NOT YET SCHEDULED FOR ORAL ARGUMENT

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

No. 05-1097 (and consolidated cases) COMPLEX

STATE OF NEW JERSEY, *et al.*

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

On Petition for Review of Final Rules of The United States Environmental Protection Agency

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FINAL BRIEF OF RESPONDENT UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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July 23, 2007

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STATE OF NEW JERSEY, et al., Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	No. 05-1097, and consolidated cases

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), the undersigned counsel for Respondent United States Environmental Protection Agency submits this certificate as to parties, rulings and related cases.

A. Parties and Amici:

All parties and amici are listed in the brief of Government Petitioners State of New Jersey et al., except for Intervenors State of Maryland, WEST Associates and National Mining Association.

B. Rulings Under Review:

References to the rulings at issue appear in the brief of Government Petitioners.

C. Related Cases:

EPA is not aware of any related case pending in this or any other Court.

Respectfully submitted,

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DATED: July 23, 2007

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GLOSSARY

ASTM	American Society of Testing and Materials
BART	best available retrofit technology
BDT	best demonstrated technology
CAA or the Act	Clean Air Act
CAIR	Clean Air Interstate Rule
CAMR	Clean Air Mercury Rule
CAMR RTC	Response to Significant Public Comments on CAMR
CMAQ	Community Multi-Scale Air Quality
CRITFC Study	Columbia River Inter-Tribal Fish Commission Study" or
EPA	United States Environmental Protection Agency
GLIFWC Study	Great Lakes Fish and Wildlife Commission Study
HCCP	Healy Clean Coal Project facility
HUCs	hydrological units codes
ICR	Information Collection Request
IDI	index of daily intake
IGCC	integrated gasification combined cycle
IPM	Integrated Planning Model
MACT	Maximum achievable control technology

NAAQS	national ambient air quality standards
NOx	nitrogen oxides
NSPS	new source performance standards
SO_2	sulfur dioxide
SIPs	State implementation plans
TSD	Technical Support Document
USGS	United States Geological Survey
UARG	Petitioner Utility Air Regulatory Group

JURISDICTION

This Court has jurisdiction to review the rules at issue under section 307(b)(1) of the Clean Air Act ("CAA" or "the Act"), 42 U.S.C. § 7607(b)(1).

STATEMENT OF ISSUES

1. Whether EPA may correct an erroneous CAA section 112(n)(1)(A) determination without applying the criteria set forth in CAA section 112(c)(9)?

2. Whether EPA reasonably determined pursuant to CAA section 112(n)(1)(A), that it is neither "appropriate" nor "necessary" to regulate hazardous air pollutant emissions from coal-fired electric utility steam generating units ("power plants") under CAA section 112?

3. Whether EPA reasonably considered Tribal Petitioners' treaty rights in determining that it is neither appropriate nor necessary to regulate power plant hazardous air pollutant emissions under CAA section 112?

4. Whether EPA has authority under CAA section 111, 42 U.S.C. § 7411, to establish standards of performance for hazardous air pollutant emissions from power plants?

5. Whether EPA in the Clean Air Mercury Rule established appropriate standards of performance under CAA section 111 for mercury emissions from power plants?

STATUTES AND REGULATIONS

Pertinent statutory and regulatory provisions are set forth in the addendum to the brief of State of New Jersey et al. ("Government Petitioners"), and to the extent not therein, are set forth in the addendum to this brief. Cited legislative history is in the addendum to this brief.

STATEMENT OF THE CASE

I. NATURE OF THE CASE

These consolidated cases involve challenges to EPA's regulatory program for controlling mercury emissions from power plants. The rules under review include (1) the "Clean Air Mercury Rule" ("CAMR"), 70 Fed. Reg. 28,606 (May 18, 2005), which establishes standards of performance limiting mercury emissions from new and existing power plants, and (2) a final EPA action ("the Section 112(n) Rule"), 70 Fed. Reg. 15,994 (Mar. 29, 2005), that reverses an initial December 2000 finding that it is "appropriate" and "necessary" to regulate power plants under CAA section 112.

CAMR is the first CAA rule ever specifically directed at emissions of mercury from power plants, and when fully implemented, will secure substantial and cost-effective reductions in such emissions. It sets requirements for States to significantly reduce mercury emissions from power plants in two phases and

creates a market-based cap-and-trade program that States can use to meet these requirements. New power plants have to meet stringent new source performance standards ("NSPS") in addition to being subject to fixed caps. When fully implemented, CAMR will reduce power plant emissions of mercury from the 1999 level of 48 tons a year to 15 tons a year, a reduction of nearly 70 percent.

The Section 112(n) Rule contains EPA's final determination that it is neither "appropriate" nor "necessary" to regulate power plant emissions under section 112. In making this determination, EPA took into consideration the substantial reductions in mercury emissions from power plants that can and will be obtained under other requirements of the Act, including reductions that will be achieved under CAMR and under EPA's Clean Air Interstate Rule ("CAIR"), 70 Fed. Reg. 25,162 (May 12, 2005).

II. STATUTORY BACKGROUND

The CAA, 42 U.S.C. §§ 7401-7671q, sets up a comprehensive and detailed program for control of air pollution through a system of shared federal and state responsibility.

A. Regulation of Air Pollutants Under CAA Section 111

Section 111 creates a program for the establishment of "standards of performance." 42 U.S.C. § 7411. A "standard of performance" is "a standard for

emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction," which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the EPA Administrator determines has been adequately demonstrated." Id. § 7411(a)(1).

For new sources, EPA must establish a list of stationary source categories that the Administrator has determined "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." Id. § 7411(b)(1)(A). EPA must set federal standards of performance for new sources within each listed source category. Id. § (b)(1)(B). Section 111(b) standards for new sources apply nationally and are effective upon promulgation. Id.

For certain pollutants, section 111(d), 42 U.S.C. § 7411(d), requires EPA to promulgate regulations requiring States to establish standards of performance for existing sources that States must adopt through a process that requires state rulemaking action followed by review and approval of state plans by EPA. Id. If a State does not adopt an approvable plan, EPA is required to promulgate a federal plan implementing standards of performance for that State. 42 U.S.C. § 7411(d)(2).

B. Regulation of Hazardous Air Pollutants Under CAA Section 112

In the 1990 Amendments to the CAA, Congress substantially modified CAA section 112, which addresses hazardous air pollutants.[1] Section 112 provides, among other things, that EPA shall (1) list categories of "major sources"[2] of hazardous air pollutants, 42 U.S.C. § 7412(c)(1), and (2) subsequently establish pursuant to section 112(d) national emission standards for such sources that "require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section" that the Administrator determines is achievable, taking into account certain factors such as cost, energy requirements, and other impacts. Id. § 7412(d)(2). Section 112 further specifies the minimum degree of emissions reductions sources must achieve. Id. § 7412(d)(3). Section 112 emission standards are commonly referred to as "maximum achievable control technology" or "MACT" standards.

Although Congress, in amending the Act in 1990, generally mandated that

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[1] Hazardous air pollutants are "pollutants which present, or may present, . . . a threat of adverse human health effects . . . or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise." 42 U.S.C. § 7412(b)(2).

[2] 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 ten tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. 42 U.S.C. § 7412(a)(1).

major sources of hazardous air pollutants be regulated under the regulatory program set forth in section 112(d), Congress did not mandate that power plants be subject to this same program. In particular, in CAA section 112(n)(1)(A), 42 U.S.C. § 7412(n)(1)(A), Congress directed EPA not to regulate power plants under section 112 unless EPA first determined that regulation of power plants under section 112 was both "appropriate" and "necessary" after considering public health risks reasonably anticipated to occur as a result of power plants emissions following imposition of other requirements of the Act, such as the standard of performance requirements in section 111. Section 112(n)(1)(A) provides in full as follows:

> The Administrator shall perform a study of the hazards to public health reasonably anticipated to occur as a result of emissions by electric utility steam generating units of pollutants listed under subsection (b) of this section after imposition of the requirements of this chapter. The Administrator shall report the results of this study to the Congress within 3 years after November 15, 1990. The Administrator shall develop and describe in the Administrator's report to Congress alternative control strategies for emissions which may warrant regulation under this section. The Administrator shall regulate electric utility steam generating units under this section, if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph.

42 U.S.C. § 7412(n)(1)(A).

C. Regulation of Air Pollutants Under CAA Section 110

Pursuant to CAA sections 108 and 109, 42 U.S.C. §§ 7408-7409, EPA has established national ambient air quality standards ("NAAQS") for certain common air pollutants, including ozone and particulate matter. The NAAQS establish permissible concentrations of these pollutants in the "ambient," or outside, air. Pursuant to CAA section 110, States must then establish "State implementation plans" ("SIPs"), which impose controls on individual sources of air pollution as necessary to attain and maintain the NAAQS. 42 U.S.C. § 7410. Section 110 require state rulemaking action followed by review and approval of state plans by EPA at the federal level. If the EPA Administrator finds that an approved SIP is "substantially inadequate" to attain or maintain the NAAQS, mitigate adequately interstate pollutant transport, or otherwise comply with the Act, he is authorized to "require the State to revise the plan as necessary to correct such inadequacies" (a "SIP Call"). Id. § 7410(k)(5). CAA section 110(a)(2)(D) requires that SIPs contain provisions prohibiting "any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any [NAAQS]." 42 U.S.C. § 7410(a)(2)(D).

III. REGULATORY BACKGROUND

A. The Section 112(n) Rule

Following passage of the 1990 Amendments, EPA conducted a study, pursuant to section 112(n)(1)(A), 42 U.S.C. § 7412(n)(1)(A), to evaluate what hazards to public health, if any, would reasonably be anticipated to occur as a result of emissions of hazardous air pollutants from power plants after imposition of the requirements of the CAA. EPA completed this study on February 24, 1998, and submitted a report to Congress summarizing its results. Docket No. A92-55, Item No. I-A-90 ("the Utility Study") (JA 64-101). After some additional data collection – and without providing an opportunity for notice and comment – EPA made a finding, on December 20, 2000, under section 112(n)(1)(A) that regulation of power plants under section 112 was "appropriate and necessary." 65 Fed. Reg. 79,825 (Dec. 20, 2000) ("the December 2000 Finding"). Based on this finding, EPA added power plants to the CAA section 112(c) list of source categories to be regulated under section 112. Id. at 79,831. Petitioner Utility Air Regulatory Group ("UARG") challenged the finding. Applying CAA section 112(e)(4), 42 U.S.C. § 7412(e)(4), this Court held that it lacked jurisdiction to review the December 2000 Finding and that challenges to that finding could be heard only after EPA issued section 112(d) emission standards for power plants. UARG v.

EPA, No. 01-1074, 2001 WL 936363 (D.C. Cir. July 26, 2001).

On January 30, 2004, EPA issued a proposed rule that included two primary alternative regulatory approaches to address mercury emissions from power plants. 69 Fed. Reg. 4652. Under the first approach, EPA proposed retaining its December 2000 Finding and the associated section 112(c) listing of power plants and issuing final emission standards for power plants under section 112(d). Under the second approach, EPA proposed revising the December 2000 Finding, removing power plants from the section 112(c) list, and issuing standards of performance under section 111.

On March 15, 2005, EPA signed the final Section 112(n) Rule revising the December 2000 Finding based on its final determination that it was, in fact, neither appropriate nor necessary to regulate power plants under CAA section 112. 70 Fed. Reg. 15,994 (Mar. 29, 2005). Before taking this final action, EPA received and responded to thousands of public comments and documents, and conducted additional robust air quality modeling and analyses. EPA concluded that it was not "appropriate" to regulate power plants under section 112 because (1) the level of emissions of hazardous air pollutants from power plants remaining after imposition of other requirements of the Act are not reasonably anticipated to cause hazards to public health, and (2) if EPA were to regulate mercury emissions

from power plants under section 112, the costs would be extreme and the health benefits would be nominal, as total domestic power plant emissions are responsible for only a very small fraction of overall mercury levels. 70 Fed. Reg. 16,022/3; 70 Fed. Reg. 16,029/1. In addition, EPA concluded it was not "necessary" to regulate power plants under section 112 because there are other available authorities under the Act that, if implemented, would administratively- and cost-effectively address hazardous air pollutant emissions from power plants. 70 Fed. Reg. 16,005. Based on its revised section 112(n)(1)(A) finding, EPA in the Section 112(n) Rule removed power plants from the section 112(c) list. 70 Fed. Reg. 15,994/2.

On July 8, 2005, environmental group petitioners moved for a stay of the Section 112(n) Rule pending judicial review. On August 4, 2005, this Court denied Petitioners' request.

B. CAMR

On the same date that he signed the Section 112(n) Rule, the EPA Administrator signed CAMR. 70 Fed. Reg. 28,606 (May 18, 2005). CAMR establishes "standards of performance" pursuant to CAA sections 111(b) and (d) limiting mercury emissions from new and existing power plants.

CAMR creates a standard of performance for existing sources that, when

fully implemented, will reduce nationwide annual power plant emissions of mercury from a 1999 baseline of 48 tons to 15 tons. CAMR takes a two-phase approach to achieving mercury reduction. A first phase nation-wide emissions cap of 38 tons per year becomes effective in 2010, and a second phase cap of 15 tons per year becomes effective in 2018. 70 Fed. Reg. 28,618-19. CAMR sets emission reduction requirements by apportioning emission budgets among the 50 States, two Tribes, and the District of Columbia. Id. at 28,623. CAMR further provides States and Tribes with the option of either joining a nationwide emissions cap-and-trade program as a means of implementing required reductions, or achieving required reductions through another method. Id. at 28,621.

States that elect to participate in the national cap-and-trade program may allocate emission allowances to individual plants as they deem appropriate as long as the total allocated does not exceed a State's emission budget. Id. at 28,632. Under the national cap-and-trade program, individual plants must hold allowances equal to their annual mercury emissions each year. Id. at 28,616. Those with allowances in excess of their emissions may sell the excess to other plants or bank the allowances for future use. Id. at 28,616, 28,629.

Pursuant to CAA section 111(b), CAMR further requires all new power plants to meet NSPS. CAMR establishes NSPS for five subcategories of power

plants: (1) bituminous coal plants, (2) subbituminous coal plants, (3) lignite coal plants, (4) coal-refuse plants, and (5) integrated gasification combined cycle plants. 70 Fed. Reg. 28,612. For subbituminous coal plants, EPA further subcategorized on the basis of water availability. Id. at 28,615.

C. The Reconsideration Rule

Following publication of the Section 112(n) Rule and CAMR, EPA received numerous petitions requesting reconsideration of many aspects of the final rules. On October 28, 2005, EPA granted reconsideration on certain issues. 70 Fed. Reg. 62,200; 70 Fed. Reg. 62,213. EPA published its final decision on reconsideration on June 9, 2006. 71 Fed. Reg. 33,388. EPA made two substantive changes to CAMR involving revisions to the state mercury allocations and to the NSPS. EPA reaffirmed its determination that it is neither appropriate nor necessary to regulate power plants under section 112. Id. at 33,388-89. EPA conducted a cost-effectiveness analysis on reconsideration that showed that even assuming a hazard to public health existed from the global pool of mercury emissions, the cost of further reducing mercury emissions under section 112 beyond reductions that will be achieved through other statutory requirements far exceed the health benefits associated with the additional reductions. Id. at 33,394.

D. CAIR

Prior to promulgating the Section 112(n) Rule and CAMR, EPA promulgated CAIR, 70 Fed. Reg. 25,162 (May 12, 2005), pursuant to its authority under CAA section 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D).[3] CAIR is intended to address the interstate transport of pollutants that significantly contribute to nonattainment and interfere with maintenance of the ozone and fine particulate matter NAAQS in the eastern United States. In brief, EPA determined that 24 jurisdictions contribute significantly to downwind States' nonattainment of the fine particulate matter standard through emissions of sulfur dioxide ("SO_2") and nitrogen oxides ("NO_x") and that 26 jurisdictions contribute significantly to downwind States' nonattainment of the ozone standard through emissions of NO_x. 70 Fed. Reg. 25,167. The CAIR emission reduction requirements are based on controls that EPA determined to be highly cost effective for power plants. 70 Fed. Reg. 16,004. CAIR also defines power plant emission budgets for each State that apply if the State chooses to control only power plants. 70 Fed. Reg. 25,167.

The required reductions of SO_2 and NO_x will be implemented in two phases. The first phase of NO_x reductions begins in 2009 and the first phase of SO_2 reductions begins in 2010. The second phase for both SO_2 and NO_x begins in

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[3] CAIR was signed on March 15, 2005.

2015. Id. at 25,215-16. Although States may independently determine which emissions sources to control and which control measures to adopt, EPA predicted that most States will regulate power plants and that power plants will comply by installing currently available controls that will reduce mercury emissions as well as NO_x and SO_2 emissions. 70 Fed. Reg. 16,009-10. EPA established guidelines and a model rule for a cap-and-trade program for CAIR in which States may choose to participate. 70 Fed. Reg. 25,223-25. This program would allow emission credits to be traded by power plants within and between States as a way to reduce the cost of compliance and to provide compliance flexibility.

STANDARD OF REVIEW

Challenged provisions of EPA's rules must be upheld unless they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 42 U.S.C. § 7607(d)(9)(A). The "arbitrary or capricious" standard is a narrow, deferential standard under which the Court may not substitute its judgment for that of the agency. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 42 (1983). The central issues under this standard are whether the decision "was based on a consideration of the relevant factors and whether there has been a clear error of judgment." Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971); Small Refiner Lead Phase-Down Task

Force v. EPA, 705 F.2d 506, 520-21 (D.C. Cir. 1983).

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 determine whether the agency's interpretation is based on a permissible construction of the statute. Id. at 843. The Court need not find that EPA's reading is the sole permissible construction, or even that it is the reading the Court would have reached on its own. EPA's interpretation must be upheld as long as it is a reasonable reading of the statute. Id. at 843 n.11; Chemical Mfrs. Ass'n v. NRDC, 470 U.S. 116, 125 (1985).

Deference is particularly appropriate where, as in this case, the challenged EPA determinations involve complex scientific and technical issues within the special expertise of the agency. See Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 103 (1983); Appalachian Power Co. v. EPA, 135 F.3d 791, 801-02 (D.C. Cir. 1998) ("Our analysis is guided by the deference traditionally given to agency expertise, particularly when dealing with a statutory scheme as unwieldy and

science-driven as the Clean Air Act.").

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) (citations and quotation marks omitted). This Court "will not second-guess a determination based on that expertise." Id.

SUMMARY OF ARGUMENT

In the 1990 CAA Amendments, Congress treated power plants differently from all other sources of hazardous air pollutants. Congress directed EPA to study the hazards to public health reasonably anticipated to occur from emissions of hazardous air pollutants from power plants after imposition of the requirements of the Act, and then to regulate such emissions under CAA section 112 only if EPA determined that such regulation was both "appropriate and necessary" after considering the results of the study. 42 U.S.C. § 7412(n)(1)(A). Under CAA section 112(n)(1)(A), EPA has broad discretion to determine whether regulation of power plants under section 112 is "appropriate and necessary" and may consider information beyond that in the required study.

In the challenged Section 112(n) Rule, EPA reasonably determined that it is

neither appropriate nor necessary to regulate power plants under section 112. First, EPA determined that regulation of power plants under section 112 is not appropriate because either of two other rulemakings promulgated by EPA – CAIR, and independently CAMR – will reduce mercury emissions from power plants to levels that are not reasonably anticipated to cause hazards to public health. EPA's findings in this regard are amply supported by sophisticated air modeling and analyses. EPA further concluded that it would not be appropriate to regulate mercury emissions under section 112 because the cost of reducing mercury emissions under section 112 beyond the level that will be achieved by CAIR greatly exceeds the benefits associated with achieving those reductions. EPA additionally determined that regulation of power plants under section 112 is not necessary because other authorities under the Act, if implemented, would address any hazards to public health posed by power plant emissions.

EPA's Section 112(n) Rule revises EPA's initial erroneous December 2000 "appropriate and necessary" finding. EPA has authority to reverse its erroneous December 2000 Finding, and can do so without applying the criteria set forth in section 112(c)(9) for removing other source categories from the list of categories to be regulated under section 112. Section 112(n)(1)(A) specifically addresses the circumstances under which power plants are to be regulated under section 112.

The specific threshold criteria set forth in section 112(n)(1)(A) for regulating power plants under section 112 trump the general source category delisting criteria.

EPA properly considered tribal treaties in the Section 112(n) Rule. To the extent Tribal Petitioners argue that fishing rights granted to Tribes through treaties encompass a right to environmental protection of fish habitats, such a right has not been established, and Congress specifically directed EPA in section 112(n)(1)(A) to focus its determination on a study of public health hazards, not consideration of environmental effects.

EPA has authority under CAA section 111 to establish standards of performance for emissions of mercury from new and existing sources. Indeed, no party in this case has challenged EPA's authority to adopt such standards for new sources. With regard to existing sources, EPA reasonably harmonized conflicting provisions in the 1990 Amendments to the Act to allow for the adoption of section 111 standards of performance for emissions of hazardous air pollutants from sources in a source category not regulated under CAA section 112.

The standards of performance adopted by EPA in CAMR are consistent with the statute and are amply supported by the administrative record. CAMR is the first CAA rule ever specifically directed at emissions of mercury from power

plants, and when fully implemented, it will secure significant and cost-effective reductions in such emissions. Contrary to the claims of the Environmental Petitioners (Natural Resources Defense Council et al.), CAMR's cap-and-trade system is an appropriate "standard of performance" under the Act and is consistent with the terms of the statute and applicable judicial precedent. Furthermore, Petitioners' record-based challenges to CAMR are meritless because local and regional variations are an inherent aspect of any standard of performance, and the subcategorization scheme reflected in CAMR was reasonable. Petitioner UARG's claim that CAMR gives States too much discretion has no basis in the statute, and is largely contradicted by applicable precedent of this Court.

Additionally, EPA's mercury emissions allocation to the State of Alaska is supported by the record and consistent with EPA's allocation methodology nationwide. EPA's adjustment factors by coal rank are likewise supported by the record. EPA also correctly calculated the heat content of coal refuse. Petitioner ARIPPA's challenge to EPA's calculation is based on partial data and improper application of EPA's methodology.

Accordingly, all of the petitions challenging the Section 112(n) Rule and CAMR should be denied.

ARGUMENT

I. CONGRESS DIRECTED EPA TO REGULATE HAZARDOUS AIR POLLUTANT EMISSIONS FROM POWER PLANTS UNDER CAA SECTION 112 ONLY WHERE SUCH REGULATION IS BOTH APPROPRIATE AND NECESSARY

A. CAA Section 112(n)(1)(A) Imposes Special Conditions on EPA's Regulation of Power Plants Under Section 112.

Congress in the 1990 CAA Amendments treated power plants differently from all other sources of hazardous air pollutants. Although Congress generally mandated that large sources of hazardous air pollutants be regulated under section 112, Congress expressed reservations about subjecting power plants to the section 112 regulatory program. In particular, Congress imposed special threshold conditions on any EPA regulation of power plants under section 112 that it did not apply to any other source category. These special conditions are set forth in section 112(n)(1)(A). 42 U.S.C. § 7412(n)(1)(A).

In section 112(n)(1)(A), Congress directed EPA to first study hazards to public health reasonably anticipated to occur as a result of power plant emissions *after* implementation of other requirements of the Act. Congress then instructed EPA to consider the results of such study and to regulate power plants under section 112 *only* where such regulation is, in EPA's judgment, both "*appropriate* and *necessary*." 42 U.S.C. § 7412(n)(1)(A) (emphases added).

National Cable & Telecomms. Ass'n v. Brand X Internet Servs., 575 U.S. 967, 981 (2005). Likewise, this Court has stated that:

> [A]n agency is free to discard precedents or practices it no longer believes correct. Indeed, we expect that an [] agency may well change its past practices with advances in knowledge in its given field or as its relevant experience and expertise expands.

Williams Gas Processing Gulf Coast Co. v. FERC, 475 F.3d 319, 326. (D.C. Cir. 2006) (quoting Nuclear Energy Inst., Inc. v. EPA, 373 F.3d 1251, 1296 (D.C. Cir. 2004) (per curiam)).

Government Petitioners argue that EPA lacks authority to revise a section 112(n)(1)(A) determination inasmuch as Congress failed to *mandate* periodic review by EPA of a section 112(n)(1)(A) determination, whereas Congress did mandate periodic review of certain other determinations under the Act. See Government Br. at 13. Government Petitioners fail to recognize that there is a clear distinction between language that *mandates* periodic EPA review of some determination, and language that *precludes* review of such a determination. In the absence of any preclusive language, EPA retains its inherent administrative authority to revise a section 112(n)(1)(A) determination where it has a principled basis for doing so. See Dun & Bradstreet Corp. Found. v. United States Postal Service, 946 F.2d 189, 193 (2d Cir. 1991) ("It is widely accepted that an agency

may, on its own initiative, reconsider its interim or even its final decisions, regardless of whether the applicable statute and agency regulations expressly provide for such review.") (citation omitted).

2. EPA may revise a section 112(n)(1)(A) determination without applying the delisting criteria in section 112(c)(9).

In section 112(n)(1)(A), Congress directed EPA to regulate power plant emissions under section 112 *only* where it is both appropriate and necessary to do so. Thus, an affirmative section 112(n)(1)(A) determination is a prerequisite to any regulation of power plants under section 112. EPA's express authority in section 112(n)(1)(A) to determine whether power plants should be regulated at all under section 112 necessarily encompasses the authority to remove power plants from the section 112(c) list of source categories to be regulated under section 112 where EPA determines that it has erred in concluding that regulation of power plants is appropriate and necessary or finds that new information has undermined the validity of a previous determination.

Government and Environmental Petitioners take the position that even if EPA is correct that it is, in fact, neither "appropriate" nor "necessary" to regulate power plants under section 112, EPA must nonetheless, as a result of an initial erroneous 112(n)(1)(A) determination, retain power plants on the section 112 list

and regulate power plants under section 112. See Government Br. at 15-19; Environmental Br. at 14-17. Petitioners contend that EPA can only avoid inappropriate or unnecessary regulation of power plants under section 112 if it makes a different set of findings than set forth in section 112(n)(1)(A) – namely, the findings set forth in section 112(c)(9) required for removing ordinary source categories from the section 112(c) list of categories to be regulated. But this argument ignores the threshold nature of the section 112(n)(1)(A) criteria and stands the statutory framework on its head.

