ORAL ARGUMENT NOT YET SCHEDULED

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT
No. 12-1100, and consolidated cases

WHITE STALLION ENERGY CENTER, LLC, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respondent.

ON PETITIONS FOR REVIEW OF FINAL RULE OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BRIEF FOR RESPONDENT

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DATED: January 22, 2013 (Initial Brief)

RESPONDENTS' CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit R. 28(a)(1), Respondent United States Environmental Protection Agency ("EPA") submits this certificate as to parties, rulings and related cases.

(A) Parties and amici: With one exception, the parties and amici to this action are those set forth in the certificate filed with the Joint Opening Brief of State, Industry and Labor Petitioners. The exception is that on December 6, 2012, the Court granted the motion of Petitioner EcoPower Solutions (USA) Corporation to dismiss its petition for review (Case No. 12-1170).

(B) Ruling under review: This case is a set of consolidated petitions for review of EPA's Final Rule entitled "National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units," 77 Fed. Reg. 9304 (Feb. 16, 2012).

(C) Related cases: Each of the petitions for review consolidated under No. 12-1100 is related. This case is related to Case No. 12-1272, which addresses two severed issues related to emission standards for new coal and oil-fired units. *See* June 28, 2012 Order (Doc. No. 1381112). Briefing in that case is currently being held in abeyance pending administrative reconsideration proceedings. *See* Order dated September 12, 2012 (Doc. No. 1394140). In addition, Case No. 12-1166 challenges new source performance standards ("NSPS") which were promulgated

in the same Federal Register notice as the rule under review in this case. The NSPS issues were deconsolidated from these cases by order dated August 24, 2012 (Doc. No. 1391295).

DATED: January 22, 2013

/s/ Eric G. Hostetler
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GLOSSARY

CAA	Clean Air Act
CAMR	Clean Air Mercury Rule
CEMS	Continuous Emissions Monitoring Systems
CFB	Circulating Fluidized Bed
CPMS	Continuous Parameter Monitoring System
CRR	Coalition for Responsible Regulation
EPA	Environmental Protection Agency
EGU	Electric Utility Steam Generating Units
FCC	Federal Communications Commission
GACT	Generally Available Control Technology
HON	Hazardous Organic NESHAP
ICR	Information Collection Request
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics Standards
NAS	National Academy of Sciences
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NAAQS	National Ambient Air Quality Standards
NRDC	Natural Resources Defense Council
NSPS	New Source Performance Standard

PM	Particulate Matter
RIA	Regulatory Impact Analysis
RTC	Response to Comments
SAB	Science Advisory Board
SO_2	Sulfur Dioxide
TSD	Technical Support Document
UARG	Utility Air Regulatory Group
UPL	Upper Prediction Limit

JURISDICTIONAL STATEMENT

Jurisdiction exists under 42 U.S.C. § 7607(b)(1).

STATEMENT OF ISSUES

1. Did EPA reasonably conclude that hazardous air pollutant ("hazardous pollutant") emissions from coal- and oil-fired electric utility steam generating units ("EGUs") pose hazards to public health and the environment?

2. Did EPA reasonably determine that it is appropriate and necessary to regulate, under section 112 of the Clean Air Act ("CAA" or "the Act"), 42 U.S.C. § 7412 ("section 7412"), hazardous pollutant emissions from EGUs where, after imposition of other Act requirements, these emissions pose hazards to public health and the environment?

3. Did EPA properly promulgate standards for all hazardous pollutants emitted by EGUs?

4. Did EPA properly deny a petition to remove EGUs from the list of source categories to be regulated under section 7412?

5. Was EPA required to make a separate finding under a different statutory provision prior to regulating EGUs that are "area sources"?

6. Did EPA's listing of coal- and oil-fired EGUs include the listing of petroleum-coke fired EGUs?

7. Did EPA properly calculate section 7412(d) standards for particular subcategories, including coal-fired units, low rank virgin coal-fired units, liquid oil-fired units, and solid oil-derived fuel-fired units?

8. Did EPA reasonably exercise discretion to decline to set alternative, health threshold-based standards for acid gas emissions under section 7412(d)(4)?

9. Did EPA reasonably exercise discretion to decline to subcategorize circulating fluidized bed ("CFB") units?

10. Was EPA compelled to require coal-fired EGUs to switch to natural gas through establishment of a beyond-the-floor standard under section 7412(d)(2)?

11. Did EPA reasonably decline to grant a blanket extension to the compliance deadline for publicly-owned EGUs?

12. Did EPA lawfully decide to allow sources comprised of multiple contiguous units under common control to average their units' emissions for compliance purposes where certain criteria are met?

13. Did EPA reasonably exercise its discretion under section 7661c(b) to designate alternative monitoring methods for non-mercury metals?

STATUTES AND REGULATIONS

Pertinent statutory and regulatory provisions are set forth in the addendum.

STATEMENT OF THE CASE

I. INTRODUCTION

Coal- and oil-fired power plants are a significant source of many hazardous pollutants, including mercury, arsenic, nickel, chromium, selenium and acid gases. These hazardous pollutants cause cancer, neurodevelopmental effects, and other serious adverse health effects. This case involves consolidated challenges to a national regulatory program to reduce emissions of hazardous pollutants from EGUs.

EGUs are by far the largest anthropogenic source of mercury emissions in the United States. Some of this mercury deposits into waterbodies, and people are then exposed to it by eating contaminated fish. Such exposure is of particular concern for children and women of child-bearing age, because high levels of exposure to mercury during pregnancy can adversely affect fetal brain and nervous system development. EPA has estimated that millions of women in the United States of child-bearing age are being exposed to mercury, through eating contaminated fish, at a level capable of causing adverse developmental effects in their children. 65 Fed. Reg. 79,825, 79,829/3 (Dec. 20, 2000).

In the 1990 CAA amendments, Congress was concerned with EPA's failure to regulate hazardous pollutants sufficiently and responded by extensively revising section 7412. As relevant here, Congress required EPA to study hazards to public health reasonably anticipated to occur as a result of hazardous pollutant emissions from EGUs that remained after imposition of other Act requirements. 42 U.S.C. § 7412(n)(1)(A). Congress then required EPA to regulate hazardous pollutants from EGUs under section 7412 should EPA determine that such regulation is "appropriate and necessary." *Id.*

Based on extensive study and analyses, EPA has determined that regulation of coal and oil-fired EGUs under section 7412 is "appropriate and necessary" and has promulgated the emission standards at issue. The promulgated standards will secure substantial reductions in hazardous pollutant emissions from EGUs using controls that are readily available.

II. STATUTORY AND REGULATORY BACKGROUND

A. Hazardous Pollutant Regulation Under the CAA.

The CAA, 42 U.S.C. §§ 7401-7671q, enacted in 1970 and extensively amended in 1977 and 1990, is intended to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare." 42 U.S.C. § 7401(b)(1).

Congress initially addressed the emission of hazardous pollutants when it first added section 7412 in 1970. Pub. L. No. 90-604, § 4(a), 84 Stat. 1676, 1685. The original section 7412 required EPA to identify and regulate hazardous pollutants when they were found to "cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." 42 U.S.C. § 7412(a)(1) (1970). However, in the following 18 years, "EPA listed only eight [hazardous pollutants]" and "addressed only a limited selection of possible pollution sources." *New Jersey v. EPA*, 517 F.3d 574, 578 (D.C. Cir. 2008).

Frustrated by EPA's slow progress, Congress substantially amended section 7412 in 1990 to ensure that EPA would regulate hazardous pollutant emissions and would do so quickly, "eliminating much of EPA's discretion in the process." *Id.* These amendments included the identification of over 180 listed hazardous pollutants, and the imposition of "specific, strict pollution control requirements on both new and existing sources" of hazardous pollutants. *Id.*

As amended, there are two key aspects of section 7412 relevant here: (1) the listing of source categories for regulation, and (2) the promulgation of emission standards for listed source categories.

1. Listing of Source Categories.

The listing of a source category is a condition precedent to the requirement to promulgate emission standards under section 7412(d). *See* 42 U.S.C. §§ 7412(c), (d). Section 7412 sets different criteria for listing depending on the nature of the source. The types of sources under section 7412 include "major sources," "area sources," and EGUs. *Id.* §§ 7412(a)(1), (a)(2), (a)(8). A "major source" is any stationary source or group of stationary sources at a single location and under common control that emits or has the potential to emit 10 tons per year or more of any hazardous pollutant, or 25 tons per year or more of any combination of hazardous pollutants. *Id.* § 7412(a)(1). A stationary source that is not a "major source" is an "area source." *Id.* § 7412(a)(2). An EGU is any "fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale." *Id.* § 7412(a)(8).

Congress required EPA to publish a list of categories of major and area sources by November 15, 1991, and revise the list periodically. 42 U.S.C. § 7412(c)(1). EPA must list major sources if they meet the definition of a major

source – *i.e.*, if a certain amount of hazardous pollutants are emitted from any source in the category on an annual basis. *Id.* § 7412(a)(1).[1]

EGUs are treated differently. In section 7412(n)(1)(A), Congress directed EPA to conduct a study to evaluate the hazards to public health resulting from emissions of hazardous pollutants from EGUs, if any, that would reasonably be anticipated to occur following imposition of the requirements of the Act, and to report the results of such study to Congress by November 15, 1993. Congress further required EPA to regulate EGUs under section 7412 if EPA makes a determination that such regulation is "appropriate and necessary," after considering the results of the study. 42 U.S.C. § 7412(n)(1)(A).

Congress in the 1990 amendments also required EPA to conduct two additional studies related to EGUs: (1) a study of mercury emissions from EGUs and other sources, and (2) a study to determine the threshold level of mercury

[1] By contrast, EPA is required to list categories and subcategories of area sources, if they meet one of the following statutory criteria: (1) EPA determines that the category of area sources presents a threat of adverse effects to human health or the environment in a manner that warrants regulation under section 7412; or (2) the category of area sources falls within the purview of section 7412(k)(3)(B) (the Urban Area Source Strategy). 42 U.S.C. § 7412(c)(3).

exposure below which adverse human health effects are not expected to occur. 42 U.S.C. § 7412(n)(1)(B) and (C).

2. Section 7412(d) Emission Standards.

EPA is required to establish, pursuant to section 7412(d), national emission standards for hazardous pollutants emitted by listed sources. 42 U.S.C. § 7412(c)(2). These standards are commonly referred to as "maximum achievable control technology" or "MACT" standards.

For any source category added to the list of categories to be regulated after November 15, 2000, EPA must promulgate emission standards within two years after listing. 42 U.S.C. § 7412(c)(5). Parties may not challenge EPA's decision to add a source category to the list until EPA issues emission standards for that category. 42 U.S.C. § 7412(e)(4).

Section 7412(d)(3) specifies the minimum degree of emission control sources must achieve. Existing source standards for sources in categories or subcategories with 30 or more sources may not be "less stringent than . . . the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information)." *Id.*

§ 7412(d)(3)(A). Existing source standards for sources in categories or subcategories with fewer than 30 sources may not be less stringent than "the average emission limitation achieved by the best performing 5 sources." *Id.* § 7412(d)(3)(B). This minimum level of emission control required is commonly called the "MACT floor." *See Mossville Envtl. Action Now v. EPA*, 370 F.3d 1232, 1235 (D.C. Cir. 2004).

Section 7412(d)(2) then directs EPA to set standards more stringent than the MACT floor where "achievable." It grants EPA broad authority to require the application of controls in light of the factors listed in section 7412(d)(2), including "the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements." Standards set under this subsection are commonly called "beyond the floor" standards. *Mossville*, 370 F.3d at 1235. EPA has discretion to set alternative standards for area sources based on the use of generally available control technologies or management practices. 42 U.S.C. § 7412(d)(5).

B. Hazardous Pollutants Emitted by EGUs.

EGUs emit numerous hazardous pollutants listed under section 7412. EGUs are by far the largest anthropogenic source of mercury emissions in the United States, responsible for over 50 percent of domestic emissions. 76 Fed. Reg.

24,976, 25,002, Table 3 (May 3, 2011). They are also the largest source of acid gases, emitting 82 percent of domestic hydrogen chloride emissions and 62 percent of hydrogen fluoride emissions. 76 Fed. Reg. at 25,005, Table 4. They are a significant source of many other hazardous metals, including selenium (83% of domestic emissions), arsenic (62%), nickel (28%), and chromium (22%). 76 Fed. Reg. at 25,006, Table 5.

Exposure to hazardous pollutants is associated with a variety of adverse health effects. For example, metals emitted by EGUs, including arsenic, chromium and nickel, cause cancer. 76 Fed. Reg. at 25,003-05. Mercury emitted from EGUs deposits into waterbodies and then bioaccumulates[2] in fish in the highly toxic form of methylmercury. 76 Fed. Reg. at 25,000/1. Larger predatory fish may have methylmercury concentrations on the order of one million times greater than the concentrations of methylmercury in the waterbody in which they live. *Id.* When people consume these fish, they consume methylmercury, which may cause adverse neurotoxic effects (*i.e.*, damage the brain and nervous system). Methylmercury exposure is a particular concern for children, and in particular,

[2] Bioaccumulation occurs when an organism absorbs a toxic substance at a rate greater than it is lost.

fetuses, because their developing bodies are more highly sensitive to its effects. 76 Fed. Reg. at 24,977-78.

C. Regulatory Background.

In 1998, EPA completed the required section 7412(n)(1)(A) study ("the Utility Study"). EPA-HQ-OAR-2009-0234-3052 (JA XX). After considering the results of that study, as well as extensive additional scientific evidence, emissions data and other information, EPA published a determination on December 20, 2000, under section 7412(n)(1)(A), that regulation of hazardous pollutants from coal- and oil-fired EGUs is "appropriate and necessary." 65 Fed. Reg. at 79,829/2. Based on that determination, EPA, on the same date, added coal- and oil-fired EGUs to the section 7412(c) list of source categories to be regulated. *Id.* at 79,831/1.[3]

EPA concluded in the 2000 determination that it is "appropriate" to regulate EGUs because, among other reasons, EGU mercury emissions pose a serious hazard to public health and the environment and because several other metals emitted by EGUs pose cancer risks. 65 Fed. Reg. at 79,827/3. EPA concluded that it is "necessary" to regulate EGUs because imposition of other requirements of the CAA will not address these hazards. *Id.* at 79,830/2.

[3] Petitioners' assertion (*see* Joint Br. 14, 27, 56 n.62) that EPA listed EGUs in 2002 is incorrect.

EPA failed to establish section 7412 emission standards within two years, as required by section 7412(c)(5). In 2005, a previous EPA Administrator attempted to reverse the 2000 determination and remove EGUs from the section 7412(c) list. 70 Fed. Reg. 15,994 (Mar. 29, 2005) ("the delisting rule"). EPA concluded at that time that it was "appropriate" instead to control EGU mercury emissions through section 7411 "standards of performance," and EPA promulgated such standards in a separate rule. 70 Fed. Reg. 28,606, 28,609/3 (May 18, 2005) ("Clean Air Mercury Rule" or "CAMR").

Numerous petitioners challenged the delisting rule and CAMR. This Court held that EPA's 2005 delisting rule was unlawful because section 7412(c)(9) requires EPA to make certain specific findings before delisting a source category, which EPA concededly had not made. *New Jersey*, 517 F.3d at 578. The Court then also vacated CAMR, since EPA conceded that it had no authority to promulgate hazardous pollutant standards under section 7411 for sources on the section 7412(c) list.

Following *New Jersey*, EGUs remained on the section 7412(c) list, and EPA once again was obligated to promulgate section 7412(d) emission standards. Environmental and public health organizations subsequently filed suit in district court under 42 U.S.C. § 7604(a)(2), alleging that EPA had a nondiscretionary duty

to promulgate standards by December 20, 2002, and that the Agency was already many years late meeting its obligations. That suit resulted in a consent decree requiring EPA to promulgate now long-overdue section 7412(d) standards. 77 Fed. Reg. at 9308/2-3.

Prior to promulgating final standards, EPA developed a comprehensive Information Collection Request ("ICR"), a goal of which was to ensure that EPA had sufficient emissions information for purposes of setting standards. EPA considered industry comments on the scope of the ICR and made revisions to address concerns about the cost and time required to conduct emissions testing. 74 Fed. Reg. 58,012 (Nov. 10, 2009). EPA ultimately collected extensive emissions data from industry sources through a multi-phased ICR and considered these data in promulgating standards. 76 Fed. Reg. at 25,021-24. *See also* discussion, *infra* at 71-73.

D. The Final Rule.

EPA promulgated the long-overdue section 7412(d) standards, which are now under review, on February 16, 2012. 77 Fed. Reg. 9304.

1. Reaffirmation of the Section 7412(n)(1)(A) Determination.

As part of its final rule, EPA considered comments on its affirmative 2000 section 7412(n)(1)(A) "appropriate and necessary" determination and reaffirmed

that determination and its listing of EGUs. *Id.* at 9362-64. In reaffirming the determination, EPA considered substantial additional technical analyses and information that were not before the Agency in 2000. *Id.* The new technical analyses EPA considered as part of the reaffirmation included, among other things, a national-scale mercury risk assessment, and a set of 16 case studies of inhalation risks for pollutants other than mercury.

EPA also clarified in its rulemaking proposal its interpretations of certain key terms in section 7412(n)(1)(A), including the terms "appropriate" and "necessary." 76 Fed. Reg. at 24,987-93. EPA explained that it believes that it is "appropriate" to regulate EGUs under section 7412 if the Agency determines that hazardous pollutant emissions from such units pose a hazard to public health or the environment. *Id.* at 24,992/2. EPA explained that it believes that it is "necessary" to regulate EGUs if the imposition of the other requirements of the CAA will not adequately address hazards to public health or the environment, or if there are other compelling reasons to regulate such emissions. *Id.* at 24,992/2-3. EPA explained why these interpretations are reasonable and superior to different interpretations that a previous EPA Administrator had set forth in support of the vacated 2005 delisting rule. *Id.* at 24,989/2-90/1, 24,992.

EPA also in the final rule denied a petition submitted by the Utility Air

Regulatory Group ("UARG") for EPA to delist coal-fired EGUs from the section 7412(c) list of source categories to be regulated. *See* 77 Fed. Reg. at 9364-66.

2. The Final Emission Standards.

EPA created EGU subcategories in the final rule and set emission standards for all subcategories. For coal-fired EGUs, solid oil-derived fuel-fired EGUs, and integrated gasification and combined cycle EGUs, EPA set numerical limits for: (1) mercury; (2) hydrogen chloride, as a surrogate for acid gases; and (3) filterable particulate matter, as a surrogate for non-mercury hazardous metals. 77 Fed. Reg. at 9367. For liquid oil-fired EGUs, EPA set numerical emission limits for filterable particulate matter (as a surrogate for hazardous metals), hydrogen chloride and hydrogen fluoride. *Id.* EPA also established work practice standards for organic hazardous pollutants, including dioxins and furans, for all subcategories. 77 Fed. Reg. at 9369.

