Denial of Petitions for Reconsideration of Certain Issues: MATS and Utility NSPS

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Foreword

On February 16, 2012, pursuant to sections 111 and 112 of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) published the final rules titled "National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units" (77 FR 9304). The National Emission Standards for Hazardous Air Pollutants (NESHAP) rule issued pursuant to CAA section 112 is referred to as the Mercury and Air Toxics Standards (MATS), and the New Source Performance Standards rule issued pursuant to CAA section 111 is referred to as the Utility NSPS. Following promulgation of the final rules, the Administrator received petitions for reconsideration of numerous provisions of both MATS and the Utility NSPS pursuant to CAA section 307(d)(7)(B).[1]

CAA section 307(d)(7)(B) states that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b))." (*emphasis added*). Thus, the EPA is only required to grant a CAA section 307(d)(7)(B) petition for reconsideration if the petitioner demonstrates both (1) that it was impractical to raise the objection during the public comment period, or that the grounds for such objection arose after the public comment period but within the time specified for judicial review (i.e., within 60 days after publication of the final rulemaking in the Federal Register); and (2) that the objection is of central relevance to the outcome of the rule.

On November 30, 2012, the EPA issued a proposed rule reconsidering certain new source standards, the requirements applicable during periods of startup and shutdown for MATS and the Utility NSPS (for the PM standard only), certain definitional and monitoring issues in the Utility NSPS, and additional technical corrections to both MATS and the Utility NSPS. 77 FR 71323. On April 24, 2013, the EPA issued the final action on reconsideration of the new source MATS

[1] The EPA received 20 petitions for reconsideration of the MATS rule and 3 petitions for reconsideration of the Utility NSPS *(see* Appendix A. List of NESHAP Petitioners and Appendix B. List of NSPS Petitioners). In the appendices, the EPA lists the parties that filed petitions for reconsideration and assigns a unique number to each Petitioner. The EPA uses these numbers to identify the Petitioners that raised the various reconsideration issues addressed in this document. Many issues were raised by numerous Petitioners. The EPA has attempted to identify all the Petitioners that raise each issue; however, given the large number and complexity of the petitions, it is possible that commenters will be inadvertently misidentified or unidentified for an issue. Any such inadvertent errors does not affect the substance of the EPA's response to the issues raised in the petitions and, as such, would be of no consequence.

standards, the definitional and monitoring provisions in the Utility NSPS, and the technical correction in both rules. 78 FR 24073. The EPA issued the final action on reconsideration of the startup and shutdown provisions in the MATS and Utility NSPS on November 19, 2014. 79 FR 68777. In addition, on February 17, 2015, EPA proposed additional technical corrections to the final MATS rule and the Utility NSPS. 80 FR 8442.

This document presents the EPA's response to the remaining issues in the petitions for reconsideration received on the final MATS rule and the Utility NSPS. The EPA carefully reviewed the petitions and evaluated each issue raised in the petitions for reconsideration to determine if they meet the CAA section 307(d)(7)(B) criteria for reconsideration. In this action, the EPA is denying the remaining issues in the petitions for reconsideration because they do not meet the criteria for reconsideration and/or are moot.

Many of the parties that filed petitions for reconsideration of the final MATS and Utility NSPS also filed petitions for review of the final rule in the United States Court of Appeals for the District of Columbia Circuit (Court or D.C. Cir.). Many of the issues raised in the petitions for reconsideration were also raised in the D.C. Cir. litigation, and other reconsideration issues could have been raised in that litigation. On April 15, 2014, the Court rejected all petitions for review of MATS and the Utility NSPS. *White Stallion Energy Center v. EPA*, 784 F.3d 1222 (D.C. Cir. 2014); cert. granted, *State of Michigan v. EPA*, No. 14-46 (and consolidated cases).[2] As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

[2] On November 25, 2014, the U.S. Supreme Court granted petitions to hear state and industry challenges against the Environmental Protection Agency's (EPA) Mercury and Air Toxics Standards (MATS) on the following question: "Whether the Environmental Protection Agency unreasonably refused to consider costs in determining whether it is appropriate to regulate hazardous air pollutants emitted by electric utilities." Oral argument was held on March 25, 2015.

MATS

1.0 Appropriate and Necessary Finding

1.1 Ability to comment on Hg Risk Technical Support Documents (TSDs)

Issue 1: Petitioner 20180 asserts that the public was unable to offer meaningful comments on the National-Scale Mercury (Hg) Risk Assessment accompanying the proposed MATS rule ("draft Hg Risk TSD")[3] due to the allegedly opaque nature of the document.

Response to Issue 1: Petitioner made this same allegation during the public comment period, and the EPA responded to that in Section 1F (pp. 172 - 173) of the December 2011 Response to Comments document (RTC).[4] The EPA is denying the Petition for Reconsideration on this issue because Petitioner previously submitted comments on this issue, and the EPA responded to those comments.

Further, the EPA disagrees that the public could not offer meaningful comments on the draft Hg Risk TSD. The volume of comments and level of technical detail of those comments on the draft Hg Risk TSD received from Petitioners (EPA-HQ-OAR-2009- 0234-17775, pp. 6 and 59 - 70; EPA-HQ-OAR-2009-0234-18023, pp. 72 - 99, Attachments B and C) and other commenters clearly demonstrate that the public had ample opportunity to offer meaningful comments. In addition, Petitioners did not identify any specific issues on which they claim they were unable to provide comments.

As noted in Science Advisory Board's (SAB's) peer review letter on the Hg Risk TSD (U.S. EPA-SAB, 2011a; p. 1),[5] the EPA provided additional information during the peer review meeting, and the SAB was able to review the risk assessment and provide their recommendations. Any commenters attending the public meeting, which included at least one representative from one of the Petitioners (p. 4),[6] had the opportunity to gain the same

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[3] U.S. Environmental Protection Agency (U.S. EPA). 2011a. *Technical Support Document (TSD): National-scale Mercury Risk Assessment Supporting the Appropriate and Necessary Finding for Coal- and Oil-fired Electric Generating Units.* Office of Air Quality Planning and Standards. March 2011. EPA-452/D-11-002. EPA-HQ-OAR-2009-0234-3057.

[4] U.S. EPA. 2011b. EPA's Responses to Public Comments on EPA's *National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units.* December 2011. Volume 1 of 2. EPA-HQ-OAR-2009-0234-20126. Available on the Internet at http://www.epa.gov/ttn/atw/utility/mats_rtc_chapters_foreword-1-2-3-4_121611.pdf.