Petitioners contend that their statutory interpretation must be adopted under step one of a Chevron analysis. See Environmental Br. at 15. Under step one of a Chevron analysis, the statute must be construed in its entirety, and the Court cannot confine itself to reading a particular statutory provision in isolation. See, e.g., FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 132 (2000) ("In determining whether Congress has specifically addressed the question at issue, a reviewing court should not confine itself to examining a particular statutory provision in isolation. The meaning – or ambiguity of – certain words or phrases may only become evident when placed in context."); Northeast Maryland Waste Disposal Auth. v. EPA, 358 F.3d 936, 944 (D.C. Cir. 2004) ("As the Supreme Court has instructed, 'the words of a statute must be read in their context and with

a view to their place in the overall statutory scheme.'") (citation omitted).

Reading section 112 in its entirety, it is simply not the case that Congress has unambiguously expressed an intent to compel unnecessary and inappropriate regulation of power plants. Logically, if EPA makes a determination under section 112(n)(1)(A) that power plants should not be regulated at all under section 112 because it is neither appropriate nor necessary to do so, this determination *ipso facto* must result in removal of power plants from the section 112(c) list of source categories to be regulated under section 112. To the extent that the section 112(n)(1)(A) criteria and the section 112(c)(9) delisting criteria may be deemed to conflict, the section 112(n)(1)(A) language takes precedence through application of the fundamental rule of statutory construction that "[s]pecific terms prevail over the general in the same . . . statute which might otherwise be controlling." Ginsberg & Sons v. Popkin, 285 U.S. 204, 208 (1932). Section 112(n)(1)(A) focuses specifically on power plants. Section 112(c)(9) does not.

In short, the intent of Congress is not clear with respect to the applicability of the section 112(c)(9) delisting criteria to power plants. Accordingly, this case cannot be decided under step one of the Chevron test, and the Court must proceed

to step two of that test.[4] Under Chevron step two, to uphold EPA's construction, "[t]he court need not conclude that the agency construction was the only one it permissibly could have adopted . . . or even the reading the court would have reached . . . ." Chevron, 467 U.S. at 843 n.11.

EPA's construction of the statute as allowing EPA to correct or revise a section 112(n)(1)(A) determination and to remove power plants from the section 112(c) list without applying section 112(c)(9) delisting criteria is reasonable and entitled to deference under step two of Chevron.

Petitioners' argument that EPA's interpretation somehow frustrates the general framework set forth by Congress in section 112 does not withstand scrutiny. See Government Br. at 13-14; Environmental Br. at 19. While Petitioners correctly observe that Congress generally established a framework in section 112 that promoted rapid regulation of hazardous air pollutants, Petitioners overlook that Congress singled out power plants for *different* treatment and made

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[4] Accordingly, the gloss on the Chevron step one standard set forth by this Court in Engine Manufacturers Ass'n v. EPA, 88 F.3d 1075 (D.C. Cir. 1996), and cited by Petitioners does not apply. See Government Br. at 16; Environmental Br. at 15-16. However, even if Engine Manufacturers Ass'n were applied, EPA can make the showing set forth in that case to avoid application of Chevron step one. "[A]s a matter of logic and statutory structure," applying section 112(c)(9) to power plants does not make sense. See 88 F.3d at 1089. To do so would undermine Congress' specific instructions regarding the regulation of power plants set forth in section 112(n)(1)(A).

clear that it did not want to subject power plants to the framework it established for other source categories. Instead, Congress granted EPA considerable discretion to determine whether it is appropriate and necessary to regulate power plants at all under section 112, and then set no deadline for making such a determination. In short, there is no reason to conclude based on the general rigid framework applicable to other source categories that Congress intended to prevent EPA from revising a section 112(n)(1)(A) determination.

Petitioners' argument that EPA is obligated to apply section 112(c)(9) criteria because EPA previously applied various *other* section 112 requirements to power plants based on the December 2000 Finding is also misplaced. See Environmental Br. at 17-18. Although it is correct that between the time of the December 2000 Finding and the Section 112(n) Rule EPA applied certain other section 112 requirements to power plants, EPA did so during this period based on the fact that it had made a positive "appropriate and necessary" finding that was still in place. EPA has now reversed that finding.

Petitioners' reliance on language in CAA sections 112(c)(6) and 112(c)(3) likewise is misplaced. See Government Br. at 16; Environmental Br. at 18-19. Congress directed EPA in section 112(c)(6) to list by November 1995 sources accounting for 90 percent of the aggregate emissions of certain hazardous air

pollutants, including mercury, and to establish standards for such sources by November 2000. But, in doing so, Congress made clear that this provision "shall not be construed to require [EPA] to promulgate standards" for power plants. 42 U.S.C. § 7412(c)(6). Accordingly, section 112(c)(6) further underscores that Congress had reservations about regulating power plants under section 112 notwithstanding its recognition that power plants may be a significant source of mercury.

Section 112(c)(3) addresses EPA's listing of "area sources" to be regulated under section 112. Area sources are defined as stationary sources of hazardous air pollutants that are not "major sources." 42 U.S.C. § 7412(a)(2). Environmental Petitioners argue that EPA's interpretation of section 112(n)(1)(A) as allowing it to correct a section 112(n)(1)(A) "appropriate and necessary" determination relating to power plants would also enable EPA to revise section 112(c)(3) area source listing determinations without applying section 112(c)(9) delisting criteria – a result they contend would be "absurd." Environmental Br. at 18. Petitioners are mistaken. Section 112(c)(3) is distinguishable from section 112(n)(1)(A), and the "absurd results" Petitioners contemplate do not actually exist. Congress expressly applied section 112(c)(9) delisting criteria to area sources, but not to power plants. Moreover, Petitioners' section 112(c)(3) argument has been waived

because Petitioners failed to raise any concern regarding section 112(c)(3) during the period for public comment. See 42 U.S.C. § 7607(d)(7)(B) (providing that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment . . . may be raised during judicial review.").

This Court's decision in American Methyl Corp. v. EPA, 749 F.2d 826 (D.C. Cir. 1984), which is cited by Petitioners (see Environmental Br. at 18), is also distinguishable. In American Methyl, this Court held that EPA could not reconsider a waiver granted under CAA section 211(f), 42 U.S.C. § 7545(f), allowing the sale of a new fuel additive, but had to instead take action under CAA section 211(c), 42 U.S.C. § 7545(c), to prohibit the sale of the fuel additive. CAA sections 211(c) and section 211(f) are not analogous to CAA sections 112(c)(9) and 112(n)(1)(A). First, the Court in American Methyl relied heavily on legislative history that expressly set forth Congress' intent that having granted a waiver for a fuel additive under section 211(f), EPA must act to subsequently restrict the sale of such fuel additives through proceedings under section 211(c). See 749 F.2d at 834-35. There is no comparable legislative history here indicating Congress intended to preclude EPA from exercising its inherent authority to reconsider a section 112(n)(1)(A) determination. Second, CAA sections 211(c)

and 211(f) address precisely the same thing – fuel additives. By contrast, CAA section 112(n)(1)(A) alone specifically addresses power plants. Third, in section 211(f) Congress placed an express time limitation within which EPA must make a waiver determination, whereas here, Congress did not place any time limitation on making a section 112(n)(1)(A) determination.

Where EPA has determined, as it did here, that it erred in adding power plants to the section 112(c) list in the first place, it is even more apparent that EPA has the authority to correct that initial error and remove power plants from the list of source categories to be regulated without applying the section 112(c)(9) delisting criteria. Indeed, EPA has always interpreted the section 112(c)(9) criteria as inapplicable where the original listing of a source category was inconsistent with statutory listing criteria. See 69 Fed. Reg. 4652, 4689 (Jan. 30, 2004) (citing examples where EPA removed a source category from the section 112(c) list without following the criteria in section 112(c)(9) due to an error at the time of listing). For example, in 1992, EPA listed asphalt concrete manufacturers as a major source category under section 112(c)(1), and then in 2002, delisted that source category without following the criteria in section 112(c)(9) because it determined that the initial criteria for listing had not been met. Id. See 67 Fed.

Reg. 6521, 6522 (Feb. 12, 2002).[5]

Furthermore, the merits of EPA's initial finding have never been subject to judicial review.[6] If EPA cannot correct its own mistake and remove power plants from the section 112(c) list based on its revised section 112(n)(1)(A) finding, this would lead to an anomalous result: that power plants challenging EPA's initial December 2000 determination (when such determination became ripe for review) could obtain relief from this Court – namely, vacatur of the initial section 112(n)(1)(A) determination upon a finding of error – that they could not obtain

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[5] Contrary to Petitioners' suggestion (see Environmental Br. at 16), EPA did not adopt any different interpretation of the Act in a 1991 Federal Register notice. The 1991 notice is nothing more than a notice of availability of a preliminary draft list of source categories to be regulated under section 112, and a request for information and comment on issues and proposed positions. The notice does not represent or set forth any final EPA position on any issue. After consideration of comments, consistent with its action in the instant rule, EPA concluded in 1991 that it had no authority to regulate power plants if the requirements of section 112(n)(1)(A) had not been met. 57 Fed. Reg. 31,576, 31,584 (July 16, 1992). As to the statement in the 1991 notice concerning section 112(c)(9) and power plants, that statement was made in conjunction with a proposed regulatory option (a proposal to list power plants absent any section 112(n)(1)(A) findings) that EPA did not pursue and that was contrary to the plain language of section 112(n)(1)(A). EPA's final interpretation concerning the relationship of section 112(n)(1)(A) to section 112(c)(9) has been set forth in the Section 112(n) Rule after notice-and-comment rulemaking.

[6] See UARG v. EPA, No. 01-1074, 2001 WL 936363 (D.C. Cir. July 26, 2001) (finding Court lacked jurisdiction to review EPA's initial December 2000 Finding based on 42 U.S.C. § 7412(e)(4)).

from EPA, even where the error is conceded by the Agency. EPA should not have to await an adverse ruling from the Court to correct its own mistake. Cf. Natural Gas Clearinghouse v. FERC, 965 F.2d 1066, 1073 (D.C. Cir. 1992) ("[A]n agency, like a court, can undo what is wrongfully done by virtue of its [prior] order.") (citation and quotation marks omitted); Cleveland Nat'l Air Show, Inc. v. United States Dep't of Transp., 430 F.3d 757, 765 (6th Cir. 2005) ("A government agency, like a judge, may correct a mistake, and no principle of administrative law consigns the agency to repeating the mistake into perpetuity.").

In short, EPA has reasonably concluded that the specific "appropriate" and "necessary" criteria of section 112(n)(1)(A) alone govern whether power plants shall be regulated under section 112, and that the delisting criteria at section 112(c)(9) do not apply to EPA action under section 112(n)(1)(A).

II. EPA HAS ADOPTED REASONABLE INTERPRETATIONS OF THE TERMS USED IN CAA SECTION 112(n)(1)(A)

As discussed above, the condition precedent for regulating power plants under section 112 is a determination by EPA that such regulation is both "appropriate" and "necessary." The terms "appropriate" and "necessary" are not defined in section 112(n)(1)(A). In the absence of any statutory definition, EPA

has reasonably interpreted these terms consistent with their plain meaning.[7] We set forth EPA's reasonable interpretation of these terms below.

A. EPA Reasonably Interprets the Term "Appropriate."

The only guidance in section 112(n)(1)(A) about the substance of EPA's "appropriate" inquiry is that EPA must consider the results of a study identifying "hazards to public health" that are "reasonably anticipated to occur as a result of emissions" of hazardous air pollutants by power plants "after imposition of the requirements of the Act." 42 U.S.C. § 7412(n)(1)(A).

In view of what Congress directed EPA to consider in the required study, EPA reasonably considers, as a threshold matter, in evaluating whether regulation of power plants under section 112 is "appropriate," whether "hazards to public health" are "reasonably anticipated to occur as a result of emissions" by power plants "after imposition of the requirements of the [Act]." If such hazards are *not* reasonably anticipated to occur, EPA reasonably concludes that it is not "appropriate" to regulate power plants under section 112. But even if such hazards are reasonably anticipated to occur, EPA reasonably believes other factors may still make regulation of power plants under section 112 inappropriate. For

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[7] Webster's dictionary defines the term "appropriate" to mean "especially suitable or compatible." Webster's Ninth New Collegiate Dictionary (1983) at 98. It defines the term "necessary" to mean "absolutely needed." Id. at 790.

example, regulation of power plants under section 112 may not be "appropriate" where the cost of regulation far outweighs the health benefits.

B. EPA Reasonably Interprets the Term "Necessary."

Congress required EPA to determine that it was both appropriate *and* necessary to regulate power plants under section 112. To give Congress' direction full effect, EPA's inquiry into whether it is "necessary" to regulate power plants under section 112 must be distinct from EPA's inquiry into whether it is "appropriate" to do so. Thus, even if EPA determines that it is "appropriate" to regulate power plants under section 112, EPA must also specifically conclude that it is "necessary" to do so.

EPA reasonably concludes that regulation of power plants under section 112 is not "necessary" where there are other authorities under the Act beyond section 112 authorities that, if implemented, would address any hazards to public health posed by power plant hazardous air pollutant emissions in a cost-effective and administratively-effective manner. 70 Fed. Reg. 16,001/2; 71 Fed. Reg. 33,391.

C. EPA Reasonably Interprets The Term "As a Result."

Section 112(n)(1)(A) directs EPA to study "hazards to public health reasonably anticipated to occur as a result of emissions" of hazardous air

pollutants by power plants. 42 U.S.C. § 7412(n)(1)(A). Without considering the context of section 112(n)(1)(A), the "as a result of" phrase might reasonably be read to refer alternatively to either (a) hazards resulting solely from emissions by power plants, or (b) hazards resulting from all sources, including power plants. Cf. Collinsworth v. AIG Life Ins. Co., 404 F. Supp. 2d 911, 920 (N.D. Tex. 2005) (finding phrase "as a result of" appearing in insurance policy was ambiguous and could be read to refer either to actions that are the sole cause of a loss or to actions that are a contributing cause). However, considering the specific context of section 112(n)(1)(A), EPA reasonably construes this phrase as referring to hazards arising solely from power plant emissions.

In section 112(n)(1)(A), Congress distinguished power plants from all other major and area sources of hazardous air pollutants and signaled its reluctance to have power plants automatically subjected to the same stringent regulatory framework as other sources. Congress directed EPA to regulate other major sources of mercury under section 112, but, in sharp contrast, instructed EPA to regulate power plants under that section only if EPA deemed such regulation to be "appropriate and necessary" after studying "hazards to public health reasonably anticipated to occur as a result of emissions by [power plants]." 42 U.S.C. § 7412(n)(1)(A). Congress' unique treatment of power plants provides a strong

indication that Congress intended EPA to focus its study under section 112(n)(1)(A) on effects of mercury emissions caused by power plants alone.

Indeed, if Congress had intended to mandate that EPA evaluate all sources of mercury under section 112(n)(1)(A), and that EPA regulate power plants where power plants made some non-zero contribution to the global pool of mercury, Congress could have simply required regulation of power plants under the same scheme as other sources. Congress already knew at the time of the 1990 Amendments that power plants were a major source of hazardous air pollutants. Congress further already knew that mercury in the environment generally presented a potential hazard to public health, as reflected by Congress' decision to include mercury on a list of "hazardous air pollutants" and Congress' direction to EPA to establish mercury emission standards under section 112 for all major sources of hazardous air pollutants (but *not* power plants). Interpreting section 112(n)(1)(A) as requiring analysis of whether the *total* amount of mercury in the environment presents some potential health hazard to which power plants make some non-zero contribution renders the section 112(n)(1)(A) inquiry meaningless. See Mountain States Tel. & Tel. Co. v. Pueblo of Santa Ana, 472 U.S. 237, 249 (1985) (noting that it is an "'elementary canon of construction that a statute should be interpreted so as not to render one part inoperative'") (citation omitted).

Furthermore, if Congress had intended EPA to focus its analysis on whether power plants, in combination with mercury emissions from all other sources, contributes to a hazard to public health, it could have easily made this clear. For example, Congress could have used language similar to that in section 112(n)(1)(B). In section 112(n)(1)(B), Congress required EPA to study the health effects of mercury emissions from power plants "and other sources." 42 U.S.C. § 7412(n)(1)(B). Congress, however, did not use such language in section 112(n)(1)(A) and did not direct EPA to consider the section 112(n)(1)(B) study in making a section 112(n)(1)(A) determination.

Congress could also have used language similar to that used in CAA section 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D). In section 110(a)(2)(D), Congress required that each SIP contain adequate provisions "prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts" that will "contribute significantly to nonattainment" of the NAAQS. This language reflects that Congress knew how to specify regulation of emissions of air pollutants even where such pollutants only "contribute" to a problem in combination with other sources. Congress did not use such "contribution" language in section 112(n)(1)(A), and EPA's interpretation of the "as a result of" language in section 112(n)(1)(A) so as to avoid making section 112(n)(1)(A)

superfluous is reasonable. See Chevron, 467 U.S. at 843 & n.11 (holding that where statutory language is ambiguous, EPA's interpretation must be upheld as long as it is a reasonable reading of the statute, and the Court need not find that EPA's reading is the sole permissible construction, or even that it is the reading the Court would have reached on its own).[8]

Environmental Petitioners argue that EPA's interpretation of the phrase "as a result of" cannot be reconciled with EPA's interpretation of the same phrase as it appears in section 112(k)(3)(B). See Environmental Br. at 32. This argument is misplaced because the phrase appears in section 112(k)(3)(B) in an entirely different context. In section 112(k), which addresses regulation of area sources, Congress made a specific finding that emissions of hazardous air pollutants from area sources may "individually, or in the *aggregate*, present significant risks to human health in urban areas." 42 U.S.C. § 7412(k)(1) (emphasis added). Congress then directed EPA to prepare a comprehensive strategy to reduce

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[8] Government Petitioners cite to Michigan v. EPA, 213 F.3d 663 (D.C. Cir. 2000) (see Government Br. at 25), but that case involved EPA action under CAA section 110(a)(2)(D), which directs EPA to focus on pollutants that only "contribute" to a problem. In Grand Canyon Trust v. FAA, 290 F.3d 339, 346 (D.C. Cir. 2002), cited by Government Petitioners, the implementing regulations for the National Environmental Policy Act specifically required the FAA to consider cumulatively significant impacts of actions with individually insignificant impacts. CAA section 112(n)(1)(A) does not contain similar language.

aggregate emissions of hazardous air pollutants from area sources in urban areas, including reducing emissions of the 30 pollutants that "as a result of emissions from area sources" present the greatest threat to public health.

42 U.S.C. § 7412(k)(3)(B). Thus, in section 112(k)(3) Congress made clear that it intended for EPA to prepare a strategy to reduce aggregate emissions from many area sources in urban areas. In sharp contrast, in section 112(n)(1)(A), Congress directed EPA to engage in a very different inquiry – namely, to determine whether it is appropriate and necessary for a particular source category (power plants) to be regulated under section 112 after regulation of power plants under other requirements of the Act. Nothing in section 112(k)(3) makes it unreasonable for EPA to focus on power plant emissions exclusively in the context of making a section 112(n)(1)(A) determination. Section 112(n)(1)(A) calls for a different analysis and bears little resemblance to section 112(k)(3).

In short, EPA reasonably focused its "appropriate" analysis on hazards to public health arising solely from power plants.

III. EPA REASONABLY DETERMINED THAT IT IS NEITHER APPROPRIATE NOR NECESSARY TO REGULATE MERCURY EMISSIONS FROM POWER PLANTS UNDER SECTION 112

In the Section 112(n) Rule, EPA reasonably determined that it is neither "appropriate" nor "necessary" to regulate power plants under section 112. We

discuss the analyses and reasoning underlying these determinations below.

A. EPA Appropriately Determined That its December 2000 Finding Lacked Foundation.

In the Section 112(n) Rule, EPA found, as an initial matter, that its December 2000 Finding was without foundation. 70 Fed. Reg. 16,002-4. In its December 2000 Finding, EPA failed to fully consider the mercury reductions that would result after imposition of requirements of the Act. EPA's failure to consider these reductions resulted in an overestimate of power plant mercury emissions remaining after imposition of Act requirements. Specifically, EPA explained that it erred in December 2000 by not accounting for the power plant mercury emission reductions that it should have reasonably anticipated would result from implementation of certain other provisions of CAA Title I. 70 Fed. Reg. 16,003/3. First, EPA did not consider mercury reductions that would result from implementation of the revised NAAQS for particulate matter and ozone that EPA issued in July 1997. EPA had recognized in the Utility Study that the revised NAAQS would result in approximately a 16 percent reduction in mercury emissions, primarily due to the fact that to attain the new particulate matter NAAQS power plants would need to install controls that would also control mercury. Id.; Utility Study at 1-2 to 1-3; ES-25, 3-14 (JA 95-96, 89, 99).

However, EPA did not consider these reductions in its December 2000 Finding.

Second, EPA did not account in December 2000 for reductions in mercury emissions that would result from two rules controlling NO_x issued pursuant to CAA Title I: (1) a rule ("the NSPS Boiler Rule") setting NSPS under section 111(b) for NO_x emitted from power plants and industrial boilers, and (2) a rule ("the NO_x SIP call rule") promulgated under CAA section 110(a)(2)(D) requiring 22 States and the District of Columbia to revise their SIPs to mitigate the interstate transport of ozone. 70 Fed. Reg. 16,004/1. Both of these rules were premised on use of a NO_x control technology called selective catalytic reduction. At the time of the December 2000 Finding, EPA had data that confirmed that use of this technology would also result in reductions in power plant mercury emissions, but EPA did not consider these reductions in making its section 112(n)(1)(A) finding. Id.[9]

In short, EPA did not take into account in its December 2000 Finding significant reductions in mercury that would result from implementation of Act requirements. Had EPA taken these reductions into account, it believes it would

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[9] EPA also explained that its December 2000 Finding was defective to the extent that it relied in part on environmental effects of power plant mercury emissions. 70 Fed. Reg. 16,002/3. Section 112(n)(1)(A) requires EPA to analyze the "hazards to public health" resulting from power plant emissions.

have reached a different conclusion in December 2000. 70 Fed. Reg. 16,003/1. Moreover, as discussed below, new information before the Agency at the time of the Section 112(n) Rule confirmed that EPA had erred.

B. EPA Reasonably Determined That it is Not Appropriate to Regulate Power Plant Mercury Emissions Under Section 112 Because Hazards to Public Health are Not Reasonably Anticipated to Occur As a Result of Power Plant Mercury Emissions Following Implementation of Act Requirements.

Between the time of its December 2000 Finding and promulgation of the Section 112(n) Rule in March 2005, EPA obtained new information concerning mercury emissions from power plants following implementation of Act requirements, and utilizing this new information, conducted sophisticated public health analyses. Based on all of the information before EPA at the time of the Section 112(n) Rule, EPA concluded that the level of mercury remaining after implementation of the requirements of the Act is not reasonably anticipated to pose a hazard to public health, and therefore, it is not appropriate to regulate power plants under section 112. 70 Fed. Reg. 16,004.[10] Accordingly, EPA

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[10] Nothing in section 112(n)(1)(A) precludes EPA from considering factors in addition to the section 112(n)(1)(A) study in making an "appropriate and necessary" determination. The statute provides that EPA must consider the study but does not limit EPA to relying *exclusively* upon the study. 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 (continued...)

concluded that its December 2000 Finding should be revised.

In the Section 112(n) Rule EPA considered, among other things, emission reductions that would result from two rulemakings implementing requirements of the Act that had been promulgated subsequent to December 2000: CAIR and CAMR. EPA conducted sophisticated air quality modeling to analyze the nature of mercury emissions from power plants that would remain after implementation of CAIR, and independently, after implementation of CAMR. These analyses demonstrated that the implementation of either CAIR or CAMR alone would result in a level of mercury emissions from power plants that would not cause hazards to public health. 70 Fed. Reg. 16,011-27.

1. Overview of EPA's Hazard Analysis.

In assessing potential hazards to public health from power plant emissions of mercury following implementation of CAIR or CAMR, EPA concluded as a threshold matter that the predominant pathway of mercury exposure to humans is through the consumption of methylmercury in fish.[11] Domestic power plants

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[10](...continued)
exclusively upon results of that study).

[11] Once deposited onto land or water, the chemical form of mercury can change into methylmercury, and nearly all of the mercury that accumulates in fish is methylmercury. 65 Fed. Reg. 79,827/1.

emissions contribute to methylmercury in fish, but in virtually all instances, utility-attributable methylmercury levels are a very small fraction of overall methylmercury levels. 70 Fed. Reg. 16,028/2. EPA assessed the risk of methylmercury exposure to individuals resulting from fish consumption and attributable to power plants by considering the concentration of methylmercury in fish that is attributable to power plants (i.e., the "utility-attributable" methylmercury concentration), and the quantity of fish consumed by individuals.

EPA determined that the greatest potential health risk from exposure to utility-attributable mercury is posed to the subpopulation of women of child-bearing age who eat self-caught (i.e., noncommercial) freshwater fish. 70 Fed. Reg. 16,011-12.[12] EPA then rigorously assessed the degree of risk to individuals

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[12] EPA concluded that freshwater fish (e.g., fish from rivers and lakes) on average has greater concentrations of utility-attributable methylmercury than fish from other sources (e.g., fish from oceans or estuaries), and concluded that individuals who substitute other sources of fish for freshwater fish in their diet can be expected to reduce their exposure to utility-attributable mercury. EPA-HQ-OAR-2002-0056-6303, ("Reconsideration TSD") at 26 (JA 2385); EPA-HQ-OAR-2002-0056-6722, ("Reconsideration RTC") at 63, 131 (JA 3764, SJA 197). With respect to commercial fish, EPA concluded among other things, that (1) the vast majority of commercial fish consumed is not from freshwater sources, (2) the amount of commercial freshwater fish consumed is much smaller than the amount of noncommercial freshwater fish consumed, so including the commercial freshwater pathway in an exposure model would result in a relatively small change in a population level exposure estimate; and (3) it is highly unlikely that the group that consumes the most freshwater fish, subsistence fishers, consumes any

(continued...)

within this subpopulation employing the following analytical steps. First, EPA used sophisticated modeling to project the location and quantity of mercury deposition from power plants after implementation of CAIR, or independently, CAMR. Second, EPA combined deposition projections with actual freshwater fish tissue data to estimate expected concentrations of utility-attributable methylmercury in fish tissue in particular locations after implementation of CAIR, or independently, CAMR. Third, EPA estimated noncommercial freshwater fish consumption rates. Fourth, EPA compared the degree of exposure to utility-attributable methylmercury from consuming noncommercial freshwater fish to a health-based standard. We summarize each of these analytical steps further below.

a. EPA projected mercury deposition from power plants after implementation of CAIR and CAMR.