EPA set alternative equivalent numerical emission standards for certain pollutants for some subcategories (*e.g.*, SO_2 as a surrogate for all acid gas hazardous pollutants for coal-fired EGUs), in order to provide flexibility in the form of additional compliance options. *Id.* at 9368-70. EPA further allowed sources to comply with the numeric emissions standards by averaging units at their

facilities, under certain conditions, and to choose from multiple monitoring options to demonstrate compliance. 77 Fed. Reg. at 9370-72 and 9384-86.

3. The Regulatory Impact Analysis.

Consistent with Executive Orders 12866 and 13563, EPA estimated the costs and benefits of the final standards in a Regulatory Impact Analysis ("RIA") (JA XX-XX). EPA projected in the RIA that the quantifiable net benefits of the promulgated standards would be $24 to $80 billion in 2016. 77 Fed. Reg. at 9306/1.

STANDARD OF REVIEW

Challenged portions of the final rule may not be set aside unless they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 42 U.S.C. § 7607(d)(9). The "arbitrary and capricious" standard presumes the validity of agency action, and a reviewing court is to uphold an agency action if it satisfies minimum standards of rationality. *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 520-21 (D.C. Cir. 1983); *Ethyl Corp. v. EPA*, 541 F.2d 1, 34 (D.C. Cir. 1976) (*en banc*). Where EPA has considered the relevant data and articulated a rational connection between the facts found and the choices made, its regulatory choices must be upheld. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

When reviewing scientific determinations within an agency's special expertise, a reviewing court must be at its most deferential. *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103 (1983). In reviewing EPA judgments regarding acceptable levels of risk, "EPA, not the court, has the technical expertise to decide what inferences may be drawn from the characteristics of . . . substances and to formulate policy with respect to what risks are acceptable." *NRDC v. EPA*, 824 F.2d 1146, 1163 (D.C. Cir. 1987) (citation and quotation marks omitted). This Court "will not second-guess a determination based on that expertise." *Id.*

Questions of statutory interpretation are governed by the two-step test set forth in *Chevron, U.S.A., Inc. v. NRDC* ("*Chevron*"), 467 U.S. 837, 842-45 (1984). The reviewing court must first determine "whether Congress has directly spoken to the precise question at issue." *Chevron*, 467 U.S. at 842. If the congressional intent is clear from the statutory language, the inquiry ends. *Id.* at 842-43. If the statute is silent or ambiguous, the reviewing court must accept the agency's interpretation if it is reasonable; the agency's interpretation need not represent the only permissible reading of the statute nor the reading that the court might prefer. *Id.* at 843 & n.11.

SUMMARY OF ARGUMENT

EGUs are the largest anthropogenic source of mercury emissions and a significant source of many other hazardous pollutants. In the 1990 CAA Amendments, Congress required EPA to regulate hazardous pollutant emissions from EGUs under section 7412 should EPA find such regulation to be "appropriate and necessary" after considering the Utility Study of hazards to public health posed by such emissions. 42 U.S.C. § 7412(n)(1)(A).

EPA has compiled exhaustive scientific information concerning public health and environmental hazards posed by emissions of hazardous pollutants from EGUs. EPA has reasonably exercised expert scientific judgment to determine, both initially in 2000, and again upon promulgating final standards in 2012, that regulation of hazardous pollutant emissions under section 7412 is "appropriate and necessary." EPA has found, based on an extensive body of evidence and analyses, that EGUs pose hazards to both public health and the environment that will not be addressed through imposition of other requirements of the Act. Having reasonably determined that it is appropriate and necessary to regulate EGUs under section 7412, EPA has complied with the requirements of the Act by promulgating section 7412(d) emission standards for all hazardous pollutants emitted by EGUs.

EPA properly denied a petition to remove EGUs from the list of source categories to be regulated under section 7412, based on the failure of the petitioner to demonstrate that the delisting criteria in section 7412(c)(9) have been met.

EPA did not need to make an additional separate finding under section 7412(c)(3) prior to regulating EGUs that are "area sources." Congress defined EGUs separately in section 7412(a)(8) without distinguishing between EGUs that are "major" or "area sources," and mandated in section 7412(n)(1)(A) that EGUs be regulated under section 7412 if EPA makes a determination that it is "appropriate and necessary" to regulate EGUs. Further, EPA properly regulated petroleum coke-fired EGUs because EPA's listing of EGUs includes these EGUs.

All of the specific standards for specific subcategories promulgated by EPA comport with section 7412(d) of the Act and were reasonably calculated using available data. Consistent with the requirements of section 7412(d)(3), EPA properly set a mercury standard for existing coal-fired units based on the average emission limitation achieved by the best performing 12 percent of the existing sources for which the Administrator had information. Likewise, EPA properly calculated appropriate section 7412(d)(3) floor standards for liquid-oil fired and solid-oil derived fuel-fired units. EPA also set an appropriate section 7412(d)(2) beyond-the-floor standard for units designed to burn low rank virgin coal.

EPA reasonably declined to exercise discretion to sub-categorize circulating fluidized bed ("CFB") units given that CFB units have similar emissions profiles to other coal-fired units. EPA also reasonably declined to exercise discretion under section 7412(d)(4) of the Act to set alternative standards for acid gas emissions based on health thresholds because available data were insufficient to support the development of such standards. EPA further reasonably declined to establish beyond-the-floor standards for all coal-fired EGUs under section 7412(d)(2) that would have required these EGUs to switch to natural gas, and the natural gas company raising this issue lacks prudential standing. Finally, EPA reasonably declined to grant a blanket extension to the Rule's compliance deadline for publicly-owned EGUs.

EPA's decision to allow contiguous, commonly-controlled units within a source to average their emissions for purposes of demonstrating compliance with the emission standards was lawful. There is no inconsistency between this "averaging alternative" and either the minimum stringency requirements of section 7412(d)(3) or EPA's authority to set "beyond-the-floor" standards under section 7412(d)(2). EPA also reasonably designated various alternative methods for monitoring emissions of non-mercury metals, consistent with its authority under section 7661c(b) of the Act.

ARGUMENT

I. EPA REASONABLY DETERMINED THAT IT IS "APPROPRIATE AND NECESSARY" TO REGULATE EGU HAZARDOUS POLLUTANT EMISSIONS.

EPA's threshold determination that it is "appropriate and necessary" to regulate EGU hazardous pollutant emissions must be upheld, both because EPA's initial 2000 determination is amply supported, based on the record before the Agency at that time and, independently, because EPA's reaffirmation of that determination in 2012 is also amply supported, based on new analyses and information before EPA at the time of the final rule.

A. EPA's 2000 Determination.

By December 2000, 10 years following enactment of the 1990 amendments, EPA had compiled extensive relevant information concerning hazards associated with EGU hazardous pollutant emissions. This information included, but was not limited to, analyses contained in the peer reviewed studies required by section 7412(n)(1)(A) and (B), as well as a Congressionally required National Academy of Sciences ("NAS") study on the toxicological effects of methylmercury. *See* 65

Fed. Reg. at 79,826/3, 76 Fed. Reg. at 24,982-84.[4] In the section 7412(n)(1)(A) Utility Study alone, EPA collected test data from 52 EGUs, conducted screening level assessments for 67 hazardous pollutants, conducted multipathway assessments for six priority pollutants, estimated emission and inhalation risks after imposition of requirements of the Act, and identified alternative control strategies for all hazardous pollutants emitted from EGUs. 76 Fed. Reg. at 24,982/2-3.

Consistent with Congress' own focus on mercury in the studies required by subsections 7412(n)(1)(B) and (C), EPA focused its 2000 determination on health hazards posed by mercury. Based on the evidence before it at the time, EPA made a number of material findings related to mercury, including the following:

> (1) Approximately 60 percent of the total mercury deposited in the U.S. comes from U.S. anthropogenic air emissions; 65 Fed. Reg. at 79,827/2.
>
> (2) EGUs are the largest source of domestic anthopogenic mercury emissions, emitting about 30 percent of U.S. anthropogenic emissions. *Id.* at 79,827/2.
>
> (3) EGU mercury emissions deposit into water bodies, and then bioaccumulate in fish in the highly toxic form of methylmercury. *Id.* at 79,827/1.

[4] The NAS Study evaluated the same issues as those required to be studied under section 7412(n)(1)(C) and was required by a 1999 appropriations report. 76 Fed. Reg. at 24,982.

> (4) Children of women exposed to relatively high levels of methylmercury during pregnancy, through fish consumption, have exhibited a variety of developmental neurological abnormalities. *Id.* at 79,829/3.
>
> (5) Approximately seven percent of women of childbearing age are exposed to methylmercury at levels that exceed a health-protective level, the methylmercury "Reference Dose." *Id.*[5]
>
> (6) A number of available control strategies are effective in reducing EGU mercury emissions. *Id.* at 79,830/1.
>
> (7) Achieving incremental emissions reductions will lead to incremental reductions in fish tissue methylmercury concentrations, which will in turn reduce risks to public health. *Id.*

EPA additionally found that methylmercury can have serious toxicologic effects on wildlife. *Id.* Although it focused on mercury hazards, the Agency also found that cancer risks for several other metals emitted by EGUs were a potential concern for public health. *Id.* at 79,827/3.

Based on all of the foregoing findings, EPA reasonably determined in 2000 that regulation of hazardous pollutants from EGUs was "appropriate." *Id.* at 79,830/2. In addition, EPA reasonably determined in 2000 that it was "necessary" to regulate EGUs, based on its conclusion that imposition of other requirements of

[5] The methylmercury Reference Dose is an estimate of exposure above which there is an increased risk of adverse neurological effects in children. 77 Fed. Reg. at 9310/3

the CAA would not adequately address the public health and environmental hazards posed by such emissions. *Id.* at 79,830/2; 76 Fed. Reg. at 24,997, 77 Fed. Reg. at 9310, 9327-28. *See also NRDC v. EPA*, 824 F.2d at 1163 (holding that "EPA, not the court, has the technical expertise to decide what inferences may be drawn from the characteristics of . . . substances and to formulate policy with respect to what risks are acceptable.") (citation and quotation marks omitted).

B. EPA's 2012 Determination.

Although not required to do so, EPA reexamined its "appropriate and necessary" determination prior to promulgating final standards in 2012. EPA conducted and considered new robust analyses concerning the hazards posed by EGU emissions. These analyses confirmed that it remains "appropriate" and "necessary" to regulate EGU hazardous pollutant emissions. 76 Fed. Reg. at 24,999-25,018; 77 Fed. Reg. at 9310-64.

EPA reasonably affirmed that it remains "appropriate" to regulate EGUs under section 7412 because, among other reasons: (1) EGUs are by far the largest remaining domestic source of mercury and other hazardous pollutant emissions; (2) mercury and other pollutants emitted by EGUs pose hazards to public health and the environment; and (3) effective controls are available to reduce emissions. 77 Fed. Reg. at 9363, 76 Fed. Reg. at 24,999. EPA reasonably affirmed that it

remains "necessary" to regulate EGU hazardous pollutant emissions because, among other reasons, hazards to public health and the environment will not be addressed through imposition of other CAA requirements. *Id.*

We discuss below the most pertinent new analyses conducted by EPA to support its 2012 findings.

1. The Mercury Risk Assessment.

EPA conducted a national-scale quantitative assessment designed to address whether EGU mercury emissions pose a public health hazard. This assessment, which is set forth in a technical support document (the "Mercury TSD") (JA XX), focused on assessing methylmercury exposure to women of child-bearing age who consume large amounts of family-caught freshwater fish, because the children of women who consume large amounts of such fish during pregnancy experience the highest risk attributable to EGUs. 76 Fed. Reg. at 25,007/3. EPA projected this subpopulation's potential exposure to methylmercury in thousands of specific watersheds, and then compared this degree of exposure with the Reference Dose. 76 Fed. Reg. at 25,006-11; 77 Fed. Reg. at 9311-17.

EPA's Mercury Assessment included the following methodological steps. First, EPA compiled extensive fish tissue data to estimate methylmercury concentrations in fish in over three thousand watersheds. Mercury TSD at 17-31

(JA XX-XX). Second, EPA identified fish consumption rates, using published data, for women of child-bearing age who rely on noncommercial fish as a major source of protein in their diet. *Id.* at 31-42 (JA XX-XX). Third, for this subpopulation of women, EPA projected the subpopulation's potential methylmercury exposure level within each watershed for which EPA had fish tissue data, and compared it to the Reference Dose. *Id.* at 43 (JA XX). Fourth, EPA estimated, using sophisticated air deposition modeling, the EGU contribution to methylmercury exposure levels in each watershed, after imposition of other Act requirements. *Id.* at 43-48 (JA XX-XX).

EPA's methodology was peer-reviewed by EPA's independent Science Advisory Board ("SAB"). The SAB concluded that it "support[ed] the overall design of and approach to the risk assessment" and found "that it should provide an objective, reasonable, and credible determination of the potential for a public health hazard from mercury emitted from U.S. EGUs." SAB Letter to EPA Administrator Jackson at 2 (Sept. 29, 2011), EPA-HQ-OAR-2009-0234-19689 (JA XX).

EPA applied two different metrics to identify watersheds with populations at risk from EGU-attributable methylmercury, after imposition of Act requirements. Mercury TSD at ix-x (JA XX-XX). First, EPA considered the number and percent

of modeled watersheds where EGU emissions *alone* (*i.e.*, without consideration of mercury deposition from other sources in that watershed) were projected to lead to methylmercury exposures exceeding the Reference Dose. Second, EPA considered the number of watersheds where total methylmercury exposures were projected to exceed the Reference Dose, and where EGUs were projected to contribute at least *five percent* of the total mercury deposition.

Applying these two metrics, EPA found: (1) in 10 percent of modeled watersheds, mercury deposition from EGUs alone results in projected methylmercury exposures exceeding the Reference Dose; and (2) in 24 percent of modeled watersheds, total methylmercury exposures exceed the Reference Dose, and EGUs contribute at least five percent of total mercury deposition. *Id.* Overall, 29 percent of the modeled watersheds exceeded either one or both of these two metrics. 77 Fed. Reg. at 9311/2.

Based on the hazards to public health from EGU mercury emissions found in the Mercury TSD, and the determination that hazards remain following imposition of other Act requirements, EPA reasonably reaffirmed its determination that it is "appropriate and necessary" to regulate EGUs under section 7412. 77 Fed. Reg. at 9363/1.

2. The Inhalation Risk Assessment for Hazardous Pollutants Other Than Mercury.

EPA's 2012 reaffirmation of the "appropriate and necessary" determination is amply supported by EPA's findings related to mercury hazards alone. But EPA's separate findings related to health hazards posed by other hazardous pollutants also provide independent support for EPA's 2012 reaffirmation of the "appropriate and necessary" determination.

EPA conducted a new analysis of health hazards posed by other hazardous pollutants emitted by EGUs. In this "Inhalation Risk Assessment" (JA XX), EPA selected individual EGU facilities as case studies. EPA performed a chronic inhalation risk assessment for each facility which included assessing the maximum lifetime cancer risk to individuals posed by emissions of specific pollutants. 76 Fed. Reg. at 25,011/2. As a benchmark for cancer risk, EPA applied a lifetime risk of cancer of greater than one in a million to the individual in the population who is most exposed to emissions of a pollutant from a facility. As EPA explained, application of this benchmark level was reasonable and consistent with Congress' specification of this same benchmark level for purposes of delisting source categories in section 7412(c)(9). 76 Fed. Reg. at 24,992-93.

EPA concluded that at six of the 16 case study facilities, cancer risks to exposed individuals exceeded one in a million. 77 Fed. Reg. at 9319.[6] Based on its finding that at least one case study facility exceeds the benchmark level, EPA reasonably determined that it is "appropriate" to regulate EGUs under section 7412. *Id*. at 9363/2. EPA additionally reasonably determined that it is "necessary" to regulate these emissions considering other Act requirements. *Id.* at 9363/3.

3. Environmental Hazards.

As discussed above, EPA's 2012 reaffirmation of the listing of EGUs is amply supported, independently, by either: (1) EPA's findings related to mercury health hazards; or (2) EPA's findings related to health hazards posed by other hazardous metals. EPA additionally found, however, based on new analyses, that it is independently "appropriate and necessary" to regulate EGUs based on environmental hazards posed by hazardous pollutants as well. 77 Fed. Reg. at 9363/2-3.

As in 2000, EPA found that EGU mercury emissions contribute to significant adverse impacts on fish and wildlife. For example, published studies

[6] Four of the facilities had maximum risks posed by emissions of chromium, and two had maximum risks posed by emissions of nickel. *Id.* at 9363/1.

reported adverse reproductive effects for numerous fish species and numerous adverse effects to fish-eating bird species and mammals. 76 Fed. Reg. at 25,012-13.

EPA also concluded based on peer-reviewed scientific research that hydrogen chloride and other acid gases emitted by EGUs contribute to acidification of ecosystems. 77 Fed. Reg. at 9362/1-2, 9363/2. EGUs emit the majority of acid gases nationally. 76 Fed. Reg. at 25,005/3. These emissions, when combined with water in the atmosphere, can form an acidic solution, the deposition of which can exacerbate acidification effects already being experienced in many sensitive ecosystems across the country. *Id.* at 25,013/1-2, 25,016/3.

C. Petitioners' Challenges to EPA's "Appropriate and Necessary" Determinations Lack Merit.

Both EPA's initial 2000 "appropriate and necessary" determination, and the Agency's subsequent 2012 reaffirmation of that determination, reflect the reasonable application of EPA's expert scientific judgment and are amply supported by peer-reviewed studies and other record evidence. We address below State, Industry and Labor Petitioners' ("Joint Petitioners'") scattershot attacks on these determinations, all of which lack merit.

1. The 2000 "Appropriate and Necessary" Determination is Valid.

We first address Petitioners' two arguments – one substantive and one procedural – that address the 2000 determination.

a. EPA Adequately Characterized Mercury Health Risks in 2000.

Addressing the substantive challenge to the 2000 determination first (*see* Joint Br." 13, 27, 49), EPA did, in fact, "undertake[] the work to characterize mercury health risks" prior to 2000. As discussed in Section I.A. above, EPA made a number of pertinent findings concerning health risks posed by mercury, which are all supported by a large and compelling body of empirical data and scientific evidence that were in the record before EPA at that time. This record included studies that Congress specifically directed EPA to prepare.[7]

Petitioners contend that section 7412(n)(1)(A) required EPA to more specifically "quantify the contribution of EGUs to methylmercury in fish." Joint Br. 49. EPA, however, may reasonably exercise scientific judgment without

[7] To the extent Petitioners cite to different analyses that EPA had conducted *prior* to enactment of the 1990 amendments (over 25 years ago), in an effort to undermine EPA's 2000 findings, this is misplaced. *See* Joint Br. 5. After promulgation of the 1990 Amendments, EPA conducted new analyses specifically focused on mercury and other hazardous pollutant emissions from EGUs, as required by Congress. These analyses constituted the most recent and best source of information before the Agency in 2000.

needing to surmount purported quantitative hurdles that are nowhere to be found in the statutory text.

