fed. Reg at 24,441. One study showed that these benefits “would exceed \$3.7 billion (in 2005 dollars) per year in lifetime benefits for affected individuals and \$1.1 billion per year in economy-wide benefits,” or \$4.8 billion. *Id.* Thus, new research shows that mercury benefits alone are almost 2.5 times greater than the Standards’ actual annual costs.

Whether one looks only to the Impact Analysis prepared for the Standards, or considers more recent information supplied during the Supplemental Finding process, the benefits of the Standards far outweigh their costs, and the Standards are fully justified under EPA’s alternative approach.

III. VACATING THE STANDARDS WILL HARM INDUSTRY.

Petitioners ignore the harm to industry if the Standards were overturned. Since early 2012, industry has prepared for the Standards taking effect in April 2015, and affected power plants have now made the capital investments necessary to comply. “As the EPA explained in the proposed supplemental

finding, capital costs represent largely irreversible investments for firms that must be paid off regardless of future economic conditions, as opposed to other important variable costs, such as fuel costs, that may vary according to economic conditions and generation needs.” 81 Fed. Reg. at 24,436. Removing the Standards would threaten industry’s ability to recover billions of dollars of capital costs in both competitive and regulated generation markets. *See* Motion of Industry Respondent Intervenors to Govern Future Proceedings, *White Stallion Energy Center, LLC v. EPA*, No. 12-1100 (D.C. Cir.), ECF No. 1574838 at 13-17 (filed Sept. 24, 2015). Overturning the Standards would also harm those in the pollution control industry who have invested up to \$1 billion to supply chemicals needed to operate the pollution controls required by the Standards. Industry Respondents’ Comments at Exhibit A ¶ 16, JA__.

Continued uncertainty will itself harm the electric generation industry, where capital investments require long-term planning and some certainty about the conditions in which the industry will operate in the future. Industry has invested in new generation and transmission capacity, pollution control upgrades, plant retirements, sales of generation portfolios and other strategies adopted to comply with the Standards. Toppling the expectations underpinning these investments would cause untold harm. Moreover, since the Standards were adopted in 2012, electric generators have based their electricity price predictions on the Standards

remaining in effect. As long as uncertainty persists, industry faces the risk that these price predictions, on which generators based both their past investment decisions and future plans, could be undermined. Industry Respondent Intervenors expressly join in part IV of EPA's Brief, and request that if a flaw is found in the Supplemental Finding, the Court refrain from vacating the Standards.

CONCLUSION

For the reasons set forth above and in the briefs of EPA, other Respondent Intervenors, and *amici curiae* in support of Respondent, the petitions for review should be denied.

February 10, 2017

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

In accordance with Federal Rule of Appellate Procedure 32(g) and D.C. Cir. Rule 32(e)(2)(C), I hereby certify that the foregoing Brief of Industry Respondent Intervenors contains 3,709 words as counted by the Microsoft Office Word 2010 word processing system, excluding the parts of the brief exempted by D.C. Cir. Rule 32(e)(1). I further certify that the combined words of the Public Health and Environmental Intervenors, the State and Local Government Respondent-Intervenors, and the Industry Respondent Intervenors do not exceed 11,250, as mandated by this Court's Order dated October 14, 2016.

February 10, 2017

/s/ Brendan K. Collins

Brendan K. Collins

CERTIFICATE OF SERVICE

I, Brendan K. Collins, a member of the Bar of this Court, hereby certify that on February 10, 2017, I electronically filed the foregoing “Brief of Industry Respondent Intervenors” with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit by using the appellate CM/ECF system.

Participants in the case who are registered CM/ECF users will be served by the appellate ECF system.

/s/ Brendan K. Collins

Brendan K. Collins