EPA used sophisticated state-of-the-art air quality modeling platforms to assess mercury deposition, including deposition attributable to power plants, in particular locations within the contiguous 48 States. 70 Fed. Reg. 16,015-19. EPA's modeling assessed mercury deposition in the baseline year of 2001, and after (a) implementation of CAIR (in 2020), and independently (b) implementation

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[12](...continued)
significant amount of commercial fish. Reconsideration TSD at 25-26 (JA 2384-85); EPA-HQ-OAR-2002-0056-6186 ("Effectiveness TSD") at 34-35 (JA 1906-07).

of CAMR (in 2020). Id.

EPA applied the Integrated Planning Model ("IPM") to project changes in the quantity of future mercury emissions from individual power plants following implementation of CAIR or CAMR in 2020. 70 Fed. Reg. 16,016-17. EPA then applied the Community Multi-Scale Air Quality ("CMAQ") model, which accounts for atmospheric chemistry and meteorology, to assess the amount and location of mercury *deposition* within the contiguous 48 States after implementation of CAIR or CAMR. 70 Fed. Reg. 16,015-16, 16,019. EPA's air quality modeling generally showed that total mercury deposition is not highly impacted by power plants. 70 Fed. Reg. 16,019/3.[13]

b. EPA projected concentrations of utility-attributable methylmercury in fish tissue after implementation of CAIR, or independently, CAMR.

EPA created the largest existing database of actual fish tissue mercury concentrations to measure baseline mercury concentrations in fish tissue in various locations throughout the United States. EPA then combined this fish tissue data with its modeled mercury deposition projections to estimate the concentrations of utility-attributable methylmercury in fish tissue both in the baseline year of 2001,

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[13] EPA found that about one percent of total mercury emissions globally are attributable to domestic power plant emissions. 70 Fed. Reg. 16,028/2.

and after implementation of CAIR or CAMR in 2020. Effectiveness TSD at 19-32 (JA 1891-1904); 70 Fed. Reg. 16,015-21.[14]

c. EPA estimated fish consumption rates.

EPA estimated noncommercial freshwater fish consumption rates for two broad subpopulations: (1) recreational fishers generally, and (2) individuals, including certain Native Americans, who through choice, socio-cultural practices or necessity consume larger amounts of freshwater fish ("subsistence fishers"). 70 Fed. Reg. 16,021-22; Effectiveness TSD at 33-39 (JA 1905-11). For each of these subpopulations, EPA calculated a range of consumption rates expressed in terms of percentiles. Id.

d. EPA compared exposure to the methylmercury Reference Dose.

As the final step, EPA compared the projected exposure to utility-attributable methylmercury to the "Reference Dose" for methylmercury. 70 Fed. Reg. 16,012-13, 16,023-25; Effectiveness TSD at 40-54 (JA 1912-26).[15] In order

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[14] To project methylmercury concentrations in fish tissue following implementation of CAIR or CAMR, EPA assumed that a particular reduction in air deposition of mercury in a particular geographic location would result in a proportional reduction in the methylmercury concentration in fish in the same general geographic location. 70 Fed. Reg. 16,019/2.

[15] A Reference Dose is an estimate of a daily oral exposure that is likely to be (continued...)

to make the comparison easy to understand, EPA developed the concept of an index of daily intake ("IDI"). EPA defined the IDI so that where the IDI was less than one, the incremental exposure to methylmercury due to power plants emissions would be less than the Reference Dose, and where the IDI was greater than one, the incremental exposure to methylmercury due to power plants would be greater than the Reference Dose. Effectiveness TSD at 44 (JA 1916). By comparing a range of fish tissue methylmercury concentration percentiles (e.g., the 50th percentile fish tissue methylmercury concentration, the 99th percentile fish tissue methylmercury concentration . . .) and fish consumption rate percentiles, EPA was able to estimate the general size of the population of freshwater fish consumers that might be exposed to various IDI values. Id.

2. EPA exercised reasonable judgment in concluding that power plant mercury emissions will not pose a hazard to public health.

For the general population of recreational fishers, EPA determined that the chance of experiencing an IDI value above one after implementation of CAIR

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[15](...continued)
without an appreciable risk of deleterious health effects during a lifetime. 70 Fed. Reg. 16,012/3. Exposure above a Reference Dose, however, does not necessarily imply unacceptable risk or that adverse health effects are expected. 70 Fed. Reg. 16,013. EPA has established a Reference Dose for methylmercury of 0.1 micrograms of methylmercury per day for each kilogram of a person's body weight. 70 Fed. Reg. 16,024/3.

would be exceedingly small – a person eating at the 99th percentile consumption rate would have to eat exclusively fish with utility-attributable methylmercury concentrations at or above the 98.7th percentile for the person's IDI value to be above one. Effectiveness TSD at 46 (JA 1918); 70 Fed. Reg. 16,024/1. Even under the highly unlikely scenario where a recreational fisher consumed at the 99th percentile rate and consumed solely fish with utility-attributable methylmercury concentrations at the 99th percentile, the fisher's exposure would exceed the Reference Dose by only 10 percent. 70 Fed. Reg. 16,024/1. The possibility of exceeding the IDI would be even smaller after implementation of CAMR. Id.

With respect to the smaller population of subsistence fishers (who generally eat much more fish than recreational fishers), EPA determined that such fishers could experience an IDI value above one after implementation of CAIR or CAMR if persons both (1) consumed fish at very high subsistence consumption rates, and (2) consumed fish exclusively from waterbodies with very high utility-attributable methylmercury fish-tissue concentrations. Effectiveness TSD at 50-53 (JA 1922-25); 70 Fed. Reg. 16,024; Reconsideration RTC at 34, 73 (JA 3735, 3775). EPA, however, determined that the possibility of both of these factors converging for subsistence fishers was extremely small based on its finding that the

overwhelming majority of subsistence fishers live outside of the areas most impacted by utility-attributable mercury deposition. 70 Fed. Reg. 16,024.

In sum, EPA determined that the overwhelming majority of the population will not be exposed to utility-attributable methylmercury above the Reference Dose following implementation of CAIR, and that exposure to utility-attributable methylmercury will be even lower following implementation of CAMR. 70 Fed. Reg. 16,024-25; 71 Fed. Reg. 33,393/3. EPA further determined that there was significant uncertainty as to whether any group of persons, including subsistence fishers, would be exposed to levels of utility-attributable methylmercury above the Reference Dose following implementation of CAIR and/or CAMR, and significant uncertainty as well as to whether any level of exposure above the Reference Dose would cause adverse effects. Id.; see also Reconsideration RTC at 36 (JA 3737).

Based on these determinations, EPA made a reasonable science-informed policy judgment that power plant mercury emissions, following implementation of CAIR, and to an even greater degree following implementation of CAMR, are not reasonably anticipated to cause hazards to public health. EPA's policy judgment is entitled to considerable deference. This Court has recognized that EPA, in making regulatory determinations concerning protection of public health, need not find that "safe" means "risk-free." NRDC v. EPA, 824 F.2d 1146, 1164 (D.C. Cir.

1987).[16] Instead, EPA must make a judgment as to "what risks are acceptable in the world in which we live." Id. at 1165. This Court has further recognized that "'EPA, not the Court, has the technical expertise to . . . formulate policy with respect to what risks are acceptable,'" and stated that it will "not second-guess a determination based on that expertise." Id. at 1163 (citation omitted).

C. Petitioners' Challenges to EPA's Health Hazard Findings Lack Merit.

Government, Environmental, and Tribal Petitioners make various attacks on EPA's determination that power plant mercury emissions are not reasonably anticipated to cause "hazards to public health" following implementation of Act requirements. These arguments all lack merit and are addressed below.

1. EPA reasonably considered mercury reductions that will be achieved by other requirements of the Act.

First, EPA did not err in considering the substantial mercury emission reductions that will be achieved by CAIR and CAMR. See Government Br. at 22-24; Environmental Br. at 30-36. CAA section 112(n)(1)(A) plainly requires that

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[16] The NRDC decision addressed an EPA determination under the pre-1990 version of CAA section 112, which applied an even more stringent standard than that set forth in section 112(n)(1)(A). The pre-1990 law required EPA to evaluate what level of emission reduction was needed to "provide an ample margin of safety." 42 U.S.C. § 7412(b) (1988). Section 112(n)(1)(A) does not require evaluation of the level of emissions needed to "provide an ample margin of safety."

EPA examine hazards to public health "*after* imposition of the requirements of [the Act]." 42 U.S.C. § 7412(n)(1)(A) (emphasis added). That is, Congress expressly directed EPA to project what power plant emissions will be in the future, once requirements of the Act are implemented, and then determine whether emission levels at that time may reasonably be anticipated to result in hazards to public health. Congress' direction to EPA to consider reductions that will be achieved by other CAA requirements reflects Congress' recognition that power plants are subject to numerous CAA provisions beyond section 112 and its desire to avoid subjecting power plants to duplicative and unnecessary regulation. 70 Fed. Reg. 16,000/2.

Government Petitioners argue that EPA must disregard the substantial mercury emission reductions that will be achieved by CAIR and CAMR because these regulations were promulgated subsequent to enactment of the 1990 Amendments. See Government Br. at 19. Nothing in the statute, however, precludes EPA from taking into account reductions that will be achieved by regulations promulgated after enactment of the Amendments. Moreover, CAIR and CAMR are regulations authorized by statutory provisions that were in place at the time of the 1990 Amendments. CAIR is authorized by CAA section 110(a)(2)(D) of the CAA, 42 U.S.C. § 7410(a)(2)(D). CAMR is authorized by

CAA section 111, 42 U.S.C. § 7411.

Furthermore, EPA's consideration of reductions that will be achieved by CAIR does not undermine any "timeline" established in the 1990 Amendments for regulating hazardous air pollutants from power plants. See Environmental Br. at 30-31; Government Br. at 19-20. In the 1990 Amendments, Congress did not establish any deadline at all by which EPA must make a section 112(n)(1)(A) determination, much less establish any deadline by which any regulation of power plants must be fully implemented. To be sure, Congress set a deadline for EPA to complete a study of power plant emissions, but a deadline to complete a *study* is quite different from a deadline to make a regulatory *determination*. Indeed, the terms of section 112(n)(1)(A) indicate that Congress had reasons for setting a study deadline beyond insuring prompt regulation of power plant emissions under section 112 if appropriate and necessary. In particular, it is noteworthy that Congress directed that EPA include in the study and report to Congress on "alternative control strategies for emissions which may warrant regulation under this section." 42 U.S.C. § 7412(n)(1)(A). This indicates that the study deadline may have been intended in part to facilitate Congress' ability to enact some alternative control program for power plant emissions (in place of the section 112 program to which Congress clearly had reservations about subjecting power

plants).

In any event, if Congress had intended to set a firm deadline by which EPA must implement any regulation of hazardous air pollutants from power plants, it could have set one. It did not, and Petitioners attempt to read a timeframe into the Act that is not there.[17]

Furthermore, the 1990 Amendments reflect Congress' recognition generally that Act requirements would take decades to implement and that EPA might need to project emission levels far into the future in making a section 112(n)(1)(A) regulatory determination. For example, Congress enacted the Acid Rain program as part of the 1990 CAA Amendments and provided that this program not be fully implemented until about 2010 – 20 years after enactment of the Amendments. 42 U.S.C. §§ 7651-7651o.[18] The 15-year time horizon EPA modeled in the instant

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[17] Petitioners' position that language in 42 U.S.C. § 7412(c)(1) and 42 U.S.C. § 7412(e)(1) creates a deadline applicable to power plants is misplaced. See Environmental Br. at 30. These two provisions do not govern power plants, which are subject to unique treatment as set forth in 42 U.S.C. § 7412(n)(1)(A). Likewise, there is nothing in 42 U.S.C. § 7412(c)(5) that obligates EPA to issue section 112 standards for power plants, much less issue such standards by the end of 2002. See Environmental Br. at 30, n.43.

[18] The Acid Rain Program requires major reductions of SO_2 and NO_x emissions from power plants. The SO_2 program sets a permanent cap on the total amount of SO_2 that may be emitted by electric power plants. The program is phased in, with the 2010 SO_2 cap set at about one-half of the 1980 emissions from the power sector. 42 U.S.C. § 7651d. Controls used to meet Acid Rain program

(continued...)

Section 112(n) Rule is five years shorter than the 20-year interval between the 1990 Amendments and full implementation of the Acid Rain program. Thus, EPA's consideration of mercury emission reductions that will be achieved by CAIR and CAMR over a 15-year timeframe was consistent with the statutory framework.[19]

a. EPA reasonably calculated mercury reductions that will be achieved by CAIR.

Petitioners additionally contend that EPA should not have relied on reductions in mercury emissions that will be achieved by CAIR because CAIR requires reductions of NO_x and SO_2 but does not specifically require regulation of mercury emissions from power plants. See Environmental Br. at 30; Government Br. at 23 -24. Although States do have discretion under CAIR to independently determine which sources to control to meet CAIR requirements, this does not

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[18](...continued)
requirements also reduce hazardous air pollutants. Utility Study at 2-31 to 2-33, 3-12 to 3-14 (SJA 2-4, JA 97-99).

[19] Although EPA modeled utility-attributable methylmercury concentrations in 2020 in its hazard analysis, most mercury reductions that will be achieved by CAIR and CAMR will actually be achieved well before 2020. The compliance date for the first phase of NO_x reductions required by CAIR is 2009 and for the first phase of SO_2 reductions required by CAIR is 2010. 70 Fed. Reg. 25,215-16. Most of the relevant mercury reductions resulting from CAIR implementation will occur by 2010. See Reconsideration RTC at 51 (JA 3752); EPA-HQ-OAR-2002-0056-6130 ("Air Quality Modeling TSD"), Section V. B. (JA 1758-59).

mean that EPA is unable to reasonably project how States will control emissions to meet CAIR's requirements. In the final rule preamble and in response to comments, EPA provided a number of compelling reasons as to why it reasonably expects States to implement CAIR by regulating power plant emissions. 70 Fed. Reg. 16,010; Reconsideration RTC at 49 (JA 3750). First, the power sector represents the majority of national SO_2 and NO_x emissions, and EPA analysis found that the most efficient method for States to achieve CAIR SO_2 and NO_x emission reduction targets would be through adoption of controls on the power sector. 70 Fed. Reg. 16,010/2. Second, EPA concluded it is likely that States will choose to implement CAIR in much the same way they chose to implement requirements under a previous similar rulemaking, the "NO_x SIP Call" rulemaking, 63 Fed. Reg. 57,356 (Oct. 27, 1998). Id. Under that rulemaking, EPA gave States ozone NO_x reduction requirements, and each State subject to the rulemaking chose to control emissions from power plants to meet NO_x reduction requirements. Id.

Petitioners further contend that EPA should not have relied on reductions in mercury emissions that will be achieved by CAIR, because CAIR does not specify the nature of control measures that power plants might adopt to control SO_2 and NO_x emissions, so there is no guarantee that plants would use controls for these pollutants that also reduce mercury. See Government Br. at 40; Environmental Br.

at 51. EPA's projection, based on its expertise that controls imposed to reduce SO_2 and NO_x will also reduce mercury, is sound. 70 Fed. Reg. 16,010/3. EPA modeling projected that most reductions in SO_2 and NO_x required by CAIR would come from power plants installing proven technologies: flue gas desulfurization ("scrubber") control technology to reduce SO_2 and "selective catalytic reduction" control technology to reduce NO_x. Id. These technologies are the most cost-effective control technologies available and have been demonstrated to reduce mercury. Id.

Petitioners' speculation that power plants might install some brand new technology to reduce SO_2 or NO_x that will not reduce mercury is unsupported by any record evidence. As EPA noted in response to Petitioners' comments:

> [T]he tight timeline for meeting the CAIR emission reductions makes it . . . unlikely that some fantastical new control option that does not reduce [mercury] at all will come available in time – power plant control options do not evolve that quickly.

Reconsideration RTC at 50 (JA 3751). In short, Petitioners have offered no compelling reason for this Court to second-guess EPA's technical expertise and judgment and conclude that CAIR will not result in reductions of mercury as projected.

Government and Environmental Petitioners additionally contend that EPA

should not have taken into account mercury reductions that will be achieved by CAIR inasmuch as CAIR requires emission reductions by only 28 States in the eastern portion of the country and the District of Columbia. See Government Br. at 23; Environmental Br. at 33. The relevant inquiry, however, is not whether CAIR applies nationwide, but whether mercury emissions from power plants after implementation of CAIR will be at levels not reasonably anticipated to result in hazards to public health. Reconsideration RTC at 50 (JA 3751). The fact that CAIR is not expected to result in reductions at every power plant nationwide does not mean that EPA erred in considering the significant reductions in mercury emissions that will be achieved as a result of CAIR and concluding that remaining emissions will not pose a public health hazard.

Similarly, Petitioners' focus on the fact that technology-based regulation of mercury under section 112 could potentially result in even greater mercury reductions than will be achieved through CAIR is not the relevant inquiry. See Environmental Br. at 33; Government Br. at 22. The relevant inquiry is whether, after implementation of CAIR, mercury emissions from power plants will be below levels reasonably anticipated to result in hazards to public health.

We further note that Petitioners' assertions regarding the degree of emission reduction that would be achieved under section 112 as compared to under CAIR

(or CAMR) are entirely speculative. The actual degree of reduction that might be obtained if power plants were regulated under section 112 would depend on various factors. For example, the degree of reduction would depend in part on how the industry was subcategorized for purposes of regulation. See 42 U.S.C. § 7412(d)(1) (providing that the Administrator may distinguish among classes, types and sizes of sources within a category or subcategory in establishing standards). The degree of reduction would further depend on the number of new sources that were built between now and 2020. A significant advantage of a cap-and-trade approach to regulation, such as that established in CAMR or CAIR, is that it limits the overall amount of emissions from the industry, regardless of how many new sources are built, whereas a section 112 approach would just limit emissions from particular sources and would not preclude overall emissions from increasing beyond a cap as new sources went into operation.

Finally, we note that Environmental Petitioners' reliance (see Environmental Br. at 34-36) on this Court's recent decision in UARG v. EPA, 471 F.3d 1333 (D.C. Cir. 2006), is misplaced. That decision addressed a CAA regulatory program related to visibility protection in national parks and wilderness areas. The statutory provision at issue in that case, CAA section 169A, requires States to include provisions in SIPs as necessary to make "reasonable progress"

towards remedying visibility impairment in parks and wilderness areas. 42 U.S.C. § 7491(b). The Court held that EPA could reasonably allow States to meet obligations under CAA section 169A by participating in CAIR instead of requiring sources to install best available retrofit technology ("BART"). 471 F.3d at 1339-41. The CAA provision at issue here, section 112(n)(1)(A), is completely different than section 169A. Nothing in section 112(n)(1)(A) requires EPA, in making a section 112(n)(1)(A) determination, to ignore mercury reductions that will be achieved by other Act requirements such as CAIR on grounds that not all States are obligated to take actions under CAIR. Unlike section 169A, section 112(n)(1)(A) does not impose any obligation on States to impose requirements. It simply requires EPA to determine whether regulation of power plants under section 112 is "appropriate and necessary."

b. EPA's health hazard findings are supported by CAIR reductions alone.

Petitioners additionally contend that EPA should not have considered reductions in mercury emissions that will be achieved by CAMR because, in their view, EPA lacks authority to regulate mercury emissions from power plants under CAA section 111. See Environmental Br. at 20-29; Government Br. at 26-35. Petitioners are mistaken, and we address Petitioners' arguments related to EPA's

authority to promulgate CAMR in section V below. However, Petitioners' argument is immaterial with respect to the Section 112(n) Rule because regardless of whether EPA has authority to promulgate CAMR, EPA's health hazard determination would still be sound, based on EPA's projection that utility-attributable mercury emissions that will remain after CAIR alone do not pose a hazard to public health. 70 Fed. Reg. 16,024/3.

2. EPA adequately considered risks posed by local mercury deposition in its health hazard analysis.

While most power plant mercury emissions are deposited far from plants, some mercury emissions are deposited locally (i.e., within 25 kilometers). 70 Fed. Reg. 16,025; Utility Study at ES-18 (JA 82). The CMAQ model used by EPA in its IDI health hazard analysis described above (see generally, supra, at 44-52) captured elevated localized deposition from power plants. Reconsideration RTC 108 (JA 3791). Moreover, in addition to its IDI analysis, EPA conducted an additional assessment to specifically address whether local deposition of mercury from power plants following CAIR or CAMR would result in "utility hotspots." See generally 70 Fed. Reg. 16,025-28. Contrary to Petitioners' arguments (see Environmental Br. at 33-34, Intervenor Physicians' for Social Responsibility ("Physicians'") Br. at 11-14), EPA appropriately assessed local deposition both in

its IDI and hotspot analyses and reasonably concluded local deposition would not result in hazards to public health.

a. Overview of EPA's utility hotspot analysis.

In its additional hotspot analysis, EPA considered whether any freshwater waterbodies containing consumable fish would, following CAIR or CAMR, contain utility-attributable methylmercury fish tissue concentrations in excess of EPA's recommended methylmercury water quality criterion. 70 Fed. Reg. 16,025-28. By way of background, section 303(c)(2)(A) of the Clean Water Act, 33 U.S.C. § 1313(c)(2)(A), and EPA's regulations implementing that Act, 40 C.F.R. Part 31, specify requirements for adoption by States and Tribal governments of water quality criteria for toxic pollutants that protect designated uses of waterbodies. For the States' and Tribes' use in setting water quality standards, EPA has recommended a water quality criterion for methylmercury that is designed to protect human health. The criterion, which is set as a fish tissue level, is 0.3 milligrams of methylmercury per kilogram (i.e., 0.3 mg/kg) of wet-weight fish tissue. 70 Fed. Reg. 16,014/2.

EPA collected, as part of its air quality modeling analysis, fish tissue data to determine methylmercury fish tissue concentrations for numerous sample sites throughout the country. 70 Fed. Reg. 16,026/2. EPA then used CMAQ and

Mercury Maps models to predict what utility-attributable deposition and methylmercury fish tissue concentrations would be at each of those sample sites after implementation of CAIR, and independently, CAMR. Id. These analyses demonstrated that utility-attributable methylmercury in fish tissue would not exceed the water quality criterion of 0.3 mg/kg at any of the sample sites after implementation of either rule. Id.[20] Accordingly, EPA concluded that power plant mercury emissions, following implementation of either CAIR or, independently, CAMR, will not result in utility hotspots that would result in hazards to public health.

b. EPA's air quality modeling did not underestimate local mercury deposition.

Environmental Petitioners and Physician Intervenors attempt to cast doubt on EPA's hotspot analysis and on EPA's use of the CMAQ model more generally by asserting that the CMAQ model does not adequately predict local deposition. See Environmental Br. at 34, Physicians' Br. at 13-14. These arguments are misplaced.

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[20] After implementation of CAIR, levels at the 50th, 90th, and 99th percentiles and maximum value sample sites were predicted to be 0.01, 0.03, 0.10 and 0.25 mg/kg respectively. Id. After CAMR, levels at the 50th, 90th, and 99th percentiles and maximum value sites were predicted to be 0.01, 0.03, 0.09, and 0.19 mg/kg respectively. Id.

Petitioners rely principally on an EPA-sponsored study of mercury deposition at a site in eastern Ohio ("the Steubenville Study").[21] The Steubenville Study cannot be compared directly to the results predicted by the CMAQ model, but even to the extent it provides a loose basis for comparison, the results of the Steubenville Study are consistent with the results predicted by EPA's CMAQ model. See generally 71 Fed. Reg. 33,391-92; Reconsideration RTC at 81-82 (JA 3782-83).

As an initial matter, the Steubenville Study cannot be directly compared to the CMAQ model because (1) the Steubenville Study measured mercury deposition from all sources of coal-combustion in the region, whereas EPA used the CMAQ model to predict deposition from power plants alone, (2) the Steubenville Study measured deposition at a single point, whereas the CMAQ model estimated average deposition over a 36-kilometer grid cell, and (3) the

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[21] The final version of the Steubenville Study that is attached as Appendix B to the declaration of William Auberle in the addendum to Environmental Petitioners' brief was published *after* EPA's action on reconsideration. As this version is outside of the record, it should not be considered by this Court. See 42 U.S.C. § 7607(d)(7)(A) & (B). The declaration of William Auberle itself should also not be considered because it constitutes extra-record expert evidence. Mr. Auberle, among other things, purports to provide his expert interpretation of recent studies that were not before EPA at the time of its decision. Moreover, to the extent that Mr. Auberle's declaration can be construed as offering argument relating to material already in the record, his declaration should not be considered because it presents argument in excess of Petitioners' word limit.

Steubenville Study measured deposition in 2003, and EPA's CMAQ model did not project deposition for that year. 71 Fed. Reg. 33,392-93. The latter is significant because deposition can change significantly from year to year based on both climatological and meterological differences. Reconsideration RTC at 144 (JA 3813).

Bearing the above considerations in mind, even using the Steubenville Study as an indirect basis for comparison, the results of the Steubenville Study are consistent with the CMAQ model projections. The Steubenville Study found that approximately 67 percent of mercury depositing at a single hilltop monitor in Steubenville, Ohio, in 2003 was from some form of coal combustion, including power plants. 71 Fed. Reg. 33,392. The CMAQ model similarly predicts for 2001 that power plant coal combustion alone constitutes 44 percent of mercury deposition in the 36-kilometer grid cell including the Steubenville monitoring site. Id. One grid cell to the north and three grid cells to the east of the Steubenville monitoring site, the CMAQ model predicts 57 percent and 71 percent deposition from power plant combustion alone respectively. Id. Thus, the CMAQ model predicts power plant deposition for the Steubenville area for a different year roughly in the same range as the 67 percent figure measured at the Steubenville monitor from all forms of coal-combustion.

Petitioners further make an invalid comparison (see Environmental Br. at 34; Physicians' Br. at 13) when they attempt to compare the Steubenville data to EPA's projections of deposition percentages into entire *watersheds* using CMAQ 36-kilometer grid cell results and other data. By way of background, in its IDI analysis generally, EPA used the CMAQ model, combined with United States Geological Survey ("USGS") information, to estimate average deposition from power plants at the watershed level. Specifically, EPA used 8-digit hydrological units codes ("HUCs") developed by USGS to identify watersheds. There are 2,108 distinct 8-digit HUCs in the lower 48 United States, that average approximately 1,631 square miles in size. EPA averaged 36-kilometer CMAQ grid cells within each HUC to generate deposition estimates at the HUC level. 70 Fed. Reg. 16,019/1. It was in the context of assessing power plant mercury deposition percentages in watersheds (i.e., 8-digit HUCs) that EPA noted that, within the *watershed* with the 99th percentile highest total mercury deposition (from all sources, not just power plants), eliminating power plant emissions would reduce total mercury deposition by 16 percent. 70 Fed. Reg. 16,019/1.