Indeed, this Court recently rejected a very similar argument. *See Coal. for Responsible Regulation v. EPA*, 684 F.3d 102, 122-23 (D.C. Cir. 2012) ("*CRR*"), *rehearing en banc denied*, 2012 WL 6621785 (D.C. Cir. Dec. 12, 2000). In *CRR*, the Court addressed a CAA provision directing EPA to determine whether greenhouse gases emitted by motor vehicles "may be reasonably anticipated to endanger public health or welfare." 684 F.3d at 120. The Court held that EPA, in doing so, had no obligation to make particular quantitative findings preferred by petitioners. *Id.* at 122-23. The Court explained that "[w]hen EPA evaluates scientific evidence in its bailiwick, [the Court] ask[s] only that [EPA] take the scientific record into account in a rational manner." *Id.* at 122. EPA did so in 2000, and no more is required. *See also Ethyl Corp.*, 541 F.2d at 28 ("Where a statute is precautionary in nature, the evidence difficult to come by, uncertain, or conflicting because it is on the frontiers of scientific knowledge, the regulations designed to protect the public health, and the decision that of an expert

administrator, [courts] will not demand rigorous step-by-step proof of cause and effect.").[8]

b. EPA Complied With Applicable Procedural Requirements.

We next turn to Petitioners' procedural argument concerning the 2000 determination. Petitioners posit that EPA was required to issue a notice of proposed rulemaking and comply with section 7607(d) rulemaking requirements *in advance* of that determination, in addition to complying with section 7607(d) rulemaking requirements upon promulgating a final reviewable rule. *See* Joint Br. 13, 27. They are wrong.

Congress in the 1990 Amendments generally "restricted the opportunities" for parties "to intervene in the regulation of [hazardous pollutant] sources," reflecting Congress' concern with EPA's slow pace of hazardous pollutant regulation prior to that time. *New Jersey*, 517 F.2d at 578, 583. As relevant here, these restrictions included preclusion of any judicial review of the listing of a source category under section 7412 prior to the actual promulgation of emission standards. *See* 42 U.S.C. § 7412(e)(4); *UARG v. EPA*, No. 01-1074, 2001 WL

[8] Petitioners' assertion that EPA failed to describe "alternative control strategies" in its 2000 determination is also incorrect. Joint Br. 13. The 2000 determination contains an express discussion of alternative control strategies. 65 Fed. Reg. at 79,828-29.

935363 (D.C. Cir. July 26, 2001) (dismissing a challenge to the 2000 section 7412(n)(1)(A) finding and listing of EGUs as premature).

The section 7412(e)(4) limitation on judicial review indicates that EPA is not obliged to comply with notice-and-comment rulemaking requirements *in advance* of source category listing, but may instead solicit public comments and otherwise comply with section 7607(d) rulemaking requirements in connection with promulgating a final *reviewable* rule containing emission standards. There is no reason to believe that Congress intended to require EPA to provide more than one opportunity to comment on the listing of a source category (*i.e.*, both prior to listing and as part of the judicially reviewable final rulemaking). Thus, it is the Agency's longstanding interpretation that it is not required to engage in notice-and-comment rulemaking prior to listing source categories (s*ee, e.g.*, 61 Fed. Reg. 28,197, 28,198/2 (June 4, 1996)).[9] As a practical matter, however, EPA in the case

[9] EPA does not interpret section 7607(d)(1)(C) (s*ee* Joint Br. 7) as making EGU listing decisions subject to additional rulemaking requirements beyond those applying to a final reviewable rulemaking. Moreover, the reference in section 7607(d)(1)(C) to section 7412(n)(1) appears to be a scrivener's error. The pertinent language in section 7607(d)(1)(C), which also refers to nonexistent sections 7412(g)(1)(D) and (F), was transcribed from a preceding House Bill. *See* H.R. Rep. No. 101-490 at 607 (1990), *reprinted in* 2 A Legislative History of the Clean Air Act Amendments of 1990 at 3021, 3631 (Comm. Print 1993) ("Legis. Hist.). In that bill, section 7412(n) authorized EPA to adopt regulations concerning lakes and bays (Legis. Hist. at 3111-12), while EGUs were covered in section

of the 2000 determination *did* hold public meetings and provide opportunities for written comments in advance of listing EGUs. 65 Fed. Reg. 18,992 (Apr. 10, 2000); 65 Fed. Reg. 10,783 (Feb. 29, 2000), 60 Fed. Reg. 35,393 (July 7, 1995).

To the extent Petitioners believe the opportunities for comment provided in advance of the 2000 determination were insufficient, such concerns are now moot. Upon promulgating the final rule, which included an affirmation of the 2000 determination, EPA complied with all of the rulemaking requirements set forth in section 7607(d), including providing Petitioners with an opportunity to comment on all aspects of its 2000 determination. 76 Fed. Reg. at 25,078/1. Petitioners are not entitled to yet another comment period. In short, even if there were, for sake of argument, any procedural defect related to the 2000 determination, such error has now been cured. No remedy granted by this Court could redress Petitioners' purported procedural injury any more than the 2012 rulemaking has already done.

Further, nothing in *Thomas v. New York,* 802 F.2d 1443 (D.C. Cir. 1986), which is cited by Petitioners, entitles Petitioners to another comment period. *See*

7412(*l*) (*id.* at 3110-11). At conference, amendments to section 7412 originating in the House Bill were renumbered, so that EGUs were ultimately covered in section 7412(n), but Congress appears to have inadvertently failed to make any corresponding amendments to section 7607(d) reflecting this renumbering. *See Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1043 (D.C. Cir. 2001) (no effect need be given to language demonstrably at odds with Congressional intent).

Joint Br. 27-29. At issue in *Thomas* was whether a letter, regarding whether the United States was responsible for acid deposition in Canada, created a nondiscretionary duty for EPA to order States to abate emissions. The Court concluded it did not. The instant case does not present any issue concerning whether EPA has failed to perform an alleged nondiscretionary duty. Petitioners have had an opportunity to comment on the 2000 determination, and *Thomas* has no relevance here.

2. The 2012 Determination and EPA's Associated Statutory Interpretations Are Valid.

EPA's "appropriate and necessary" determination must be upheld based on EPA's 2000 findings, standing alone. But even if EPA had not made any findings in 2000, EPA's present emission standards *still* must be upheld, based on the renewed findings EPA made in 2012 on the record before it at that time. We address in this section Petitioners' assorted substantive and procedural arguments concerning EPA's 2012 findings, all of which lack merit.

a. EPA Has Authority to Reaffirm Its Listing of EGUs Based on Consideration of New Evidence.

Addressing Petitioners' procedural arguments first (Joint Br. 27), Petitioners contend that EPA's 2012 findings should be ignored on grounds that EPA "did not purport in the instant rulemaking to renew the earlier listing of EGUs." Joint Br.

27. They are wrong. EPA clearly did renew the earlier listing of EGUs in the final rulemaking. *See, e.g.*, 77 Fed. Reg. at 9366/3 ("the technical analyses the Agency conducted in support of the appropriate and necessary finding confirm that EGUs should remain a listed source category").

Petitioners next contend that this Court's decision in *New Jersey* has the "consequence" of precluding EPA from reaffirming an "appropriate and necessary" determination based on new information. *See* Joint Br. 26-27. They are again wrong. *New Jersey* considered only whether EPA has authority to *remove* EGUs from the list of source categories to be regulated under section 7412 without making the specific findings required under section 7412(c)(9). The Court concluded EPA lacked such authority. But nothing in *New Jersey* precludes EPA from acting to *reaffirm* an initial listing of EGUs based on consideration of new information and analyses. To the contrary, the Act plainly authorizes EPA to act to protect public health and welfare, whenever "appropriate" and "necessary," from hazards posed by EGU pollutant emissions.

b. EPA Properly Considered the Mercury TSD.

Having dispensed with Petitioners' procedural arguments concerning the 2012 findings, we turn to Petitioners' assorted substantive arguments attacking the scientific underpinnings of EPA's 2012 findings, which also lack merit.

First, EPA properly considered the results of the peer-reviewed Mercury TSD. Contrary to Petitioners' suggestion (*see* Joint Br. 50-51), the SAB concluded that the Mercury TSD provided an "objective, reasonable, and credible determination of the potential for a public health hazard from mercury emitted from U.S. EGUs." SAB Letter at 2 (JA XX). The SAB "regard[ed] the design of the risk assessment as suitable for its intended purpose, to inform decision-making regarding an 'appropriate and necessary' finding for regulation of hazardous air pollutants from coal and oil-fired EGUs. . . ." *Id.*

The passage from the SAB's letter that is quoted by Petitioners to suggest the SAB did not have sufficient information to evaluate EPA's risk assessment is misleading. *See* Joint Br. 50-51. That passage relates solely to the adequacy of the *initial* information provided by EPA to the SAB and is immediately followed by a sentence confirming that the SAB was ultimately provided with sufficient

information. *Id*. at 1 (JA XX).[10] Moreover, to the extent the SAB suggested after peer review that the draft TSD be revised to better describe key analytical methods and findings, EPA made appropriate revisions in the final TSD. *See* 77 Fed. Reg. at 9313-16.[11]

Petitioners additionally mischaracterize and distort the findings of the Mercury TSD by conflating it for rhetorical purposes with EPA's entirely separate Regulatory Impact Analysis ("RIA"). *See* Joint Br. 51. The RIA was not prepared for, or considered, as part of EPA's "appropriate and necessary" determination. The RIA was separately prepared pursuant to Executive Orders to assess the costs and benefits of the emission standards ultimately promulgated. The RIA did not assess whether hazardous pollutants emitted by EGUs pose a public health hazard. It applied different analyses and assumptions than used in the Mercury TSD.[12]

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[10] EPA provided notice in the Federal Register of all the SAB meetings and those meetings were open to the public for comment and participation. 76 Fed. Reg. at 9312/1-2. The minutes of those meetings were also posted on the publicly accessible SAB web site. *Id.*

[11] Petitioners assert, without citing to anything in the record, that EPA "refuse[d] to grant the SAB's panel request that it be provided an opportunity to review the final TSD," (Joint Br. 51 n.54). EPA did not receive any formal request from the SAB to review the final TSD.

[12] The RIA also had no relevance with respect to the emission standards promulgated, which were governed by the criteria in section 7412(d).

The Mercury TSD was specifically tailored to evaluate the question, for purposes of the "appropriate and necessary" determination, of whether, absent regulation, EGU-attributable mercury emissions pose a hazard to public health.[13] As recognized by the SAB after peer review, the methodology followed in the Mercury TSD was suitable for this purpose.

Furthermore, contrary to Petitioners' assertion (Joint Br. 50), EPA *did* address its 2005 analysis and explained why the conclusions it reached at that time were badly flawed. *See* 76 Fed. Reg. at 25,019-20; Mercury TSD at 48-50 (JA XX-XX). EPA explained that it had erred in 2005 by, among other things: (1) failing to evaluate the cumulative health hazard arising from EGU emissions combined with other sources of mercury, 76 Fed. Reg. at 25,019; (2) wrongly assuming that populations other than Native Americans do not engage in fish consumption at subsistence rates, *id.* at 25,020; and (3) inappropriately discounting health hazards arising from methylmercury exposures above the Reference Dose. *Id.*

EPA also addressed Petitioners' comments concerning the fact that U.S. EGU emissions do not comprise a high percentage of total global mercury

[13] In contrast to the RIA, the Mercury TSD was not intended to, and did not purport to, calculate the "aggregate public health benefit" arising from ultimately promulgated emission standards. *See* Joint Br. 51.

emissions. *See* Joint Br. 8. As EPA explained, certain forms of mercury from EGUs deposit locally and regionally. 77 Fed. Reg. at 9339/1-2. Consequently, peer reviewed scientific literature shows that mercury emissions from EGUs significantly enhance mercury deposition and the response of ecosystems in the United States. 77 Fed. Reg. at 9339/2. Indeed, U.S. EGUs contributed up to 30 percent of total mercury deposition in some U.S. watersheds in 2005. Mercury TSD at 64 (JA XX), 76 Fed. Reg. at 25,009 (Table 7).

c. The Inhalation Risk Assessment Provided a Credible Analysis of Hazards Associated With Other Pollutants.

Petitioners' arguments concerning EPA's Inhalation Risk Assessment, which addressed health hazards posed by pollutants other than mercury, also lack merit.

i. The Cancer Risk Benchmark Level.

First, in evaluating what level of cancer risk poses a hazard, EPA properly considered the numerical cancer risk threshold set forth in section 7412(c)(9)(B)(i). *See* Joint Br. 34-36. Congress in section 7412(n)(1)(A) did not define the term "hazard to public health." Thus, Congress provided EPA with discretion to determine what *degree* of risk poses a hazard to public health. Exercising this discretion, EPA reasonably considered various factors in evaluating hazards to

public health, including considering whether individuals will be exposed to cancer risks above the benchmark level of concern set forth in section 7412(c)(9)(B)(i). 76 Fed. Reg. at 24,992-3.

In section 7412(c)(9)(B)(i), Congress precluded EPA from delisting source categories, where any source in the category emits hazardous pollutants which may cause a lifetime risk of cancer greater than one in a million to the most exposed individual. By precluding delisting where this benchmark level is exceeded, Congress made clear that, in its judgment, cancer risks from sources exceeding that level should remain subject to regulation under section 7412. It is reasonable for EPA to consider this benchmark level in its assessment of EGU hazards for purposes of determining whether it is appropriate to list EGUs under section 7412. *See* 77 Fed. Reg. at 9333-34; 76 Fed. Reg. at 24,992-93.

EPA's consideration of the "one in a million" benchmark does not result in EGUs being treated "the same as all other major source categories." *See* Joint Br. 35-36. Other major source categories must be included on the list of source categories to be regulated based solely on the amount of hazardous pollutants emitted, and EPA *may* remove a source category if it can make the findings required by section 7412(c)(9)(B). In contrast, in applying section 7412(n)(1), EPA applies various factors in deciding whether it is both "appropriate and

necessary" to include EGUs on the list of source categories to be regulated. Among other factors, EPA considers whether unacceptable hazards will remain *after* imposition of other requirements of the Act. In contrast, imposition of other requirements of the Act are not considered when the Agency is listing any other major source category.

ii. Use of Certified Data.

Petitioners' efforts to question the validity of the results of the Inhalation Risk Assessment are also unfounded. *See* Joint Br. 52. Based on the data before it, all of which had been certified by industry to be accurate, EPA properly determined that at six of 16 case-study facilities, emissions of hazardous pollutants posed a lifetime risk of cancer greater than one in a million to the most exposed individual. 77 Fed. Reg. at 9319/1.

Petitioners identify no errors in EPA's methodology, much less demonstrate that the "modeling effort was infected with errors." *See* Joint Br. 52. Without identifying any methodological errors, Petitioners speculate that, at some of the sources determined to pose excessive carcinogenic risks, chromium or nickel emissions data used in the assessment might not accurately reflect actual emissions performance at the sources due to possible "sample contamination." *Id.* This speculation overlooks that sources themselves submitted emissions data, and that

these sources certified to EPA the accuracy of these data. EPA did not err in relying upon such certified data. Response to Comments ("RTC") Vol. 1 at 187 (JA XX). If sources were concerned about their own data that they certified were accurate, they could have conducted additional testing after making any necessary corrections, during the ICR or the public comment period. They did not.[14]

Petitioners also attempt to cast doubt on EPA's findings by suggesting, without citing to anything in the record, that nearly all hazardous pollutants emitted by EGUs are already captured by high-efficiency particulate matter control devices. Joint Br. 9. In fact, a number of EGUs operating today were built in the 1950s and 1960s and are using obsolete and inefficient particulate matter control technologies. 76 Fed. Reg. at 24,979/1, 24,992/1. EPA projected that use of high-efficiency control technology required by the standards will reduce particulate matter emissions from EGUs by 38 percent on average, resulting in reductions of approximately 430 tons of metals from EGUs per year. 76 Fed. Reg. at 25,015.

[14] To the extent Petitioners attempt to rely in note 58 of their brief on different emissions data that were collected *after* the promulgation of standards, and that are *not* in the administrative record, this is improper. *See* 42 U.S.C. § 7607(d)(7)(A).

d. EPA Properly Considered Environmental Hazards.

EPA also properly examined environmental hazards posed by EGUs in making its "appropriate and necessary" determination. Contrary to Petitioners' position (*see* Joint Br. 44-46), the broad grant of discretion to EPA in section 7412(n)(1)(A) allows EPA to consider such hazards.

Because section 7412(n)(1)(A) does not expressly address the issue, EPA's interpretation that it may consider environmental hazards is assessed under step two of the *Chevron* test. *See Chevron*, 467 U.S. at 843. EPA is entitled to particularly substantial judicial deference under *Chevron* where Congress has used broad terms such as "appropriate" and "necessary" and has not defined these terms. *Cf. MetroPCS California, LLC v. FCC*, 644 F.3d 410, 412 (D.C. Cir. 2011) (noting FCC entitled to "substantial judicial deference" and "broad discretion" in determining under Communications Act what is in the "public interest" or "necessary").

EPA's interpretation that it may consider environmental hazards is reasonable and must be upheld.[15] In contesting EPA's interpretation, Petitioners

[15] EPA has always interpreted section 7412(n)(1)(A) as allowing for some consideration of environmental hazards. *See* Joint Br. 44-45. The difference between EPA's 2005 and 2012 interpretations is one of degree. EPA in its 2012 interpretation concluded that environmental effects may be considered as a primary

point to the language in section 7412(n)(1)(A) directing EPA to consider EPA's study of health hazards in making its determination. Joint Br. 44. But the fact that EPA must consider this study does not preclude EPA from considering additional evidence relating to environmental hazards. *Cf. Sierra Club v. EPA*, 325 F.3d 374, 377 (D.C. Cir. 2003) (finding that statute requiring EPA to promulgate rule "based upon" a required study did not require EPA to premise rule exclusively upon that study).[16]

Petitioners also note that environmental effects are expressly referenced elsewhere in section 7412, but not in section 7412(n)(1)(A). Joint Br. 45. However, the references to environmental effects in the surrounding statutory text actually lend considerable *support* to the reasonableness of EPA's interpretation. The general purpose of section 7412 is to minimize emissions of hazardous

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criterion for regulating EGUs, even in the absence of a public health hazard, whereas EPA in 2005 believed it could consider environmental hazards so long as there was a public health hazard as well. Inasmuch as EPA in 2012 found that EGUs pose several separate public health hazards and relied on each public health hazard as an independent basis for its ultimate "appropriate and necessary" determination, the distinctions between EPA's 2005 and 2012 interpretations are immaterial here.

[16] *Ethyl Corp. v. EPA*, 51 F.3d 1053 (D.C. Cir. 1995), which is cited by Petitioners, is distinguishable. In *Ethyl*, the provision at issue was unambiguously worded so as to leave EPA no discretion to consider factors other than a fuel additive's effects on vehicles meeting emission standards.

pollutants that pose *either* a threat of adverse human health effects *or* adverse environmental effects. *See, e.g.,* 42 U.S.C. § 7412(b)(2) (defining hazardous pollutants as "pollutants which present, or may present, . . . a threat of adverse human health effects . . . or adverse environmental effects . . . ."); 42 U.S.C. § 7412(n)(1)(B) (requiring EPA to study environmental effects of mercury emissions from EGUs).