[5] U.S. Environmental Protection Agency-Science Advisory Board (U.S. EPA–SAB). 2011a. *Peer Review of EPA's Draft National-Scale Mercury Risk Assessment.* EPA–SAB–11–017. September 2011. EPA-HQ-OAR-2009-0234-19689. Available on the Internet at http://yosemite.epa.gov/sab/sabproduct.nsf/BCA23C5B7917F5BF8525791A0072CCA1/$File/EPA-SAB-11-017-unsigned.pdf.

[6] U.S. EPA-SAB. 2011c. *Summary Minutes of the United States Environmental Protection Agency (U. S. EPA) Science Advisory Board (SAB) Mercury Review Panel, June 15 - 17, 2011.*

information and understanding. The EPA provided copies of the additional materials to attendees and the SAB also posted these materials on their website during the public comment period. In addition, the EPA indicated in the preamble to the proposal that the Hg Risk TSD would be peer reviewed (76 FR 25012), and the SAB review process and meetings were announced in the Federal Register (76 FR 10896 - 10897, 76 FR 17649 - 17650, 76 FR 29746 - 29747, 76 FR 39102 - 39103, 76 FR 50729 - 50730).

The comments that the EPA received on the Hg Risk TSD, including those from Petitioners, demonstrate that the public had ample opportunity and understanding of the TSD to comment, and the EPA responded to those comments in Section 1F (pp. 123 - 183) of the RTC. Those comments included comments on the draft SAB report that was made available to the public before the close of the comment period, and the draft SAB report contained all the substantive comments included in the final report on September 29, 2011. Because Petitioners have not demonstrated that it was impracticable to comment on this issue or on the draft Hg Risk TSD during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. The Court cited to the SAB decision in affirming the finding and noted the Petitioners' claims that there were procedural irregularities with the Hg peer review process, which issues the Court did not reach. *Id.* The Court's decision to affirm without addressing the alleged procedural irregularities further demonstrates that this reconsideration issue is not of central relevance.

Issue 2: Petitioner 20180 asserts that they were unable to comment on the national-scale Hg risk assessment accompanying the final MATS rule [7] ("revised Hg Risk TSD") during the public comment period because SAB completed their peer review after the public comment period closed; thus, the EPA was unable to publish a response to the SAB prior to final rulemaking, as promised in the proposed MATS rulemaking (76 FR 25012). Petitioner further claims that EPA substantially revised its Hg Risk TSD with new factual information, including extensive new fish tissue data. Petitioners also state that no independent peer review was conducted on the revised Hg Risk TSD.

Response to Issue 2: In the preamble to the proposed MATS rule (76 FR 25012), the EPA indicated that the draft Hg Risk TSD would be peer-reviewed prior to the final MATS rule and

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EPA-HQ-OAR-2009-0234-19689. Available on the Internet at http://yosemite.epa.gov/sab/sabproduct.nsf/MeetingCal/4A60092A413F56608525783F0050F148/$File/Minutes.06.015-17.11-final.pdf.

[7] U.S. EPA. 2011d. *Revised Technical Support Document: National-Scale Assessment of Mercury Risk to Populations with High Consumption of Self-caught Freshwater Fish In Support of the Appropriate and Necessary Finding for Coal- and Oil-Fired Electric Generating Units.* Office of Air Quality Planning and Standards. November 2011. EPA–452/R–11–009. EPA-HQ-OAR-2009-0234-19913.

that the EPA would respond to any recommendations from that peer review. Because the revisions to the Hg Risk TSD, including the additional fish tissue data, were in response to comments that the EPA received from the SAB on the draft Hg Risk TSD and did not change the manner in which the risk assessment was conducted or the conclusions of the risk assessment, the EPA was not required to provide additional opportunity to comment on the risk assessment.

First, it is important to distinguish the peer review itself from the final documentation of that review. Although the EPA agrees that the SAB did not sign their peer review letter until September 29, 2011, the peer review itself was conducted in a public meeting during the public comment period on June 15 - 16, 2011 (EPA-HQ-OAR-2009-0234-19689). On June 17, 2011, the Mercury Review Panel began drafting their comments, and they discussed the final wording of that letter during two subsequent public teleconferences held on July 20, 2011, and September 7, 2011. The SAB sent their final letter to EPA on September 29, 2011. The content and the recommendations in the final letter closely matched the June and July drafts of the SAB letter. The public had ample opportunity to participate in the peer review process (EPA-HQ-OAR-2009-0234-19689), including the nomination of panel members, comment opportunities during the public meeting and teleconferences, and access to the SAB's draft comments prior to the issuance of the final letter and close of the MATS comment period. For example, as noted in the RTC (pp. 172 - 173), Petitioner 20180 cited the SAB's draft letter in their comments on the proposed rule, which provides evidence that the public was able to access and review the SAB's comments. These comments also demonstrate that the public had ample opportunity to comment on any issues raised in the peer review, and the EPA responded to those comments. Because Petitioner has not demonstrated that it was impracticable to comment on issues raised in the peer review during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

Second, as the SAB stated in its letter, "the SAB supports the overall design of and approach to the risk assessment" (U.S. EPA-SAB, 2011a; EPA-HQ-OAR-2009-0234-19689, p. 2). The SAB specifically encouraged the EPA to contact states with high-deposition watersheds to determine if additional fish tissue methylmercury (MeHg) data were available. The EPA did so, incorporating the additional fish tissue data in the same manner as the original data, and, therefore, the expansion of the fish tissue data was a logical outgrowth of the risk assessment based on SAB's comments. Other revisions to the Hg Risk TSD in response to the SAB's comments were clarifications of the methods used in the Hg Risk TSD, and the EPA did not revise the overall analytical approach in the revised Hg Risk TSD. *See NRDC v. Thomas,* 838 F.2d 1224, 1242 (D.C. Cir. 1988) and *Small Refiner Lead Phase-Down Task Force v. EPA,* 705 F.2d at 547 (agency may make changes to proposed rule without triggering new round of comments, where changes are logical outgrowth of proposal and comments). Further, because Petitioner cited the SAB's draft letter in their comments on the proposed MATS rule (EPA-HQ-OAR-2009- 0234-17775, p. 59), Petitioner does not demonstrate that it was impracticable to comment on the suggested revisions or the SAB's recommendations, as evidenced by the comments received on these recommendations.