To the extent Petitioners are indirectly contesting EPA's decision to evaluate deposition impacts at the watershed level as part of its IDI analysis, EPA provided sound reasons for doing so. See 70 Fed. Reg. 16,026/1-2; Effectiveness

TSD at 5 (JA 1877). First, much of the mercury emitted by power plants does not deposit directly into surface waters, but enters waterbodies indirectly through groundwater inflow and runoff at various times of the year. A comprehensive watershed-level analysis better accounts for these entry pathways. Id. Second, in larger waterbodies where there is substantial fishing activity, the fish species consumed by humans are likely migratory, and the accumulation of methylmercury in these fish will come from deposition over a large area. Id. Third, many anglers catch fish from a variety of waterbodies in a watershed, and a watershed level analysis better accounts for this fishing pattern. Effectiveness TSD at 5 (JA 1877).[22]

3. EPA reasonably assessed health hazards relating to consumption of fish at subsistence levels.

Tribal Petitioners contend that EPA's freshwater health hazard assessment is defective because EPA allegedly (1) underestimated tribal fish consumption rates and (2) erred in determining that tribal subsistence fishers are unlikely to

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[22] EPA in response to comments also addressed the "NOAA" Study referenced by Physician Intervenors. See Physicians' Br. at 13-14; Reconsideration RTC at 143 (JA 3812). EPA noted that the NOAA Study was based on use of a different air quality model, which was not used by EPA because it was a less stable modeling platform than CMAQ and did not account for global sources of mercury or for atmospheric chemistry. EPA additionally noted that, in any event, the level of power plant mercury deposition into the Great Lakes predicted in the NOAA Study and by the CMAQ model used by EPA were similar.

reside in the areas that will be most significantly impacted by utility-attributable deposition. See Tribal Br. at 31-42. Tribal Petitioners are wrong on both counts.

a. EPA reasonably estimated subsistence fish consumption rates.

As discussed above, EPA performed a sophisticated modeling analysis to assess exposure to utility-attributable methylmercury through consumption of noncommercial freshwater fish following implementation of CAIR and also of CAMR. EPA recognized in performing this analysis that tribal subsistence fishing populations tend to consume higher levels of freshwater fish than the general population of recreational fishers. EPA therefore distinguished subsistence fishers from the general population, independently assessed subsistence consumption rates, and incorporated different consumption rates for subsistence fishers into its analysis. See Effectiveness TSD at 33-39 (JA 1905-11); Reconsideration RTC at 70-77 (JA 3771-78).

The consumption rates EPA applied for subsistence fishers in its modeling analysis were vastly greater than the consumption rates EPA applied for the general population of recreational fishers. Specifically, EPA applied a mean rate of 60 grams of fish per day for subsistence fishers, as opposed to a rate of 8 grams per day for the general population, a 95th percentile rate of 170 grams per day for

subsistence fishers, as opposed to a 95th percentile rate of 25 grams per day for the general population, and a 99th percentile rate of 389 grams per day for subsistence fishers, as opposed to a 99th percentile rate of 47 grams per day for the general population.[23]

In estimating subsistence freshwater fish consumption rates for purposes of its analysis, EPA relied upon data from a peer-reviewed study of four Native American tribes located along the Columbia River in Washington, Oregon and Idaho ("the Columbia River Inter-Tribal Fish Commission Study" or "CRITFC Study"). See Reconsideration RTC at 72 (JA 3773); CRITFC Study, Legacy Docket No. A-92-55, I-H-458 (JA 256). Tribal Petitioners argue that the CRITFC Study data understates subsistence consumption rates and that EPA should have utilized data from other studies, including data from: (1) a study of Tribes located in the Great Lakes region (the "Great Lakes Fish and Wildlife Commission Study,"or "the GLIFWC Study"), (2) a study of Tribes in Alaska ("The Alaska Study") (EPA-HQ-OAR 2002-0056-6498.2) (JA 2702), and (3) a study of the Suquamish Tribe in Washington State ("the Suquamish Study") (EPA-HQ-OAR-

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[23] In response to comments on reconsideration, EPA applied a 389-grams per day rate for the 99th percentile, after initially applying a 295-grams per day rate. Reconsideration RTC at 71, 73 (JA 3772, 3774). The revised rate did not change EPA's conclusions. Reconsideration RTC at 71 (JA 3772).

2002-0056-6498.11) (JA 2730). See Tribal Br. at 33. As discussed below, EPA considered these studies and made a sound decision that the data therein were less suitable for purposes of its modeling analysis than the CRITFC study data. Reconsideration RTC at 72, 191 (JA 3773, 3852).

EPA explained that to be suitable for use in its analysis, fish consumption data needed to meet, among other things, the following three criteria: (1) the data needed to reflect daily consumption rates over an annual period, as opposed to short-term consumption rates, such as a seasonal consumption rate, because the Reference Dose is based on long-term exposure, (2) the data needed to reflect freshwater-sourced fish consumption rates; and (3) the data needed to report consumption rates for identifiable population percentiles (e.g., average 50th percentile consumption rates, and high-end 95th and 99th percentile consumption rates). Effectiveness TSD at 39 (JA 1911); Reconsideration RTC at 72 (JA 3773).

EPA explained that data needed to reflect long-term annual average daily consumption rates because EPA's modeling analysis was premised on assessing long-term exposure to utility-attributable methylmercury and then comparing this long-term exposure to the Reference Dose for methylmercury. See supra, at 48-49. The Reference Dose for methylmercury is based on chronic long-term exposure. Accordingly, long-term annual-average consumption data are more

relevant and suitable for use than short-term data in a modeling analysis that is intended to compare individuals' exposure to the Reference Dose. Effectiveness TSD at 33 (JA 1905).

EPA further explained that the data needed to reflect freshwater-sourced fish consumption (i.e., fish caught and consumed from rivers and lakes as opposed to estuaries or oceans) because the freshwater fish pathway is the pathway of greatest concern with respect to utility-attributable mercury exposure, and because there is considerable uncertainty associated with extrapolating freshwater fish consumption rates from marine fish consumption rates. Effectiveness TSD at 37 (JA 1909); Reconsideration RTC at 72 (JA 3773).

EPA additionally explained that consumption data needed to include consumption rates for identifiable population percentiles (e.g., average consumption rates and high-end 95th and 99th percentile consumption rates) so that EPA could consider in making a public health hazard assessment the relative number of individuals exposed at particular levels, as opposed to considering only the degree of risk posed to some potentially maximally exposed individual. Effectiveness TSD at 37-38 (JA 1909-10); 70 Fed. Reg. 16,022/3.

Applying the three criteria outlined above, EPA reasonably relied upon the data from the CRITFC Study and not the other studies cited by Petitioners. The

CRITFC Study was the optimal dataset before EPA, as it was the only source of data before EPA that met all three required criteria (i.e., it was the only dataset that included annual-average, freshwater fish consumption data for identifiable population percentiles). The GLIFWC Study data did not reflect annual-average consumption rates, and the seasonal consumption rate data within the GLIFWC Study could not be translated into annual-averaged consumption rates without making a number of highly uncertain and speculative assumptions. Effectiveness TSD at 38-39 (JA 1910-11). In addition, the GLIFWC Study did not link consumption data to identifiable population percentiles. Id. at 39. The Alaska and Suquamish Studies reported consumption data for coastal tribes that obtained fish from saltwater sources and was not representative of consumption behavior of inland populations. Reconsideration RTC at 72 (JA 3773).

Tribal Petitioners contend that even if the CRITFC Study data is probative, the dataset should not have been exclusively relied upon, inasmuch as there is some uncertainty associated with relying on regional data in a nationwide modeling analysis. See Tribal Br. at 33-34. The CRITFC Study data, however, comprised the optimal dataset before EPA for use in modeling annualized subsistence consumption rates, and the degree of uncertainty associated with the CRITFC Study dataset was less than the degree of uncertainty associated with

alternative datasets available to EPA (i.e., there was less uncertainty associated with using regional data to estimate subsistence consumption rates than with extrapolating annual consumption rates from reported seasonal or saltwater consumption rates). Reconsideration RTC at 72 (JA 3773).[24]

Contrary to Petitioners' suggestion (see Tribal Br. at 35), EPA need not invest the resources to conduct a perfect study of subsistence fishing rates. It is a well-established principle of administrative law that where imperfect scientific information is before an agency, the agency may proceed on the basis of imperfect information so long as the agency has a rational basis for doing so. American Iron & Steel Inst. v. EPA, 115 F.3d 979, 1004 (D.C. Cir. 1997). Here, the CRITFC Study presented a rigorous peer-reviewed study of annualized freshwater consumption rates by inland subsistence populations and was the optimal dataset before EPA for use in EPA's modeling analysis. EPA has met its minimal burden of demonstrating a rational basis for relying upon the CRITFC Study data in its modeling analysis. Cf. Dioxin/Organochlorine Ctr. v. Clarke, 57 F.3d 1517, 1524

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[24] Tribal Petitioners note that the CRITFC Study included consumption rates of individuals who did not consume fish. See Tribal Br. at 34, n.6. As EPA noted in response to comments, just seven percent of total study participants did not consume fish, and, therefore, inclusion of non-consumers in the study did not significantly impact overall consumption rates. Reconsideration RTC at 71 (JA 3772).

(9th Cir. 1995) (holding EPA reasonably set limitation on amount of dioxin that could be released into water basin based on projected consumption rate of 6.5 grams per day, notwithstanding evidence before EPA that certain human subpopulations consumed at much greater rates); NRDC v. EPA, 16 F.3d 1395, 1403 (4th Cir. 1993) (upholding EPA's approval of State water quality standard for dioxin based on projected consumption rate of 6.5 grams per day, notwithstanding evidence before EPA that tribal subpopulations consumed at greater rates).

Tribal Petitioners additionally contend that EPA should have endeavored to incorporate historical consumption rates into its modeling analysis. See Tribal Br. at 36-37. As a practical matter, Tribal Petitioners do not point to any peer-reviewed historical data in the record that met the required criteria for EPA's modeling analysis described above. But even if such data were to have been in the record, it would still have been reasonable for EPA to rely upon recent data for use in its modeling analysis. Section 112(n)(1)(A) directs EPA to study "hazards to public health reasonably anticipated to occur as a result of emissions" by power plants following implementation of Act requirements and to then make a determination as to whether regulation of power plants under section 112 is "appropriate and necessary." 42 U.S.C. § 7412(n)(1)(A). Even if historical data

meeting the required criteria were to have been in the record, EPA could still have reasonably concluded that recent data presents a more accurate picture of hazards reasonably anticipated to occur than older and possibly outdated historical data.

b. Tribal Petitioners have waived any challenge to EPA's use of Census Bureau data to identify areas where subsistence populations are likely to reside.

In its freshwater pathway modeling analysis, EPA determined that it is possible that, under certain circumstances, high-end subsistence subpopulations could be exposed to utility-attributable methylmercury concentrations in excess of the Reference Dose following implementation of CAIR and CAMR. In particular, EPA's modeling reflected that, if a subsistence fish consumer were to eat at both a very high subsistence consumption rate and eat solely fish with very high utility-attributable methylmercury concentrations, that person could be exposed to utility-attributable methylmercury concentrations above the Reference Dose. See Reconsideration RTC at Table 2 (JA 3774); Effectiveness TSD at Table 6.4 (JA 1926).[25] EPA concluded, however, that the overwhelming majority of tribal

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[25] The cited tables present the expected IDI (see supra, at 48-49) at various distributions of fish consumption rates and percentiles of utility-attributable methylmercury concentrations, following implementation of CAIR and CAMR. For example, the table indicates that a subsistence fisher consuming at an average (mean) subsistence rate, and consuming exclusively fish from a location with 95th percentile utility-attributable methylmercury concentrations, would have an

(continued...)

populations live outside of areas most impacted by utility-attributable mercury deposition, and therefore, it was unlikely that a subsistence fish consumer would both eat at a relatively high consumption rate and eat solely fish with relatively high utility-attributable methylmercury concentrations. 71 Fed. Reg. 33,392/3; 70 Fed. Reg. 16,024/1. EPA further explained that at exposures above the Reference Dose, adverse health effects are possible but such exposures do not necessarily mean that adverse effects will occur. 70 Fed. Reg. 16,024/3.

To get a sense of the location of tribal subsistence populations in relation to high utility-attributable deposition, EPA utilized 2000 Census Bureau data. Specifically, EPA mapped the locations of "Tribal Census Tracts," which are defined by the Census Bureau as "relatively permanent statistical subdivisions of a federally recognized American Indian reservation and/or off-reservation Trust land." Effectiveness TSD at 51 (JA 1923). EPA overlaid the locations of Tribal Census Tracts on maps identifying the location of the areas most impacted by utility-attributable mercury deposition following implementation of CAIR. See Effectiveness TSD at 52 Figure 6.1 (JA 1924). Visual inspection of the resulting overlay map showed that the overwhelming majority of Tribal Census Tracts

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[25](...continued)
expected IDI of 0.66.

would not be within areas most impacted by utility-attributable mercury deposition. Id. at 51 (JA 1923).

EPA concluded, based on its comparison of the location of Tribal Census Tracts with the location of areas most impacted by utility-attributable mercury deposition, that "the likelihood that factors will converge such that a [Native American subsistence fisher] would both eat at a high consumption rate and eat solely freshwater fish with high utility-attributable [methylmercury] concentrations is small." 71 Fed. Reg. 33,392. EPA further concluded that although the possibility exists that a very small group of Native American subsistence fishers may be exposed to utility-attributable methylmercury above the Reference Dose, "significant uncertainties exist with respect to the existence and actual size of such a group." 70 Fed. Reg. 16,024-25.

Tribal Petitioners contend for the first time in their brief that EPA erred in using Census Bureau data to identify the general location of tribal subsistence populations. See Tribal Br. at 40-42. The contention that EPA erred in using Census Bureau data was not brought to EPA's attention during the rulemaking. See, e.g., EPA-HQ-OAR-2002-0056-6498.1, National Congress of American Indians Comment Letter (JA 2688–2701) (failing to raise any concern with use of Census Bureau data). Accordingly, any argument based on EPA's use of Census

Bureau data has been waived. The CAA judicial review provision, 42 U.S.C. § 7607(d)(7)(B), specifically provides that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment . . . may be raised during judicial review," and this Court has "'strictly' enforce[d]" this statutory requirement. Mossville Envtl. Action Now v. EPA, 370 F.3d 1232, 1238 (D.C. Cir. 2004) (citation omitted).

Even if Tribal Petitioners' new argument regarding EPA's use of Census Bureau data could be considered, EPA's use of these data was reasonable. EPA appropriately used these data to approximately identify the location of most subsistence tribal populations. It was not EPA's intent to identify the residence of every Native American in the United States. EPA recognized that subsistence tribal populations are a subset of the general Native American population. Several studies have shown that although Native American anglers generally consume fish at somewhat higher rates than the general population of recreational anglers, they consume fish at rates far lower than rates for Native American subsistence populations. EPA-HQ-OAR-2002-0056-5815, Exposure Factors Handbook at 10-27 (JA 1658); Reconsideration RTC at 191 (JA 3852). In using Tribal Census Tract data, EPA made a reasonable assumption that significant concentrations of tribal subsistence fishing populations reside within Tribal Census Tracts. To the

extent that Tribal Petitioners now contend that significant subsistence populations are located outside of formal reservations or trust lands and can be identified through data other than Census Bureau data, they should have brought these concerns to EPA during the public comment period so that EPA could have evaluated these concerns and, if appropriate, incorporated additional information into its analysis, or further explained its decision to continue to rely on Census Bureau data.

4. EPA assessed marine, estuarine, and commercial fish exposure pathways in its hazard analysis.

Although EPA focused its analysis on risks posed by consumption of fish containing the highest levels of utility-attributable mercury (i.e., noncommercial freshwater fish), EPA's analysis was not limited to this exposure pathway. EPA assessed through additional quantitative and qualitative analyses the degree of risk associated with consuming other kinds of fish, including marine fish, fish caught in estuaries such as the Chesapeake Bay, and commercially-caught freshwater fish. See generally 71 Fed. Reg. 33,392-93; Reconsideration TSD at 2-27 (JA 2361-86). Accordingly, Government Petitioners' assertion (see Government Br. at 25-26) that EPA did not consider these other pathways is simply wrong.

With respect to marine fish, EPA undertook a thorough and sophisticated

quantitative analysis during reconsideration that was similar in depth and scope to the analysis undertaken for the noncommercial freshwater pathway. 71 Fed. Reg. 33,392-93; Reconsideration TSD at 11-16 (JA 2370-75). That analysis, which likely overstated the utility-attributable methylmercury levels in marine fish, showed that the incremental exposure to methylmercury due to power plant emissions from eating marine fish would be less than the Reference Dose, even for a person consuming at the 99.9th percentile rate and consuming exclusively marine fish with high utility-attributable methylmercury concentrations. 71 Fed. Reg. 33,392-93.

Although scientific uncertainties and a lack of data made similar quantitative modeling analyses for other pathways (e.g., commercial freshwater, estuarine, aquaculture) not possible, EPA did engage in detailed *qualitative* analyses with respect to these pathways. See Reconsideration TSD at 16-27 (JA 2375-86). These qualitative analyses showed that exposure to utility-attributable mercury through these pathways would be low, and in all cases less than exposure through the noncommercial freshwater pathway.[26]

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[26] Environmental Petitioners' argument (see Environmental Br. at 34) that EPA failed to assess non-mercury hazardous air pollutants emitted by power plants is also incorrect. In the Section 112(n) Rule, EPA squarely considered and determined that it was not appropriate and necessary to regulate power plants on (continued...)

D. Alternatively, EPA Reasonably Determined That It is Not Appropriate to Regulate Mercury Emissions Because the Costs of Reducing Mercury Emissions Under Section 112 Far Exceed the Benefits.

Beyond finding that regulation of power plants under section 112 is not "appropriate" because hazards to public health are not reasonably anticipated to occur as a result of remaining power plant mercury emissions, EPA concluded alternatively that it is not "appropriate" to regulate power plants under section 112 because the costs of regulating beyond the level that will be achieved by CAIR far exceed the benefits. See generally, 70 Fed. Reg. 62,208-09; 71 Fed. Reg. 33,394-95; Reconsideration TSD at 27-38 (JA 2386-87).

For purposes of assessing whether it is cost-effective to regulate mercury emissions under section 112 beyond the level that will be achieved by CAIR, EPA very conservatively assumed a hazard to public health existed resulting from the total "global pool" of mercury emissions. 71 Fed. Reg. 33,394/1; Reconsideration TSD at 29-30 (JA 2388-89). EPA then calculated the upper-bound neurological benefits that would occur from completely *eliminating* domestic mercury

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[26](...continued)
the basis of non-mercury emissions. See 69 Fed. Reg. 4688-89; 70 Fed. Reg. 62,209/2; 70 Fed. Reg. 16,006-07; EPA-HQ-OAR-2002-0056-6193, Responses to Significant Public Comments at 13-21 (JA 1941-49). Environmental Petitioners do not point to any error in EPA's analysis of non-mercury pollutants.

emissions from power plants. Reconsideration TSD at 27-37 (JA 2386-96).[27] EPA concluded that the annualized aggregate upper bound benefit from eliminating mercury emissions from domestic power plants beyond the level that will be achieved by CAIR would be about $210 million. 71 Fed. Reg. 33,394. In contrast, EPA determined that the annualized cost of regulating under section 112 would be at least $750 million.[28] Id. EPA's air quality modeling further showed that even if EPA were to prohibit all mercury emissions from domestic power plants, such regulation would result in only a very small improvement in methylmercury levels in waterbodies that exceed the water quality criterion. 70 Fed. Reg. 16,029.

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[27] EPA estimated the upper-bound monetized value of neurological improvements by quantifying intelligence quotient improvements associated with elimination of all domestic power plant mercury emissions, assuming all persons are exposed above the Reference Dose. Reconsideration TSD at 27-37 (JA 2386-96).

[28] EPA explained that regulating mercury emissions under the command-and-control approach set forth in section 112 would be at least as costly as regulating under the market-based cap-and-trade approach of CAMR, and the annualized cost of CAMR was estimated to be approximately $750 million. 70 Fed. Reg. 62,208-09; Reconsideration TSD at 37 (JA 2396). Use of a cap-and-trade program such as that within CAMR to achieve a given level of emission reductions will be predictably less costly than a command-and-control approach to achieve the same level of reductions because economic theory has shown that a marketable permit scheme will produce a least-cost solution for any level of pollution abatement. See Reconsideration RTC at 167 (JA 3836).

In short, EPA found that the costs of regulation under section 112 far exceed any health benefits that would be obtained. Accordingly, EPA reasonably concluded that it is not "appropriate" to regulate power plant emissions under section 112, even if public health hazards were reasonably anticipated to occur as a result of power plant emissions.

Significantly, no Petitioners have challenged EPA's determination that it is not "appropriate" to regulate power plants under section 112 because to do so would not be cost-effective. Accordingly, even if any of Petitioners' attacks on EPA's public health hazard findings were deemed to have merit, EPA's "appropriate" finding should still be upheld based on EPA's alternative cost-effectiveness rationale.[29]

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[29] Although Environmental Petitioners do not contest EPA's cost-effectiveness determination, they cite in the background section of their brief to a 2005 study which estimated that economic benefits from a 70 percent cut in power plant mercury emissions would range from $86 million to $4.9 billion. See Environmental Br. at 4 & n.9-10 (citing to G. Rice & J.K. Hammitt, "Economic Valuation of Human Health Benefits of Controlling Mercury Emissions From U.S. Power Plants, ("Harvard Study"). EPA addressed the estimates set forth in the Harvard Study in the rulemaking and explained why EPA's own estimates differed and were superior. See Reconsideration TSD at 38-40 (JA 2397-99); 71 Fed. Reg. 33,394/2; Reconsideration RTC at 112, 153, 162, 173 (JA 3795, 3822, 3841, 3842); EPA-HQ-OAR-2002-0056-6289, Stephen Johnson Letter (JA 2355-58). Among other things, the high-end benefit estimates in the Harvard Study largely reflected projected benefits from reduced cardiovascular risk, whereas EPA concluded that substantial uncertainties in available scientific information did not

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E. EPA Reasonably Determined That it is Not Necessary to Regulate Mercury Emissions From Power Plants Under Section 112.

In section 112(n)(1)(A), Congress called on EPA to make a finding as to whether regulation of power plants under section 112 was not only "appropriate," but also "*necessary.*" 42 U.S.C. § 7412(n)(1)(A) (emphasis added). Beyond determining that regulation of power plant emissions under section 112 is not "appropriate," EPA also reasonably concluded that such regulation is not "necessary."

Specifically, in the Section 112(n) Rule, EPA identified two alternative statutory authorities under the Act that, if implemented, would cost-effectively and administratively-effectively address any hazards to public health posed by power plant emissions. These two alternative statutory authorities are CAA section 110(a)(2)(D) and CAA section 111.

EPA explained that controlling mercury emissions through a cap-and-trade system, whether through direct regulation under section 111 or indirect regulation through section 110(a)(2)(D), is a more efficient means of regulating power plants than regulation under section 112. 70 Fed. Reg. 16,005/1. Under a cap-and-trade

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[29](...continued)
provide a sufficient basis for quantification of possible cardiovascular benefits. EPA-HQ-OAR-2002-0056-5747, Arthur Marin Letter (Feb. 22, 2005) at 3-4 (JA 1593-94); Reconsideration RTC at 112 (JA 3795).

program, mercury reductions are obtained from plants that are the most cost-effective to control, and power plants have the flexibility to pursue a least-cost compliance option to achieve required emission reductions. This is not the case under a section 112 regime.

IV. EPA PROPERLY CONSIDERED TRIBAL TREATIES IN THE SECTION 112(N) RULE

Tribal Petitioners argue, based on treaties with the United States, that certain Tribes are entitled to a greater degree of environmental protection than United States citizens generally, and claim that EPA failed to consider these additional treaty rights when making its section 112(n)(1)(A) determination. To the extent Tribal Petitioners are arguing that EPA is required to consider hazards to the health of tribal members resulting from power plant emissions in making its section 112(n)(1)(A) determination, EPA did so. EPA extensively addressed potential hazards to tribal subsistence fishers and recreational fishers generally using sophisticated modeling analyses. See supra, at 44-52, 68-80. See also 70 Fed. Reg. 16,011-29 (summarizing EPA's analysis of the health effects of the Section 112(n) Rule). To the extent Tribal Petitioners argue that fishing rights granted to numerous Tribes through treaties encompass a right to environmental protection of fish habitats, such a right has not been established. Moreover,

Congress specifically directed EPA in section 112(n)(1)(A) to focus its determination on whether to regulate power plants under section 112 on a study of health hazards arising from power plant emissions, not consideration of environmental effects. In sum, EPA has properly addressed Tribal Petitioners' issues within the context of Congress' direction in Section 112(n)(1)(A).

A. EPA Adequately Considered Health Effects on Subsistence Fishers.

EPA recognizes that some subpopulations in the United States, including tribal subsistence fishers, consume high levels of fish. 70 Fed. Reg. 16,022. Sophisticated modeling was conducted specifically to analyze the impact of remaining power plant mercury emissions on these subpopulations, and EPA determined that power plant mercury emissions remaining after imposition of the requirements of the Act do not result in a hazard to public health. Id. We address EPA's public health analysis, and Tribal Petitioners' criticisms of this analysis, in section III.C.3, above.

B. EPA Appropriately Did Not Consider Fishing Habitats In Its Section 112(n)(1)(A) Analysis.

EPA based its determination that it is not appropriate to regulate power plants under section 112 on its finding that power plant emissions will not result in hazards to public health after implementation of Act requirements. In making this

finding, EPA expressly did not consider hazards to the environment generally, including potential impacts on fish habitats where Tribal Petitioners fish. As discussed below, this approach follows Congress' direction and does not violate any established treaty right.

1. Congress directed EPA to consider health effects in CAA section 112(n)(1)(A).

Pursuant to CAA section 112(n)(1)(A), EPA is required to perform "a study of the hazards to *public health* reasonably anticipated to occur as a result of emissions by electric utility steam generating units of pollutants listed under subsection (b) of this section." 42 U.S.C. § 7412(n)(1)(A) (emphasis added). Furthermore, EPA is required to "regulate electric utility steam generating units under this section, if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph." Id. Thus, when making its "appropriate and necessary" determination, EPA was expressly directed by Congress to consider a study that is limited to public health hazards, not environmental effects.[30] In contrast to section 112(n)(1)(A), other

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[30] EPA reasonably interprets section 112(n)(1)(A) to preclude the consideration of environmental effects unless EPA first finds that hazards to public health are reasonably anticipated to result from utility-attributable emissions remaining after imposition of the requirements of the Act. EPA did not find any hazard to public health here. Reconsideration RTC at 39 (JA 3740).

provisions of section 112 expressly require EPA to consider environmental effects. See, e.g., 42 U.S.C. §§ 7412(d)(2), 7412(f). The Supreme Court has recognized that "'[w]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally . . . in the disparate inclusion or exclusion.'" Russello v. United States, 464 U.S. 16, 23 (1983) (citation omitted).