Further, EPA clearly *must* consider environmental hazards from EGUs before it can properly remove EGUs from the list of source categories to be regulated. 42 U.S.C. § 7412(c)(9)(B)(ii). It would be highly incongruous for Congress to have required EPA to consider environmental hazards prior to delisting EGUs, if it actually intended to require EPA to disregard these same hazards in the initial listing decision.

Petitioners' position that EPA is foreclosed from considering anything other than public health hazards is also inconsistent with their separate argument that EPA can interpret section 7412(n)(1)(A) as allowing for consideration of costs, even though costs are also not expressly referenced in that subsection. *See* Joint Br. 39-42. If EPA has discretion to interpret section 7412(n)(1)(A) to consider

costs, then EPA necessarily also has discretion to interpret the statute as allowing for consideration of environmental hazards.[17]

Finally, Petitioners badly mischaracterize EPA's findings in suggesting that EPA's "appropriate and necessary" findings could not be upheld absent consideration of environmental hazards. *See* Joint Br. 46. Even disregarding EPA's findings concerning environmental hazards, both the 2000 and 2012 determinations are amply supported based on EPA's independent findings related to public health hazards posed by mercury and other hazardous metals. *See, e.g.,* 77 Fed. Reg. at 9363/2; 65 Fed. Reg. at 79,830/2.

e. EPA's Findings Concerning Acid Gas Hazards Are Amply Supported.

EPA also had a "rational basis" for concluding that acid gases pose environmental hazards. *See* Joint Br. 54. Published scientific research demonstrates that EGU acid gas emissions can exacerbate acidification effects already being experienced in many sensitive ecosystems across the country. 76 Fed. Reg. at 25,013/2, 25,016/3. For reasons we address elsewhere, EPA properly considered environmental hazards such as acidification in making its "appropriate and necessary" determination (*see* Section I.C.2.d *supra)*; EPA properly

[17] As discussed in Section I.C.2.g. below, EPA reasonably declined to exercise discretion to consider costs.

considered the cumulative impact of EGU acid gas emissions when added to ecosystems already experiencing acidification (*see* Section I.C.2.f., *infra*); and EPA was not required to specifically quantify the precise contribution of EGU acid gas emissions to ecosystem acidification (*see* Section I.C.1.a., *supra*).[18]

f. EPA Properly Considered Cumulative Impacts.

EPA properly considered the cumulative health and environmental hazards posed by hazardous pollutant emissions from EGUs and other sources. 76 Fed. Reg. at 24,988. *See* Joint Br. 47-48. To the extent there is any ambiguity in the statute concerning whether EPA is authorized to consider such cumulative hazards, EPA's interpretation is reasonable and must be upheld. *See Chevron*, 467 U.S. at 843.

An individual who suffers adverse health effects as the result of the combination of EGU emissions of a hazardous pollutant and other emissions is still harmed, irrespective of whether emissions from EGUs *alone* would cause the same harm. 76 Fed. Reg. at 24,988/3. EPA's consideration of actual hazards that are posed in the real world by EGU emissions, when added to existing levels of

[18] Contrary to Petitioners' characterization (*see* Joint Br. 53-54), EPA did not consider or rely upon benefits associated with reducing particulate matter in concluding that EGU acid gas emissions pose acidification hazards.

pollution, is reasonable.[19] *See also* 42 U.S.C. § 7412(n)(1)(B) (requiring EPA to study cumulative effects of mercury emissions from EGUs and other sources).

Furthermore, even ignoring other sources, EPA's "appropriate and necessary" determination is amply supported based on EPA's findings regarding the health hazards posed by emissions from EGUs *standing alone*. *See*, *e.g.*, 77 Fed. Reg. at 9363/1 (reflecting EPA's conclusion that the "10 percent of watersheds" identified in the Mercury TSD "with populations at risk due to U.S. EGU emissions *alone* is unacceptable") (emphasis added); 77 Fed. Reg. at 9363/2 (reflecting EPA's conclusion that emissions of other pollutants from EGUs alone pose a hazard to public health).

g. EPA Reasonably Exercised Discretion to Decline to Consider Costs Associated With Regulation.

EPA also reasonably declined to consider, as part of its "appropriate and necessary" determinations, costs associated with the emission standards ultimately

[19] Petitioners cite to nothing in the legislative history of the 1990 Amendments that undermines the reasonableness of EPA's cumulative effects or other interpretations. Petitioners, without citing anything in either the House, Senate or Committee reports, point several times to the isolated floor statements of one legislator, Congressman Oxley (*see* Joint Br. 30-31 46, 48). These statements, however, do not suggest that any of EPA's challenged statutory interpretations are unreasonable. Moreover, the isolated statements of one legislator are not entitled to any weight anyway as they cannot be presumed to reflect the intent of the entire legislative body. *See, e.g.*, *Castaneda-Gonzalez v. Immigration & Naturalization Serv.*, 564 F.2d 417, 424 (D.C. Cir. 1977).

promulgated under section 7412(d)(2). *See* Joint Br. 39-44. In section 7412(n)(1)(A), Congress provided EPA with broad discretion to determine whether it is "appropriate and necessary" to regulate hazardous pollutant emissions from EGUs. Congress expressly directed EPA to consider the results of a study of hazards to public health, but did not expressly direct EPA to consider costs.

In the absence of any statutory text expressly addressing the issue, EPA's interpretation of section 7412(n)(1)(A) as not calling for cost consideration is reviewed under the second step of the *Chevron* test. EPA's interpretation must be upheld so long as it is reasonable, and need not represent the only permissible reading of the statute, or the one the Court might prefer. 467 U.S. at 843 n.11.[20]

EPA's interpretation is reasonable and therefore must be upheld. The Supreme Court's discussion in *Whitman v. American Trucking Associations*, 531 U.S. 457, 467-68 (2001), confirms the reasonableness of the agency's position. In *Whitman*, the Supreme Court assessed whether EPA could consider

[20] We agree that *Michigan v. EPA*, 213 F.3d 663, 678 (D.C. Cir. 2000), which is cited by Petitioners, supports the proposition that EPA has discretion to interpret an ambiguous statutory provision as allowing for the consideration of costs. But applying *Chevron*, the fact that an agency might be *permitted* to adopt such an interpretation does not mean that an agency is *required* to do so. Here, EPA acknowledged that it had discretion to interpret section 7412(n)(1)(A) as allowing for the consideration of costs, and EPA explained why it was reasonably adopting a contrary interpretation. *See* RTC Vol. 1 at 29 (JA XX).

implementation costs in setting national ambient air quality standards under CAA section 109(b), 42 U.S.C. § 7409(b). In holding that Congress unambiguously barred EPA from considering costs of implementation under this provision, the Court explained that the CAA frequently expressly grants EPA the authority to consider costs, and the absence of a reference to costs in section 7409(b) should be read as indicating a bar on EPA's consideration of implementation costs in setting NAAQS. The Supreme Court stressed its refusal "to find implicit in ambiguous sections of the CAA an authorization to consider costs that has elsewhere, and so often, been expressly granted." *See also Am. Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 510 (1981) ("[w]hen Congress has intended that an agency engage in cost-benefit analysis, it has clearly indicated such intent on the face of the statute.").

In section 7412(n)(1)(A), the absence of an express direction to consider costs likewise contrasts with CAA provisions in which EPA is either expressly permitted or required to consider costs. Thus, although the text of section 7412(n)(1)(A) is more ambiguous with respect to whether EPA has discretion to consider costs than the unambiguous language in section 7409(b), the discussion in *Whitman* confirms that EPA's interpretation of section 7412(n)(1)(A) is at a

minimum reasonable, and therefore must be upheld under the second step of the *Chevron* test.

The overall structure and framework of section 7412 adds further support to the reasonableness of EPA's interpretation. Under section 7412(c), EPA does not have discretion to consider costs in deciding whether to include any other source categories on the list of sources to be regulated. Likewise, EPA does not have discretion to consider costs in deciding whether to *remove* any source category, including EGUs, from the list of sources to be regulated. *See* 42 U.S.C. § 7412(c)(9). It would be quite incongruous for Congress to have intended for EPA to consider costs in deciding whether to list EGUs under section 7412(n)(1), where it has so clearly precluded EPA from considering costs in determining whether to delist EGUs following an initial positive determination.

Moreover, Congress expressly addressed the treatment of costs in specifying the criteria for setting the *level* of appropriate regulation under section 7412(d). Under the two-step process set forth in section 7412(d), Congress specified that all regulated source categories shall meet minimum "floor" standards premised on the average emissions reductions achieved by the best controlled sources in the category, without consideration of costs, with costs then considered in deciding whether more stringent "beyond-the-floor" standards are warranted. The fact that

Congress expressly addressed costs in the context of specifying the stringency of regulation, but did not address costs in providing EPA with broad discretion to determine whether to list and regulate EGUs in the first instance under section 7412(n)(1)(A), supports the reasonableness of EPA's interpretation.

Petitioners cite to a dictionary defining the word "appropriate" as something that is "suitable" or "proper." *See* Joint Br. 39-40. This dictionary definition of "appropriate" does not support Petitioners' argument. EPA may reasonably conclude that it is "suitable" or "proper" to regulate hazardous pollutant emissions from EGUs under the regulatory framework established by Congress, without considering costs, where EGUs pose hazards to public health and the environment that would otherwise go unaddressed.

Petitioners also point to language directing EPA, in the section 7412(n)(1)(A) Utility Study, to "develop and describe . . . alternative control strategies for emissions which may warrant regulation under this section." *See* Joint Br. at 42 n.38. Consistent with this direction, EPA assessed in the Utility Study various types of control technologies available to EGUs for reducing pollutant emissions. Congress did not, however, direct EPA to evaluate the *cost* of alternative control technologies in the Utility Study, and accordingly, EPA did not

assess control technology costs in the Utility Study. *See* Utility Study Chapter 13 (JA XX-XX).

Petitioners' characterizations of EPA's RIA in connection with this issue of statutory interpretation are misleading and immaterial. *See* Joint Br. 3-4, 43. The RIA, which was required by Executive Orders, assessed the costs and benefits of the standards that were ultimately promulgated pursuant to section 7412(d). The RIA, however, was completely unrelated to the section 7412(n)(1)(A) determination and had no bearing on that determination.[21]

For the reasons set forth above, EPA reasonably interprets section 7412(n)(1)(A) as not calling for, and certainly not requiring, the consideration of costs.

[21] With respect to the RIA, EPA concluded that the quantifiable net benefits of the promulgated standards would be $24 to $80 billion in 2017. 77 Fed. Reg. at 9306/1. The RIA understates the direct benefits of hazardous pollutant reductions achieved by the promulgated standards, because there are numerous benefits associated with hazardous pollutant reductions that EPA was unable to quantify. 77 Fed. Reg. at 9428/3; RTC Vol. 2 at 623 (JA XX); RIA Chapter 4 (JA XX-XX).

II. AFTER LISTING EGUs, EPA PROPERLY PROMULGATED SECTION 7412(d) EMISSION STANDARDS FOR ALL HAZARDOUS POLLUTANTS EMITTED BY EGUs.

A. EPA Appropriately Promulgated Section 7412(d) Emission Standards After Listing EGUs.

EPA properly established section 7412(d) emission standards following EPA's determination that it is "appropriate and necessary" to regulate EGUs under section 7412 and listing of EGUs. Petitioners posit that after listing EGUs, EPA could have declined to establish section 7412(d) standards, and could have instead set less stringent standards under purported authority of section 7412(n)(1) alone. *See* Joint Br. 36-38. Petitioners' interpretation of EPA's authority cannot be reconciled with the unambiguous statutory text, and EPA's decision to establish section 7412(d) standards should be upheld under the first step of the *Chevron* test. To the extent there is any ambiguity in the statute, EPA acted reasonably in setting section 7412(d) standards, and EPA's interpretation should be upheld under the second step of the *Chevron* test.

In section 7412(n)(1)(A), Congress directed EPA to regulate EGUs "under this *section*" (emphasis added), should EPA determine "such regulation is appropriate and necessary." As this Court has recently affirmed, when Congress uses the word "section," it is presumptively referring to an entire section of the

U.S. Code, and Congress uses, successively, the terms "subsections, paragraphs, subparagraphs and clauses," when referring to more specific parts. *Desert Citizens Against Pollution v. EPA*, 699 F.3d 524, 527 (D.C. Cir. 2012); *United States v. Hines*, 694 F.3d 112, 118 (D.C. Cir. 2012). Here, Congress' juxtaposition of the terms "section," "subsection" and "subparagraph" within section 7412(n)(1)(A) confirm that Congress was consciously following its usual practice and using the term "section" to refer to all of section 7412, including section 7412(d), which establishes the framework for promulgating emission standards "under this section." 76 Fed. Reg. at 24,993/2; 77 Fed. Reg. at 9330/1.

Furthermore, this Court made clear in *New Jersey* that section 7412(n)(1) "governs how the Administrator decides to list EGUs" as a source category to be regulated, and that once EGUs are listed, they are subject to all of the requirements of section 7412, unless expressly stated otherwise. *New Jersey*, 517 F.3d at 582 (stating that "where Congress wished to exempt EGUs from specific requirements of section [7412], it said so explicitly"). Section 7412(d) establishes the framework for EPA to set standards for listed source categories. Congress did not expressly exempt EGUs from the requirements of section 7412(d). Therefore, once EGUs were listed pursuant to EPA's section 7412(n)(1)(A) determination, EPA was required to promulgate standards consistent with the requirements of

section 7412(d), and not some less stringent standards under authority of section 7412(n)(1).

Petitioners point to the section 7412(n)(1)(A) requirement that EPA describe in the Utility Study "alternative control strategies for emissions which may warrant regulation under this section." *See* Joint Br. 37-38. This provision relating to the contents of that study does not govern the framework for promulgating emission standards. Moreover, in that study, EPA reasonably interpreted the reference to "alternative control strategies" as a direction to EPA to identify the various types of *control technologies* available to EGUs for reducing hazardous pollutant emissions that may warrant regulation, not some mandate to examine different regulatory frameworks than the one Congress actually adopted for hazardous pollutant emissions. 77 Fed. Reg. at 9331/1; Utility Study, Chapter 13 (JA XX).[22]

Furthermore, even if the statute were ambiguous as to whether EPA must promulgate regulations under section 7412(d) (and *New Jersey* makes clear that it is not), EPA's decision to promulgate standards pursuant to section 7412(d)

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[22] Petitioners also point to the reference to section 7412(n) in section 7607(d)(1)(C). *See* Joint Br. 38. As discussed above in note 9, this reference appears to be a scrivener's error. But if not construed as error, the reference can be read as referring to EPA's authority to promulgate regulations under subsections other than (n)(1). *See* 42 U.S.C. § 7412(n)(3) (providing EPA with authority to promulgate certain control measures for publicly-owned treatment works).

following its "appropriate and necessary" determination is still reasonable and must be alternatively upheld under step two of the *Chevron* test. CAA section 7412(d) provides a concrete, Congressionally-sanctioned, framework for setting the level of emission standards for hazardous pollutant emissions. Section 7412(n)(1) does not. *See* 77 Fed. Reg. at 9332/2-3 (explaining EPA would still choose to establish section 7412(d) standards even if it had alternative authority to establish standards under section 7412(n)(1)).

B. EPA Properly Regulated All Hazardous Pollutants Emitted by EGUs Following Its "Appropriate and Necessary" Determination.

EPA also properly promulgated emission standards for *all* hazardous pollutants emitted by EGUs following EPA's listing of EGUs as a source category to be regulated under section 7412. *See* Joint Br. 29-34. Again, this Court made clear in *New Jersey* that section 7412(n)(1) "governs how the Administrator decides to list EGUs" as a source category and that once EGUs are listed, they are then subject to all of the requirements of section 7412, unless expressly stated otherwise. 517 F.3d at 582.

Section 7412(d)(1) provides that "the Administrator shall promulgate regulations establishing emission standards for each category of major sources . . . of *hazardous air pollutants listed for regulation* pursuant to subsection (c) of this

section") (emphasis added). *See also* section 7412(d)(2) ("Emission standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions *of the hazardous air pollutants subject to this section. . . .*" (emphasis added). This Court has already addressed section 7412(d) in this regard and made clear that section 7412(d) establishes a "clear statutory obligation to set emission standards for each listed [hazardous pollutant]" emitted by major sources. *Sierra Club v. EPA*, 479 F.3d 875, 883 (D.C. Cir. 2007); *Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 634 (D.C. Cir. 2000).[23]

Petitioners' contention that, with respect to EGUs, EPA is authorized to set emission standards only for those pollutants specifically found to pose hazards, cannot be reconciled with *New Jersey* and *National Lime*. Petitioners contend that *National Lime* has no application to EGUs. Joint Br. 32. But nothing in *National Lime* suggests that EGUs can be treated differently than other major sources once

[23] Section 7412(n)(1) provides that "[t]he Administrator shall regulate [EGUs] under this section, if the Administrator finds such regulation is appropriate and necessary. . . ." Petitioners' emphasis on the words "such regulation" does not help their cause. *See* Joint Br. 30. "Such regulation" refers to regulation "under this section." Regulation "under this section" incorporates the requirement in section 7412(d) to regulate all hazardous pollutants emitted by listed major source categories.

they are listed for regulation.[24] Even more critically, Petitioners ignore this Court's decision in *New Jersey*, which confirmed that EGUs are not exempt from other requirements of the Act, unless explicitly stated. *See* 517 F.3d at 582. Congress did not exempt EGUs from the requirements of section 7412(d), and therefore EGUs are subject to section 7412(d).

Petitioners' argument largely relies on the fact that *prior* to *New Jersey*, EPA had advanced a different interpretation of EPA's obligations. EPA, however, in this rulemaking squarely addressed why that prior interpretation is untenable: namely, it would contradict this Court's decisions in *New Jersey* and *National Lime*. 77 Fed. Reg. at 9325-26; 76 Fed. Reg. at 24,993. EPA cannot ignore this Court's decisions interpreting the Act.[25]

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[24] Congress defined EGUs separately without distinguishing between EGUs that are major or area sources. However, the vast majority of EGUs meet the definition of "major sources." *See* MACT Floor Memo at 4, EPA-HQ-OAR-2009-0234-20132 (identifying total of 1280 EGUs) (JA XX), EPA-HQ-OAR-2009-0234-20063 (identifying 141 EGUs that are at potential area sources) (JA XX). Accordingly, EPA reasonably reads section 7412(d)(1) and (d)(2) to require regulation of all hazardous pollutants from EGUs.

[25] This Court in *New Jersey* not only vacated EPA's prior rulemakings in their entirety, but in doing so, chastised the Agency for failing to give appropriate weight to the relevant statutory context here: namely, Congress' concern "with the fact that EPA had failed for decades to regulate [hazardous pollutants] sufficiently." 517 F.3d at 583 (citing *Nat'l Lime*, 233 F.3d at 634 S. Rep. No. 101-228, at 128, *reprinted in* 1990 U.S.C.C.A.N. at 3513).