Third, the EPA did not find a second round of peer review to be appropriate for the Hg Risk TSD. The EPA followed the requirements in EPA's *Peer Review Handbook*[8] for highly influential scientific assessments (76 FR 9312), which does not require multiple rounds of peer review. In addition, the revised Hg Risk TSD responded to all of the SAB's recommendations (76 FR 9313 - 9316). Further, the revisions, which did not change the overall analytical approach, only strengthened the conclusions of the Hg Risk TSD. Therefore, Petitioner's arguments that an additional round of peer review and public comment period should have been conducted is not of central relevance to the "Appropriate and Necessary" finding.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. The Court cited to the SAB decision in affirming the finding and noted the Petitioners' claims that there were procedural irregularities with the Hg peer review process, which issues the Court did not reach. *Id.* The Court's decision to affirm without addressing the alleged procedural irregularities further demonstrates that this reconsideration issue is not of central relevance.

For all these reasons, the EPA is denying the petition for reconsideration of this issue.

1.2 Reliability of Hg Risk TSD as a basis for "Appropriate and Necessary" finding

Issue 3: Petitioner 20180 alleges that the Hg Risk TSD does not provide a reliable scientific basis for the "Appropriate and Necessary" finding because (1) the Hg Risk TSD contains questionable conservative assumptions that result in unrealistic risk estimates, and (2) the EPA did not respond to the peer review comments from the SAB.

Response to Issue 3: Issues regarding the reliability of the Hg Risk TSD for providing a basis for the "Appropriate and Necessary" finding were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to these comments on the draft Hg Risk TSD are in Section 1F (pp. 123 - 183) of the RTC. Responses to Petitioners' specific "conservative assumptions" allegations regarding the Hg Risk TSD are provided in the responses to Issues 4 to 44 below.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. The Court's decision directly rebuts the first issue raised in this petition. Concerning the second issue, the Court cited to the SAB decision in affirming the finding and noted the Petitioners' claims that there were procedural irregularities with the Hg peer review process, which issues the Court did not reach. *Id.* As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court

[8] U.S. EPA. 2012. *Peer Review Handbook*, 3rd edition. EPA/100/B-06/002, Science Policy Council, Washington, DC. Available on the Internet at http://www.epa.gov/peerreview/pdfs/peer_review_handbook_2012.pdf.

clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, we are denying reconsideration of this issue.

As stated in the RTC (p. 171), the SAB "supports the overall design of and approach to the risk assessment and finds that it should provide an objective, reasonable, and credible determination of the potential for a public health hazard from mercury emitted from U.S. EGUs." (U.S. EPA-SAB, 2011a; EPA-HQ-OAR-2009-0234-19689, p. 2). The SAB made this conclusion based on the draft Hg Risk TSD (EPA-HQ-OAR-2009-0234-3057), which indicates that the SAB did not consider the Hg Risk TSD to contain questionable conservative assumptions as Petitioner alleges. Although the SAB recommended that the EPA add descriptions of the key analytical methods and findings to improve the clarity of the TSD (p. 2), the SAB's comments did not require changes to the overall analytical approach of the Hg Risk TSD. Contrary to Petitioner's assertion, the EPA fully responded to all of the SAB's recommendations (76 FR 9313 - 9316). Further, Petitioner does not raise any methodological concerns regarding the design of the risk assessment or interpretation of conclusions that could not have been raised to the SAB or to the EPA during the public comment period.

The EPA relies on the consensus conclusions from the Mercury Panel of the SAB as the body of scientific experts nominated to review the Hg Risk TSD, regarding the reliability of the assessment for its intended purpose. For this reason, the issue is not of central relevance.

For all of these reasons, we are denying the petition for reconsideration of this issue.

Issue 4: Petitioners 20183 and 20180 claim that the revised Hg Risk TSD continues to combine multiple highly conservative assumptions that lead to unrealistic exposure estimates that overestimate risks. Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) also assert that the EPA's assumptions are more conservative than the EPA's risk guidance (U.S. EPA, 1989)[9] and that use of 99th percentile exposure assumptions, including the fish consumption rate, results in exposure estimates beyond the range of possible exposures. Further, Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) allege that the SAB may not have fully understood the ***combination*** of conservative assumptions, including the combination of the 99th percentile fish consumption rate with the 75th percentile fish size after removing fish less than seven inches.

Response to Issue 4: Issues regarding the potential conservatism of the exposure estimates were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 142, 171, 177, and 180) of the RTC.

As stated in the RTC (p. 135), "the design of the risk assessment is particular to this statutory context." Further, the draft Hg Risk TSD reviewed by the SAB clearly noted that the EPA

[9] U.S. EPA. 1989. *Risk Assessment Guidance for Superfund. Vol. 1, Human Health Evaluation Manual (Part A)*. EPA/540/1-89/002. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. Washington, D.C. December.

excluded fish less than 7 inches in length from the fish tissue dataset (p.71), applied the 75th percentile fish size to that dataset (p. 72), and applied the 99th percentile consumption rates (pp. 73). Thus, Petitioners' assertions that the SAB did not comprehend the Hg Risk TSD are without foundation. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Because Petitioners have not demonstrated that it was impracticable to comment on these issues during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

The SAB supported the overall design and approach of the Hg Risk TSD, including the fish consumption rates used (U.S. EPA-SAB, 2011a; EPA-HQ-OAR-2009-0234-19689, pp. 2 and 15 - 16). The SAB panel inquired about the fish size during the public SAB peer review meeting, and in response during the peer review process the EPA presented a detailed example of an exposure calculation that specifically highlighted the use of both the high-end consumption rate and the 75th percentile fish tissue Hg value (EPA-HQ-OAR-2009-0234-19689). Because the SAB ultimately expressed support for the overall design of the analysis in their comments submitted after this presentation, which clearly indicated the combination of assumptions within the calculation, Petitioners have not demonstrated that this issue is of central relevance or that the SAB was unaware of the Agency's approach. For these reasons also, the EPA is denying the petition for reconsideration on this issue.

Responses to Petitioners' specific issues regarding fish consumption rates and fish tissue samples in the Hg Risk TSD are provided in the responses to Issues 10 to 17 below.

Issue 5: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) claim the EPA did not follow its own policies regarding "weight of the evidence", selected only reports that support the EPA's preset outcome that Hg exposures due to EGU emissions are a big problem and ignored all contradictory evidence.