Tribal Petitioners make a Chevron step one argument, claiming that EPA's decision not to consider environmental effects insofar as they relate to the United States' treaty obligations disregarded the unambiguously expressed intent of Congress. Tribal Br. at 23-24. Congress, however, did not unambiguously require EPA to consider *any* environmental effects at all in section 112(n)(1)(A). Instead, Congress required EPA to consider a study that was limited to the health effects of power plant emissions. 42 U.S.C. § 7412(n)(1)(A). In short, Chevron step one does not require EPA to consider potential treaty rights of Tribal Petitioners insofar as they relate to environmental effects. See Chevron, 467 U.S. at 842.

2. No treaty right to habitat protection has been established.

EPA reasonably declined to premise its section 112(n)(1)(A) determination on consideration of environmental effects, including potential treaty rights of Tribal Petitioners insofar as they are alleged to encompass a right to habitat

protection.

As an initial matter, it is undisputed that there is a "general trust relationship between the United States and the Indian people." United States v. Mitchell, 463 U.S. 206, 225 (1983) ("Mitchell II"). Nonetheless, this "general trust relationship" between the United States and the Tribes does not, by itself, give rise to a "fiduciary" duty upon which a particular suit can be based. See United States v. Mitchell, 445 U.S. 535, 542 (1980). The precise scope of the United States' fiduciary obligations is defined not by reference to general principles, but by examining specific treaties and/or legislation. In other words, the statute creating the trust obligations "define[s] the contours of the United States' fiduciary responsibilities." Mitchell II, 463 U.S. at 224.

Courts examine whether a specific congressional pronouncement, whether it be a statute, treaty, executive order or regulation, imposes a fiduciary duty on the United States. See Mitchell II, 463 U.S. at 224 (considering whether 25 U.S.C. § 406(a) and DOI regulations create a fiduciary duty); Nevada v. United States, 463 U.S. 110, 127 (1983). The specific trust obligations set forth by the congressional pronouncement receive only "buttress[ing]" from the general trust obligation. Blue Legs v. Bureau of Indian Affairs, 867 F.2d 1094, 1100 (8th Cir. 1989). Moreover, as another court recognized in Morongo Band of Mission Indians v.

FAA, 161 F.3d 569, 574 (9th Cir. 1998), "although the United States does owe a general trust responsibility to Indian tribes, unless there is a specific duty that has been placed on the government with respect to Indians, this responsibility is discharged by the agency's compliance with general regulations and statutes not specifically aimed at protecting Indian tribes."

The Tribal Petitioners cite Northwest Sea Farms, Inc. v. United States Army Corps of Engineers, 931 F. Supp. 1515 (W.D. Wash. 1996); Muckleshoot Indian Tribe v. Hall, 698 F. Supp. 1504 (W.D. Wash. 1988); and Confederated Tribes of the Umatilla Indian Reservation v. Alexander, 440 F. Supp. 553 (D. Or. 1977), for the proposition that the United States must take tribal treaty rights into account when taking action that potentially affects them. Tribal Br. at 26. None of these decisions, however, expressly recognizes a treaty-based right to habitat protection, much less one that would extend to an EPA determination under CAA section 112(n)(1)(A). Thus, although the United States owes a general trust responsibility to Tribal Petitioners, that duty has been discharged by EPA's compliance with Congress' direction in section 112(n)(1)(A) to consider hazards to public health anticipated to occur as a result of power plant emissions. Section 112(n)(1)(A) does not entitle Tribal Petitioners to a greater degree of environmental protection than Congress provided to citizens generally.

Moreover, Tribal Petitioners' argument assumes that at least some of their member Tribes, through various treaties with the United States, have both a right to fish and a right to habitat protection for certain fisheries. Tribal Petitioners, however, fail to demonstrate that any such right to habitat protection for certain fisheries has either been expressly provided for in the treaties they cite, or has been recognized in case law. The treaties are not facially clear on this issue, and the United States is unaware of any federal or state court decisions currently recognizing tribal rights to habitat protection.

In general, tribal fishing rights entitle tribes to "take a fair share of the available fish." Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 684-85 (1979) ("Fishing Vessel"). According to the Supreme Court's interpretation of a series of treaties protecting tribal fishing rights in western Washington, a "fair share" allows Indians to secure as much as 50 percent of a fishing harvest, "but no more than is necessary to provide the Indians with a livelihood – that is to say, a moderate living." Id. at 686. Thus, Fishing Vessel and other cases cited by Tribal Petitioners support the proposition that treaties do create an enforceable right for protected tribes to take fish throughout their fishing areas. The cited case does not, however, create a right to habitat protection.

The United States is not aware of any decision that currently acknowledges a right to habitat protection stemming from tribal treaty rights. See Skokomish Indian Tribe v. United States, 410 F.3d 506, 522, n.2 (9th Cir. 2005) (noting that the Ninth Circuit, in a subsequently vacated decision, once addressed the "challenging question . . . whether the Tribe's off-reservation fishing rights give rise to a cause of action for limiting the numbers of fish that formerly inhabited the streams and rivers in which the Tribe traditionally fished, or whether, instead, the Treaty preserves only a right to take a given proportion of such fish as remain extant.") (Berzon, J., dissenting in part), cert. denied, 126 S. Ct. 1025 (2006); United States v. Washington, 694 F.2d 1374 (9th Cir. 1982), on *en banc* reh'g, 759 F.2d 1353, 1355 (9th Cir. 1985) (failing to determine whether "the right to take fish necessarily includes the right to have those fish protected from man-made despoliation"); Nez Perce Tribe v. Idaho Power Co., 847 F. Supp. 791, 810 (D. Idaho 1994) (holding that a Northwest Indian treaty "does not provide a guarantee that there will be no decline in the amount of fish available to take"); Cohen's Handbook of Federal Indian Law 1140 (Nell Jessup Newton et al., 3d ed. 2005) ("Courts have not yet definitively determined whether off-reservation reserved rights include the right to habitat protection for the species subject to the rights."). The "habitat protection" question was extensively briefed during the decades-long

history of the United States v. Washington series of cases. In United States v. Washington, 506 F. Supp. 187, 202-03 (D.C. Wash. 1980), a district court found that a right to "habitat protection" exists. This decision was initially affirmed on other grounds, United States v. Washington, 694 F.2d 1374, 1381 (9th Cir. 1982), but ultimately was overturned after *en banc* review, United States v. Washington, 759 F.2d 1353, 1357 (9th Cir. 1985) (*en banc*) (finding that legal standards governing the interpretation of the treaty rights are factually dependent, the consequences of making the "habitat rights" determination were unknown, and announcing imprecise legal rules through the declaratory judgment procedure was inappropriate).

3. Congress' specific direction in section 112(n)(1)(A) that EPA should consider health effects trumps undefined treaty rights.

Where there is no clear intention to the contrary, a specific statute will not be controlled or nullified by a general one. Morton v. Mancari, 417 U.S. 535, 550-51 (1974). This rule of construction applies equally when determining whether a specific statutory regime trumps the general concepts set forth in a treaty, as treaties are in full parity with Acts of Congress. See Reid v. Covert, 354 U.S. 1, 18 (1957) (plurality opinion); Whitney v. Robertson, 124 U.S. 190, 194 (1888) ("By the constitution, a treaty is placed on the same footing, and made of

like obligation, with an act of legislation."). As discussed above, the treaties relied upon by Tribal Petitioners do not expressly create a right to habitat protection, and such a right has not been judicially articulated. By contrast, section 112(n)(1)(A) specifically addresses how EPA should go about determining whether to regulate hazardous air pollutant emissions from power plants under section 112. Consistent with Congress' specific direction in section 112(n)(1)(A), EPA appropriately focused on public health effects in making its "appropriate and necessary" determination, and not on environmental effects.

4. EPA lacked a sufficient record to properly determine whether a treaty-based habitat right to protection of tribal fisheries right exists, much less to consider the effect of that determination on the Section 112(n) Rule.

Given that treaties do not facially provide a right to habitat protection and such a right has not been judicially established, it would have been inappropriate for EPA to itself opine on the existence of, and extend its CAA analysis to consider, such an ill-defined, controversial, and complex "right." Instead, EPA appropriately addressed Tribal Petitioners' concerns by complying with Congress' direction in CAA section 112(n)(1)(A).

Indeed, taken to its logical extension, Tribal Petitioners' position would require EPA to have determined in the first instance, upon making a section

112(n)(1)(A) determination, whether any right to "habitat protection" was conveyed along with fishing rights when the United States entered into hundreds of treaties with numerous Tribes in the course of the history of this Nation. EPA would further have had to consider the extent of any such right to habitat protection. EPA does not have the expertise to make such complex determinations. Nor did EPA have the record before it to make such determinations.

Unlike statutory interpretation, where one party's (Congress') intent is expressed in congressional reports, floor debate, and other legislative history, interpretation of tribal treaties must take place in a complex historical framework, frequently requiring the aid of extensive factual evidence. See United States v. Washington, 384 F. Supp. 312, 348, 350 (W.D. Wash. 1974) (reviewing statements of "nearly 50 witnesses, whose testimony was reported in 4,600 pages of trial transcript, more than 350 exhibits, pre-trial briefs, final oral argument 12/9-10/73 and post trial briefs" to determine both the Tribes' "usual and accustomed" fishing places and to interpret relevant treaty language), aff'd, 520 F.2d 676 (9th Cir. 1975), cert. denied, 423 U.S. 1086 (1976)). Tribal treaties must be construed as they were understood by the Tribes at the time they were negotiated. Jones v. Meehan, 175 U.S. 1, 11 (1899). Although analysis of treaties

begins with the text of the treaty, it does not necessarily end there: "[t]reaties are construed more liberally than private agreements, and to ascertain their meaning we may look beyond written words to the history of the treaty, the negotiations, and the practical construction adopted by the parties." United States v. Washington, 135 F.2d 618, 630 (9th Cir. 1998), superceded by 157 F.3d 630, 642-43 (9th Cir. 1988) (citation omitted).

Here, Tribal Petitioners, whose comments obliquely claimed treaty rights, did not proffer expert opinion for EPA's review or submit any of the extensive documentation typically presented to district courts in treaty cases. By neglecting any examination of the United States' intent going into the referenced treaties and the United States' understanding of their terms, as well as any comprehensive and necessary examination of the intent and understanding of the Tribes, Tribal Petitioners ask EPA and this Court to reach sweeping and unprecedented conclusions in the absence of an adequate record. The fact that the United States v. Washington litigation is continuing after more than two decades, and that the alleged tribal rights to "habitat protection" have not yet been resolved for the narrow set of treaties involved in those cases, underscores the complexity underlying the "habitat protection" question.

In short, in the absence of an adequate record and expertise on issues of

treaty interpretation, it would have been inappropriate for EPA to have based its Section 112(n)(1)(A) determination on the Tribes' conclusory and sweeping assertions that a treaty-based right to habitat protection exists. In the absence of an adequate record, it would be equally inappropriate for this Court to address on judicial review whether any treaty-based right to habitat protection exists. See CAA section 307(d)(7)(A) (limiting judicial review to record before agency). The issue of habitat protection is very complex, has tremendous potential consequences, and, not surprisingly, has resulted in considerable litigation, including lawsuits involving numerous tribes, States, and other parties that have been pending for years. Eventually, in a proper setting in which the many nuances of treaty language and construction can be examined, one or more sufficiently clear judicial determinations as to whether such a right exists and, if so, how it can or should be applied, will emerge. This, however, is neither the right time nor the right place for such a complex issue to be resolved.

V. EPA HAS AUTHORITY UNDER CAA SECTION 111 TO ESTABLISH STANDARDS OF PERFORMANCE FOR MERCURY EMISSIONS FROM POWER PLANTS

A. Introduction

CAA section 111, 42 U.S.C. § 7411, the section under which EPA promulgated CAMR, calls for EPA to establish, subject to certain limitations,

standards of performance for new and existing sources of air pollution that may reasonably be anticipated to endanger public health or welfare. The first question EPA had to answer in adopting CAMR was whether any of the limitations in section 111 precluded the Agency from establishing standards of performance for mercury emissions from power plants. As EPA noted, nothing in the statute bars the adoption of section 111 standards of performance for *new* sources of hazardous air pollutants, see 70 Fed. Reg. 16,029, and Petitioners do not contend otherwise. However, EPA also acknowledged that this question is more complicated as it pertains to *existing* sources.

As EPA explained in the Federal Register notice announcing the revised section 112 finding, prior to 1990 CAA section 111(d)(1), 42 U.S.C. § 7411(d)(1), expressly barred existing source standards of performance for any hazardous air pollutant listed pursuant to the process set forth in then-existing CAA section 112(b)(1)(A).[31] However, when Congress extensively revised the hazardous air pollutant provisions in section 112 in 1990 (which included the elimination of

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[31] See 70 Fed. Reg. 16,030; see also 42 U.S.C. § 7411(d)(1) (1988) (precluding standards for existing sources for any air pollutant that, *inter alia*, is "included on a list published under section . . . 7412(b)(1)(A) of this title"); id. § 7412(b)(1)(A) (1988) ("The Administrator shall . . . publish . . . a list which includes each hazardous air pollutant for which he intends to establish an emission standard under this section.").

former section 112(b)(1)(A) and the addition of section 112(n)(1)(A)), it also made corresponding changes to this portion of section 111(d). Apparently as a result of the rush toward final passage of the amendments, the version signed into law by the President actually contained two different amendments to section 111(d) – one version from the Senate bill and one version from the House bill – that were never reconciled in conference. Although the House version of this provision is the one that is set forth in the United States Code, both versions were included in the Statutes at Large (Public Law No. 101-549), and in the circumstances presented here, it is the Statutes at Large that controls.[32]

Section 302(a) of Public Law No. 101-549 contained the Senate's amendment to CAA Section 111(d), and it simply provided that the former cross-reference to the list of hazardous air pollutants in section "112(b)(1)(A)" be changed to section "112(b)." See Pub. L. No. 101-549, § 302(a), 104 Stat. 2574 (1990). In contrast, section 108(g) of Public Law No. 101-549, which contained

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[32] Unless enacted into positive law, the United States Code constitutes only *prima facie* evidence of the laws of the United States while the Statutes at Large constitute *legal* evidence of the laws. Accordingly, in the event of conflict, the language of the Statutes at Large controls over language of the United States Code that has not been enacted into positive law. See 1 U.S.C. § 204(a); see also, e.g., Five Flags Pipe Line Co. v. DOT, 854 F.2d 1438, 1440 (D.C. Cir. 1988). Because Title 42 of the United States Code has not been enacted into positive law, see notes following 1 U.S.C. § 204, the Statutes at Large control in this case. See generally 70 Fed. Reg. 16,030.

the House amendment, provided that section 111(d)'s reference to section "112(b)(1)(A)" be replaced with the phrase "or emitted from a source category which is regulated under section 112." See Pub. L. No. 101-549, § 108(g), 104 Stat. 2467 (1990). Putting all this together, then, after the 1990 Amendments, the pertinent portion of CAA section 111(d) provided for the establishment of standards of performance for existing sources for any air pollutant which (under the Senate version) is "not included on a list published under section . . . 112(b)," or which (under the House version) is not "emitted from a source category which is regulated under section 112."

Both the Environmental and Government Petitioners generally argue that any differences between the House and Senate amendments to section 111(d) are insignificant, that neither House of Congress intended to make any substantive change to section 111(d) in 1990, and that EPA, therefore, still may not regulate under section 111 emissions of any hazardous air pollutant listed under section 112. See Environmental Br. at 20-24; Government Br. at 27-29. EPA disagrees. The 1990 Amendments to section 111(d) presented EPA with the difficult and unique situation of interpreting two conflicting versions of the same statutory provision. In light of this difficulty, EPA reasonably concluded that the 1990 Amendments to section 111(d) allowed the Agency to establish existing source

standards of performance for emissions of any hazardous air pollutant from a source category that is not regulated under section 112. As will be explained below, the Agency's interpretation represents a reasonable harmonization of the conflicting House and Senate provisions that should be upheld under Chevron and other applicable judicial guidance.

B. EPA's Approach Harmonizes the Conflicting Amendments to Section 111(d) and Reflects A Reasonable Interpretation of the Statute.

This Court confronted a similar statutory issue in Citizens to Save Spencer County v. EPA, 600 F.2d 844 (D.C. Cir. 1979), a case considering conflicting provisions in the 1977 Amendments to the Act. One of these provisions appeared to *bar* certain new construction until EPA issued new regulations under the 1977 Amendments while another provision appeared to *allow* such construction pursuant to the requirements of EPA's prior regulations until the new regulations came out. Id. at 853-54. The Court considered and rejected a variety of arguments posited by environmental and industry petitioners in support of conflicting all-or-nothing interpretations of these provisions, id. at 860-72, and instead endorsed EPA's attempt to "devise a middle course between inconsistent statutes so as to give maximum possible effect to both." Id. at 872. In denying the petitions for review, the Court concluded that although "[o]ther, equally reasonable

accommodations of the above competing interests can be imagined," it would defer to EPA's "attempt to bring harmony and efficiency to a regulatory scheme that in its original statutory conception was badly flawed." Id. at 890.

The Court's guidance in Spencer County is pertinent here, both because of the factual similarity between that case and this and because the Court's deferential approach to agency constructions of statutes they are charged with implementing has since been strongly reinforced by the Supreme Court's decisions in Chevron, Mead, and related cases.[33] As will be discussed below, a careful review of the statute shows that there is a real and meaningful conflict between the text of the House and Senate amendments to section 111(d), that the foundation for this conflict is evidenced in the legislative history of the 1990 Amendments, and that EPA's interpretation represents a reasonable attempt to harmonize these conflicting provisions.

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[33] There is no merit to the Petitioners' attempt to invoke a competing canon stating that in the event of conflict between different provisions in the same Act, "the last provision in point of arrangement must control." Environmental Br. at 24 (citing Lodge 1858, American Fed'n of Gov't Employees v. Webb, 580 F.2d 496, 510 & n.31 (D.C. Cir.), cert. denied, 439 U.S. 927 (1978)). As EPA correctly explained, this canon is inapplicable here, as it applies to discrete sections of the same Act, not competing amendments to the same section of an Act, as is the case here. 70 Fed. Reg. 16,031-32.

1. EPA reasonably read the text of the House and Senate amendments to section 111(d) to conflict.

EPA began its statutory analysis with the text of the two amendments to section 111(d). Given the simplicity of the Senate amendment and its congruence with the numbering changes to the listing provisions of section 112,[34] EPA saw little reason to doubt that this provision was meant simply to replace the obsolete reference to section 112(b)(1)(A) with a reference to the new set of listing provisions in section 112(b). 70 Fed. Reg. 16,031. In fact, as EPA noted, the Senate amendment was labeled a "conforming amendment" in the Statutes at Large. See 104 Stat. 2574 (1990). For these reasons, EPA agreed that the Senate amendment "reflects the Senate's attempt to retain the pre-1990 approach of precluding regulation under CAA section 111(d) of any [hazardous air pollutant] listed under section 112(b)." 70 Fed. Reg. 16,031.

EPA explained that interpreting the text of the House amendment was, however, a somewhat more complex task. Because the House provision

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[34] Prior to 1990, section 111(d) cross-referenced the list of hazardous air pollutants established pursuant to the then-existing administrative process described in section 112(b)(1)(A), 42 U.S.C. § 7412(b)(1)(A) (1988). In the 1990 amendments to section 112, however, Congress overhauled the listing process for hazardous air pollutants, eliminating section 112(b)(1)(A) and replacing it with an initial statutory list of hazardous air pollutants (new section 112(b)(1)) and other provisions (sections 112(b)(2) and 112(b)(3)) that created a process for revisions and modification to the initial list.

authorizes section 111 standards of performance for "for *any* air pollutant . . . which is not . . . emitted from *a* source category which is regulated under [section 112]," a literal reading of this provision could bar section 111 standards for any pollutant, hazardous or not, emitted from a source category that is regulated under section 112. See 70 Fed. Reg. 16,031. The Agency acknowledged comments arguing (as the Government and Environmental Petitioners do here) that the House amendment could be read to bar section 111 standards for any hazardous air pollutant for *all* source categories once section 112 standards have been set for that pollutant in *any single* source category. Id. EPA responded, however, that it did not believe that such an interpretation squared with the literal text of the House provision, as it "changes the terms 'any pollutant' to '[hazardous air pollutant],' and . . . changes the phrase 'a source category' to 'any source category' . . . ." Id. On the latter point, the Agency noted that the House provision referred to "a" source category, in contrast to the pre-existing term "any" air pollutant, which at least suggests that this part of the House provision could permissibly be interpreted as EPA did, i.e., to refer to one rather than many source categories. Id.

Petitioners further argue that the textual conflict perceived by EPA between these two amendments is illusory and that *both* were intended simply to preserve the pre-1990 "status quo" and "were plainly for housekeeping purposes."

Environmental Br. at 23; see also Government Br. at 27-29. However, as discussed in the next section, the pertinent legislative history clearly indicates that the House amendment, unlike the Senate amendment, in fact reflects a legislative intent to give EPA authority to regulate, under section 111, hazardous emissions from certain source categories not regulated under section 112.[35]

2. Pertinent legislative history supports EPA's conclusion that the House and Senate amendments to section 111(d) conflict.

The legislative history of the 1990 Amendments indicates that the shift in focus to "source categories" in the House amendment to section 111(d) was no

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[35] As EPA explained, also unlike the corresponding Senate provision, the House version was not described as a "Conforming Amendment," but instead was included with a variety of substantive provisions in a section entitled "Miscellaneous Guidance." See 70 Fed. Reg. 16,031 & n.62; 104 Stat. 2465-69 (1990). Petitioners incorrectly describe these "miscellaneous" provisions as "purely ministerial." Environmental Br. at 23. For example, among other things, this section of Public Law No. 101-549 authorized preparation and dissemination of a variety of substantive guidance, reports and data (sections 108(a)-(d)), amended certain deadlines and other substantive criteria pertaining to promulgation of section 111 standards (sections 108(e)(1)&(2)), set forth a variety of new and amended definitions (section 108(j)), amended the stated findings in section 101 of the Act addressing pollution prevention, 42 U.S.C. § 7401 (section 108(k)), and added certain new public participation requirements to section 307 of the Act, 42 U.S.C. § 7607 (section 108(p)). See 104 Stat. 2465-69. Perhaps notably, other sections of the House bill were designated "conforming" or "technical" amendments, and these generally were more ministerial in nature. See 2 A Legislative History of the Clean Air Act Amendments of 1990, at 3087, 3101 ("1990 Legis. Hist.").

accident. Instead, it originated as a component of a bill (H.R. 3030) that would have given EPA relatively greater discretion to determine which source categories of hazardous air emissions warranted regulation under section 112, and would have established special rules for power plants that are virtually identical to those that ultimately were enacted in the 1990 Amendments. By contrast, the Senate version of the amendment to section 111(d) had its origins in a bill that generally would have required EPA to establish source categories, and corresponding emission standards, for "all" sources of hazardous emissions, including power plants.

The text of the House's amendment to section 111(d) first appeared as section 108(d) of H.R. 3030, which was introduced on July 27, 1989.[36] As introduced, H.R. 3030 contained a proposed new section 112(c)(3) providing generally that "[t]he Administrator may decide not to list a source category or subcategory because its emissions into the air are, in his judgment, already adequately controlled under this Act or any other Federal statute or regulation." 2 1990 Legis. Hist., at 3932-33. Proposed section 112(c)(6) would have given the Administrator broad discretion to withdraw source categories that he deemed to

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[36] See H.R. 3030, 101st Cong., at 121, § 108(d) (1989), reprinted in 2 1990 Legis. Hist., at 3857 (1993).

present a "negligible risk to public health." Id. at 3933. The bill also contained a proposed section 112(m), which was similar to today's section 112(n)(1)(A), making any regulation of power plants contingent on a determination by EPA of whether such regulation is "appropriate and necessary" following a study of health hazards from such sources "after imposition of the requirements of this Act." Id. at 3945-46.

Although the final version of H.R. 3030 differed somewhat from the version introduced in July 1989, it still contained provisions authorizing EPA to decline to add source categories, or to delete source categories already listed, based on certain health-related findings.[37] It also retained the proposed amendment to section 111(d).[38] And, most significantly, it retained (as new proposed section 112(l)) the special provision for power plants included in the original version of the bill, with wording nearly identical to the provision ultimately enacted as today's section 112(n)(1)(A), 42 U.S.C. § 7412(n)(1)(A).[39]

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[37] See H.R. Rep. No. 101-490, at 82 (proposed CAA section 112(c)(5)), reprinted in 2 1990 Legis. Hist., at 3106; see also id. at 2131-32 (comparable provision in S. 1630, as passed by the House).

[38] 2 1990 Legis. Hist., at 3070; see also id. at 1979 (comparable provision in House-passed version of S. 1630).

[39] 2 1990 Legis. Hist., at 3110-11; see also id. at 2148-49 (comparable

(continued...)

This history indicates that the House version of the amendment to section 111(d) was first introduced in conjunction with proposed changes to section 112 that would have given EPA broad discretion to add and withdraw source categories of hazardous air pollutant emissions from regulation under section 112, in significant part based on the extent to which such emissions already were adequately controlled under other regulatory provisions. See 70 Fed. Reg. 16,031.[40] This discretion was particularly explicit with respect to power plants, for which section 112 regulation was expressly deemed contingent on the outcome of a study considering the effects of these emissions after imposition of other requirements of the Act. As EPA aptly concluded, this history suggests that "the House sought to change the focus of section 111(d) by seeking to preclude regulation of those pollutants that are emitted from a particular source category that is actually regulated under section 112." Id. at 16,031.

For its part, the Senate amendment to section 111(d) had its roots in the

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[39](...continued)
provision in House-passed version of S. 1630).