Furthermore, EPA made clear that even if the statute were deemed ambiguous, EPA would still have reasonably elected to promulgate section 7412(d) standards for all hazardous pollutants emitted by EGUs. 77 Fed. Reg. at 9326/2. Congress in the 1990 Amendments required EPA to set minimum emission standards for each listed hazardous pollutant for each listed major source, without regard to the degree of hazard posed by specific emitted pollutants. Once EPA decided it was appropriate and necessary to regulate EGUs under section 7412 and listed EGUs, it was reasonable for EPA from that point forward to regulate all hazardous pollutants emitted by EGUs.[26]

III. EPA PROPERLY DENIED UARG'S DELISTING PETITION.

EPA properly denied the petition of UARG requesting that EPA delete, pursuant to section 7412(c)(9)(B), coal-fired EGUs from the list of source categories to be regulated under section 7412. 77 Fed. Reg. at 9364-66. UARG did not demonstrate in its petition that EPA could make either of the findings that are both required under section 7412(c)(9)(B) before EPA can delist a source category: (1) that no source emits hazardous pollutants in quantities which may

[26] Petitioners once again point (Joint Br. 29-30) to the section 7412(n)(1)(A) requirement that EPA describe in the study "alternative control strategies for emissions which may warrant regulation under this section." But this provision again relates just to the contents of the study and has no bearing on EPA's obligations under section 7412(d) following the listing of EGUs.

cause a lifetime cancer risk of greater than one in a million to the individual in the population who is most exposed, and (2) that emissions from no source exceed a level which is adequate to protect public health with an ample of margin of safety. *Id.* EPA further properly denied the petition as defective because it requested that EPA delist only a portion of the EGU source category. *Id.* at 9364/1. *See NRDC v. EPA*, 489 F.3d 1364, 1373 (D.C. Cir. 2007) (holding that EPA under section 7412(c)(9) may delist source categories, but has no discretion to delist subcategories).[27]

IV. EPA WAS NOT REQUIRED TO MAKE AN ADDITIONAL FINDING PRIOR TO REGULATING EGUs THAT ARE AREA SOURCES.

Petitioners argue that, even if EPA's "appropriate and necessary" determination was lawful, EPA's emissions standards must be overturned because EPA failed to make an additional finding, under section 7412(c)(3), that EGUs that are "area sources" of hazardous pollutants warrant regulation alongside EGUs that are "major sources."[28] Joint Br. 55-58.

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[27] Petitioners cite an undated informal memorandum prepared by an EPA employee providing information on how to prepare petitions to delist source categories, and assert that EPA's denial of UARG's petition "does not follow" the memorandum. *See* Joint Br. 65. The undated memorandum cited is not a regulation and does not have any legal force.

[28] *See* pg. 6 *supra* (discussing definitions of "major source" and "area source").

The Act does not require EPA to find that regulation is warranted twice before setting standards for area source EGUs. Section 7412(c) generally requires EPA to find that area sources "present[] a threat of adverse effects to human health or the environment . . . warranting regulation," before listing and regulating them.[29] 42 U.S.C. § 7412(c)(1)-(3). However, this requirement is rendered superfluous for EGUs by the EGU-specific provisions of section 7412. EGUs are defined in section 7412(a)(8) as "any fossil fuel-fired combustion unit of more than 25 megawatts" that generates electricity for sale, making no distinction between area sources and major sources. Section 7412(n)(1)(A) requires EPA to regulate EGUs after an appropriate and necessary finding has been made. Requiring a second finding for area source EGUs under section 7412(c)(3) is illogical because the consequence of such a finding –regulation – is already mandated once EPA has made a section 7412(n)(1)(A) finding.[30] Put simply, Congress set a separate path

[29] Petitioners suggest that EPA never listed area source EGUs. However, the 2002 notice they cite simply "updated" the source category list based on prior agency actions, including EPA's December 20, 2000 listing of EGUs pursuant to 7412(n)(1)(A). 67 Fed. Reg. 6521, 6522 (Feb. 12, 2002).

[30] Requiring a section 7412(c)(3) finding for area source EGUs would also be redundant given that the appropriate and necessary finding is at least equivalent to that finding. *Compare* 42 U.S.C. § 7412(c)(3) (area sources may be regulated where they present "a threat of adverse effects to human health or the environment . . . ") *with* 42 U.S.C. § 7412(n)(1)(A) (requiring EPA to assess hazards to public health anticipated to occur as the result of EGU emissions).

for the listing of EGUs. *See New Jersey*, 517 F.3d at 582 ("Section [7412(n)(1)] governs how the Administrator decides whether to list EGUs").

Petitioners argue that "where Congress wishes to exempt EGUs from specific requirements of section 7412, it said so explicitly." Joint Br. 58 (quoting *New Jersey*, 517 F.3d at 582). But that is exactly what Congress did by defining EGUs in a manner that includes both major and area sources and mandating that EGUs be regulated under section 7412 once an appropriate and necessary finding is made. At the very least, EPA's conclusion that the Act does not require a second finding before area source EGUs can be regulated is a reasonable interpretation of the interplay between sections 7412(a)(8), 7412(n)(1)(A), 7412(c) and 7412(d). *See Chevron*, 467 U.S. at 843.[31]

Given that Congress defined EGUs to include both major and area sources, it was also reasonable for EPA to conclude that both should be considered when identifying the best performing sources on which emission standards should be based. Indeed, it was particularly appropriate for EPA to consider both when

[31] We address Petitioners' citation to *National Lime* (Joint Br. 56-57) in Section II.B above. EPA cited that case in support of its view that it should set standards for *all* hazardous pollutants emitted by EGUs, not in regard to the issue addressed here. *See, e.g.,* 77 Fed. Reg. at 9361/1.

setting standards here, given that they have similar emissions characteristics and employ similar controls. *See* 77 Fed. Reg. at 9438/2.[32]

Petitioners also argue that EPA failed to explain why it applied MACT, rather than "generally available control technology" or "GACT," standards to area source EGUs.[33] Joint. Br. 56. But EPA reasonably concluded that GACT standards were not warranted here for a number of reasons.[34] EPA found that "similar [hazardous pollutant] emissions and control technologies are found on both major and area sources," such that "there is no essential difference between area source and major source EGUs with respect to emissions of [hazardous pollutants]." 77 Fed. Reg. at 9438/2. EPA further explained:

> [T]he data . . . show that there is little difference between major and area source EGUs individually, and that generally the driver for whether a utility facility is major or area source depends on the

[32] EPA recently used the same approach in another section 7412(d) rulemaking. *See* 75 Fed. Reg. 54,970, 54,987 (Sept. 9, 2010) (setting hazardous pollutant standards for the Portland cement manufacturing industry).

[33] The Act gives EPA the *discretion* to require GACT, rather than MACT, for area sources. 42 U.S.C. § 7412(d)(5) (EPA "may . . . elect to promulgate" GACT standards "in lieu of" MACT).

[34] EPA addressed this issue at great length in the proposed rule, its Response to Comments, the final rule, and a technical support document. *See* 76 Fed. Reg. at 25,020-21; RTC Vol. 1 at 253-67 (JA XX-XX); 77 Fed. Reg. at 9402-03; EPA-HQ-OAR-2009-0234-20063 ("the Agency examined whether it would be appropriate to . . . issu[e] GACT standards") (JA XX).

> number of EGUs located at the facility . . . not on any inherent difference between the EGUs themselves.

Id. at 9404/2. EPA also observed that the majority of area source EGUs "were, in fact, major sources prior to installing controls," *id.*, which indicates that there is no fundamental difference between the emission reductions that can be achieved by area sources as opposed to major sources. Finally, the fact that "a number of area sources . . . are high emitters of [mercury] and non-[mercury] metal hazardous pollutants" further supports EPA's decision to require area source EGUs to meet MACT standards, rather than less-stringent GACT standards, because those pollutants pose hazards to public health. *Id.* at 9404/2. Therefore, EPA reasonably exercised its discretion to apply MACT standards to all regulated EGUs.

V. EPA's "APPROPRIATE AND NECESSARY" DETERMINATION APPLIES TO PETROLEUM-COKE UNITS.

EPA's "appropriate and necessary" determination and listing of coal- and oil-fired EGUs encompasses solid oil-derived fueled units, a subcategory which includes petroleum-coke units. Accordingly, contrary to the argument raised in the industry supplemental brief (*see* Supp. Ind. Br. 12-13), EPA appropriately promulgated regulations for petroleum-coke fueled units. *See* 77 Fed. Reg. at 9489-90, 9493.

As an initial matter, Petitioners' claim that EPA failed to make an "appropriate and necessary" finding with respect to petroleum-coke units was not raised in comments before the Agency, so this argument has been waived. 42 U.S.C § 7607(d)(7)(B); *Nat'l Elec. Mfrs. Ass'n v. EPA*, 99 F.3d 1170, 1171 n.1 (D.C. Cir. 1996). But even if this argument had not been waived, EPA properly promulgated standards for these units.

Petroleum-coke is a by-product resulting from the thermal cracking of oil during the petroleum refining process, and can be used as a fuel. 76 Fed. Reg. at 25,093/1; 77 Fed. Reg. at 9486. Thus, petroleum-coke is a petroleum-derived fossil fuel, and is subsumed within the listed coal- and oil-fired EGU source category. Where EPA chose not to list particular types of EGUs in the 2000 determination, it clearly expressed its intent. For example, when review of the Utility Study indicated that emissions of hazardous pollutants from natural gas-fired EGUs were negligible, EPA clearly stated that natural-gas units would not be regulated. 65 Fed. Reg. at 79,831. There is no such clear exclusion of units using petroleum-derived fuels.

Indeed, the Utility Study included a petroleum-coke fired unit. Utility Study at 3-16. EPA also included petroleum-coke fired units in its information collection effort to support the Rule. 76 Fed. Reg. at 25,022/3 and 25,024/3. Moreover, in its

2011 rulemaking proposal, EPA specifically proposed standards for solid oil-derived fuels, 76 Fed. Reg. at 25,126, 25,128, and found it was "appropriate and necessary" to regulate the units for which standards were being proposed. 76 Fed. Reg. at 24,978/3.

Further, Industry Petitioners' reliance on EPA's 2004 rulemaking proposal is unavailing. The portion of the proposed rule on which Petitioners rely was never finalized. Though the Agency did characterize petroleum-coke as a "non-regulated" fuel in describing how it proposed to consider blended fuels, 69 Fed. Reg. 4652, 4674/2 (Jan. 30, 2004), it did not explain the basis for that characterization. These statements also do not affect the scope of the 2000 listing; that listing stands on its own. 65 Fed. Reg. at 79,825. Finally, EPA's 2011 rulemaking proposal eliminated any ambiguity as to whether EPA considers it "appropriate and necessary" to regulate solid oil-derived fuels, by proposing standards for such fuels and confirming that it remains "appropriate and necessary" to regulate coal- and oil-fired EGUs under section 7412. 76 Fed. Reg. at 24,978/3.

VI. THE EXISTING SOURCE MERCURY EMISSION STANDARD FOR COAL-FIRED UNITS IS CONSISTENT WITH THE CAA.

EPA promulgated appropriate standards for mercury emissions from existing coal-fired units. Petitioners' challenge to these standards rests on a pair of false

premises. First, Petitioners claim that EPA is limited to either designing an information collection request ("ICR") that selects units on a "purely random" basis, or selects only the best-performing units for sampling. Joint Br. at 58. However, the CAA does not require EPA to set MACT standards based on a purely randomized data set; instead, it directs EPA to base such standards on the performance of sources "for which the Administrator has emissions information." 42 U.S.C. § 7412(d)(3)(A). Second, Petitioners claim that EPA selected only the best controlled sources for mercury. *Id.* at 59. The record does not support their claim.

EPA, in its ICR, did not target the best performing sources for mercury because the Agency did not believe it could identify such units. RTC Vol. 1 at 573-76 (JA XX-XX) (explaining difficulties associated with identifying mercury best performers for data collection purposes); ICR Supporting Statement Part B at 6-7 (EPA-HQ-OAR-2009-0234-0103) (JA XX-XX). Instead, the Agency collected data from a wide range of sources, and, for mercury, set a standard based on the average emission limitation achieved by the best-performing 12 percent of sources for which it had emissions information, as required by section 7412(d)(3)(A).

Petitioners argue that EPA tested the best performers for mercury and erred by not setting the mercury MACT floor based on the average emission limit achieved by the top 12 percent of the entire source category. Joint Br. at 58-59. Petitioners further contend that EPA based the floor for non-mercury metals on 12 percent of the entire EGU population, and that it was compelled to do the same for mercury. Petitioners are wrong, however. As discussed below, EPA could not reasonably take Petitioners' preferred approach for two reasons: (1) in the ICR, EPA could not and did not target the best performing sources for mercury; and (2) record data showed that the best performing sources for non-mercury metals were not the same as the best performing sources for mercury. EPA reasonably set the mercury MACT floor based on the average emission limitation achieved by the best performing 12 percent of sources for which it had emissions information.

A. EPA Collected a Substantial Amount of Mercury Data.

Prior to promulgating standards, EPA collected mercury emissions data from a wide range of sources through a comprehensive ICR.[35] Part II of that ICR required every coal- and oil-fired EGU to submit *all* available emissions data

[35] EPA provided the public two different opportunities to comment on the proposed ICR. 76 Fed. Reg. at 25,022/2. *See, e.g.*, UARG Comments at 24 (EPA-HQ-OAR-2009-0234-0017) (JA XX). EPA considered these comments and made several changes in response, including not requiring certain units to test. ICR RTC at 30-42 (JA XX-XX).

obtained between January 1, 2005 and December 31, 2010, including mercury emissions data. *See* ICR Supporting Statement Part A at 9 (EPA-HQ-OAR-2009-0234-0102) (JA XX); ICR Supporting Statement Part B at 30, 32 (EPA-HQ-OAR-2009-0234-0103) (JA XX, XX). In Part III of the ICR, EPA also required testing for randomly selected units and other units that it believed were the best performing sources for *non-mercury* metals, acid gas, and organic hazardous pollutants. ICR Supporting Statement Part B at 2, 7 (JA XX, XX).

With respect to Part III of the ICR, EPA believed it could identify the best performing sources for non-mercury metal hazardous pollutants. RTC Vol. 1 at 573-75 (JA XX-XX), 76 Fed. Reg. at 25,022/2. Based on that belief, EPA required sources identified as best performers for non-mercury metals to conduct stack testing of their non-mercury metal emissions and for particulate matter (which serves as a surrogate for control of non-mercury metals). *Id.* For purposes of efficiency, EPA additionally determined that the units believed to be the best-performing sources for non-mercury metal control should also test for mercury emissions. EPA at the time believed the testing methods for particulate matter and mercury emissions were similar, and thus additional mercury emissions data could be acquired cost-effectively from units being tested for particulate matter. MACT Floor Memo at 4 (EPA-HQ-OAR-2009-0234-20132) (JA XX). This was *not* an

attempt, however, to target best performers for mercury control or to imply that the best performers for particulate control are also the best performers for mercury control. In fact, the data collected reflect that some of the best-performing units with respect to particulate matter control are among the worst performing units for mercury control. *See* MACT Floor Analysis Spreadsheets (EPA-HQ-OAR-2009-0234-20132) (JA XX). Additionally, the data reflect that many of the mercury best performers (32 of the best-performing 126 units) are not drawn from the pool of units that were targeted in Part III of the ICR as particulate matter best performers. RTC Vol. 1 at 575 (JA XX).[36]

The Proposed Rule made clear that EPA intended to set mercury standards based on the top 12 percent of the data obtained. 76 Fed. Reg. at 25,023/1. If

[36] The presence of 73 percent of EGUs equipped with activated carbon injection in the data pool is not indicative that EPA targeted mercury best performers, as Petitioners contend. Joint Br. at 60. If EPA had believed it could identify the best performers for mercury as sources equipped with activated carbon injection, EPA would have required 100 percent of sources equipped with activated carbon injection to conduct stack testing. In any case, Petitioners are incorrect in assuming sources with installed activated carbon injection would necessarily be the best performers, given that some sources equipped with activated carbon injection were among the worst mercury controlled sources. *See e.g.,* MACT Floor Analysis Spreadsheets attachment a2_Coal_Hg_MACT_floor_analysis_121611, tab "Hg_Data_>8300_Btulb," rows 365, 344, and 326 (presence of activated carbon injection is indicated either in column X as "control_type_1" or column AA as "control_type_2" (EPA-HQ-OAR-2009-0234-20132) (JA XX). Additionally, some sources do not optimize mercury reductions by using that technology to its fullest extent. *Infra* fn. 42.

regulated sources believed EPA's proposed mercury standard was based on data that would skew the standard too low, they could have provided additional mercury data during the comment period. EPA, however, received very little new mercury data in response to the Proposed Rule.

B. EPA Properly Set the Existing Source Mercury Standard Based On the Top 12 Percent of Available Data.

EPA acted reasonably in calculating the mercury floor standards for existing sources. The mercury data pool was large – EPA collected mercury data from more than 35 percent of the sources in the coal-fired population. Mercury emissions data collected through the ICR included: (1) data from the 170 sources that EPA believed were best controlled sources for non-mercury metal hazardous pollutants; and (2) data from 218 units that were not identified as potential best performers for non-mercury metals (168 units from Part II of the ICR and 50 units randomly selected from units not identified as a best performers for any hazardous pollutant). *See generally* MACT Floor Analysis Spreadsheets (JA XX); ICR Supporting Statement Part B at 7-8 (EPA-HQ-OAR-2009-0234-0103) (JA XX-XX).

As discussed above, EPA could not have targeted the mercury best performers for stack testing, because the Agency could not identify the mercury

best performers prior to issuance of the ICR. Moreover, the data collected through the ICR showed that units with the best particulate controls were not consistently the units with the best mercury controls, and data from some of the 50 randomly selected units that were not presumptive best performers for any pollutant were among the best controlled sources for mercury. *Supra* fn. 41; RTC Vol. 1 at 575 (JA XX); ICR at 93-95 (EPA-HQ-OAR-2009-0234-0103) (JA XX). These facts confirm that the set of the best controlled sources for mercury are not the same set as the best controlled sources for non-mercury metals.[37] Accordingly, the Agency set a mercury MACT floor based on the average of the top 12 percent of all of the available mercury data before it. MACT Floor Memo at 4 (JA XX). This approach follows the statutory direction set out in section 7412(d)(3).

C. The Best-Performing Sources for Non-Mercury Metals Were Not The Best-Performing Sources for Mercury Control.

Petitioners' position that EPA designed its ICR to test only best-performing units for mercury control is misplaced. Joint Br. at 59. Petitioners point to a November 5, 2009, statement in which EPA stated that it believed units with the

[37] Petitioners were on notice at the time of the ICR that EPA would only base standards on 12 percent of the source category if the data supported that approach. *See* OMB Supporting Statements at 2 (EPA-HQ-OAR-2009-0234-0062) (JA XX); (EPA-HQ-OAR-2009-0234-0103) (JA XX).

latest particulate controls were "among the top performers with respect to [mercury] emissions." ICR RTC at 27 (JA XX). But as EPA subsequently made clear, this statement was incorrect – EPA did not, and does not, believe that the best controlled sources for non-mercury metals are the top performers with respect to mercury emissions. *See* RTC Vol. 1 at 575 ("EPA did not select the units required to test for [mercury] and non-[mercury] metal [hazardous pollutants] for testing based on a presumption that they would be among the 'best performing' units for [mercury] and any statements made that imply that we could identify the best-performing sources for [mercury] are not well founded.") (JA XX). *See also* 76 Fed. Reg. at 25,023/1.