Response to Issue 5: The EPA is denying reconsideration on the issue because this issue is substantively similar to an issue raised in public comments, and the EPA responded to those comments. In Section 1F (p. 168) of the RTC, commenters suggested that the EPA did not use the latest data in the Hg Risk TSD (specifically toxicological data) and that the EPA should consider the latest information. In response to that comment, the EPA stated, "It is the policy of the EPA to use the most current peer reviewed, publicly available data and methodologies in its risk assessments." The EPA did so here. Specifically, the EPA considered the substantive peer-reviewed studies submitted during the public comment period that were relevant to the design and application of the Hg Risk TSD and did not rely upon studies that were not peer-reviewed. Further, in the peer review of the draft Hg Risk TSD, the SAB panel noted, "the SAB supports the overall design of and approach to the risk assessment and finds that it should provide an objective, reasonable, and credible determination of the potential for a public health hazard from

Hg emitted from U.S. EGUs" (U.S. EPA-SAB, 2011a, p. 2). In this statement of support for the overall design of the Hg Risk TSD, the SAB agreed that the EPA included objective evidence.

The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue. The EPA is also denying this issue because it is not of central relevance because Petitioner provides no information that would change the Hg Risk TSD in light of the SAB support for the Agency's approach and the fact that the EPA complied with its general approach and explained its reasoning regarding the information used in the Hg Risk TSD.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

1.3 Hg biomarker data

Issue 6: Petitioners 20183 and 20180 allege that the EPA did not respond to or acknowledge public comments from Tetra Tech on behalf of Petitioner 20183 regarding Dellinger (2004), [10] specifically concerning the discrepancy in that study between Hg biomarker data, such as blood Hg levels, and Hg exposure based on surveys of fish consumption.

Response to Issue 6: Petitioners raise a procedural challenge to the final rule by alleging that the EPA failed to respond to an allegedly significant comment. As a preliminary matter, the EPA responded to comments concerning the Dellinger study in Section 1F (Vol. 1, pp. 134 – 136) of the RTC, and those responses and responses to other comments concerning studies of Hg blood levels and fish consumption surveys in Section 1F (Vol. 1, pp. 149 – 160) of the RTC address the substance of the Tetra Tech comments even if the EPA did not identify those comments in the relevant responses.

In any case, the EPA maintains that the comments regarding the discrepancy between biomarker data and exposure estimates were not raised with "reasonable specificity" and petitioner has not demonstrated that it was impracticable to raise those issues with reasonable specificity during the public comment period. For these reasons, EPA is denying the petition for reconsideration of this issue.

[10] Dellinger, J.A. 2004. "Exposure assessment and initial intervention regarding fish consumption of tribal members of the Upper Great Lakes Region in the United States," *Environmental Research* 95, 325–340.

The EPA does not find Tetra Tech's comments regarding the discrepancy between biomarker data and exposure estimates in the Dellinger study to be relevant to the Hg Risk TSD. Specifically, at the time of the final MATS rule, the EPA did not consider a recommendation to collect Hg blood data from the subsistence fisher populations modeled in the Hg Risk TSD to be a significant comment because it was well outside the scope of the risk assessment. The EPA did respond to comments regarding the blood Hg levels in the National Health and Nutrition Examination Survey (NHANES) (*see* Section 1F, pp. 149 – 150, of the RTC, Vol. 1).

Upon further review and with the aid of the more specific information provided in the reconsideration petition regarding this issue, the EPA has determined that a fuller response to the discrepancy between biomarker data and exposure estimates based on fish surveys including the Dellinger study may be appropriate. The EPA provides responses to these specific issues in the responses to Issues 7 to 9 below.

As fully explained in the responses to Issues 7 to 9 below, issues regarding biomarker data are not of central relevance to the "Appropriate and Necessary" finding because the core risk estimates in the Hg Risk TSD are based on comparisons of modeled Hg intake from fish consumption to the reference dose for methylmercury (MeHg RfD) in order to generate a hazard quotient (HQ), which does not involve modeling biomarker levels (such as blood Hg levels).[11] Specifically, the exposure estimates used in this comparison represent daily-average intake rates for MeHg from the consumption of fish, which is consistent with the units for the MeHg RfD. Because the RfD is not stated in terms of an equivalent biomarker level (e.g., hair Hg, or blood Hg), there is no need to model biomarker levels in order to calculate the HQ. In addition, the available biomarker studies were not designed to capture the high-end subsistence fishers consuming fish with higher levels of MeHg, as modeled in the Hg Risk TSD.

Because the EPA responded to issues regarding Hg blood levels and consumptions surveys, and because Petitioners have not established that it was impracticable to raise the issue with reasonable specificity during the public comment period, we are denying reconsideration on this issue. We are also denying reconsideration because the issue is not of central relevance to the "Appropriate and Necessary" finding as explained above and in response to other comments on Hg blood levels submitted during the comment period on the MATS proposal.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this

[11] In Appendix B of the revised Hg Risk TSD, the EPA simulated biomarker levels in order to model IQ loss. In response to SAB comments, the EPA moved this risk metric to an appendix because of concerns that IQ reduction did not capture all of the neurodevelopmental endpoints potentially associated with Hg exposure (U.S. EPA–SAB, 2011a, p. 2).

final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Issue 7: Petitioners 20183 and 20180 allege that the EPA overestimated Hg exposure and ignored evidence that suggests one or more of the EPA's exposure assumptions yield unrealistically high risk estimates compared to biomarker data from four studies (Dellinger, 2004; Hibbeln, et al., 2007;[12] Daniels, et al., 2004;[13] Xue, et al., 2012[14]). Specifically, Petitioners claim that biomarker data provide strong evidence that Hg exposures are not as high as the EPA predicted in the Hg Risk TSD. For example, Petitioners assert that the EPA's highest exposure scenario for a female subsistence fisher would correspond to an Hg blood concentration of almost 150 parts per billion (ppb), whereas the data from the NHANES report the highest blood concentration to be less than 40 ppb. Petitioner speculates that this disparity results from the EPA overestimating fish consumption, fish Hg concentrations, bioavailability of fish MeHg, or a combination of all three assumptions.

Response to Issue 7: The EPA is denying reconsideration of this issue because (1) blood Hg levels from the NHANES report were raised in public comments and the EPA responded to those comments, (2) none of these issues are of central relevance to the "Appropriate and Necessary" finding, and (3) specific allegations that biomarker data from several studies undermine the EPA's Hg risk estimates are new comments that Petitioners could have previously raised in public comment.