[40] It also bears emphasizing that the entire concept of "source categories" in section 112 was new in 1990. Prior to 1990, section 112 simply directed EPA to develop a list of hazardous air pollutants and then to establish corresponding emission standards for these pollutants. See 42 U.S.C. § 7412(b)(1)(A), (B) (1988).

version of S. 1630 reported on December 20, 1989. See S. 1630, 101st Cong. (1989), reprinted in 5 1990 Legis. Hist., at 7906. As in the final version of the 1990 Amendments, this version of the Senate bill simply proposed to change the reference to "112(b)(1)(A)" in section 111(d) to section "112(b)," and labeled this proposed change a "conforming amendment." Compare 5 1990 Legis. Hist., at 8153 (section 305(a)), with Pub. L. No. 101-549, § 302(a), 104 Stat. 2574 (1990). In contrast to H.R. 3030, the Senate bill extended far less flexibility to EPA in deciding what source categories of hazardous air pollutant emissions to add or delete from section 112. For example, while proposed section 112(c)(3) in the original version of H.R. 3030 would have allowed EPA to decide not to list a source category it believed to be already adequately regulated under other provisions, see 2 1990 Legis. Hist., at 3932-33, proposed section 112(c) of the Senate bill generally directed EPA to establish a list of "all" source categories and subcategories of hazardous air emissions and did not contain any express provision addressing EPA's discretion to delete source categories. See 5 1990 Legis. Hist. at 8077-79.

Perhaps most significantly, H.R. 3030's special provision for power plants (today's section 112(n)(1)(A)), 42 U.S.C. § 7412(n)(1)(A)), was ultimately

enacted in the 1990 Amendments very nearly as initially proposed.[41] By contrast, the December 1989 version of S. 1630 (the version of the Senate bill in which the Senate's proposed change to section 111(d) first appeared) did not contain *any* similar provision. The Senate proposed a power plant subsection in a later version of S. 1630, but this proposal was markedly different from the House bill and was rejected in conference. See 70 Fed. Reg. 16,030-31. Although the Senate proposal would have required a study of hazardous air emissions from power plants, it still would have required EPA to promulgate emission standards for "hazardous air pollutants which are particulates and mercury emissions" from power plants in five years, simply requiring the Agency to "consider" the studies in developing the rulemaking. See 3 1990 Legis. Hist., at 4431-34 (proposed section 112(e)(5)). And, as EPA stressed, the Senate's provision did not call for an examination of the other requirements of the Act prior to regulation of power plants. See 70 Fed. Reg. 16,031.

None of this necessarily indicates that the House version of the amendment

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[41] The differences between proposed section 112(m) from the original version of H.R. 3030 and present section 112(n)(1)(A) are minor and are not pertinent here. The most significant difference is that the last sentence of this provision in the House bill *prohibited* EPA from regulating power plants under section 112 *unless* the Agency made an "appropriate and necessary" finding, while the final language of this provision allows such regulation upon such a finding. Compare 2 1990 Legis. Hist., at 3945-46, with 42 U.S.C. § 7412(n)(1)(A).

to section 111(d) should completely trump the Senate version, or vice-versa. It does, however, at the very least reinforce EPA's view that the differing text of the two amendments reflects a genuine substantive conflict rather than an inconsequential linguistic difference, as the Petitioners here suggest.

3. EPA's construction of section 111(d) represents a reasonable harmonization of the House and Senate amendments.

To reconcile the conflict between the House and Senate amendments to section 111(d), EPA construed that provision to provide that "[w]here a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to address any [hazardous air pollutant] listed under section 112(b) that may be emitted from that particular source category." 70 Fed. Reg. 16,031. Thus, this interpretation would allow regulation of hazardous air pollutant emissions under section 111(d) from source categories that are *not* regulated under section 112.

As the Agency explained, this construction of the statute is reasonable because it gives some effect to both the House and Senate provisions. It gives effect to the Senate provision by making clear that where it applies, the section 111(d) exclusion only extends to regulation of hazardous air pollutants, not hazardous *and* non-hazardous air pollutants, as a literal reading of the House

amendment appears to require. 70 Fed. Reg. 16,032. By the same token, "it gives effect to the House's desire to increase the scope of EPA's authority under section 111(d) and to avoid duplicative regulation of [hazardous air pollutants] for a particular source category." Id.[42]

For their part, Petitioners argue that the phrase "a source category" in the House amendment should be read to mean "any source category;" if construed in this way, they argue, there would be no practical conflict between the House and Senate versions of section 111(d), because section 111 regulation would be barred for any hazardous air pollutant whose emissions from *any* source category are regulated under section 112. Environmental Br. at 22; Government Br. at 27-28. Without citing any support for this proposition, the Environmental Petitioners simply assert that the "plain meaning of "a" is "any," and that this allegedly plain meaning should be given effect. Environmental Br. at 22. EPA reasonably rejected this statutory argument.

As EPA recognized, see 70 Fed. Reg. 16,031, from a purely semantic

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[42] In support of this latter point, EPA aptly cited the statement of Congressman Oxley explaining that "[t]he conferees agreed to the House provisions because of the logic of basing any decision to regulate on the results of scientific study and because of the emission reductions that will be achieved and the extremely high costs that electric utilities will face under other provisions of the new Clean Air Act amendments." 136 Cong. Rec. H12911, 12,934 (daily ed. Oct. 26, 1990), reprinted in 1 1990 Legis. Hist., at 1416.

perspective, without considering legislative history or context, the usage of the word "a" in the House amendment to section 111(d) is ambiguous. The dictionary explains that the indefinite article "a" is used "as a function word before most *singular* nouns . . . when the *individual* in question is undetermined, unidentified, or unspecified . . . ." Webster's Third New International Dictionary, at 1 (1967) (emphasis added) (giving, as an example, the phrase "there was a tree in the field").[43] This suggests that the term was intended as a reference to a particular but unspecified source category, just as EPA construed it. See 70 Fed. Reg. 16,031. On the other hand, the dictionary recognizes that "a" can have an alternative meaning of "any" when it is followed by a restrictive modifier (such as in the phrase "a man guilty of kidnaping wins scant sympathy"). Webster's at 1. This alternative meaning arguably could apply here, because the term "a source category" in the House amendment is immediately followed by the phrase "which is regulated under section 112 of this title."

Given the existence of this ambiguity, the Court should defer to EPA's reasonable construction of the provision, which is strongly supported by other

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[43] See also, e.g., United States v. Freisinger, 937 F.2d 383, 388-90 (8th Cir. 1991) (criminal statute allowing prosecution for using or carrying "a" firearm in "any" violent or drug-related crime unambiguously authorizes separate units of prosecution for each firearm possessed).

persuasive indicia of legislative intent. To begin with, as noted above, since the pre-1990 version of section 111(d) already referred to "*any* existing source for *any* air pollutant," 42 U.S.C. § 7411(d)(1) (1988) (emphasis added), EPA reasonably presumed that the House intentionally distinguished the selected term "*a* source category" from the possible alternative "*any* source category." See 70 Fed. Reg. 16,031 (noting that the House amendment referring to "a source category" was inserted directly after the pre-1990 language "any air pollutant").[44] Perhaps more significantly, EPA's construction of the term is consistent with the legislative history of the House provision which, as discussed above, clearly reflects both a general intent "to expand EPA's authority under section 111(d) for regulating pollutants emitted from particular source categories that are not being regulated under section 112" as well as a more specific intent to avoid "subject[ing] Utility Units to duplicative or overlapping regulation." 70 Fed. Reg. 16,031.

Moreover, the Petitioners' preferred approach for harmonizing the House and Senate provisions is flawed because it gives insufficient practical meaning to the House's shift in focus to regulated source categories, as opposed to the pre-

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[44] In this regard we also note that in other parts of the statute Congress generally used the term "a source category" to refer to particular but unspecified source categories, see 42 U.S.C. §§ 7412(c)(9)(A), (e)(4), and where it intended to refer more generally to "any source category" it did so expressly. Id. §§ 7412(b)(3)(D), (c)(9)(B).

1990 focus on listed pollutants. See, e.g., Donnelly v. FAA, 411 F.3d 267, 271 (D.C. Cir. 2005) (statutes should not be construed to render certain provisions "mere surplusage"). Under CAA section 112(c)(1), 42 U.S.C. § 7412(c)(1), EPA is generally directed, among other things, to list "all" major source categories of emissions of hazardous air pollutants listed pursuant to section 112(b), 42 U.S.C. § 7412(b). Therefore, to construe the House's amendment to section 111(d) to authorize section 111 standards only for those hazardous air pollutants that are not emitted from *any* source category listed under section 112 comes close to rewriting the House amendment to simply prohibit section 111 standards for emissions of any pollutant listed under section 112(b). Presumably, however, if the House had intended to proceed in this fashion, it could have adopted a type of simple conforming amendment like the Senate did, rather than inserting a wholly new phrase focusing on source categories into section 111(d).

Nor is it accurate to suggest, as Petitioners do, that interpreting the House amendment in the manner they favor is acceptable because it is consistent with what Petitioners perceive to be Congress' *overall* intent to continue the pre-1990 bar on section 111(d) regulation of any hazardous pollutants listed under section 112. As detailed above, it is indisputable that the House version of the amendment to section 111(d) was born as part of a proposed regulatory scheme

that would have given EPA broad authority to decline to regulate under section 112 those source categories of hazardous air emissions that could be adequately controlled through other regulatory provisions of the Act. This was a fundamentally different approach than that which existed prior to 1990. Although many of the provisions of the 1990 Amendments ultimately enacted differed from those initially introduced as part of H.R. 3030, many did not, and with particular relevance here, the current CAA section 112(n)(1)(A), 42 U.S.C. § 7411(n)(1)(A), is virtually identical to the power plant provision first introduced as part of H.R. 3030, and is materially different than the corresponding utility provision developed as part of the Senate bill. For this reason, EPA was correct in observing that – at least as applied to power plants – it is the House amendment to section 111(d), not the Senate amendment, that is more appropriately described as consistent with the overall intent of the final 1990 amendments on this point. See 70 Fed. Reg. 16,031.

This conclusion is reinforced by the fact that power plants are certainly not the *only* source categories of hazardous air emissions that might not be regulated under the as-enacted version of section 112 (and which therefore could reasonably have been intended to be candidates for regulation under the House version of Section 111(d)). In other words, the focus on "source categories" in the House

amendment to section 111(d) has potentially real effect outside the power plant context as well. For example, as EPA noted, relatively smaller "area" sources of hazardous air emissions are not regulated under section 112 unless they meet the statutory criteria set forth in section 112(c)(3), 42 U.S.C. § 7412(c)(3). See 70 Fed. Reg. 16,031. As another example, Petitioners themselves recognize that CAA section 129 specifies that solid waste incineration units are required to be regulated under section 111(d) rather than section 112. See 42 U.S.C. § 7429(a); Environmental Br. at 22. Finally, and more generally, CAA section 112(d)(7), 42 U.S.C. § 7412(d)(7), expressly recognizes that nothing in section 112 "diminish[es] or replace[s] the requirements of a more stringent emission limitation or other applicable requirement established pursuant to section 7411 of this title." See 69 Fed. Reg. 4684 (noting that this provision, along with sections 112(c)(6) and 112(n)(1)(A), "supports the conclusion that [hazardous air pollutant] emissions could be regulated under other provisions of the CAA").

For all the foregoing reasons, EPA reasonably construed CAA section 111(d), in light of the conflicting House and Senate amendments, to allow the promulgation of section 111 standards of performance for existing sources that emit hazardous air pollutants but are not included in a source category regulated under section 112.

VI. EPA ESTABLISHED APPROPRIATE STANDARDS OF PERFORMANCE FOR MERCURY EMISSIONS FROM POWER PLANTS

Once EPA determined that it had the authority to establish standards of performance under section 111 for hazardous emissions from power plants, its next task was to determine how best to implement such standards. In the CAMR final rule, EPA adopted unit-specific mercury emission limits for new coal-fired power plants and a mercury emission cap-and-trade system based on unit-specific mercury emission allocations for existing power plants. 70 Fed. Reg. 28,606 (May 18, 2005).[45] In this action, Environmental Petitioners argue that the cap-and-trade system for existing sources does not, as a matter of law, qualify as a "standard of performance," and further argue -- joined by the Government Petitioners -- that CAMR is insufficiently stringent as a factual matter. See Environmental Br. at 25-29; Government Br. at 29-35. Petitioner UARG argues, on the other hand, that CAMR is flawed insofar as it allows States to submit for EPA approval plans that either do not involve participation in the federal CAMR trading program at all, or that deviate from certain aspects of the federal program. UARG Br. at 7-9. Petitioner Alaska Industrial Development and Export Authority ("Development

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[45] Under the rule, a new source must meet the applicable emission limitation and must also hold allowances to cover its emissions. See 70 Fed. Reg. 28,628.

Authority") argues, on several grounds, that EPA did not allocate an appropriate number of annual mercury allowances in establishing the budget for the State of Alaska. The Bituminous Petitioners argue that EPA's adjustment factors for coal ranks are inappropriate. Finally, Petitioner ARIPPA argues that EPA used an incorrect heat content number for coal refuse when calculating emissions limits under CAMR. As will be explained below, however, none of these challenges has merit.

A. A Cap-and-Trade System Is An Appropriate "Standard of Performance" For Existing Sources Under the Act.

In contrast to section 111 standards for new sources, where EPA promulgates standards of performance directly, CAA section 111(d), 42 U.S.C. § 7411(d), directs EPA to establish a procedure similar to the SIP process under CAA section 110, 42 U.S.C. § 7410, by which States adopt standards of performance for existing sources pursuant to EPA criteria and oversight. Pursuant to these provisions, EPA promulgates national "emission guidelines" for certain air pollutants from existing sources, see 40 C.F.R. § 60.23, and States then submit plans that "establish[] standards of performance" and "provide[] for the implementation and enforcement of such standards of performance." 42 U.S.C. § 7411(d). EPA retains specified oversight and enforcement authority to assure

these state plans are properly developed and implemented. Id. § 7411(d)(2). Pursuant to EPA's regulations, standards of performance adopted by States are, inter alia, to be no less stringent than the national "emission guidelines" established by EPA. See 40 C.F.R. § 60.24(g); see also id. § 60.24(c). In addition, CAA section 116, 42 U.S.C. § 7416, authorizes States to adopt section 111 standards that are more stringent than the corresponding minimum federal emission guideline. In this case, EPA promulgated 40 C.F.R. § 60.24(h), which creates the pertinent emission guidelines for power plants, and subpart HHHH of 40 C.F.R. Part 60, which establishes a model trading rule States can adopt as a means of implementing these guidelines. See 70 Fed. Reg. at 28,657.

The term "standard of performance" is defined in section 111 as "a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." 42 U.S.C. § 7411(a). In this case, EPA reasonably construed this provision of the Act to permit state participation in a cap-and-trade system, pursuant to corresponding federal emission guidelines, as a standard of performance under section 111. See generally EPA-HQ-OAR-2002-

0056-6214, Response to Significant Public Comments on CAMR ("CAMR RTC") at 9-268 to 9-273 (JA 2105-10).

EPA explained that a cap-and-trade program like that adopted in CAMR "reduces the overall amount of emissions by requiring sources to hold allowances to cover their emissions on a one-for-one basis; by limiting overall allowances so that they cannot exceed specified levels (the 'cap'); and by reducing the cap to less than the amount of emissions actually emitted, or allowed to be emitted, at the start of the program." 70 Fed. Reg. 28,616/3. By authorizing trading of allowances, the program "maximizes the cost-effectiveness of the emissions reductions in accordance with market forces." Id. This is because sources that can cost-effectively reduce emissions below their allowed level will have an incentive to do so since they can sell excess allowances (or avoid having to buy additional allowances). Conversely, sources that cannot do so will likely want to purchase allowances, thereby supporting the creation of an efficient market. Id.

EPA reasonably viewed this approach as entirely consistent with the statute because it satisfies the three substantive components of the section 111(a)(1) definition of "standard of performance": (1) a "standard for emissions of air pollutants;" (2) "which reflects the degree of emission limitation achievable;" (3) "through the application of the best system of emission reduction." 70 Fed. Reg.

28,616.

First, the phrase a "standard for emissions of air pollutants" is reasonably construed to include a cap-and-trade system such as the one adopted in CAMR. As the Supreme Court has recently noted in another CAA case, a "standard" is simply "that which 'is established by authority, custom, or general consent, as a model or example; criterion; test.'" Engine Mfrs. Ass'n v. South Coast Air Quality Mgmt. Dist., 541 U.S. 246, 252-53 (2004) (quoting Webster's Second International Dictionary, at 2455 (1945)); see also CAMR RTC at 9-269 (JA 2106) (discussing similar dictionary definition). CAMR's cap-and-trade system clearly constitutes such a "model" or "criterion" for emissions "established by authority."

The rule assigns a definitive mercury "budget" to each State that is determined by summing calculated (not actual) mercury allocations for each power plant located in the State. See 70 Fed. Reg. 28,621-22. The State in turn allocates the overall budget to individual sources through allowances. See id. at 28,623-30. No source subject to the rule can emit any amount of mercury without possessing allowances sufficient to cover such emissions. Id. at 28,617; see also CAMR RTC at 269 (JA 2106). Sources are required to monitor their emissions and either meet their emission allowance or buy excess allowances from other sources to compensate. 70 Fed. Reg. 28,624, 28,631. Although States are permitted some

flexibility in choosing an allocation methodology, id. at 28,624, 28,632, this does not make the system any less of a "standard" since each State must remain within its state budget regardless of how it allocates allowances to specific sources, and each source still must possess allowances sufficient to cover its emissions. See Engine Mfrs., 541 U.S. at 253-54 (distinguishing "standards" from "means of enforcing standards").

Second, a properly designed cap-and-trade system "reflects the degree of emission limitation achievable" since it is based on EPA's assessment of the overall degree of emission reduction achievable by power plants. EPA determined the overall level of emissions from all power plants in the nation after implementation of controls or other means that EPA determined were achievable. See 70 Fed. Reg. 28,617-21. This level of emissions constitutes the nationwide cap, which is reflected in the state budgets and in the allowance allocations to the individual sources. 70 Fed. Reg. 28,624, 28,627-30; see also State and Indian Country Emissions Budgets Technical Support Document (EPA-HQ-OAR-2002-0056-6154) ("State Budgets TSD") (JA 1769-80). Although Petitioners raise some challenges to the stringency of the nationwide cap and the state budgets established by the rule, see, e.g., Environmental Br. at 26-28, this at most pertains to the factual question of whether these technical decisions have ample support in

the record (an issue we discuss below). It is simply irrelevant, however, to the legal question of whether a properly designed cap-and-trade system (such as that established in CAMR) can *ever* be a system that "reflects the degree of emission reduction achievable" within the meaning of the statute. Third, for similar reasons, there is no reason why a properly designed cap-and-trade system cannot constitute "the best system of emission reduction." See CAMR RTC at 9-270 (JA 2107). The dictionary defines "system" to mean, inter alia, "a complex unity formed of many often diverse parts subject to a common plan or serving a common purpose." Webster's Third New International Dictionary, at 2322 (1967). CAMR's cap-and-trade system surely constitutes a "common plan" bringing a "complex unity" to the "often diverse" aspects of "emission reduction" from power plants. Of course, that does not in itself answer the question of whether CAMR is the "best" such system, but that question again goes to whether EPA's technical judgments in this particular case have ample support in the record, not the statutory issue of whether a cap-and-trade system, in general, can constitute a "system of emission reduction." See CAMR RTC at 9-270 (JA 2107) (noting that the statute gives EPA discretion in considering the factors referenced in section 111(a) and does not "provide any other explicit constraints in determining the 'best system.'").

For these reasons, it was at the very least "permissible" for EPA to construe the statutory definition of "standard of performance" in section 111 to allow the type of cap-and-trade system reflected in CAMR. Nonetheless, Environmental Petitioners raise a multi-faceted legal challenge to this conclusion, arguing that EPA was required to establish source-specific, and generally more stringent, emission limits. As legal support for this conclusion Petitioners rely on: (1) the reference to "any existing source" in section 111(d), 42 U.S.C. § 7411(d); (2) a different CAA definition of "standard of performance" in CAA section 302(l), 42 U.S.C. § 7602(l); and (3) this Court's decision in Asarco, Inc. v. EPA, 578 F.2d 319 (D.C. Cir. 1978). See Environmental Br. at 25-28. These arguments are mistaken.

Petitioners are correct that section 111(d)(1), 42 U.S.C. § 7411(d)(1), directs that standards of performance for existing sources be applied to "any existing source." Environmental Br. at 27. However, this is precisely what CAMR does, because any existing source is subject to the existing source standard and meets this obligation by holding sufficient emission credits to cover all its mercury emissions. See 70 Fed. Reg. 28,617. Nothing in the statutory directive that existing source standards of performance apply to "any existing source" mandates that this requirement be technological, as Petitioners suggest.

In fact, the history of section 111 suggests just the opposite. The 1977 CAA Amendments had required new source standards of performance to reflect "the best technological system of continuous emission reduction," a term that was defined to apply on a source-specific basis. See 42 U.S.C. §§ 7411(a)(1)&(7) (1988). However, for existing sources the Act as amended in 1977 did not require a standard of performance to be "technological." See 42 U.S.C. § 7411(a)(1)(C) (1982) (providing, inter alia, that existing source standards should "reflect[] the degree of emission reduction achievable through the best system of continuous emission reduction . . . ."). In fact, the absence of a technological requirement for existing source standards of performance was noted in the Conference and House Committee Reports on the 1977 Amendments.[46] And when the Act was amended in 1990, Congress adopted the present definition, which applies both to new and existing sources, and does not require a standard of performance to be *either* "continuous" *or* "technological." 42 U.S.C. § 7411(a)(1).[47] This history therefore

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[46] See 3 A Legislative History of the Clean Air Act Amendments of 1977 ("1977 Legis. Hist."), at 509 (Conference Report explaining that these provisions were largely based on the House bill, which intended that section 111(d) standards for existing sources would be based on the "best available means of emission control (not necessarily technological) . . . ."); 4 1977 Legis. Hist. at 2662 (similar discussion in House Report).

[47] Indeed, CAA section 111(b)(5), 42 U.S.C. § 7411(b)(5), now expressly (continued...)

suggests that Congress' decision not to include the terms "technological" and "continuous" in the post-1990 section 111(a) definition of standard of performance was at least to some extent deliberate.

Moreover, Petitioners' argument overlooks that, as discussed above, CAA section 111(d), 42 U.S.C. § 7411(d), directs that existing source standards of performance be established through "a procedure similar to that provided by section 7410 of this title [CAA section 110] under which each State shall submit to the Administrator a plan . . . ." This procedural cross-reference to section 110 certainly does not supersede the substantive criteria set forth in section 111(a)(1) and the remainder of section 111(d). However, where, as here, a proposed cap-and-trade system *meets* those criteria (e.g., that it is a "standard" applicable to "any existing source" because it requires each source to cover its emissions with allowances), it is an additional sign of the reasonableness of CAMR that it is

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[47](...continued)
states that, except as otherwise provided for in section 111(h), 42 U.S.C. § 7411(h), which addresses work practice standards and other alternative standards, "nothing in this section shall be construed to require, or to authorize the Administrator to require, any new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new standard of performance." However, under CAA section 111(j), 42 U.S.C. § 7411(j), new sources may seek a waiver of an otherwise applicable standard "to encourage the use of an innovative technological system or systems of continuous emission reduction."

structured in a manner similar to that used successfully in rules adopted pursuant to section 110 (as well as other CAA authorities). See 70 Fed. Reg. 28,617; CAMR RTC at 9-271 to 9-272 (JA 2108-09).[48]

Petitioners' reliance on the definition of "standard of performance" in section 302(l) of the Act's general definitions, 42 U.S.C. § 7602(l), is also misplaced. While section 302's definitions do apply to the "chapter" (i.e., the Act) as a whole, 42 U.S.C. § 7602, they are still subject to the well-settled canon of statutory construction that "[h]owever inclusive may be the general language of a statute, it will not be held to apply to a matter specifically dealt with in another part of the same enactment." Fourco Glass Co. v. Transmirra Prods. Corp., 353 U.S. 222, 228 (1957) (citations and quotation marks omitted). Therefore, "[s]pecific terms prevail over the general in the same or another statute which otherwise might be controlling." Id. at 228-29 (citation and quotation marks omitted). In this case, while the definitions in section 302 ordinarily apply to the

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[48] As this Court has stressed, CAA section 110 generally leaves to States the choice of which controls are to be applied to particular sources, subject only to an EPA determination of whether the overall state plan maintains or leads to attainment of the NAAQS. See, e.g., Virginia v. EPA, 108 F.3d 1397, 1408-10 (D.C. Cir. 1997), modified on other grounds, 116 F.3d 499 (D.C. Cir. 1997). Accordingly, this Court has upheld the use of cap-and-trade systems similar to that used in CAMR in cases considering federalism-based challenges to rules addressing multi-state pollution problems under CAA section 110. See Michigan v. EPA, 213 F.3d at 685-88.

"chapter" as a whole, the definitions in section 111(a) apply only to "this section," and therefore the section 111(a) definitions are more specific and control here. See CAMR RTC at 9-270 (JA 2107).

In any event, as EPA explained, even if the section 302 definition of "standard of performance" had some relevance here, it too is reasonably construed to allow the adoption of a cap-and-trade system. See 70 Fed. Reg. 28,617. That provision defines a "standard of performance" to mean a "requirement of continuous emission reduction, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction." 42 U.S.C. § 7602(l). Environmental Petitioners challenge EPA's interpretation of this provision by contending that it requires "each source subject to this standard to demonstrate 'continuous emission reduction,'" and that this requirement is not met by a cap-and-trade system that may allow some sources to purchase extra allowances instead of reducing actual emissions. Environmental Br. at 26. However, EPA reasonably viewed CAMR's cap-and-trade system as satisfying section 302(1), since the overall cap is set below current emission levels (and hence is a "requirement of . . . emission reduction") and is "continuous" insofar as "there is never a time when sources may emit without needing allowances to cover those emissions." 70 Fed. Reg. 28,617; CAMR RTC at 9-270 to 9-271 (JA 2107-

08). This understanding of "continuous" is consistent with the usage of that term elsewhere in the Act. For example, CAA section 302(k), 42 U.S.C. § 7602(k), defines the term "emission limitation" to include the concept of "continuous" reductions, and in CAA Title IV-A (Acid Deposition Control), Congress used the term "emission limitation" to include a cap-and-trade program. See 42 U.S.C. §§ 7651b(a)(1), 7651c(a)(1).

In addition, as we will discuss in more detail below, see infra, Section VI.B.1., the fact that a cap-and-trade system might allow some particular sources to increase emissions is an inherent aspect of *any* standard of performance for existing sources, since such standards will always have to be set at some degree below the level of performance achieved by the best-performing sources. Stated another way, under any national standard of performance, sources that were already among the better performers will often be able to meet the standard even if their emissions increase to some extent. A cap-and-trade system actually represents an *improvement* on this type of situation, since better-performing sources will have an economic incentive to keep their emissions low and sell their excess allowances, rather than increasing their emissions.