As EPA explained, although particulate matter control is a suitable proxy for control of non-mercury metal hazardous pollutants, it is *not* a suitable proxy for control of mercury. RTC Vol. 1 at 749 (JA XX). Mercury is different than other metals because, although EGUs can emit mercury bound to particulate matter, mercury can also be present as a vapor (either as elemental vapor or an ionic gas), and the form of mercury has a significant impact on which control technologies are most effective. 76 Fed. Reg. at 25,014/1. EPA found that controls for particulate matter are very effective for the capture of particulate-bound mercury, but generally are much less effective for the control of other forms of mercury, such as

elemental vapor and reactive gaseous mercury. *Id.* Accordingly, EPA determined that particulate control technology alone is very unlikely to provide the best level of mercury control because it does not target the control of gaseous forms of mercury. *See* 76 Fed. Reg. at 25,024/1; ICR Supporting Statement Part B at 6-7 (JA XX, XX).

Under these circumstances, Petitioners' proposed regulatory approach – (*i.e.* basing the existing source mercury limits on data from sources representing 12 percent of the entire population of EGUs rather than 12 percent of the data actually before the Agency) – would have been inconsistent with the requirements of section 7412(d)(3). Inasmuch as EPA could not otherwise identify the units representing the best-performing 12 percent of sources, EPA's development of the MACT floor for mercury based on 12 percent of the sources for which the Agency had mercury data was not only reasonable, but compelled by section 7412(d)(3), and should be upheld. *See Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C. Cir. 1999) ("EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem"); *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1004 (D.C. Cir. 1997) (EPA need not "invest [in] the resources to conduct the perfect study" before taking action.).

D. The Mercury Standard Is Not Overly Stringent.

Petitioners imply that EPA's approach for establishing the mercury MACT floor resulted in a mercury standard that is too stringent. In fact, however, EPA has collected reliable mercury emissions data for 388 sources, and all available ICR data for more than 150 of those 388 sources show emission levels in compliance with the Final Rule's mercury standards.[38] *Compare* 77 Fed. Reg. 9490 at Table 2 (setting standards) *to* MACT Floor Analysis Spreadsheet A2 (indicating that more than 150 sources have met mercury limits in all reported measurements) (JA XX).[39] Those 150 sources comprise approximately 15 percent of the category. Thus, the record belies Petitioners' suggestion that the standard is overly stringent.[40]

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[38] Additionally, commenters repeatedly cite a survey indicating that 60 percent of coal-fired units for which the Agency has mercury data are already able to comply with the standard. 77 Fed. Reg. at 9415/2.

[39] This set of 150+ sources consists of EGUs that appear to be able to achieve the existing source mercury standard for every set of data submitted to EPA. The MACT Floor Analysis Spreadsheet A2 is a summary of the best 3-run average data for each source, but this statement holds true when comparing the mercury standard to all raw data submitted to EPA. The 150+ sources resulted from a comparison of the source data to the mercury emission standard. The source data are voluminous, but available at the "MATS ICR Data" section of http://www.epa.gov/ttn/atw/utility/utilitypg.html.

[40] Industry Petitioners' reference to a conversion error is a red herring. Joint Br. 60-61. EPA admitted that there was a conversion error in the proposed rule,

VII. EPA PROMULGATED APPROPRIATE EMISSIONS STANDARDS FOR EACH SUBCATEGORY.

Certain Industry Petitioners challenge standards set for sources in various subcategories. Supp. Ind. Br. 8-16. EPA followed the statutory dictates set forth in section 7412(d) and set reasonable standards for each of these subcategories.

A. The Emission Standards for EGU's Designed to Burn Low Rank Coal Are Achievable and Properly Calculated.

1. The Mercury MACT Floor for this Subcategory Was Properly Calculated.

Rather than developing an argument challenging EPA's MACT floor for the low rank virgin coal subcategory,[41] Petitioners simply assert three claimed flaws in perfunctory fashion, and attempt to incorporate by reference several pages of comments to EPA. Supp. Ind. Br. 11-12. This undeveloped and superficial argument is insufficient on its face. *See* Fed. R. App. P. 28(a)(9) (instructing that a component of the brief is "the argument, which must contain . . . [the] appellant's contentions and the reasons for them [.]"); *Am. Wildlands v. Kempthorne*, 530 F.3d

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corrected that error, and commenters recognized that the error was fixed. RTC Vol. 1, at 582–83 (JA XX-XX). After correction of the error, sources not identified as best performers for non-mercury metals remained in the mercury MACT floor.

[41] Low rank virgin coal refers to coal with a low calorific value. 77 Fed. Reg. at 9369/3. Petitioners refer to low rank coal as "lignite."

991, 1001 (D.C. Cir. 2008) (rejecting an argument raised only in a "fleeting statement"); *Ry. Labor Executives' Ass'n v. U.S. R.R. Ret. Bd.*, 749 F.2d 856, 859 n. 6 (D.C. Cir. 1984) (declining to resolve an issue that "consisted of only three sentences in the [appellant's] brief and no discussion of the . . . relevant case law").

In any event, EPA properly calculated the MACT floor based on the average emission limitation achieved by the best-performing 12 percent of sources in the subcategory for which the Administrator had information. *See* 42 U.S.C. § 7412(d)(3)(A); MACT Floor Memo at 3-9 (JA XX-XX). EPA did not "cherry pick" data, as Petitioners argue. Supp. Ind. Br. 12. Quite to the contrary, EPA sorted all available data from the ICR to determine the lowest level of emissions achieved for each unit within the subcategory. *See* MACT Floor Memo at 10 (JA XX). Once the top performing 12 percent of sources was determined, EPA considered all available data, including higher data measures that Petitioners claim were ignored, to determine the MACT floor. *Id.;* RTC Vol. 1 at 559-60, 601 (JA XX-XX, XX).

EPA accounted for variability by applying an upper prediction limit. 76 Fed. Reg. at 25,041/2; RTC Vol. 1 at 458 (JA XX); MACT Floor Memo at 3-9 (JA XX-XX). An upper prediction limit is derived to account for the range of likely future values based on past data. 76 Fed. Reg. at 25,041. EPA's upper prediction

limit in the Final Rule was calculated to allow, to a 99 percent degree of confidence, that any given future three-run test average would fall at or below the upper prediction limit value. *Id.* This is just the sort of evaluation of complex scientific data within the agency's technical expertise for which this Court should be "extremely deferential" in its review. *New York v. Reilly,* 969 F.2d 1147, 1152 (D.C. Cir. 1992).

2. EPA's Beyond-the-Floor Standard for this Subcategory is Achievable.

EPA properly set an "achievable" beyond-the-floor standard for the low rank virgin coal subcategory pursuant to section 7412(d)(2). In particular, EPA considered the fact that a particular technology, activated carbon injection, is available, and was not being used to its fullest extent during ICR testing. 76 Fed. Reg. at 25,046/3. Essentially, sources that were using activated carbon injection controls during ICR testing were attempting to meet state law mercury emission limits then in place; they were not attempting to maximize mercury reductions. *Id.* EPA determined that greater reductions would be achievable if the technology

were to be used to its fullest extent. Beyond-the-Floor Memo at 1-5 (EPA-HQ-OAR-2009-0234-20130) (JA XX-XX).[42]

Contrary to Petitioners' contentions (*see* Supp. Ind. Br. 11), the record reflects that increased mercury removal rates can be expected with increased carbon injection, and that the mercury reduction rates needed for low rank virgin coal EGUs to achieve the beyond-the-floor levels are well within the proven level of mercury controls for such sources. Beyond-the-Floor Memo at 1-2 (JA XX-XX). Emission reductions of 90 percent can be achieved on existing low rank virgin coal units, and such units would only need to make emission reductions of 4 to 56 percent to reach the beyond the floor levels. *Id.*

EPA did not base the mercury beyond-the-floor standard on a single datapoint as Petitioners suggest. Supp. Ind. Br. 10. Instead, EPA based the standard at a level that sources within the subcategory had achieved in spite of the fact that the relevant control technology was underutilized. Indeed, three of the

[42] The effectiveness of activated carbon injection to control mercury is highly dependent on the types and amount of sorbent injected. 76 Fed. Reg. at 25,014/2. Sources are unlikely to undertake unnecessary expense by injecting more sorbent (the largest cost related to activated carbon injection) than necessary to meet emission standards. As more stringent standards are set, however, sources with activated carbon injection installed can generally increase mercury capture by increasing their rate of sorbent injection.

four low rank virgin coal units tested that had mercury-specific controls were meeting the beyond-the-floor limit established. 77 Fed. Reg. at 9393/2.

Contrary to Petitioners' claims, Supp. Ind. Br. at 11, EPA found the costs for the beyond-the-floor control to be reasonable after specifically considering, *inter alia*, the incremental cost of achieving the beyond-the-floor standards, including the costs to incorporate control technology, and associated costs to operate and maintain that technology. *See* Memorandum from Johnson to Maxwell (Mar. 14, 2011) at 4-5 (EPA-HQ-OAR-2009-0234-2924) (JA XX-XX); 77 Fed. Reg. 9393/2-3; Beyond-the-Floor Memo at 1-4 (JA XX-XX); Emission Reduction Costs Memo (EPA-HQ-OAR-2009-0234-2925) (JA XX-XX).

B. EPA's Particulate Matter Standards for Petroleum-Coke Units Incorporated All Relevant Data and Are a Logical Outgrowth of the Proposed Rule.

Petitioners argue that EPA, in setting particulate emission standards, ignored 32 of 47 data sets in the record that show high emissions levels from petroleum-coke units.[43] Supp. Ind. Br. 13. This argument was not raised during the

[43] Petitioners cite to EPA's ICR to support this assertion, Pet Br. at 13, n.8, but fail to identify which datasets EPA "ignored." The final particulate standard for petroleum-coke units may appear to be more stringent than the proposed standard; however, it is not. The final standard is based only on filterable particulate matter, while the proposed standard was based on total particulate matter (which includes filterable and condensable particulate matter). *See* 77 Fed. Reg. at 9493, Table 2.

administrative process, and it has been waived. *See Dep't of Transp. v. Public Citizen*, 541 U.S. 752, 764-65 (2004). In any event, EPA established an appropriate particulate matter emission standard for petroleum-coke units and did not subject such units to disparate treatment; rather, EPA applied the same methodology in establishing all standards and its approach was reasonable. MACT Floor Memo at 3-13 (JA XX-XX).

In addition to their substantive argument, Petitioners raise a procedural argument – claiming that EPA's final particulate matter standards were not a logical outgrowth of EPA's proposed standards. Petitioners claim that EPA switched from an output-based to an input-based petroleum-coke standard.[44] Supp. Ind. Br. 13-14. Petitioners are incorrect. While EPA proposed an output-based particulate matter emission limit of 2.0 lb/MWh, 76 Fed. Reg. at 25,128, EPA also proposed an input-based particulate matter emission limit of 0.20 lb/MMBtu. 76 Fed. Reg. 25,128 at § 5 of Table 2. "[A]n agency may issue rules that do not exactly coincide with the proposed rule as long as the final rule is the 'logical outgrowth' of the proposed rule." *Fertilizer Inst. v. EPA*, 935 F.2d 1303, 1311

[44] An "output-based" standard relies on electrical production data, and measures emissions in relation to the amount of energy produced generating those emissions. 77 Fed. Reg. at 9502/2. An "input-based" standard, by contrast, defines limits on the amount of emissions that can be produced per unit of heat input. *Id.*

(D.C. Cir. 1991). "Under the 'logical outgrowth' test . . . , the key question is whether commenters 'should have anticipated' that EPA might" issue the final rule it did. *City of Portland v. EPA*, 507 F.3d 706, 715 (D.C. Cir. 2007) (citations omitted). In this case, Petitioners were clearly on notice the EPA was considering an input-based standard.

Petitioners also challenge the definitions of the subcategories included in the Rule. Supp. Ind. Br. 14. In response to comments, EPA revised these definitions to avoid an unworkable regulatory scheme under which a unit could be in two different subcategories with conflicting requirements. EPA proposed to define a "solid oil-derived fuel-fired" unit as an EGU that "burns any solid oil-derived fuel (*e.g.* petroleum-coke) . . . ." 76 Fed. Reg. at 25,027/2-3. If an EGU burns more than 10 percent coal, however, that EGU would also be considered a coal-fired unit. 77 Fed. Reg. at 9376-77. Thus, the definition of "solid oil-derived fuel-fired" unit created the possibility that an EGU burning petroleum-coke to account for 80 percent of the heat input, and burning coal accounting for 20 percent of its heat input, would be faced with dual, and inconsistent, standards. *Id.* at 9377/1. In response to these comments, EPA amended its approach. As a functional matter, a new round of comment on this point would be unlikely to persuade the agency to modify its rule. *See Am. Water Works Ass'n v. EPA*, 40 F.3d 1266, 1274 (D.C. Cir.

1994) ("In most cases, if the agency then alters its course in response to the comments it receives, little purpose would be served by a second round of comment.") The regulated public was clearly on notice regarding the proposed definitions of the various units affected by the proposed rule, and changes to those definitions to eliminate inconsistency are logical outgrowths of the proposal.

C. EPA's Non-Continental Unit Standards Are Reasonable.

EPA additionally established appropriate emission standards for liquid oil-fired, non-continental ("Non-continental") units. *See* Supp. Ind. Br. at 15-16. Non-continental units consist of liquid-oil fired units that are not located in the continental United States, and thus have limited access to alternate fuel sources. 77 Fed. Reg. at 9379/3. At proposal EPA lacked sufficient information to subcategorize Non-continental units, and solicited comments regarding their subcategorization. *See* 76 Fed. Reg. at 25,027/3, 25,037/2, 25,047/3; 77 Fed. Reg. at 9379/3. Thus, all parties were on notice that subcategorization of these units was possible. *See, e.g., Ass'n of Am. Railroads v. Dep't of Transp.,* 38 F.3d 582, 589 (D.C. Cir. 1994) (holding that notice was adequate where proposal stated that the agency was "receptive to comments that . . . certain standards are unnecessary.").

Without citation to any authority, Petitioners challenge the standards set for Non-continental units, claiming that EPA erred in deriving the limits because it incorrectly identified the number of units in the subcategory. Supp. Ind. Br. 15. Specifically, Petitioners argue that the subcategory contained less than 30 sources and, pursuant to section 7412(d)(3)(B), EPA should have set the MACT standard based on "the average emission limitation achieved by the best performing 5 sources" as opposed to the average of the top 12 percent of best performing sources. *Id.* This argument is based on information not in the record, and thus not considered by EPA. *See* 42 U.S.C. § 7607(d)(6)(C). If Petitioners wish to raise objections based on evidence outside the record, they should file a petition for reconsideration – a step they have already taken. *See* 42 U.S.C. § 7607(d)(7). Issues raised in reconsideration can be appealed only after the Agency has had an opportunity to respond. *Id.*

EPA is aware of no information in the record establishing that there are fewer than 30 units properly assigned to the Non-continental subcategory, and industry Petitioners point to no such information. Accordingly, EPA properly established the MACT floor level of control for this subcategory (with 30 or more units) based on the average emission limitation achieved by the best performing 12 percent of sources consistent with section 7412(d)(3)(B).

VIII. EPA REASONABLY DECLINED TO SET ALTERNATIVE HEALTH-BASED LIMITS FOR ACID GAS EMISSIONS.

Petitioners argue that EPA arbitrarily failed to base standards for acid gases on federal or state-defined health thresholds under section 7412(d)(4). Joint Br. 61-63. However, that section provides that considering such health thresholds is entirely discretionary. *See* 42 U.S.C. § 7412(d)(4) (EPA "may consider" health threshold levels). And if EPA chooses to consider health thresholds, it must do so "with an ample margin of safety." *Id.*

Here, EPA considered establishing health-based limits under section 7412(d), but proposed not to adopt such limits for reasons including: "information gaps regarding facility-specific emissions of acid gases, co-located sources of acid gases and their cumulative impacts, potential environmental impacts of acid gases, and the significant co-benefits estimated from the adoption of the conventional MACT standard." 77 Fed. Reg. at 9404/4. Many commenters supported EPA's decision, asserting that there was insufficient information on which to establish risk-based standards with an ample margin of safety; that such standards would not account for the interaction of different acid gases, or of acid gases and other pollutants; that acid gases have serious short-term respiratory effects; and that

MACT standards would result in significant reductions in emissions of other pollutants. *Id.* at 9405; RTC Vol. 1 at 9-10 (JA XX-XX).

Considering these comments, EPA reasonably decided not to adopt risk-based emission standards. Petitioners argue that EPA supported this decision by merely "recit[ing] general, unquantified concerns" about health and environmental effects and PM co-benefits. Joint Br. 62. But while EPA stated that it "continue[d] to believe" that the health and environmental effects, as well as the co-benefits for PM and other pollutants, identified in the proposed rule supported its decision, it also explained that the data available "are not sufficient to support the development of" section 7412(d)(4) standards, particularly "given that the Act requires the EPA's consideration of health thresholds . . . to protect public health with an ample margin of safety." 77 Fed. Reg. at 9405. Insofar as Petitioners complain that EPA's concerns were "unquantified," the fault lies not with EPA. EPA invited the submission of additional data to rebut its own conclusions regarding the potential cumulative impacts of acid gases, but none was provided. *Id.* Thus, EPA did not have a sufficient basis on which to identify alternative standards that would protect public health with an ample margin of safety. Petitioners' implicit suggestion that EPA *must* set health threshold-based standards

unless it has data proving such standards insufficient would turn the discretionary authority provided by section 7412(d)(2) on its head.

Finally, Petitioners argue that EPA "relied on factors which Congress has not intended it to consider" – environmental effects and co-benefits – when declining to set health threshold-based standards for acid gases. Joint Br. 52. But section 7412(d)(2) does not limit the factors EPA may take into account if it exercises its discretion to consider health limits, except to require "an ample margin of safety." 77 Fed. Reg. at 9405/3. As EPA noted, there is "no legal principle that precludes" it from considering collateral benefits and other factors when exercising its discretion under section 7412(d)(2). *Id.* at 9406/2.[45]

IX. EPA REASONABLY DECLINED TO CREATE SUBCATEGORIES FOR CFB UNITS

Petitioners representing certain industries argue that EPA arbitrarily refused to subcategorize circulating fluidized bed ("CFB") units. They assert that EPA *must* create a CFB subcategory because of fundamental differences between CFB and conventional coal units; that some CFBs will not be able to attain the hydrogen chloride limit without costly add-on controls; and that separate standards must be

[45] Petitioners also argue that the startup and shutdown work practice standards were promulgated with inadequate notice. Joint Br. 63. EPA is reconsidering those standards, thus this issue is not ripe. *See* Motion to Sever and Hold Severed Issues in Abeyance, filed Jan. 6, 2013 (Doc. # 1413645).

set for coal refuse-fired CFBs.[46] Supp. Ind. Br. 3-8. However, EPA reasonably concluded that subcategorization was not appropriate here because CFB units have similar emissions to other coal-fired units.