First, issues regarding the blood Hg levels in the NHANES data were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 149 - 155) of the RTC.

As stated in the RTC (p. 149), because the NHANES survey is designed to reflect the general U.S. population, it is unlikely to include the type of subsistence fishers modeled in the Hg Risk TSD; studies focusing on high fish consuming individuals have found blood Hg levels that are substantially higher than the range reported in the NHANES survey. For example, as cited in the RTC, the Hightower and Moore (2003) study, which evaluated 89 adults identified as likely having elevated blood Hg levels from consuming fish with high Hg levels, found mean blood Hg levels for women that were ten times higher than an earlier general population survey (CDC, 2001).[15]

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[12] Hibbeln, JR, Davis, JM, Steer, C, Emmett, C, Rogers, I, Williams, C, Golding, J. 2007. "Maternal seafood consumption in pregnancy and neurodevelopmental outcomes in childhood (ALSPAC study): an observational cohort study," *Lancet* 369:578–85.

[13] Daniels, JL, Longnecker, MP, Rowland, AS, Golding, J, and The ALSPAC Study Team–University of Bristol Institute of Child Health. 2004. "Fish Intake During Pregnancy and Early Cognitive Development of Offspring." *Epidemiology* 15:394-402.

[14] Xue, J, Zartarian, VG, Liu, SV, and Geller, AM. 2012. "Methylmercury exposure from fish consumption in vulnerable racial/ethnic populations: Probabilistic SHEDS-Dietary model analyses using 1999–2006 NHANES and 1990–2002 TDS data." *Sci Tot Environ* 414:373–379.

[15] CDC. 2001. *First National Report on Human Exposure to Environmental Chemicals Results: Mercury*. U.S. Centers for Disease Control and Prevention.

The EPA disagrees that the NHANES dataset provides evidence that the EPA's exposure estimates are too high. The NHANES survey is designed to be representative of the general U.S. population and samples approximately 4,200 females for blood Hg levels per year (CDC, 2012).[16] Although this sampling approach provides reliable estimates for the general population, it is unlikely to capture small subgroups such as high-end subsistence fish consumers that are the focus of the Hg Risk TSD. Because many high-end fish consumers have low socio-economic status, it may be challenging to reach them through typical survey methods (Weiss and Bailar, 2002).[17] As discussed in the MATS proposal (76 FR 25020) and in the revised Hg Risk TSD (pp. 36 - 40), even though it can be difficult to capture this high-consuming subpopulation in national surveys, multiple studies identify subsistence-level fish consumption at various locations across the country (Burger, et al., 1999;[18] Burger, et al., 2002;[19] Corburn, et al., 2002;[20] Dellinger, 2004; Moya, et al., 2008;[21] Shilling, et al., 2010[22]).

The comments that the EPA received on blood Hg levels from NHANES demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

Second, issues regarding biomarker data are not of central relevance to the "Appropriate and Necessary" finding because the core risk estimates in the Hg Risk TSD are based on comparisons of modeled Hg intake from fish consumption to the MeHg RfD, which does not involve modeling biomarker levels (such as blood Hg levels). In addition, the EPA disagrees that

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[16] CDC. 2012. *Fourth National Report on Human Exposure to Environmental Chemicals Updated Tables, February 2012: Total Blood Mercury*. U.S. Centers for Disease Control and Prevention. Available on the internet at http://www.cdc.gov/exposurereport/pdf/FourthReport_UpdatedTables_Feb2012.pdf.

[17] Weiss, C., and Bailar, B. A. 2002. "High response rates for low-income population in-person surveys." In M. Ver Ploeg, R. A. Moffitt, & C. F. Citro (Eds.), Studies of welfare populations: Data collection and research issues (pp. 86–104). Washington, DC: The National Academies Press.

[18] Burger, J., Stephens, W. L., Boring, C. S., Kuklinski, M., Gibbons, J. W., Gochfeld M. 1999. "Factors in Exposure Assessment: Ethnic and Socioeconomic Differences in Fishing and Consumption of Fish Caught along the Savannah River." *Risk Analysis* 19, No. 3, p. 427.

[19] Burger, J. 2002. "Daily consumption of wild fish and game: Exposures of high end recreationalists." *International Journal of Environmental Health Research* 12:4, p. 343-354.

[20] Corburn, J. 2002. "Combining community-based research and local knowledge to confront asthma and subsistence-fishing hazards in Greenpoint/Williamsburg, Brooklyn, New York." *Environmental Health Perspectives*, 110(2).

[21] Moya. J., Itkiin, C., Selevan, S.G., Rogers, J.W., Clickner, R. P. 2008. "Estimates of fish consumption rates for consumers of bought and self-caught fish in Connecticut, Florida, Minnesota, and North Dakota." *Science of the Total Environment* 403, issue 1-3, p. 89-98.

[22] Shilling, Fraser, Aubrey White, Lucas Lippert, Mark Lubell. 2010. "Contaminated fish consumption in California's Central Valley Delta." *Environmental Research* 110, p. 334-344.

the biomarker studies cited by Petitioner (Dellinger, 2004; Hibbeln, et al., 2007; Daniels, et al., 2004; Xue, et al., 2012) are directly relevant to the Hg Risk TSD because they do not represent the high-end subsistence fish consumption scenarios that the EPA modeled. Specifically, the individuals in those studies do not necessarily consume subsistence levels of fish at watersheds with relatively high levels of fish tissue Hg. High consumption rates do not necessarily translate into high blood Hg levels unless the fish consumed at high rates have elevated Hg concentrations. Both of these factors must occur in tandem for an individual to have elevated blood Hg levels, and either factor alone is not sufficient. Because the biomarker studies cited by Petitioner do not reflect the scenarios that were modeled in the Hg Risk TSD, the studies themselves are not relevant and the measured blood Hg levels in those studies, which are lower than those associated with the scenarios modeled in the Hg Risk TSD, are also not relevant.

Third, Petitioners have raised new issues regarding biomarker data, which Petitioners allege provides evidence that biomarker data undermine the exposure estimates in the Hg Risk TSD, they cite several studies previously cited by Petitioners during the public comment period (Dellinger, 2004; Hibbeln, et al., 2007; Daniels, et al., 2004) as well as a new study by Xue, et al., (2012). The Xue, et al., study was published after the close of the public comment period; however, the study does not provide information that is substantively different from the information in the earlier biomarker studies. Specifically, Petitioners claim that the Xue, et al., study shows substantially lower blood Hg levels than associated with the scenarios in the Hg Risk TSD, and Petitioners allege that this discrepancy is likely due to an error in the EPA's exposure factors (e.g., Hg bioavailability). The EPA disagrees that the Xue, et al., study is relevant because the exposure estimates in the study do not reflect a combination of high-end fish consumption rates and high-end fish tissue Hg levels as evaluated in the Hg Risk TSD.