Finally, the Environmental Petitioners also err in premising much of their argument on these issues on Asarco, Inc. v. EPA, 578 F.2d 319 (D.C. Cir. 1978).

See Environmental Br. at 28-29. In fact, Asarco is irrelevant to the issues presented here. Asarco did not construe the definition of "standard of performance" nor did it address the regulation of *existing* sources under CAA sections 111(a)(1)&(d), which are the statutory bases for the cap-and-trade system in CAMR. Rather, Asarco concerned only new (or modified) sources and the definition of "source." Specifically, in Asarco, this Court held only that the statute precluded EPA from allowing a facility to avoid application of the *new source* standard of performance as a result of a "modification" by employing the so-called "bubble concept," i.e., an approach that "treat[s] a combination of facilities as a single source" thereby "allow[ing] a facility whose emissions are increased by alterations to avoid complying with the applicable NSPS as long as emission decreases from other facilities within the same 'source' cancel out the increase from the altered facility." Asarco, 578 F.2d at 326. Asarco did not address whether the term "standard of performance" could include a cap-and-trade program that applies to each source and that allows emissions trading *among* sources (as opposed to netting of emissions among individual units within a source to avoid application of a standard of performance).[49] Thus, even if Asarco is taken

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[49] In fact, EPA noted that on one prior occasion it had authorized emission trading under section 111(d). See 70 Fed. Reg. 28,617.

on its own terms,[50] CAMR is fully consistent with that case since, as discussed above, it sets a standard of performance that applies to each source through the requirement that each source cover its emissions with allowances.[51]

For all the foregoing reasons, EPA reasonably construed the statute as authorizing the adoption of a cap-and-trade system as a "standard of performance" for existing sources under CAA section 111(d).

B. Environmental and Government Petitioners' Record-Based Challenges to CAMR are Meritless.

Environmental and Government Petitioners also posit a handful of primarily

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[50] It is worth noting that at least some aspects of Asarco may be questionable in light of the Supreme Court's subsequent decision in Chevron, and Petitioners never even attempt to reconcile these two cases in their brief. In Chevron, the Supreme Court reversed this Court's decision in NRDC v. Gorsuch, 685 F.2d 718 (D.C. Cir. 1982), which had relied on Asarco and related D.C. Circuit precedent to vacate EPA regulations that had employed the bubble concept for new source review in nonattainment areas. See Chevron, 467 U.S. at 841-42 & n.6. As explained in NRDC, 685 F.2d at 720, 725-27, this Court's cases had construed the Act to make the bubble concept mandatory for CAA programs designed to maintain air quality but impermissible in programs designed to improve air quality. In Chevron, the Supreme Court found that this Court's distinction was improperly based on its perception of the best reading of the statute, not one that "Congress ever articulated itself." Chevron, 467 U.S. at 864; see also id. at 865-66.

[51] Indeed, consistent with Asarco, if an individual existing unit were to undertake a physical change that resulted in an increase in its emission rate it would trigger the new source NSPS, even though it would also be required to hold CAMR allowances covering that increase.

record-based challenges to CAMR, apparently in an attempt to demonstrate that the rule does not represent the "best system of emission reduction" or that it did not adequately account for "nonair quality health and environmental impact[s]" within the meaning of CAA section 111(a)(1), 42 U.S.C. § 7411(a)(1). See Government Br. at 29-35; Environmental Br. at 26-28. On each of these points, however, the Petitioners' challenge fails because the Agency clearly considered the relevant factors and made reasonable judgments based on the record. See, e.g., Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971). This is particularly true given the considerable discretion that EPA has in applying the various factors reflected in section 111. See Lignite Energy Council v. EPA, 198 F.3d 930, 933 (D.C. Cir. 1999) ("Because section 111 does not set forth the weight that should be assigned to each of these factors, we have granted the agency a great degree of discretion in balancing them."); see also, e.g., New York v. Reilly, 969 F.2d 1147, 1150 (D.C. Cir. 1992) (similar).

1. The fact that some localized emission increases may be allowed under CAMR does not make it an arbitrary national performance standard, since the rule as a whole will achieve dramatic and cost-effective reductions in mercury emissions throughout the country.

CAMR is the first national rule ever adopted by EPA specifically intended to reduce mercury emissions from power plants. Under CAMR's cap-and-trade

system, nationwide mercury emissions are capped at 38 tons in 2010, then the cap is further reduced to 15 tons in 2018. 70 Fed. Reg. 28,619. EPA's modeling projects that, as compared to a 1999 baseline, this system will result in a 35 percent mercury emission reduction in 2010, a 42 percent reduction in 2015, and a 50 percent reduction in 2020. Id.

EPA explained that because the first phase cap is set at the level of expected co-benefits from the CAIR rule (which is targeted at control of emissions of NO_x and SO_2, but which also incidentally controls mercury emissions), it will be both cost-effective and technologically feasible, since it will make use of the same demonstrated technologies that power plants already will be installing to meet their CAIR obligations. Id. at 28,617-21, 28,640. The second phase cap, which is set substantially lower, is expected to require power plants to make use of a combination of CAIR co-benefits *and* mercury-specific controls, id. at 28,620-21, but is timed so that "new technologies can be developed, installed, demonstrated and commercially deployed with little impact to the stability of the power grid." Id. at 26,621; see also id. at 28,619.

Given these facts, EPA undoubtedly had a solid basis in the record for concluding that CAMR's cap-and-trade system satisfied the pertinent criteria set forth in section 111, i.e., that it reflects the "best system of emission reduction"

that "the Administrator determines has been adequately demonstrated," taking into account "the cost of achieving such reduction and any nonair quality heath and environmental impact and energy requirements." 42 U.S.C. § 7411(a)(1). As the Agency explained, the hard caps, which are based on calculated mercury emissions from each power plant in the country, assure that the rule will achieve real and meaningful nationwide emission reductions, while the trading system helps make sure that these results are achieved in as cost-effective a manner as is possible. See 70 Fed. Reg. 28,616; see also Reconsideration RTC at 302 (JA 3902).

The Environmental and Government Petitioners do not appear to assert any direct challenge to the adequacy of either of the two hard caps reflected in CAMR, nor do they posit any specific challenge to the methodology EPA employed in deciding the state-by-state allocations to meet those caps. They nonetheless argue that CAMR is inadequate because, in their view, some sources could make greater emission reductions than CAMR requires, Government Br. at 30, the rule will allow mercury emissions by some sources and in some States in total to increase, see Government Br. at 31-32; Environmental Br. at 26-27, and that the rule allegedly will not do enough to address so-called "hotspots" of local mercury emissions. Government Br. at 32-35. None of these claims has merit.

First, and most generally, the fact that certain *individual* "best performing

power plants," Government Br. at 30, might be able to achieve greater emission reductions than is required by CAMR is (as will be discussed in more detail below) irrelevant to CAMR's reasonableness as a *national* standard of performance for *all* power plants. See Reconsideration RTC at 284 (JA 3897).[52] CAMR's new source performance standards and Phase I and Phase II caps were based on a rigorous analysis of currently available controls and the extent to which power plants could feasibly implement these controls. See 70 Fed. Reg. 28,614-15 (summarizing record data and analyses on these issues). This record shows that EPA's consideration of these issues was thorough and reasonable, and Government Petitioners have failed to identify any specific flaw in this analysis.

On a more general level, Government Petitioners do vaguely suggest that the Phase I cap is somehow overly lax because EPA did not explain why it set that cap at 38 tons rather than 31 tons. Government Br. at 30. To begin with, it does not appear Petitioners raised this specific concern to EPA in comments, so they may not raise it here. In any event, EPA clearly explained that it set the Phase I

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[52] To the extent Government Petitioners are attempting to argue that the analytical methodology required under section 112, 42 U.S.C. § 7412, should somehow inform the selection of a standard of performance under section 111, 42 U.S.C. § 7411, this suggestion is completely inapposite given that Congress established distinct criteria in these two sections. See generally Reconsideration RTC at 283-84, 304 (JA 3896-97, 3904).

cap at the level of modeled co-benefits (38 tons) expected under the CAIR rule by 2010. 70 Fed. Reg. 25,218-19; see also infra Section VI.D (response to Development Authority's challenge). EPA also noted that its modeling indicated that early adoption of the more stringent (and mercury-specific) controls by some sources to meet CAMR's Phase II cap might result in actual mercury emission levels as low as 31 tons in 2010. 70 Fed. Reg. 25,218-19. However, the Agency also reasonably explained why it believed *nationwide* adoption of mercury-specific controls would not be adequately demonstrated prior to the Phase II cap. See generally 70 Fed. Reg. 28,614-15. In addition, the Agency explained that "the existence of a hard cap in 2010 will create the incentive for additional reductions beyond [CAIR] cobenefits, so that sources can bank allowances for future use." Reconsideration RTC at 207 (JA 3856); see also RIA at 7-3 (JA 2025).

EPA also fully considered and responded to the allegation that the mercury budgets for some individual States may be higher than their current level of mercury emissions, even though significant reductions in nationwide emissions are reflected in CAMR's overall emissions cap. See Reconsideration RTC at 300-02 (JA 3900-02). While EPA did not dispute that such instances indeed exist, it explained that this is simply the result of the methodology used to allocate in a fair and supportable manner each State's share of the overall cap – a methodology that

is not challenged by the Government and Environmental Petitioners in this case. Id. at 302.[53] In addition, the great majority of these instances occur prior to the second phase of CAMR, and are related to EPA's determination that nationwide adoption of mercury-specific technology will not be adequately demonstrated prior to the second phase of CAMR. See 70 Fed. Reg. 28,618, 28,620-21.

Far from indicating that CAMR is arbitrary, such variations are an inherent and completely proper facet of *any* national standard of performance, whether based on a cap-and-trade system or not. Id. A standard of performance – particularly for *existing* sources, as is the case here – will always be set at some level lower than the capability of the best-performing sources, since the standard

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[53] Mercury emission budgets for each State were developed by EPA as follows: EPA used modeling to calculate the amount of mercury emissions from all power plants in the nation, assuming that power plants applied achievable emissions limitations by the 2010 (Phase I cap) and 2018 (Phase II cap) dates. See 70 Fed. Reg. 28,621-22. EPA hypothetically allocated a portion of each cap -- that is, an amount of allowances -- to each unit by dividing each unit's "heat input" by the total "heat input" of all units. ("Heat input" is essentially a measure of the amount of energy used by the facility to generate a given amount of electricity. Id. at 28,622.) For each State, EPA then summed the amount of hypothetically allocated allowances to determine that State's budget for Phase 1 and Phase 2. Id. at 28,621. Given the differing characteristics of various ranks of coal, certain adjustment factors were then applied to this formula based on which subcategory (e.g.. bituminous, subbituminous, lignite) the particular power plant was in. Id. Certain specific aspects of this methodology, irrelevant to the discussion here, are discussed in more detail below, in our response to the briefs filed by the Development Authority, the Bituminous Petitioners, and ARIPPA.

must be achievable and must take into account costs and the remaining useful life of the subject facilities. Id.; see also 42 U.S.C. §§ 7411(a)(1), 7411(d)(2). As this Court observed in considering such issues over 25 years ago, "[t]he language of section 111 . . . gives EPA authority when determining the best technological system to weigh cost, energy, and environmental impacts in the broadest sense at the national and regional levels and over time as opposed to simply at the plant level in the immediate present." Sierra Club v. Costle, 657 F.2d 298, 330 (D.C. Cir. 1981).[54] As standards of performance for existing sources are not set at the level of performance achieved by the single best performing source, there will always be sources, and, therefore, potentially States, where emissions from existing sources can increase consistent with the existing source standard of performance.

In this case, because individual state mercury emission budgets are, in

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[54] We note that the Court's 1981 decision in Sierra Club was considering the 1977 version of the Act as it applied to new rather than existing sources. However, these differences, if anything, make this decision even *more* persuasive precedent on these points, since standards of performance for existing sources, which will have to retrofit their facilities to meet new requirements, necessarily need to be more flexible than standards for new sources, which can be designed to meet new requirements from the outset. In addition, as discussed above, the textual changes Congress made to the section 111(a) definition of "standard of performance" in 1990 further reinforce the conclusion that the reasonableness of standards under this section should be gauged on a national as opposed to source-specific basis.

effect, based on a combination of the assessment of *average* projected emission limitations achievable by power plants on a nationwide basis, and the ratio of the heat input of individual sources in particular subcategories within the State to the national total, see 70 Fed. Reg. 28,621-22, to the extent that some particular sources are, in practice, limiting mercury emissions to a greater extent than on average, that State may well have a higher mercury budget than the amount of mercury currently being emitted by its contingent of generally above-average performers. See Reconsideration RTC at 302 (JA 3902). None of this means, however, that once the State allocates allowances to these better-performing sources these sources will increase their actual emissions up to the amount of their allocation.[55] To the contrary, the trading system provides these sources with an economic incentive to keep their emissions low so that they can sell their excess allowances. Id. And most importantly, "by placing a hard cap on [mercury] emissions and accounting for each individual ounce of [mercury] emitted, [CAMR] guarantees that significant reductions in nationwide [mercury] emissions will be achieved." Id.

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[55] We note that Petitioners have not provided any evidence that any unit can or will increase its emissions. Further, Petitioners have not provided any evidence that any units currently *assumed* to be below the cap level are *in fact* operating below the cap, because emissions data are not available for all units in the United States.

Petitioners' challenge to CAMR based on its alleged failure to address local "hotspots" of mercury pollution is meritless for similar reasons. To begin with, as discussed elsewhere in this brief, Petitioners' assertions regarding the existence of hotspots attributable to mercury emissions from power plants following implementation of CAMR are refuted by EPA's utility hotspot analysis.[56] Furthermore, as EPA explained, the Agency intends to keep reviewing CAMR's standards of performance. Reconsideration RTC at 290-91 (JA 3898-99). Should additional information be developed in the future concerning the existence of such hotspots, EPA would consider this information in the course of its review of these standards. Id.; 70 Fed. Reg. 16,027-28.

For all of these reasons, Petitioners' claims regarding potential local and regional emission increases or hotspots simply do not render CAMR an improper national standard under section 111.

2. CAMR's subcategorization is appropriate.

Nor is CAMR undercut by Government Petitioners' vaguely-articulated

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[56] See supra, at 62-68; see also, e.g., 70 Fed. Reg. 28,631 (explaining that the Agency does not believe that utility hotspots will be an issue after implementation of CAIR, and independently after implementation of CAMR); Reconsideration RTC at 147 (JA 3816) (noting that the "concern that a facility could simply buy [mercury] credits and the hotspot remain reflects a misunderstanding of the cap-and-trade approach" because "[a] facility can buy allowances only if another has reduced emissions . . . .").

claims regarding subcategorization. See Government Br. at 31. By way of background, under CAA section 111(b)(2), 42 U.S.C. § 7411(b)(2), EPA is authorized to "distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing [section 111 new source] standards." In CAMR, EPA subcategorized sources primarily by the type of coal they use ("coal rank"). 70 Fed. Reg. 28,612.[57] In general, this subcategorization results in somewhat different emission limitations for new sources in different subcategories, and it also affects the calculation of state mercury budgets for existing sources, which depends to some extent on the mix of different types of facilities in each State.

As EPA explained, it historically has taken a similar approach in setting section 111 standards of performance for SO_2 and NO_x emissions from power plants, with such subcategorization reflecting "the differences in the relative ability of the respective control technologies to effect emissions reductions on the

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[57] The five subcategories are: bituminous coal, subbituminous coal, lignite coal, coal refuse, and integrated gasification combined cycle, or "IGCC." 70 Fed. Reg. 28,612. The subcategories for different coal rank are based on a classification system developed by the American Society of Testing and Materials ("ASTM"). Id. As EPA explained, the ASTM system "is structured on a continuum based on a number of characteristics (e.g., heat content or Btu value, fixed carbon, volatile matter, agglomerating versus non-agglomerating) and provides basic information regarding combustion characteristics." Id. at 28,613.

various coal ranks." Id. at 28,612. This type of approach was thoroughly considered and upheld by this Court in the 1981 Sierra Club decision. EPA further explained that while advances in emission control technology have led the Agency to more recently reevaluate certain aspects of this approach for emissions of SO_2 and NO_x, coal rank still materially affects the ability of control technology to reduce *mercury* emissions, so the Agency therefore viewed it as reasonable to subcategorize standards of performance for mercury emissions in this manner. 70 Fed. Reg. 28,612-13; see also infra, Section VI.E (discussing these issues as they apply to the arguments raised by the Bituminous Petitioners).

Government Petitioners do not present any direct challenge to the subcategories reflected in CAMR, but they do vaguely charge that subcategorization "further diluted" the standards set in CAMR, which Petitioners characterize as already "weak" for other reasons. Government Br. at 31. To the extent this claim is understood as a challenge to the appropriateness of *ever* subcategorizing by coal rank in setting standards of performance for power plants, it would appear to be foreclosed by this Court's 1981 decision in Sierra Club, supra, a case which Petitioners do not even mention. To the extent this claim is intended as a factual challenge to particular aspects of the CAMR subcategorization scheme, it is refuted by the record.

One factual claim made by Petitioners is that CAMR's subcategorization scheme "fails to reflect that 'a number of Utility Units co-fire different ranks of coal.'" Government Br. at 31 (citation omitted). However, EPA fully considered this issue and explained that "[b]oilers designed to burn one fuel (e.g., lignite) cannot randomly or arbitrarily change fuels without extensive testing and tuning of both the boiler and the control device." 70 Fed. Reg. 28,613. Because of engineering and design constraints, even where utilities do burn different ranks of coal, "the practice is only done with ranks that have similar characteristics to those for which the boiler was originally designed." Id. Therefore, any fuel switching among different ranks of coal is relatively limited and does not "negate the overall differences in the ranks that preclude universal coal rank switching." Id. For these reasons, EPA reasonably concluded that, notwithstanding the fact that some power plants co-fire different ranks of coal, fuel rank "is most suitable for use as a basis for subcategorization." Id. Petitioners do not mention, let alone rebut, EPA's discussion of this issue.

Government Petitioners also charge that EPA impermissibly subcategorized power plants based on the type of emission control technology they use. Government Br. at 31. Contrary to Government Petitioners' assertion, EPA made clear on reconsideration that it had subcategorized on the basis of water

availability, not control technology.[58] As a result of this legitimate and essentially unchallenged[59] "nonair quality environmental" basis for subcategorizing, EPA ended up setting one emission standard for those units in relatively wet areas based upon the use of wet flue gas desulfurization systems, and another (somewhat less stringent) standard for those units in the West and other dry areas, based on the use of dry flue gas desulfurization systems. EPA's rationale on this point was clearly explained and entirely appropriate. Cf. Sierra Club, 657 F.2d at 330 (approving a variable performance standard for new sources based in part on the relative capabilities of wet and dry systems and recognizing that wet systems might be "'best' in the East where water is plentiful, but environmentally

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[58] See 70 Fed. Reg. 62,216 ("It was not our intent, however, to subcategorize on the basis of control technology. Rather, our intent was to recognize that new units located in some areas will have access to an adequate supply of water while units in other areas will not have such access."); see also Reconsideration RTC at 251-52 (JA 3885-86).

[59] In their brief, Government Petitioners do not contest EPA's factual conclusion that wet systems are generally not an option for facilities located in relatively dry areas, nor do they explain why they believe EPA was required to deem wet systems to be a "demonstrated" technology within the meaning of CAA section 111(a), 42 U.S.C. § 7411(a), for *all* facilities in the subbituminous new source category. Instead, they simply cite an EPA preamble to a rule under CAA section 112, 42 U.S.C. § 7412, as support for the general proposition that subcategorization by control technology "leads to situations where floors are established based on performance of sources that are not the best performing." Government Br. at 31 (quoting 69 Fed. Reg. 394, 403 (Jan. 5, 2004)). As noted above, however, this is not what EPA did here.

disastrous in the water-scarce West").[60]

C. CAMR Appropriately Gives States Flexibility to Allocate Emission Allowances And/Or To Opt Out of EPA's Recommended Emission Trading Program.

As noted above, while CAMR requires that each State adopt plans to meet the mercury emission reductions reflected in its budget, the rule generally leaves States discretion to determine how best to allocate emission allowances to particular sources in the State, to allocate fewer than all the allowances, and even to opt out of the trading system. See 70 Fed. Reg. 28,624, 28,627-29; see also CAMR RTC at 5-200 to 5-201 (SJA 76-77). Petitioner UARG argues that giving States this degree of flexibility is improper, as it believes such an approach undermines EPA's judgment as to the features of the "best" system of emission reduction within the meaning of section 111(a)(1), 42 U.S.C. § 7411(a)(1). See UARG Br. at 7-9.

UARG's challenge is meritless. There is no basis for the contention that a

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[60] Although the Petitioners do not raise this issue, EPA considered and fully responded to comments identifying specific instances where facilities in "dry" areas were currently using "wet" systems. See Reconsideration RTC at 251 (JA 3885). The Agency explained, among other things, that regardless of these isolated *existing source* examples, given the escalating demand on Western water supplies, it will be increasingly more difficult for *new* sources in such areas (which are the sources to which this variable standard applies) to obtain sufficient water supplies to facilitate use of wet systems. Id.

State's choice to allocate allowances in a manner different than would result from EPA's suggested methodology somehow undermines EPA's rationale in adopting the rule. Quite to the contrary, EPA expressly stated that "EPA maintains that the choice of allocation methodology does not affect the achievement of the specific environmental goals of the CAMR program." 70 Fed. Reg. 28,627, 28,629. EPA further explained that it believes economic forces will generally serve to create "environmentally similar outcomes regardless of the manner in which allowances are initially distributed." Id. at 28,627.

The same conclusions hold true with regard to the possibility that some States may opt out of CAMR's trading program. EPA has clearly shown that the States that would remain in the CAMR trading program would not be disadvantaged were other States to opt out. Specifically, EPA determined that CAMR met the requirements for a standard of performance for existing sources based on per ton marginal costs, as determined by use of the Integrated Planning Model ("IPM"). See EPA-HQ-OAR-2002-0056-6304, Cost and Energy Impacts – Technical Support Document ("Cost TSD") at 7 (noting marginal costs of $23,200 in 2010, $30,100 in 2015, and $39,000 in 2020) (JA 2420). Some States submitted comments stating that they would opt out of the cap-and-trade program, and EPA recognized that "[t]he cost-effectiveness of a cap-and-trade program

under CAMR could be reduced if States that are projected to be net sellers of allowances opted not to participate in the cap-and-trade program, as this would effectively increase the stringency of the cap for States that did choose to participate . . . ." Id. at 28 (JA 2441).

To determine the extent of any change in marginal costs, EPA re-ran its model assuming non-participation in the cap-and-trade program by the net-seller States who had indicated in the record that they may take such a course (California, Connecticut, Illinois, Minnesota, New Hampshire, and Pennsylvania), and the resulting data indicated that "the potential decision of the States named above not to participate in the CAMR trading program would not significantly affect marginal costs within the program." Id. at 29 (JA 2442); see also id., Table 34 (showing modeling results) (JA 2442). Specifically, such marginal costs would only increase by about one-tenth of one percent in 2010, and by one-fifth of one percent in 2020. In its brief, UARG nowhere mentions, much less refutes, this analysis, nor does UARG posit any reason to believe that the assumptions underlying EPA's opt-out analysis were flawed or unreasonable. For this reason, there is no basis on this record for UARG's suggestion that the possibility that some States may opt out of the trading program will make CAMR unreasonably costly for sources in those States that will participate in the trading program.

Nor is UARG correct in asserting that CAMR is undermined for the States that impose more stringent controls on sources within their own borders than would be strictly necessary to meet the minimum requirements of the CAMR trading program (either by allocating fewer allowances or by choosing not to participate in the trading program). Although a "standard of performance" under section 111(a)(1), 42 U.S.C. 7411(a)(1) must be based on the "best system," that provision clearly allows States to establish standards of performance more stringent than EPA's guidelines. Indeed, this was expressly noted in Committee reports for the 1977 Amendments.[61] In addition, CAA section 116, 42 U.S.C. § 7416, allows States to adopt standards that are more stringent than the minimum federal requirement specified pursuant to section 111, 42 U.S.C. § 7411. Similarly, EPA's regulations have provided for decades that States can adopt more stringent standards of performance than the standards EPA promulgates under section 111(d). See 40 C.F.R. §§ 60.24(c), 60.24(g). Together, these authorities mean that state rules that are more stringent than the EPA-promulgated guidelines are, by definition, part of the "best" system of emission reduction within the

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[61] See 3 1977 Legis. Hist., at 509 (Conference Committee Report noting States' authority to "decide[] to be more stringent" in adopting section 111(d) standards); id., 4 1977 Legis. Hist. at 2662 (House Committee Report similarly noting that States may "decide[] to adopt and enforce more stringent standards").

meaning of CAA section 111(a)(1), 42 U.S.C. § 7411(a)(1).[62]

More broadly, as EPA noted, giving States flexibility in determining allocations helps "maintain[] the principle of federalism." 70 Fed. Reg. 28,627. This observation was entirely appropriate since, as discussed above, CAA section 111(d)(1), 42 U.S.C. § 7411(d)(1), calls on EPA to establish emissions guidelines for existing sources using "a procedure similar to that provided by section 7410" of the Act. See supra at 127-28. EPA rules under section 110 (like the NO_x SIP Call) typically provide States with latitude of this sort, as required by this Court's precedents. See, e.g., Michigan v. EPA, 213 F.3d at 685-88; Virginia v. EPA, 108 F.3d at 1408-10; see generally 42 U.S.C. § 7401(a)(3) (congressional finding that "air pollution prevention . . . and air pollution control at its source is the primary responsibility of States and local governments"); Train v. NRDC, 421 U.S. 60, 79 & n.16 (1975) (generally stressing primary role of States in establishing source-specific emission limitations).

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[62] To the extent particular sources object to the stringency or fairness of a State's proposed plan, they may raise those concerns to the State during the plan development process. See 40 C.F.R. § 60.23 (requirements for public notice and hearings on state plans). However, the fact that a State chooses to submit a plan to EPA that allocates relatively fewer allowances, and therefore results in lower mercury emissions than is required by CAMR, is not a basis for disapproval of the plan by EPA. See Reconsideration RTC at 205 (JA 3854) (noting, inter alia, that States "have the option of implementing more stringent [mercury] emission reduction requirements under CAMR").