A. EPA Has Significant Discretion in Determining Whether Subcategories Are Appropriate.

Section 7412(d)(1) provides that, when "establishing emissions standards for each category or subcategory of . . . sources of [hazardous pollutants]," the Administrator "*may* distinguish among classes, types, and sizes of sources within a category or subcategory . . .". (emphasis added). Thus, the decision to establish a subcategory lies well within EPA's discretion. *NRDC v. EPA*, 489 F.3d at 1375 ("Because Congress has vested EPA with subcategorization authority . . . and its exercise of that authority involves an expert determination, [petitioner] carries a heavy burden to overcome deference to the agency's articulated rational connection between the facts found and the choices made").

Generally, EPA exercises its discretion to subcategorize only where there is a demonstrated difference in emissions as a result of a difference in unit class, type or size, because: "if sources can achieve the same level of emissions reductions notwithstanding a difference in class, type, or size, the purposes of CAA section

[46] While Petitioners avoid saying so, they are essentially seeking the creation of *two* subcategories; one for coal refuse-fired CFB units and one for other CFB units.

[7412] are better served by requiring a similar level of control for all such units in the category or subcategory." 77 Fed. Reg. at 9378/1; *see also id.* at 9397/2 (comparative emissions are the "key metric"). Accordingly, the only subcategory established for coal-fired units was for mercury emissions from low-rank virgin coal units. 77 Fed. Reg. at 9378-79. Many other coal-fired EGUs requested that additional subcategories be established. *See* 76 Fed. Reg. at 25,037/2; 77 Fed. Reg. at 9394. However, EPA concluded that further subcategorization was inappropriate because emissions from other coal-fired units were not "sufficiently different," given that coal-fired EGUs of different types were among the top performers for each category of regulated pollutants. 77 Fed. Reg. at 9395/2.

B. The Record Supports EPA's Decision Not to Create CFB Subcategories.

EPA reasonably declined to create subcategories for CFB units given that CFBs were "found across the range of top performing EGUs for all of the [hazardous pollutant] categories: Acid gas, non-mercury metallic, and [mercury]." 77 Fed. Reg. at 9397/3. While EPA agreed that "there are design and operation differences between conventional [coal]-fired EGUs" and CFBs, it concluded that the behavior of "the overall system . . . with regard to emissions to the atmosphere" does not support subcategorization. *Id.* at 9397/2. The data showed that "EGUs of

all types [CFB and non-CFB] are currently meeting one or more of the final standards." *Id.* at 9397/3. Moreover, CFB units were found among the top performers identified by EPA, as well as among the poorer performers. *Id.* Thus, the record indicates that CFB units have similar emissions profiles to other coal-fired units across the spectrum, and thus it is not necessary to establish different standards for such units.

Petitioners argue that EPA established a CFB subcategory in the "Boiler MACT" rule (Supp. Ind. Br. 4), wherein EPA regulated hazardous pollutant emissions from major source industrial and commercial boilers. But EPA concluded that a CFB subcategory was appropriate there only in regard to carbon monoxide, but *not* in regard to mercury, hydrochloric acid, or filterable particulate matter, explaining that differences in combustion systems would only have "minor effects" on emissions of the latter. *See* 76 Fed. Reg. 15,608, 15,617-18 (Mar. 21, 2011). And Petitioners fail to note that EPA also declined to establish a CFB subcategory in the "CAMR" rule, wherein EPA sought to regulate EGU mercury emissions under section 7411. *See* 70 Fed. Reg. at 28,613/2.

Petitioners next claim that the "final [hydrogen chloride] standard would not be achievable at certain CFBs" without costly add-on controls. Supp. Ind. Br. 6. However, as noted above, some CFB units were among the top performers for *each*

category of regulated pollutants, including hydrogen chloride. 77 Fed. Reg. at 9397/3.[47] And even if some existing units are not able to meet the standards without add-ons that Petitioners deem costly, that does not mean that EPA has erred. Section 7412(d)(3) standards are based on the average emission limitation achieved by the top 12 percent of existing units, which may or may not be cost-efficient for all units. Indeed, Petitioners cannot assert that even the CFB-specific standard *they* seek would be economically achievable for all CFB units.

Finally, Petitioners argue that different standards are required for coal refuse-fired CFBs because it is "virtually impossible for waste-coal plants to meet the [hydrogen chloride] limit." Supp. Ind. Br. 6. But coal refuse-fired CFBs were among the best performing sources on which the hydrogen chloride limit was based. RTC Vol. 1 at 587 (JA XX). Moreover, eight out of the 19 coal refuse-fired CFB units for which EPA has data demonstrated the ability to meet either the

[47] Regarding Petitioners' argument that the injection of limestone to control hydrogen chloride can increase mercury emissions (Supp. Ind. Br. 5), EPA noted that there are at least two CFBs currently meeting both the final mercury and hydrogen chloride limits, and "numerous" technologies available to address this issue. RTC Vol. 1 at 587 (JA XX). Moreover, a CFB unit can choose to meet the alternative sulfur dioxide standard rather than the hydrogen chloride standard. 77 Fed. Reg. at 9368. Record data indicate that 25 CFB EGUs are currently able to meet either the hydrogen chloride or alternate sulfur dioxide limit. EPA-HQ-OAR-2009-0234-20132 (JA XX-XX).

hydrogen chloride standard or the alternative sulfur dioxide standard. *See* MACT Floor Memo and spreadsheets (EPA-HQ-OAR-2009-0234-20132) (JA XX-XX).

Petitioners' real complaint appears to be that, insofar as some CFBs do not currently meet the hydrogen chloride limit, the control method identified in the rule (dry sorbent injection) would prevent those units from applying their waste ash to abandoned mines. Supp. Ind. Br. 7-8. To begin with, section 7412(d) does not require EPA to set a standard that allows for such re-use of ash; it requires EPA to set a standard based on the average level of emissions control achieved by the best performing sources, which, as noted above, included coal refuse-fired CFBs. But in any event, this issue can be avoided by the use of non-sodium based sorbents, such as hydrated lime. 77 Fed. Reg. at 9412/2. And even assuming that coal refuse-fired CFB units had to use sodium-based sorbent injection, EPA explained that this technology can be used in a way that "allows fly ash . . . to remain uncontaminated" and thus "available for . . . beneficial use." 77 Fed. Reg. at 9413/1. Furthermore, EPA identified a number of coal refuse-fired CFBs that use add-on "polishing" controls to address hydrogen chloride emissions instead of dry sorbent injection. RTC Vol. 1 at 587 (JA XX). Therefore, the record does not indicate either that it is "virtually impossible" for coal-refuse fired CFBs to meet the hydrogen chloride standard (or the alternative sulfur dioxide standard), or that

such CFBs would be forced to use technology that eliminates their ability to dispose of their waste ash at abandoned mines in order to do so.

X. EPA WAS NOT REQUIRED TO MANDATE FUEL SWITCHING TO NATURAL GAS .

A. Julander Lacks Prudential Standing.

Petitioner Julander Energy Company, a natural gas utility, seeks regulations that will cripple its competition and increase the market for natural gas. *See* Julander Br. § 1-2. This competitive interest in "increasing the regulatory burden" on other manufacturers in order to support its own business interests is inconsistent with the CAA's environmental purposes. *See Cement Kiln Recycling Coal. v. EPA*, 255 F.3d 855, 871 (D.C. Cir. 2001). Consequently, Julander lacks prudential standing.

To establish prudential standing, a petitioner must show that it is seeking to protect interests "within the zone of interests to be protected" by the challenged regulation. *Ass'n of Data Processing v. Camp*, 397 U.S. 150, 153 (1970). Julander is "an oil and natural gas development, exploration and production company," and argues it has standing based on its business interests, and the fact that EPA did not require coal-fired plants to switch to natural gas.[48] Julander Br. 3. Julander's

[48] The natural gas industry is not subject to the rule. *See* 77 Fed. Reg. at 9309/2.

pecuniary interests cannot form the basis for prudential standing, and its attempt to use a fuel-switching beyond-the-floor standard to regulate coal-fired EGUs out of existence must fail. *See Hazardous Waste Treatment Council v. EPA*, 861 F.2d 277, 283 (D.C. Cir. 1988) ("[J]udicial intervention may defeat statutory goals if it proceeds at the behest of interests that coincide only accidentally with those goals."); *Grocery Mfrs. Ass'n v. EPA*, 693 F.3d 169, 179 (D.C. Cir. 2012) (holding that a commercial entity advancing its competitive interests it lacks standing).

B. EPA Properly Declined to Require Fuel Switching as a Beyond-the-Floor Standard.

When setting beyond-the-floor standards, EPA must first determine that such standards are "achievable for new or existing sources," and must also consider cost and "non-air quality health and environmental impacts and energy requirements." 42 U.S.C. § 7412(d)(2). EPA reasonably considered these requirements and declined to require fuel switching. *See* 76 Fed. Reg. at 25,046/2-3.

Julander's challenge to new source beyond-the-floor standards is unripe because EPA is reconsidering certain new source standards for coal-fired facilities. 77 Fed. Reg. 71,321, 71,327/2 (Nov. 30, 2012) (requesting comment "on all aspects of [EPA's] beyond-the-floor analysis"). Even if ripe, EPA reasonably

declined to mandate fuel switching because that approach would prohibit new construction of coal-fired plants. 76 Fed. Reg. at 25,049/1. For existing units, EPA reasonably rejected a fuel switching standard as not being "achievable" because natural gas supplies might be inadequate during peak demand. *Id.* at 25,046/2-3. EPA also reasonably concluded for existing sources that fuel switching would not be a cost-effective way to achieve hazardous pollutant reductions. *Id.*

Julander also claims EPA failed to address particular comments. Julander Br. § I.B. EPA is not required, however, "to discuss every item of fact or opinion included in the submissions" it receives. *Pub. Citizen, Inc. v. Fed. Aviation Admin.*, 988 F.2d 186, 197 (D.C. Cir. 1993). Here, EPA's rationale was adequately explained. 76 Fed. Reg. at 25,046/2-/3, 25,048/3–49/1.

Julander further claims that EPA's position is inconsistent because, under a different statutory provision, EPA proposed an emission standard that would render coal-fired EGUs cost prohibitive. Julander Br. § I.A. Julander relies on a misstatement of the *proposed* New Source Performance Standard ("NSPS") for greenhouse gas emissions from new EGUs issued pursuant to section 7411. There, EPA proposed that new coal-fired EGUs meet the same standard as natural gas plants for greenhouse gas emissions only, because such EGUs could install a

control technology – carbon capture and storage – that "is technically feasible and sufficiently available" and can reduce emissions to levels emitted by natural gas EGUs. 77 Fed. Reg. 22,392, 22,414 (Apr. 13, 2012). EPA went on to provide an alternative compliance method – allowing new coal-fired EGUs to meet the proposed standard on an average basis over a 30-year period – which was intended to provide compliance flexibility to assure that such EGUs could continue to be built. *Id.* at 22,406-07.

EPA did not require new coal-fired EGUs to meet the same standards as natural gas plants "for any pollutants other than [greenhouse gases]." *Id.* at 22,411. Accordingly, EPA's actions in the NSPS context retain a viable path for construction of new coal-fired EGUs.

XI. EPA REASONABLY REJECTED PUBLIC POWER'S DEMAND FOR A BLANKET COMPLIANCE EXTENSION.

Existing sources have three years from the rule's effective date (until April 16, 2015) to come into compliance. 77 Fed. Reg. at 9304, 9407. Petitioners argue that EPA ignored comments indicating that publicly-owned EGUs could not meet that deadline. Supp. Ind. Br. 16-17. They also argue that EPA unreasonably rejected such entities' demand for a blanket one-year extension. *Id.* at 17-18.

However, EPA addressed the concerns raised and reasonably concluded that a blanket extension was not the appropriate way to address those concerns.

A. EPA Addressed Public Power's Compliance Concerns.

EPA recognized and responded to the compliance concerns raised by publicly-owned units, as well as their request for a permit-based compliance alternative. In the rule preamble, EPA noted that "[a] number of commenters expressed concern that the time frame for compliance . . . was too short," and "offered suggestions on methods for allowing more time," including "adoption of MACT compliance schedules through . . . modifications of a source's Title V federal operating permit." 77 Fed. Reg. at 9406-07. In response to those comments, EPA explained that section 7412(i)(3) allows permitting authorities to grant "up to a 1-year extension, on a case-by-case basis, if such additional time is necessary for the installation of controls" and suggested that this extension be used to address "site-specific challenges that may arise related to . . . construction, permitting, or labor, procurement, or resource challenges." Id. at 9407/2, 9410/1. Moreover, EPA addressed the survey cited by Petitioners (Supp. Ind. Br. 77), responding that, while some public units "may have challenges privately owned facilities do not have," "the availability of a fourth year . . . will ease the burden these facilities face." RTC Vol. 2 at 342-43 (JA XX-XX). Thus, EPA plainly

considered and responded to comments from publicly-owned units raising compliance concerns.

B. EPA Reasonably Rejected the Demand for a Blanket Extension.

EPA's conclusion that a case-by-case extension of the three-year compliance deadline, rather than a blanket extension, is the appropriate means of addressing the concerns raised by public power is consistent with the Act and reasonable.

Section 7412(i)(3)(A) states that EPA "shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the effective date of" a section 7412 standard. In *NRDC v. EPA*, 489 F.3d at 1373-74, this Court reminded EPA that, "under the plain language of the statute," the maximum permissible compliance period was three years. However, the Court also reminded EPA that permitting authorities may issue one-year "source-by-source extensions" under section 7412(i)(3)(B). *Id.*[49]

Here, EPA provided the maximum permissible compliance period – 3 years. 77 Fed. Reg. at 9407/2. However, EPA responded to compliance concerns by strongly encouraging permitting authorities to grant one-year extensions under

[49] Petitioners argue that EPA over-reads *NRDC*, 489 F.3d at 1373-74 (D.C. Cir. 2007) as barring the blanket extension they seek. Supp. Ind. Br. 18. EPA, however, only cited that case for the unremarkable proposition that the Act limits the baseline compliance period to three years. *See* RTC Vol. 2 at 313 (JA XX).

section 7412(i)(3)(B). *See, e.g., id.* at 9410/1 (the "fourth year should be broadly available"). EPA even outlined a path for "reliability critical units" to obtain a fifth year to come into compliance if needed. *See* 77 Fed. Reg. at 9411/2; Memo. from C. Giles at 2 (Dec. 16, 2011) (administrative orders may be issued to sources "that must operate in noncompliance with the [standards] for up to a year to address a specific and documented reliability concern") (JA XX).[50]

Petitioners argue that EPA should have gone even further and issued a blanket one-year extension to all publicly-owned utilities.[51] But under section 7412(i)(3)(B), a one-year extension may only be granted "if such additional period is necessary for the installation of controls." Petitioners have not, and cannot, demonstrate that such an extension is necessary for *every* publicly-owned EGU. In contrast, EPA observed that "many plants that are owned by public power

[50] *At* http://www.epa.gov/compliance/resources/policies/civil/erp/mats-erp.pdf .

[51] Petitioners argue that EPA previously indicated that "a category-wide adjudication" of an extension request is appropriate "when the facts are already known." Supp. Ind. Br. 18 (quoting 76 Fed. Reg. 29,032, 29,064 (May 10, 2011) (setting standards for the secondary lead smelting industry)). But in that rulemaking, EPA interpreted regulations implementing section 7412(f)(4), which allows the Administrator to grant a two-year waiver in regard to standards that otherwise apply immediately if certain conditions are met. 76 Fed. Reg. at 29,064. Section 7412(i)(3)(B), in contrast, allows permitting authorities to grant a one-year extension to an existing source in "a permit." In any event, EPA reasonably concluded here that the facts do not support a category-wide determination.

authorities are well controlled" and "well positioned to implement this rulemaking." RTC Vol. 2 at 343 (JA XX). Moreover, the data available to EPA indicated that "most units will be able to fully comply within 3 years," 77 Fed. Reg. at 9410, and that there are "approximately 69 EGUs that appear to be currently complying with all of the existing source standards," RTC Vol. 2 at 313 (JA XX). That number included municipal-owned utilities. *See* EPA-HQ-OAR-2009-0234-20132 (JA XX-XX). In such circumstances, declining to issue a blanket extension was reasonable.

XII. THE "AVERAGING ALTERNATIVE" IS LAWFUL.

Contrary to Environmental Petitioners' argument (Env. Br. 15-22), EPA properly allowed contiguous, commonly-controlled units within a source to average their emissions to demonstrate compliance with the standards.

The rule defines an "existing affected source" subject to the rule as "the collection of coal- or oil-fired EGUs . . . within a single contiguous area and under common control." 77 Fed. Reg. at 9366/3. The rule accordingly allows "emissions averaging" among contiguous, commonly-controlled EGUs for purposes of demonstrating compliance with the MACT standard when those EGUs are in the same subcategory and demonstrate compliance using continuous emissions monitoring systems ("CEMS"), sorbent traps, or quarterly stack testing.

Id. at 9473. The rule further provides that, except for mercury emissions from certain coal-fired units that have an additional alternative averaging period,[52] "the averaging time for emissions averaging for pollutants is 30 [operating] days." *Id.* Units averaging their emissions must do so over the same 30-day period (i.e., units cannot average emissions from different 30-day intervals). *Id.*

Petitioners' quarrel with multi-unit averaging is perhaps more properly viewed as a quarrel with the Rule's definition of an existing affected source as a "collection of coal- or oil-fired EGUs . . . within a single contiguous area and under common control." 77 Fed. Reg. at 9366/3. But Petitioners do not challenge that definition. Moreover, the multi-unit emissions averaging provisions are consistent with EPA's "general policy" and longstanding practice[53] of "encouraging the use of flexible compliance approaches" that "include emissions averaging." 77 Fed. Reg. at 9385/1. EPA explained that "emissions averaging can provide sources the flexibility to comply in the least costly manner while still maintaining a regulation that is workable and enforceable." *Id.* EPA imposed,

[52] As noted by Petitioners, the alternative averaging period for monitoring mercury emissions from certain EGUs is 90 days. 77 Fed. Reg. at 9385.

[53] *See, e.g.*, 62 Fed. Reg. 52,384, 52,387 (Oct. 7, 1997) (allowing emissions averaging when setting standards for hazardous pollutants emitted by aluminum reduction plants).

however, a number of limits on emissions averaging, including: a requirement that units be in the same subcategory; a requirement that sources subject to the NSPS for particulate matter meet that standard; a bar on averaging different pollutants; and a bar on averaging for new sources. *Id.* EPA further required that facilities intending to average emissions develop an "emissions averaging plan" that identifies, *inter alia*, the units being averaged; the control technology installed and the associated operating parameters; and the test plan for each unit. *Id.* at 9385-86.