In particular, Petitioners contrast the 99th percentile blood Hg level from the Xue, et al., study (6.63 ug/L or 6.63 ppb) for adult females with the highest blood Hg levels associated with the scenarios modeled in the Hg Risk TSD (~150 ug/L or 150 ppb). The level in the Xue, et al., study is the 99th percentile blood Hg concentration for the group of individuals included in the study, which likely includes individuals who obtain fish from a combination of self-caught and commercial sources. However, this study was not designed to capture the subsistence fishers consuming fish with higher levels of MeHg that were assessed in the Hg Risk TSD.

Because issues regarding the blood Hg levels were raised in public comments and the EPA responded to these comments, Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule. In addition, because the Xue, et al., study does not provide estimates relevant to the populations modeled in the Hg Risk TSD, the EPA would not have been able to use the results of this study even if it were available during the public comment period. For this reason, the Xue, et al., study is not of central relevance to the "Appropriate and Necessary" finding. In addition, issues regarding biomarker data are not of central relevance to the "Appropriate and Necessary" finding because the core risk estimates in the Hg Risk TSD do not involve modeling biomarker levels and because the available biomarker studies are not likely to capture the high-end subsistence fishers consuming fish with higher levels of Hg, as modeled in the Hg Risk TSD. For all of these reasons and the reasons cited in responses to Issues 6, 8 and 9, the EPA is denying reconsideration of this issue.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Issue 8: Petitioners 20183 and 20180 assert that using biomarker data would remove some of the uncertainties associated with using estimates from "dietary recall surveys" of fish consumption, in which participants estimate their fish consumption based on their memory of past consumption. Petitioners assert that the Dellinger (2004) study shows that recall surveys tend to overestimate consumption compared to "actual ingestion rates" based on participants weighing the fish they consumed during meals. Petitioners further assert that the blood Hg levels in Dellinger study were about one-tenth of what would be expected had the survey participants actually consumed fish at the higher rates reported in the recall surveys and that the EPA did not discuss this discrepancy.

Response to Issue 8: Issues regarding the Dellinger study were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (p. 136) of the RTC.

Contrary to Petitioners' assertion, the EPA did discuss the differences between the fish consumption rates based on recall surveys and actual ingestion rates in the revised Hg Risk TSD. Specifically, the EPA noted (*see* Table 1-6, p. 40) that because of the small sample size associated with the actual ingestion rates in the Dellinger study (i.e., 147 individuals had "actual" rates based on weighing fish consumed compared to 822 individuals in the recall survey), it is unlikely that the "actual" Hg intake rates in this survey would capture high-end consumers. In addition, the Dellinger study made no direct comparisons between recall amounts and actual amounts for the individuals whose blood measurements were also collected. Further, the families whose "actual" fish consumption was measured are not representative of the typical study participant because they consumed significantly fewer fish meals (12 to 34 meals per year compared to 47 to 118). We also note the Dellinger study did not measure Hg concentrations in the actual fish consumed by the participants, instead reporting average Hg levels in fish in locations where the tribal participants lived. Therefore, the participants in the Dellinger study may not have met both criteria necessary for individuals to experience elevated Hg exposure through fish consumption: high consumption of fish with high Hg concentrations. Thus, the Dellinger study does not provide information to determine the exact relationship between Hg concentrations in actual fish consumed and measured blood Hg levels in study participants, particularly those participants who would meet both criteria for elevated blood Hg from fish consumption. Although we question the relevancy of the information on "actual" consumption rates provided in the Dellinger study, we note that the recall-based consumption rates in the Dellinger study are consistent with high-end subsistence rates reported in other studies (Burger, et al., 2002; Shilling, et al., 2010) and with those used in the Hg Risk TSD. In addition, the SAB

concluded that alternative approaches for estimating fish consumption rates for the Hg Risk TSD were not recommended (U.S. EPA-SAB, 2011a, p. 16).

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and for all of the reasons cited in the response to Issue 7, the EPA is denying reconsideration of this issue.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Issue 9: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) cite the Hibbeln, et al., (2007) and Daniels, et al., (2004) studies as evidence that reported consumption rates from fish consumption surveys are unreliable and that biomarkers are more reliable measures of exposure.

Response to Issue 9: Issues regarding the Hibbeln, et al., study were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to those comments in Section 1F (pp. 146 - 174, 159 - 160, and 167) of the RTC.

Commenters did not raise issues regarding the Daniels, et al., study, which reported biomarkers results from the same population as the Hibbeln, et al., study, but the EPA cited the Daniels, et al., study in the same response in the RTC. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, as evidenced by the comments received on the issue, and for all of the reasons cited in the response to other petitions on similar issues, the EPA is denying reconsideration of this issue.

The relationship between fish consumption and Hg biomarker levels is dependent, in part, on two critical factors: the fish ingestion rate and the Hg concentration in the fish consumed. Although the studies cited by Petitioner provide data on reported fish consumption rates, they do not provide data on Hg levels in those fish. Petitioner acknowledges this data gap. Contrary to Petitioner's assertion, because the studies cannot account for fish tissue Hg levels, it is not possible to evaluate the degree to which these studies capture the high-end scenarios reflected in the Hg Risk TSD. Although these studies may reflect high fish consumption rates, the EPA cannot determine whether these rates reflect high-end fish consumption targeting fish with substantially elevated Hg levels due to a lack of information on fish tissue Hg data in these studies. Therefore, these studies cannot be meaningfully compared to the Hg Risk TSD.

Further, the Hg Risk TSD did not generate population-representative estimates of exposure. Although all surveys have some inherent uncertainty regarding the representativeness of the surveyed sample, the fish consumption surveys support the existence of high-end consumers.