Finally, there also is no merit to UARG's wholly unsupported conclusion that where a State chooses to submit a plan that reflects more stringent emission reductions than the minimum required by CAMR, such additional limitations may not be federally enforceable. UARG Br. at 9. This conclusion appears to be based on the premise that the plan cannot qualify as a standard of performance under CAMR, a premise that is incorrect for all the reasons discussed above. Thus, any standards adopted by a State under a section 111 plan approved by EPA are fully enforceable by the State and by EPA pursuant to the statutory authorities outlined in the Act. See 42 U.S.C. §§ 7411(c), 7411(d)(2)(B); 40 C.F.R. § 60.24(g).

For all the foregoing reasons, UARG's challenges to CAMR should be denied.

D. EPA Reasonably Allocated Mercury Emissions for Alaska Within the Section 111(d) Trading Program.

Petitioner Development Authority argues that, under CAMR, the State of Alaska was not given a sufficient per-year mercury emissions allocation. This argument is based on the Development Authority's contentions that (1) EPA cannot establish state caps based on an estimate of present emissions of all existing units in the State, after application of controls, but instead must consider and allow for expectations for future emissions growth from these same units; and

(2) that EPA has failed to adequately demonstrate that the performance standard for existing sources can be achieved and has failed to properly balance the costs and benefits of that standard.

As discussed in detail above, CAMR sets out state-specific emissions budgets based upon a summing of hypothetical unit allocations, which EPA derived from heat input and coal rank. Supra § VI (A). Development Authority does not challenge the general framework but instead argues that EPA should have granted Alaska a bigger budget because one of the two units in the State expects to increase its capacity, and hence its emissions, in the future. Development Authority's arguments disregard the overall purpose and structure of CAMR and misconstrue the emissions trading program authorized by the rule.

1. EPA, through the mercury emissions allocation process, appropriately calculated state emissions budgets.

EPA reasonably construed CAA section 111(d) in deciding to use available data on heat input and then imposing a state emissions budget that reflected that heat input coupled with the achievable emissions limitations on which the rule was based. 70 Fed. Reg. 28,622. Contrary to Development Authority's contentions, nothing in section 111(d) requires EPA to set state budgets that make

allowances for expected growth in emissions at a power plant.[63] Moreover, Development Authority's arguments fails to acknowledge the primary goal of CAMR to reduce the overall quantity of mercury emissions nationwide.

First, Development Authority's reliance on CAA section 111(d)(2), which requires EPA to consider, in promulgating a standard of performance under a plan issued pursuant to its authority under that section, "among other factors, remaining useful lives of the sources in the category of sources to which such standards apply," is misplaced. 42 U.S.C. § 7411(d)(2). Based on the plain language used, the consideration is only relevant in the context of promulgating an implementation plan, and not in establishing the emission guidelines represented by CAMR. Further, EPA reasonably interprets this provision as requiring EPA to consider whether a unit is going to remain in operation long enough to justify the cost of compliance, not as requiring EPA to provide a relatively new power plant with a less stringent level of control relevant to its current emissions simply because it may increase its emissions in the future. See, e.g., 40 C.F.R. § 60.27(e)(2).

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[63] Additionally, Development Authority did not raise its CAA section 111(d) argument in its comments, thus this argument has been waived. See 42 U.S.C. § 7607(d)(7)(B); Mossville Environmental Action Now v. EPA, 370 F.3d 1232, 1238 (D.C. Cir. 2004) (strictly interpreting the waiver requirement).

Development Authority further argues that it is disadvantaged because the Healy Clean Coal Project facility ("HCCP"), one of only two facilities in the State of Alaska that is eligible to be regulated under CAMR, is caught between being a "new" and "existing source." Development Authority Br. at 6. If HCCP had been considered a "new" source, however, its heat input would not have been included in calculating Alaska's budget; HCCP would have been allocated no allowances under the model rule and would have been required to meet the new source emission limit. See 42 U.S.C. § 111(f). By considering HCCP's emission data and, thus, treating it as an existing source, EPA's approach allowed Alaska a higher emissions cap.

Development Authority further claims that EPA should have considered HCCP's potential capacity because the term "modification" in an entirely different regulatory context has been interpreted by the Seventh Circuit to be a contingent on the capacity of a stationary source. Development Authority Br. at 7. This argument takes the defined term "modification" out of context. Development Authority refers to a definition of "modification" set out in section 111(a)(4). This definition sets out when a physical change in a stationary source subjects the stationary source to regulation as a new source. 42 U.S.C. § 7411(a)(4) (defining "modification" as "any physical change in, or change in the method of operation

of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted"). While the definition of "modification" is relevant when determining whether a source should be considered a "new" source or an "existing" source, it is irrelevant to determining "the best system of emissions reduction," and Development Authority fails to cite any relevant case or statutory authority in support of its position.

Development Authority also argues that Alaska cannot reduce mercury emissions to its budgeted level for three reasons: (1) Alaska is not a CAIR State; (2) state-of-the-art controls are already installed at the HCCP; and, (3) further control devices are technologically infeasible. Development Authority Br. at 8-12. These arguments misconstrue the function of EPA's Phase 1 cap. EPA set its national Phase 1 cap at a level that could be achieved as a "co-benefit" of control technology that would be necessitated by CAIR. 70 Fed. Reg. 28,617. It is not necessary, however, for every power plant to be subject to CAIR for the system to work effectively. Each participating State makes individual unit allocations and power plants are able to purchase emission allowances on the market if they wish to do so. EPA never assumed that every power plant would install controls to comply with CAIR. Nor did EPA assume that every plant that did install controls

would be able to operate consistent with their yearly unit allocation based on CAIR co-benefits alone. The fact that HCCP anticipates that it will have to purchase allowances is, therefore, consistent with EPA's chosen approach and, contrary to Development Authority's assertion, does not undermine EPA's system of calculating state emission budgets.

Development Authority seems to claim a right to emissions allowances that would allow for increased emissions without requiring the application of new control technology or the purchase of emissions allowances in the marketplace. Nationwide application of such a methodology would defeat the purpose of CAMR by establishing nationwide emissions limits that are higher than mercury emission levels estimated in 1999 – i.e., there would be no overall reduction in mercury emissions from existing sources.

Instead of adopting Development Authority's preferred approach, EPA consistently applied an approach of establishing a baseline heat input estimate based on the actual historical heat input data (or, in some cases, actual historical fuel use and heat content data) for coal-fired units. EPA apportioned the national cap on a consistent basis among the 50 States, two Tribes, and the District of Columbia. To use a different approach solely for the State of Alaska would be unreasonable. State Budgets TSD (JA 1769-80). Furthermore, each State has

authority to allocate emissions allowances as it deems appropriate as long as the total allocated does not exceed the State's total budget. If the State of Alaska chooses to do so, it could allocate its entire emissions budget to HCCP, part of its budget to HCCP, or even none of its budget to HCCP. 70 Fed. Reg. 28,627.

In short, EPA reasonably calculated an emissions budget for the State of Alaska.

2. Development Authority unreasonably assumes that the CAMR cap-and-trade system will fail.

There is nothing unique about Alaska with regard to the cap-and-trade system. Development Authority expressed fear that interstate trading of mercury allowances was unlikely because States might choose not to participate in the cap-and-trade program. Development Authority Br. at 10-12; Reconsideration RTC at 240-41 (JA 3878-79). EPA, however, reasonably concluded that there will be a viable allowance market based on IPM analysis. See supra § VI(C); Reconsideration RTC at 243 (JA 3881); 70 Fed. Reg. 28,619. Using sophisticated IPM modeling, EPA analyzed the impact on projected marginal costs of certain States, even a significant number of States, not participating in the CAMR trading program and concluded that the potential decision of certain States not to participate in the trading program would not significantly affect marginal

mercury control costs within the program. Supra § VI(C); Cost TSD at 28, (JA 2441); EPA-HQ-OAR-2002-0056-6449, (JA 2540).[64] This factual support underlying the CAMR mercury trading program is in stark contrast to National Lime, cited by Development Authority, in which this Court found that the administrative record failed to support the "achievability" of the standards set for lime manufacturing plants. National Lime Ass'n v. EPA, 627 F.2d 416, 431 (D.C. Cir. 1980). EPA's IPM analysis demonstrates that the standard is achievable by all affected power plants through the use of one or more available compliance approaches.

Furthermore, a cap-and-trade program assures that reductions will be achieved with the least cost. 70 Fed. Reg. 28,619. The benefits of the cap-and-trade system are numerous: among other things, it grants a high degree of flexibility for the regulated community without resorting to waivers, exemptions and other forms of administrative relief. EPA, therefore, reasonably concluded that these benefits will motivate States to adopt the cap-and-trade system even

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[64] Development Authority also argues that by relying on actual data, as opposed to projected emissions data, EPA failed to meet the strictures of section 111 and instead effectively imposed a section 112 standard because it failed to consider costs. Nothing in section 111 requires that EPA consider cost to an *individual* unit in establishing an overall section 111 standard and, in setting this standard EPA clearly took cost into account.

though they are not required to do so. Id. at 28,619, 28,627; 69 Fed. Reg. 4701-03. Accordingly, EPA adequately demonstrated the viability of the mercury trading program.

E. EPA Applied Appropriate Adjustment Factors for Coal Ranks.

As previously discussed, supra § VI(A), a particular State's emission budget is determined by summing hypothetical mercury allocations (based on a calculated adjusted historical baseline heat input), derived using a specified formula, to power plant units located in the State. The State in turn allocates the overall budget to individual sources through allowances. 70 Fed. Reg. 28,623-30. Each power plant's baseline heat input is adjusted to reflect ranks of coal burned. 70 Fed. Reg. 28,612-13. Adjustment factors of 1 for bituminous, 1.25 for subbituminous, and 3 for lignite coals were applied by EPA in determining hypothetical mercury allocations for power plants. Id. at 28,622. Application of these adjustment factors in determining hypothetical allocations and ultimately state emission budgets results in a power plant that burns bituminous coal being credited with its actual heat input, whereas a power plant that burns lignite coal would, for purposes of determining state emissions budgets, be credited with three times its actual heat input. Contrary to Petitioners' suggestion, in CAMR EPA only used these adjustment factors to establish state budgets. It did not establish

actual allocations for individual facilities. Such unit-specific allocations are in the purview of the State to determine.

"Bituminous Petitioners" are a collection of industry associations involved in the production of bituminous coal, and these associations have a business interest in minimizing costs associated with burning bituminous coal. Accordingly, the Bituminous Petitioners have a strong market incentive to make bituminous coal an attractive fuel for electricity generation, and have attacked EPA's adjustment factors for coal ranks by arguing that those adjustment factors are arbitrary, and unfairly allocate mercury emission allowances to subbituminous and lignite coal burning facilities to the detriment of facilities that burn bituminous coal.[65]

Bituminous Petitioners argue that EPA has not provided adequate support for its coal rank adjustment factors. This is not the case. The record clearly supports EPA's reasonable adjustment factors for coal ranks.

1. EPA's adjustment factors are reasonable.

In the final rule EPA retained adjustment factors previously used in determining state emission budgets. 70 Fed. Reg. 28,622. The adjustment factors

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[65] This is contrary to EPA's Regulatory Impact Analysis that projects continued growth of bituminous coal use under CAMR. Reconsideration RTC at 225 (JA 3863).

are supported by the State Budgets TSD. Id. (citing State Budgets TSD). The adjustment factors are "based on the expectation that, for different coal ranks, mercury reacts differently to NO_x and SO_2 control equipment." State Budgets TSD at 2 (JA 1770). EPA examined data in the 1999 power plant Information Collection Request ("ICR"), including data on mercury capture by control figuration and coal rank, data on coal characteristics impacting mercury capture, and mercury emissions and capacity by coal rank, and found that the data supported the adjustment factors. Id. at 2-4 (JA 1770-72). The data related to mercury removal rates measured for various coal ranks and control configurations reveal a significant range of mercury capture, and mercury capture rates for bituminous coal are, on average, significantly better than the capture rates measured for subbituminous and lignite coals. Id. at 3 (JA 1771). The ICR data related to mercury emissions and capacity by coal rank reveal that emissions for bituminous coal are estimated to be 0.25 pounds of mercury per megawatt of power generated. Id. at 4 (JA 1772). Power plants using subbituminous coals emit an estimated 0.37 pounds of mercury per megawatt, and plants using lignite coal emit about 0.65 pounds of mercury per megawatt. Id. These numbers support the chosen allocation adjustment because the 0.65 pounds of emissions per megawatt for lignite coal is close to three times the emissions per megawatt for

bituminous coal, and the 0.37 pounds of emissions per megawatt for subbituminous coal is greater than 1.25 times that of bituminous coal. Id.

Bituminous Petitioners also argue that EPA's allocation methodology must be flawed because lignite- and subbituminous-burning power plants are more likely to receive an allocation that exceeds their actual mercury emissions. Petitioners' position disregards the relative ease with which bituminous-burning power plants can capture their mercury emissions. See Reconsideration RTC at 225 (JA 2863). Based on the ICR data, higher levels of mercury capture are expected for bituminous coal-fired power plants than for power plants that burn subbituminous or lignite coals. State Budgets TSD at 3 (JA 1771). EPA conducted an analysis comparing state mercury emission budgets developed using adjusted heat input and state budgets developed using pure (unadjusted) heat input to projected mercury emissions by State and found that, when state budgets are compared to projected emission levels in 2010, when the CAMR Phase I cap is effective, EPA's methodology more closely tracks actual projected emissions levels than Bituminous Petitioners' proposed method. Reconsideration RTC at 234-235 (JA 3872-73).

The fact that the data continues to support EPA's adjustment factors is unsurprising, given that EPA is not seeking to achieve a precise allocation for each

power plant but is instead attempting to create an adjustment factor that is "directionally correct," leaving it to the States to determine precise allocations. State Budgets TSD at 2 (JA 1770); 70 Fed. Reg. 28,622. Though final allocations are made by individual States, the rule anticipates that some power plants may control to an emission level below their allocated amounts of allowances and allows those plants to either bank the excess emissions allowances, or sell them on the market. 70 Fed. Reg. 28,622. Similarly, power plants may choose to purchase allowances on the market rather than controlling emissions.

As discussed above, in CAMR the Agency did not allocate any mercury allowances. Supra § VI(D). EPA's choice of adjustment factors has no direct impact on the allocation of mercury allowances to CAMR units for purposes of compliance with the program and a State has full flexibility to allocate allowances as it sees fit. Thus, the Bituminous Petitioners' complaint that EPA's adjustment factors unfairly allocate mercury emission allowances is unfounded.

The Court's standard of review under the arbitrary-and-capricious test is one of reasonableness, not perfection. See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. at 43. Additionally, the Court gives "an extreme degree of deference" to any agency "'evaluating scientific data within its technical expertise.'" Hüls Am., Inc. v. Browner, 83 F.3d 445, 452 (D.C. Cir. 1996)

(quoting Int'l Fabricare Inst. v. EPA, 972 F.2d 384, 389 (D.C. Cir. 1992)). Especially given the complex technical issues at play when determining an appropriate adjustment factor, the exercise of appropriate deference dictates that the Court deny Bituminous Petitioners' petition for review.

2. EPA's CAMR adjustment factors account for factors not at issue in CAIR.

Bituminous Petitioners argue that because EPA, when determining SO_2 allowances for CAIR, rejected allowance allocations by coal rank, EPA should not apply such allowance allocations under CAMR. This argument compares apples to oranges. EPA has developed a sufficient record to justify its decision to apply an adjustment factor when calculating hypothetical allowance allocations under CAMR, as described above. Supra § VI(D)(1).

Bituminous Petitioners, when discussing EPA's rationale for declining to employ allowance allocations by coal rank under CAIR, fail to provide the context in which that decision was made. When regulating SO_2 under CAIR, EPA was faced not only with a different pollutant, it was dealing with an entirely different regulatory background that is significantly influenced by Title IV-A of the Act. Title IV-A of the Act, 42 U.S.C. §§ 7651-51o, is a statutory attempt to control acid rain. This program controls emissions of SO_2 and NO_x and creates a system of

SO_2 emission allowances that can be freely traded. Title IV-A, by statute, creates allowances for individual energy producing units. 42 U.S.C. § 7651a (3). These allowances are calculated pursuant to a scheme designed by Congress and do not include adjustment factors of the type used in CAMR. 42 U.S.C. § 7651b(a)(1). EPA, when regulating the same pollutant under CAIR, reasonably considered statutory and regulatory controls that power plants were already subject to with respect to SO_2, and attempted to preserve the title IV-A allowance allocation approach under CAIR. Reconsideration RTC at 226 (JA 3864). Mercury emitted from coal-fired power plants, by contrast, is not subject to a previously existing cap-and-trade scheme, much less a scheme designed by Congress rather than the Agency. Accordingly, EPA has broad flexibility when considering the appropriate way in which to regulate emissions of mercury.

Additionally, mercury is an entirely different pollutant that reacts differently to control technology. Power plants that burn bituminous coal are better able to capture their mercury emissions than are power plants that burn either subbituminous or lignite coals. Legacy Docket A-92-55, II-I-1 (disk 1, attach. 1) (JA 492). When burned, bituminous coals emit less mercury per megawatt of energy generated, based on the 1999 Hg ICR data. See supra § VI(E)(1). Because bituminous coals emit less mercury to begin with, and because their mercury

emissions are more readily controlled, EPA reasonably granted bituminous coal-burning power plants a proportionately lower hypothetical allocation when determining state emission budgets. Sulfur dioxide does not react to control technology in the same way, and coal rank does not reflect the same disparity in either emissions or application of control technology. See 70 Fed. Reg. 28,612-13. Accordingly, EPA was reasonable in regulating SO_2 emissions differently.

3. EPA has adequately responded to Bituminous Petitioners' concern regarding CAMR's Phase 2 adjustment factors.

Bituminous Petitioners argue that EPA's decision to retain adjustment factors under Phase 2 of CAMR must be reversed because EPA has failed to respond "meaningfully" to their comments. This is not the case. A subset of Bituminous Petitioners did argue that adjustment factors were not necessary in Phase 2 of CAMR. CAMR RTC at 9-26 and 9-108 (JA 2073, 2082). In response, EPA incorporated its discussion that justified its decision to finalize the allocation adjustment factors, CAMR RTC at 5-95 - 5-114 (EPA-HQ-OAR-2002-0056-6209 at 5-95 to 5-114) (SJA 56-75), and also referenced the preamble to the final CAMR rule and the State Budgets TSD.

The referenced documents discuss EPA's support for the adjustment factors, and satisfy the requirement set out in 42 U.S.C. § 7607(d)(6)(B). The data

reviewed by EPA suggests that mercury emissions from power plants that burn bituminous coal are more easily captured by existing controls, and that bituminous coal-fired plants emits less mercury per megawatt of power generated. See supra § VI(D)(1). This fundamental fact is not altered when Phase 2 of CAMR begins. "The failure to respond to comments is significant only insofar as it demonstrates that the agency's decision was not based on a consideration of the relevant factors." Thompson v. Clark, 741 F.2d 401, 409 (D.C. Cir. 1984) (internal quotation marks and citation omitted); accord American Iron & Steel Inst. v. EPA, 115 F.3d at 1005 (finding comment response sufficient if it "demonstrates that the agency considered the 'relevant factors' raised by the suggested alternatives"); Texas Mun. Power Agency v. EPA, 89 F.3d 858, 876 (D.C. Cir. 1996). EPA's explanation makes it evident that EPA did consider the relevant factors.

F. EPA Established Appropriate Mercury Limitations for Coal-Refuse-Fired Power Plants.

Under CAA section 111, EPA must establish NSPS based on the best system of emission reductions which has been adequately demonstrated. 42 U.S.C. § 7411(a)(1). On this basis, in CAMR EPA set out separate emissions limitations for new, modified, and reconstructed power plants fired with bituminous, subbituminous, and lignite coals, and coal refuse that reflect the use of

best demonstrated technology ("BDT"). 70 Fed. Reg. 28,615; EPA-HQ-OAR-2002-0056-6721, Revised New Source Performance Standard Statistical Analysis for Mercury Emissions ("NSPS Memo") at 1 (JA 3699). For CAMR, the emissions limitation for all coal ranks was based on the 90th percentile mercury reduction (i.e., the control efficiency that the BDT is estimated to achieve 90 percent of the time). 70 Fed. Reg. 28,615; NSPS Memo at 3 (JA 3701). In order to calculate the 90th percentile mercury reduction, EPA relied on an equation that incorporates the 90th percentile average heat content of the coal burned. NSPS Memo at 6 (JA 3704).

Petitioner ARIPPA, a trade association comprised of coal-refuse-fired power plants, argues that EPA used an incorrect heat content of 11,376 Btu/lb for coal refuse when calculating mercury emission limitations under CAMR. Though ARIPPA does not challenge EPA's decision to base the emissions limitation on the 90th percentile mercury reduction, ARIPPA claims that EPA failed to consider relevant data, failed to explain the basis for the application of a 11,376 BTU/lb heat content value to coal refuse, and disregarded the definition of "coal refuse." As discussed below, EPA considered available data, and properly applied a heat content of 11,376 Btu/lb to coal refuse.

1. ARIPPA cites to the incorrect definition of "coal refuse."

ARIPPA, when discussing previous regulatory definitions of the term "coal refuse," cites to a definition set out in 40 C.F.R. § 60.41b. This definition is for industrial boilers. See Standards of Performance for Steam Generating Units, 40 C.F.R. § 60.40b. CAMR does not apply to industrial boilers, CAMR applies to electric utility steam generating units. Thus, the applicable "coal refuse" definition is found in 40 C.F.R. Part 60, subpart Da. See Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, 40 C.F.R. § 60.40Da. The definition of "coal refuse" in subpart Da is based on the process by which the coal refuse is produced rather than being based on constituents or parameters of the material. The distinction is important because, although in 40 C.F.R. § 60.41b EPA does establish a maximum heat content value of 6,000 Btu/lb for coal refuse used in industrial boilers, that universe of "coal refuse" is not the same as the universe of "coal refuse" defined in subpart Da. As defined in subpart Da, "coal refuse" includes "waste products of coal mining, physical coal cleaning, and coal preparation operations . . . containing coal, matrix material, clay, and other organic and inorganic material." 40 C.F.R. § 60.41Da. Because this definition is based on the "production" process rather than the parameters, it includes coal refuse that

burns with a maximum heat content value of greater than 6,000 Btu/lb. As demonstrated by data in the CAMR docket, coal reported as being "coal refuse" by the applicable power plants had maximum heat content values that exceeded 6,000 Btu/lb. See Legacy docket A-92-55, II-I-8 (JA 494). Accordingly, the heat content used by EPA for coal refuse under CAMR is not inconsistent with the applicable definition.

The differences between definitions are relevant to the respective industry sectors addressed and are, therefore, appropriate. Further, the issue of any definitional differences between various subparts was not raised during the public comment period, and has, thus, been waived. See 42 U.S.C. § 7607(d)(7)(B); Mossville Envtl. Action Now v. EPA, 370 F.3d at 1238 (strictly interpreting the waiver requirement).

2. EPA properly considered available data when calculating the heat content of coal refuse.

EPA calculated the appropriate achievable mercury emission level for each coal rank, including coal refuse, through statistical analysis. 70 Fed. Reg. 28,615. The heat content value of the fuel input is one of several relevant factors in calculating the control efficiency-based limitation. ARIPPA argues that EPA's calculated heat content for coal refuse is too high, ultimately subjecting its

members to a substantially more stringent mercury emission limitation. ARIPPA Br. at 4. Emissions data supplied by ARIPPA, however, are consistent with the performance standard established by EPA.[66]

When EPA calculated its 90th percentile Btu/lb values for coal refuse, it consistently calculated the value where 90 percent of the Btu/lb values in its sample data would be *less than* the indicated value. EPA used this approach with all coal ranks (bituminous, subbituminous, lignite, and coal refuse). Reconsideration RTC at 273 (JA 3895). ARIPPA has apparently misunderstood EPA's analysis, and has provided the Court with a heat content value for coal refuse of 4,336 Btu/lb based on a calculation where 90 percent of the Btu/lb values would be *greater than* the indicated value. See ARIPPA December 19, 2005 Comment at 13 (EPA-HQ-OAR-2002-0056-6529.1 at 13) (JA 2940); ARIPPA Br. at 3, 5. This goes a long way toward explaining the difference between the 90th percentile value calculated by ARIPPA and the significantly higher value calculated by EPA.

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[66] Although EPA does not have actual coal refuse emissions data in the requisite format (i.e., output-based, lb/MWh), input-based (i.e., lb/TBtu) emissions data provided by ARIPPA are consistent with the lb/TBtu value EPA used in establishing the output-based NSPS value. See EPA-HQ-OAR-2002-0056-6698.1, .2, .4, .5, .7, .8., and .9 (JA 2989-3163, 3207-3487; NSPS Memo at 10 (JA 3708).

Additionally, ARIPPA calculated its heat content value of 4,336 Btu/lb by considering "an analysis of information compiled by ARIPPA's members." ARIPPA Br. at 3. ARIPPA members are coal-refuse-fired electrical generating units in Pennsylvania. ARIPPA's April 7, 2006 Comment (EPA-HQ-OAR-2002-0056-6698) (JA 2987). In other words, ARIPPA's calculations are based on a limited subset of the available data. EPA's determination that the 90th percentile heat content value of coal refuse (11,376 Btu/lb) is based on nationwide data collected in the ICR. NSPS Memo at 6-7. The ICR consists of data submitted to EPA by power plants nationwide under the authority of CAA section 114, including ARIPPA member data.

ARIPPA additionally argues that EPA failed to properly consider data compiled by ARIPPA members and submitted during reconsideration. ARIPPA Br. at 5. In fact, EPA did review the additional emissions data submitted by ARIPPA. EPA specifically excluded some data for reasons stated on the record, and EPA, where appropriate, incorporated the newly provided data into its analysis to determine the NSPS for coal refuse. Reconsideration RTC at 272-73 (JA 3894-95); NSPS Memo at 3, 11-13 (JA 3701, 3709-11). Specifically, EPA incorporated 23 of 31 additional test runs provided by ARIPPA. NSPS Memo at 12.

Thus, EPA has considered the relevant factors, and the record supports that consideration. See Thompson v. Clark, 741 F.2d at 409 ("The failure to respond to comments is significant only insofar as it demonstrates that the agency's decision was not based on a consideration of the relevant factors.") Accordingly, EPA properly relied on its calculated heat content of 11,376 Btu/lb for coal refuse.

CONCLUSION

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

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH WORD LIMITATION

Pursuant to Federal Rule of Appellate Procedure 32(a)(7)(C), I hereby certify that the foregoing Brief of Respondent EPA contains 40,174 words, as counted by the Word Perfect 12 word processing system.

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CERTIFICATE OF SERVICE

I hereby certify that, on July 23, 2007, two true and correct copies of the foregoing Final Brief for Respondent EPA were served by first-class U.S. mail on the following counsel:

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