Environmental Petitioners claim that, by allowing such averaging, EPA has impermissibly relaxed the standards. Env. Br. 15-22. They argue that, while the standards are based on a 30-boiler operating day averaging period, the averaging alternative allows multi-unit facilities to calculate their emissions rates based on a longer period; *i.e.*, if two units within a facility average their rates (each measured over 30 boiler operating days), they are effectively averaging those rates over 60 boiler operating days. *Id.* at 8, 16. Petitioners argue that such averaging allows emissions "spikes" and is inconsistent with the minimum stringency requirements of section 7412(d)(3). *See* Env. Br. 4-5, 15-17. These arguments fail.

To begin with, insofar as Environmental Petitioners argue that the averaging alternative masks "spikes," thereby allowing units to meet the standards only "some of the time" (Env. Br. 9), this is not the case. The standards are based on a

30-boiler operating day rolling averaging period, and units averaging their emissions must utilize the same 30-day period when doing so. If a unit experiences a "spike" in emissions on day 25, that spike will result in a violation of the standard unless emissions on other days, both before and afterward (given that average emissions are calculated on a rolling basis), are sufficiently low to offset it. Thus, the potential for so-called "spikes" is inherent in all rate-based standards, as the emissions rate is necessarily calculated over some period of time. However, "spikes" can occur without resulting in a violation only if emissions are sufficiently below the standard at other times during the averaging period.

More importantly, the averaging alternative is consistent with section 7412(d)(3) of the Act, which requires EPA to set floor standards for existing sources that are "not [] less stringent" than "the average emission limitation achieved by the best performing twelve percent" of such sources. EPA has established existing source floor standards based on this directive, and there is nothing about allowing multiple units to average their emissions when demonstrating compliance that is inconsistent with this "minimum stringency" requirement, so long as the levels a source can emit under the averaging provisions are no greater than the emissions levels that would be permitted should each unit within that source be required to demonstrate compliance individually. Indeed,

EPA acknowledged that it "must ensure that any emissions averaging option . . . will be no less stringent than unit-by-unit implementation of the MACT floor limits." 77 Fed. Reg. at 9385/1-2. EPA further explained:

> Averaging across affected units is permitted only if it can be demonstrated that the total quantity of any particular HAP that may be emitted . . . will not be greater under the averaging mechanism than it could be if each individual affected EGU in the subcategory complied separately with the applicable standard. Under this test, the practical outcome of averaging is equivalent to compliance with the MACT floor limits by each discrete EGU . . . .

Id at 9385/3. Environmental Petitioners argue that it is "irrelevant" that total emissions from the affected source can be no greater as a result of the averaging alternative than if each of those units were required to demonstrate compliance separately. Env. Br. 18. It is plainly not. If each source subject to a hazardous pollutant standard must demonstrate emissions that are equivalent to or less than the total emissions permitted under that standard, then there can be no inconsistency with section 7412(d)(3)'s minimum stringency requirements so long as the standard itself is consistent with those requirements.

Petitioners attempt to create an inconsistency where there is none by focusing on the form of the standards at issue; *i.e.*, by arguing that, because the standards are rate-based, allowing multiple units to average their emissions relaxes the standard by implicitly extending the time period over which they are

calculated. But again, given that Petitioners concede that the averaging alternative will not result in an increase of emissions from a source beyond the level permitted under the applicable standard (*see* Env. Br. 18), multi-unit averaging cannot be viewed as "relaxing" the standards below the rate-based limits. Such averaging could, theoretically, allow *an individual unit* within a source to emit at higher levels than if that unit was required to comply individually. However, this would be permitted only if the source offsets those emissions by reducing emissions at another of its units.[54] Therefore, the result is not that the rate-based standard set forth in the rule is exceeded; rather, it is simply that the source's total emissions might not be reduced *below* the standard to the same extent as if each unit had to demonstrate compliance individually.[55] But while Petitioners no doubt consider

[54] For example, if a source consisted of three units, A, B and C, and the emission limit were Y (measured over a 30-day period), unit A could theoretically emit more than Y for some part, or all, of a 30-day period. However, since A is merely one component of the source, the source as a whole would still meet the standard so long as B and C emit sufficiently less than the standard over the same period.

[55] As a factual matter, it is far from clear that eliminating the averaging alternative would result in greater emission reductions. One commenter argued that averaging "provide[s] a positive incentive to encourage companies to upgrade or install controls that would achieve reductions beyond compliance requirements" by allowing sources to "invest[] resources where the greatest reductions can be made." RTC Vol. 2 at 361 (JA XX). And Petitioners' brief provides no evidence that sources would reduce emissions beyond what is required by the rule in the absence of emissions averaging.

further emission reductions desirable, and may prefer as a policy matter that each unit's emissions be measured individually against the standard (rather than measuring *the source's* emissions), such a result is not mandated by section 7412(d)(3). And, as noted above, Petitioners have not challenged EPA's definition of a "source" subject to the rule to include multiple contiguous units under common control.

For similar reasons, the limited multi-unit averaging permitted under the rule is also not inconsistent with "beyond-the-floor" requirements in section 7412(d)(2). Petitioners do not actually challenge EPA's decision, based on the factors identified in section 7412(d)(2), that beyond-the-floor standards were only warranted for mercury emissions from one subcategory of existing sources (low rank virgin coal EGUs), *see* 77 Fed. Reg. at 9393-94, and there is nothing inconsistent between that conclusion and allowing multiple units within a source to demonstrate compliance through averaging.

Rather, Environmental Petitioners' main complaint appears to be that, in *other* rulemakings where EPA allowed averaging, it applied a "discount factor" to reduce emission rates for sources availing themselves of an averaging alternative. *See* Env. Br. 9, 19. Petitioners point in particular to the Hazardous Organic NESHAP, or "HON" rule. Env. Br. 9-10. But as EPA explained in responding to

comments,[56] whereas the HON rule "covers a broad number of unit types, products, and processes," EGUs subject to the instant rule "differ generally only in the fuel used to produce electricity," and this difference is "accounted for in this rule by prohibiting units from differing subcategories – which are fuel based – from participating in emissions averaging." RTC Vol. 2 at 361-62 (JA XX-XX).

Finally, Environmental Petitioners also argue that EPA improperly relied on its Upper Prediction Limit ("UPL") calculation as mitigating the "relaxation" of standards that they claim impermissibly results from averaging. Env. Br. 20. But EPA did not rely on the UPL analyses in this regard. It was industry commenters who argued that, having already accounted for variability at individual units through the UPL analysis, it was inappropriate for EPA to then allow a multiple-unit facility to further "reduce variability by averaging" without applying a discount factor. *See* RTC Vol. 2 at 362 [JA XX]. In responding, the agency simply noted that the UPL analysis was not relevant to the question of whether a discount factor was appropriate, given that the operational variability accounted for by the UPL analysis implicates separate considerations. *Id.* Thus, contrary to

[56] The majority of comments on this issue opposed the use of a discount factor, arguing that it would render averaging a non-viable option, and "make[] an impossible compliance situation even worse." RTC Vol. 2 at 360-61 (JA XX-XX).

Petitioners' assertion, EPA did not rely on the UPL calculation to support the averaging provision.

For all these reasons, EPA's limited allowance of emissions averaging is both consistent with the requirements of the Act and reasonable.

XIII. EPA'S MONITORING OPTIONS FOR NON-MERCURY METALS PROVIDE SUFFICIENTLY RELIABLE AND TIMELY INFORMATION FOR DETERMINING COMPLIANCE.

The Act explicitly gives EPA the authority to designate alternative methods for ensuring compliance with standards, so long as those alternatives "provide sufficiently reliable and timely information for determining compliance." 42 U.S.C. § 7661c(b). Accordingly, "EPA has broad discretion in selecting a monitoring regime that ensures compliance," and there is "no presumption in favor of any particular type of monitoring." *Sierra Club v. EPA*, 353 F.3d 976, 992 (D.C. Cir. 2004).

A. Compliance Alternatives for Non-Mercury Metals.

Here, EPA identified several methods by which EGUs can demonstrate compliance with standards. To demonstrate compliance with the limits for filterable particulate matter (regulated as a surrogate for non-mercury metals), EGUs may use: (1) a continuous emission monitoring system ("CEMS"); (2)

quarterly stack testing; (3) a "low-emitting" option; or (4) a "continuous parameter monitoring system," or "CPMS." *See* 77 Fed. Reg. at 9370-72

An EGU may use the "low-emitting" monitoring option only if it can demonstrate that its emissions are less than 50 percent of the limit in an initial performance test, and then continue to actually demonstrate that low level of emissions in a series of performance tests conducted over three years. *Id.* at 9370-72, 9384. After three years, the EGU must subsequently conduct performance tests to confirm the designation once every three years. *Id.*

A CPMS is a continuous monitoring system, but it does not monitor actual emissions. Rather, a CPMS produces a signal that may be expressed in milliamps, stack concentration, or some other output form, that enables the source to monitor a unit's operating parameters. *Id.* at 9384/2. An operating limit is established through an initial performance test (a stack test comprised of multiple test runs), based on the highest one-hour average signal output experienced during the test, and must be re-established annually. *Id.* at 9371-72, 9481. Between performance tests, the EGU must demonstrate continuous compliance with the operating limit, calculating 30-boiler operating day rolling emissions averages using all valid hourly data. *Id.* Moreover, the CPMS must undergo quality checks, and the EGU must develop and follow a site-specific monitoring plan. *Id.* at 9372/3.

B. CPMS Provide Sufficient and Timely Compliance Information.

Environmental Petitioners first challenge the CPMS option. However, Petitioners failed to raise this challenge in comments, and have therefore waived it. 42 U.S.C. § 7607(d)(7)(B); *Sierra Club*, 353 F.3d at 991 (argument opposing parameter monitoring was "waived because it was not raised" in comments).

In any event, Petitioners' objections to the use of CPMS fail on the merits. Indeed, this Court previously rejected a challenge to a parametric monitoring alternative with the same structure and requirements. *Sierra Club,* 353 F.3d at 991. In *Sierra Club*, EPA had allowed copper smelters to demonstrate compliance with particulate matter emission limits by "demonstrat[ing] initial compliance through performance testing;" "repeat[ing] performance tests at least annually;" "continuously monitor[ing] operating parameters," and "show[ing] that the facility operates within those parameters" between annual tests. *Id.* Because "analysis of this issue requires a high level of technical expertise," the Court concluded that it must "defer to the informed discretion of the Agency" in concluding that such a regime would adequately assure compliance. *Id.* (internal quotation omitted). Petitioners make no effort to distinguish this holding.

Petitioners object to the CPMS option on the ground that the operating limit with which EGUs must comply between annual performance tests could

correspond to an emissions level higher than the applicable standard. But while the operating limit could theoretically be set at a value corresponding to emissions levels above the applicable limit because it is based on the highest hourly output experienced during the performance test, this is unlikely to occur in practice. First, the operating limit is only valid if the performance test actually complies with the emission standard. *See* 77 Fed. Reg. at 9481 (requiring determination of operating limits during performance test that demonstrates compliance with the applicable limit). As EPA has noted in the past, owners and operators of sources "fine tune their operations and emissions control processes" in the time leading up to performance tests to ensure that their sources pass, with the result that few tests conducted for compliance purposes result in emissions above the applicable limits. 62 Fed. Reg. 8314, 8315 (Feb. 24, 1997).

Moreover, there are other "checks" built into the CPMS option. As noted above, a source electing to use a CPMS must implement a site-specific monitoring plan and conduct quality checks. 77 Fed. Reg. at 9372/3. It must also reassess and adjust its operating limit annually in accordance with the results of the performance test. 77 Fed. Reg. at 9466/3. And if a unit is found to have exceeded emission standards during a performance test, it is of course subject to potential enforcement action. But in the interim between annual tests, the operating limit

serves to minimize the likelihood of non-compliance by alerting the source to potentially problematic spikes in emissions and enabling quick corrective action.[57] Thus, considered as a whole, the CPMS option plainly provides sufficient, timely information regarding compliance.

Environmental Petitioners' next argument as to why the CPMS option does not provide reasonable assurance of compliance – that there is an inconsistency between standards developed based on data from stack tests lasting several hours and reliance on an operating signal set based on one hour of emissions data (Env. Br. 24) – also fails. To begin with, Petitioners' argument again focuses unduly on the operating limit, ignoring the many other components and requirements that comprise that CPMS option (*e.g.*, annual performance testing; calibration and quality testing requirements; the monitoring plan requirement).[58] Furthermore, the

[57] *See* 58 Fed. Reg. 54,648, 54,659 (Oct. 22, 1993) (noting, in the Compliance Assurance Monitoring rule preamble, that "self-monitoring (using instrumental systems like CPMS) could provide data that would allow an owner or operator to rectify…problems before a period of non-compliance occurs").

[58] Petitioners suggest that EPA is inappropriately relying on the compliance assurance monitoring requirements set forth at 40 C.F.R. part 64 and Title V requirements to fill "gaps" in monitoring left by the CPMS option. Env. Br. 24. This is incorrect. EPA simply indicated that it agreed with comments that other programs that require proper operation of pollution controls would "enhance" the monitoring required by the Rule and render *additional* limits unnecessary. 77 Fed. Reg. at 9384/2; *see also* 77 Fed. Reg. at 9420/2 (EPA is "aware that other rules . . .

tests on which the standards were based and the performance tests pursuant to which the CPMS operating limits are set are fundamentally the same type of tests – stack tests. Indeed, Petitioners' argument, if followed to its logical conclusion, would imply that not only must each compliance option use the same monitoring methodology as the tests on which the standards were based, but it must also measure emissions over the exact same time intervals. This is inconsistent with the flexibility explicitly provided to EPA by 42 U.S.C. § 7661c(b), as well as this Court's directive in *Sierra Club* that EPA be allowed "broad discretion in selecting a monitoring regime" with "no presumption in favor of any particular type of monitoring." 353 F.3d at 991.

Petitioners cite *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375 (D.C. Cir. 1973), and *Clean Air Implementation Project v. EPA*, 150 F.3d 1200 (D.C. Cir. 1998), for the proposition that there can be no conflict between the test methods used to set a standard and those used to measure compliance. In *Portland Cement*, petitioner objected to the sampling methodology used to set the challenged standard, arguing that no sampling episode was longer than 30 minutes whereas compliance was to be measured based on 2-hour intervals. 486 F.2d at

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already require continuous monitoring in most cases . . . so the need to impose additional operating limits monitoring or CEMS on those units is much reduced").

396-97. This challenge to initial sampling as insufficiently robust presents a different issue than Petitioners' argument that a compliance method may not differ at all in form from the initial testing method. In any event, *Portland Cement* predates the Court's decision in *Sierra Club* upholding a parametric monitoring option like the one challenged here, as well as section 504(b) of the Act, 42 U.S.C. § 7661c(b), which Petitioners agree sets the applicable standard for alternative compliance methods. *See* Pub. L. No. 101-549, Title V, § 501, 104 Stat. 2642 (Nov. 15, 1990). In *Clean Air Implementation Project*, petitioners argued that "by altering the means of determining compliance" EPA had impermissibly "increased the stringency of the underlying standards." 150 F.3d at 1203. However, the Court did not weigh in on the merits of that argument, instead holding that the case was unripe. *Id.* at 1205-06. Accordingly, even assuming Environmental Petitioners have not waived their arguments concerning CPMS by failing to raise them in comments, these cases provide no support for their position. Rather, as in *Sierra Club*, the Court should hold that the CPMS option is well within EPA's "broad discretion" to prescribe alternative compliance methods. 353 F.3d at 991.

B. The Quarterly Stack Testing and Low Emitting Options Provide Sufficient and Timely Compliance Information.

Environmental Petitioners also challenge the quarterly stack testing and low-emitting options for non-mercury metals. They argue that quarterly stack testing (testing every three months) is too infrequent to reasonably assure compliance with a standard that is set in the form of a 30-boiler operating day emissions rate, given the variability that EGUs experience. Env. Br. 25-26. To begin with, Petitioners implicit suggestion that, in order to demonstrate compliance with a standard set in the form of a 30-day emissions rate, sources must be required to test every 30 days is again at odds with the flexibility explicitly provided by section 7661c(b).

Moreover, the fact that sources begin preparing for stack tests well in advance makes it unlikely that they will fall out of compliance between quarterly tests. Based on EPA's experience and comments from industry, preparation for a stack test can take between 5 and 30 days, and the test itself takes three days or more. *See, e.g.,* EPA-HQ-OAR-2009-0234-0017 at 29-30 (JA XX-XX) (explaining 30 days needed for scheduling tests and 3 days needed for conducting tests at coal-fired EGUs). It is unlikely that sources will fall out of compliance where retests are at most 90 days – but often considerably less time – away. *See* RTC Vol. 2 at 93 ("The quarterly stack testing period . . . is expected to be frequent

enough to ensure that a unit's emissions control devices and processes continue to operate in the same manner as during the previous stack test.") (JA XX).

Petitioners similarly argue that the low-emitting option does not provide a reasonable assurance of compliance given the high degree of variability experienced by even the best-performing sources. Env. Br. 26. However, as described above, in order to qualify for the low-emitting option, a source must consistently demonstrate, during all required tests[59] over a *three-year period*, that its emissions are less than 50 percent of the applicable limit. 77 Fed. Reg. at 9371/1. It was reasonable for EPA to conclude that a source that meets this stringent prerequisite is unlikely to fall out of compliance. Furthermore, Petitioners ignore the emissions reductions that will result from encouraging sources to achieve "very low emissions" in exchange for reduced monitoring requirements. *See* RTC Vol. 2 at 113 (JA XX).

In objecting to all monitoring options for non-mercury metals except for continuous emissions monitoring via a CEMS, Environmental Petitioners essentially take issue with the Act's authorization of alternative monitoring options. But as this Court explained in *Sierra Club*, so long as EPA "reasonably

[59] This not only includes quarterly testing for EGUs subject to the rule, but also the tests required under other regulations such as NSPS and state regulations.

articulate(s) the basis for its decision," the Court will not "second guess[] EPA's judgment that the regime it imposed would meet the statutory standard of 'sufficiently reliable and timely information for determining compliance.'" 353 F.3d at 991-92 (citing 42 U.S.C. § 7661c(b)). EPA has reasonably articulated the basis for the monitoring alternatives challenged here.

CONCLUSION

For the foregoing reasons, the petitions for review should be denied.

Respectfully submitted,

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RESPONDENT'S CERTIFICATE OF COMPLIANCE WITH WORD LIMITATION AND TYPEFACE REQUIREMENTS

Respondent United States Environmental Protection Agency hereby certifies that this brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B) because it contains 25,958 words, as counted by Microsoft Word, excluding the signature block and the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii), and that it complies with the typeface and type style requirements of Fed. R. App. P. 32(a)(5) and 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14-point type.

DATED: January 22, 2013

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Brief for Respondent Environmental Protection Agency has been served through the Court's CM/ECF system on all registered counsel this 22nd day of January 2013.

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