Although Petitioners argue that the EPA's 99th percentile consumption rate (i.e., 373 gram per day (g/day)) is too high to be reliable, this consumption rate is equivalent to one 13-ounce fishmeal a day. Although this is a high consumption rate, it is not an unreasonable rate for a woman who consumes a relatively large amount of self-caught fish (Burger, et al., 1999; Burger, et al., 2002; Corburn, et al., 2002; Dellinger, 2004; Moya, et al., 2008; Shilling, et al., 2010). In fact, as cited in the Utility Study (p. 7-36, U.S. EPA, 1998), the 99th percentile fish consumption rate for adults in the Columbia River Tribes was 389 g/day (Columbia River inter-Tribal Commission, 1994).[23] Further, the NHANES survey reports that women (age 13 to 49) consume 5.1 grams per kilogram (g/kg) per day of meat at the 99th percentile, which is equivalent to 12 ounces of meat per day for the typical 64 kg woman (U.S. EPA, 2011e).[24]

As discussed in the revised Hg Risk TSD (pp. 5 - 10) and the proposed MATS rule (76 FR 25007), the EPA's scenario-based risk assessment was designed specifically to identify watersheds with potentially at-risk populations due to elevated Hg exposures attributable to U.S. EGUs, and thus appropriately focused on subsistence populations at the higher percentiles of fish consumption that may fish in watersheds impacted by U.S. EGU-attributable Hg deposition.

For all these reasons, the EPA is denying reconsideration of this issue.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

1.4 Fish consumption rates in Hg Risk TSD

Issue 10: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) claim that the EPA should not use the 99th percentile rate for fish consumption because it is inconsistent with consumption rates used in the EPA's guidance and analyses. Specifically, Petitioners cite lower consumption rates used in (a) the 1998 Utility Study (U.S. EPA, 1998),[25] (b) the Pulp and Paper RTR (U.S. EPA,

[23] Columbia River Inter-Tribal Fish Commission. 1994. *A Fish Consumption Survey of the Umatilla, Nez Perce, Yakima and Warm Springs Tribes of the Columbia River Basin*. Technical Report 94-3. October.

[24] U.S. EPA. 2011e. *Exposure Factors Handbook:* 2011 Edition, EPA/600/R-09/052F. September 2011. Table 11-3. Available on the Internet at http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252.

[25] U.S. EPA. 1998. *Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units – Final Report to Congress*. Volume 1. Office of Air Quality Planning and Standards. February. EPA-HQ-OAR-2009-0234-3052.

2011f),[26] and (c) several Total Maximum Daily Load (TMDLs) assessments (U.S. EPA, 2001).[27] In addition, Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) claim that the fish consumption rates in the Hg Risk TSD are more conservative than the EPA's risk guidance (U.S. EPA, 1989) and instead the EPA should have used the Reasonable Maximum Exposure (RME) approach, which EPA has typically interpreted as the 90th to 99th percentile exposure (with the 95th percentile as the typical value used).

Response to Issue 10: Issues regarding the fish consumption rates in other EPA analyses were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (p. 139) of the RTC. In addition, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

As stated in the RTC, "the Hg Risk TSD (including modeling of the 99th percentile fish consumption rate by subsistence fishers) reflects consideration for the provisions of the CAA addressing the 'Appropriate and Necessary' finding for U.S. EGUs, and is consistent with treatment of other HAP under CAA section 112, which focuses on maximally exposed individuals. In that context, the design of the risk assessment is particular to this statutory context." (U.S. EPA-SAB, 2011a). Therefore, use of the alternative consumption rates in the 1998 Utility Study, Pulp and Paper RTR, and the TMDL assessments are not required or appropriate in this regulatory context, and the SAB supported the rates the EPA used in the Hg Risk TSD (U.S. EPA-SAB, 2011a, pp. 3 - 4). In addition, although the Utility Study (p., 7-35, U.S. EPA, 1998) applied the mean consumption rate for subsistence adults, the report noted that the mean rate was below the EPA's recommended consumption rate and that the 99th percentile fish consumption rate for adults in the Columbia River Tribes was 389 g/day (Columbia River inter-Tribal Commission, 1994). Further, the Hg Risk TSD includes a range of high-end percentiles for fish consumption rates, including the 90th, 95th, and 99th percentiles (*see* Tables 2-7 to 2-10).

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, as evidenced by the comments received on this issue, the EPA is denying the petition for reconsideration of this issue.

Issue 11: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) claim that the EPA should not use a 99th percentile fish consumption rate in the Hg Risk TSD due to alleged specific limitations in

[26] U.S. EPA. 2011f. *Draft Residual Risk Assessment for the Pulp & Paper Source Category. Office of Air Planning and Standards. December 2011.*
[27] U.S. EPA. 2001. *Total Maximum Daily Load (TMDL) Development for Total Mercury Fish Tissue Residue in Brier Creek (Located in the Savannah River Basin).* U.S. EPA Region 4. August.

the derivation of this rate and because such a high percentile is allegedly inherently unreliable. Petitioners further assert that using the Burger, et al., (2002) study as the basis of the EPA's 99th percentile rates is allegedly problematic because of that study's limited geography (i.e., South Carolina only), failure to describe the derivation of the 99th percentile rate, absence of information on specific fish species, absence of supporting biomarker data collection, and inadequate sample size to generate stable 99th percentile estimates. In addition, Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) state that the small sample size in the Burger, et al., (2002) study provides uncertain fish consumption rates at the high-end percentiles. Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) also state that it is not clear how the EPA used consumption rates from the Dellinger (2004) and Shilling (2010) studies.

Response to Issue 11: Issues regarding using 99th percentile fish consumption rates were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 135 - 145) of the RTC.

Specifically, the EPA addressed the limitations in the Burger, et al., study (pp. 136 - 137). Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and Petitioners have provided no evidence to change the EPA's previous response, the EPA is denying reconsideration of this issue. In addition, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Further, the EPA disagrees with Petitioners' assertions. As noted in the Hg Risk TSD (p. 8), the EPA modeled risk for high-end subsistence fishers expected to experience the greatest risk from U.S. EGU-attributable Hg. As described in section 1.4.2.1 and Table 1-6 of the Hg Risk TSD, several studies support the conclusion that high-end fish subsistence consumption could range between 100 and 400 g/day for high-end consumers, which is approximately an 8-ounce (oz.) fishmeal every 2 to 3 days to a larger fishmeal (14 oz.) every day. These rates are not unreasonable consumption rates for a high-end subsistence fisher because (a) they are supported by multiple studies cited in the Hg Risk TSD and (b) they represent levels of fish consumption that would contribute a substantial portion of dietary protein intake obtained through meat consumption (U.S. EPA, 2011d). Indeed, the SAB concluded "the consumption rates and locations for fishing activity are supported by data" (U.S. EPA-SAB, 2011a, p. 15). The EPA maintains this position, and Petitioners have provided no compelling evidence to establish otherwise.

Although the EPA acknowledges potential uncertainty in food recall surveys, as well as the specific limitations in the Burger, et al., (2002) study (e.g., small sample size), these limitations are primarily applicable to risk assessments focused on the entire population of subsistence fishers. However, because the Hg Risk TSD is focused on a specific high-end subsistence fisher

scenario, rather than all subsistence fishers, these issues are not of central relevance to the "Appropriate and Necessary" finding. Although the EPA agrees that the small sample size in the Burger, et al., study adds uncertainty to specific high-end fish consumption rates, this study together with the several other studies and in the Hg Risk TSD and Utility Study (U.S. EPA, 1998) provide support for these high-end consumption rates (in the range of 100 - 400 g/day).

Regarding the use of rates from the Dellinger (2004) and Shilling, et al., (2010) studies, the EPA explained how the EPA used the consumption rates from these studies. As stated in the Hg Risk TSD in section 1.4.3, both studies supported the consumption rates used in modeling the typical female fisher as well as the scenarios for additional socioeconomic groups. Specifically, the Dellinger study provided 95th and 99th percentile fish consumption rates of 213.1 and 492.8 g/day respectively, while the Shilling, et al., study provided 95th percentile fish consumption rates up to 265.8 g/day. Consequently, both studies confirmed that the high-end percentile rates used in the typical female fisher scenario (i.e., 173 g/day for the 95th percentile and 373 g/day for the 99th percentile) in the Hg Risk TSD were reasonable. In addition, the Dellinger, et al., and Shilling, et al., studies provided consumption rates for the other socioeconomic subsistence fisher population scenarios in the Hg Risk TSD.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period, as evidenced by the comments and the EPA's responses to those comments, and because the issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying reconsideration of this issue.

Issue 12: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) comment that the EPA states that the Hg Risk TSD can be viewed as a public health hazard screening analysis. Petitioner further states that the EPA's *Residual Risk Report to Congress* (U.S. EPA, 1999) concludes that screening analyses can be used to eliminate low-risk categories but should not serve as the basis for establishing additional risk reduction requirements under CAA section 112 (f). Petitioners state that because screening analyses are typically designed to overestimate risks and the Hg Risk TSD is a screening analysis, the Hg Risk TSD (and the 99th percentile rate) is subject to significant uncertainty. Petitioners also note that the Burger, et al., (2002) and Moya, et al., (2008) studies identify the limited geographic scope for high-end subsistence level fish consumption rates. For these reasons, Petitioners recommend that (a) the EPA used the 95th percentile rate from the Burger, et al., study and (b) that the EPA "should conduct a more refined analysis of the fish consumption rate in order to decrease the uncertainty associated with the fish consumption rate. Petitioners also point to the lower recreational fish consumption rates used in the MATS Regulatory Impact Analysis (RIA) as support for using lower fish consumption rates in the Hg Risk TSD.

Response to Issue 12: Issues regarding the fish consumption rates were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 135 - 145) of the RTC.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue. In addition, in the *White Stallion* decision, the Court found that

"EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Under CAA section 112(f), eight years after MATS promulgation, the EPA is required to complete a residual risk assessment to determine whether additional emissions reductions beyond the MACT level of control from coal- and oil-fired EGUs are warranted to protect public health. Thus, the statute only contemplates a residual risk evaluation after application of MACT standards. At that time, the EPA will complete a two-stage risk assessment described by Petitioner (i.e., a screening-level analysis followed, if warranted, by a more refined risk assessment) as part of the residual risk analysis. Because the statute requires a residual risk evaluation after application of MACT standards, EPA will have by that time collected as much as 5 years' worth of HAP emissions data from EGUs complying with the MACT level of control and that considerable data can be used to better evaluate the facility specific risks from all EGUs that section 112(f) requires. Had Congress intended for EPA to use the residual risk analysis it is reasonable to conclude it would done so expressly. *See* CAA section 112(n)(1)(A) (using the words "section", "subsection", and "subparagraph"; and specifically directing the Agency to regulate EGUs "under this section [112]" if the Agency determines regulation is appropriate and necessary).

But statutory language in CAA section 112(n) does not support Petitioners' assertion that the EPA should have used a two-stage risk assessment such as used in the residual risk determination to support the "Appropriate and Necessary" finding, and the EPA disagrees with this assertion. In contrast, the "Appropriate and Necessary" finding is based in part on an assessment of the public health hazard associated with Hg emitted from U.S. EGUs and non-Hg HAP pollutants emitted from U.S. EGUs, supported both by the studies required by CAA section 112(n)(1), and by the updated technical analyses described in the preamble to the proposed and final MATS rules. The EPA also disagrees with Petitioners' recommendation to use the 95th percentile rates because it does not target the subpopulation at greatest risk of Hg exposure from U.S. EGU-attributable Hg emissions. See CAA section 112(n)(1)(C) (expressing concern for risks posed by exposure to mercury as a result of fish "consumption by sensitive populations")

Although the EPA acknowledges that the MATS RIA uses lower fish consumption rates to model exposure for recreational fishers in the general population, the EPA disagrees that it should have used the rates from the RIA in the Hg Risk TSD. Because the RIA is focused on the general population, whereas the Hg Risk TSD is focused on high-end subsistence fishers (i.e. "sensitive populations"), it is appropriate for the RIA to use lower fish consumption rates. Further, the RIA was not used to support the "Appropriate and Necessary" finding because it is an analysis of the specific MATS standards and is not an analysis of the need for regulation under CAA section 112, nor is it an assessment of the public health hazard associated with U.S. EGU HAP emissions absent regulation under section 112. As such, the RIA does not reflect the specific requirements of CAA section 112(n), and is therefore neither relevant nor useful in

making the appropriate and necessary finding. In addition, issues regarding consumption rates in the RIA were raised in public comments submitted in response to the proposed MATS rule, and the EPA responded to those comments in Section 1F (p. 140) of the RTC.

Because the EPA disagrees that it should have used the rates from the RIA, because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period, and because the RIA is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying reconsideration of this issue.

Issue 13: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) assert that the SAB in a prior review of an EPA action stated that the EPA cannot make reliable predictions at the 99.5th percentile (Henderson, 2007).[28] Petitioners cite this statement to support their position that the EPA should use a lower percentile for fish consumption in the Hg Risk TSD.

Response to Issue 13: Issues regarding the fish consumption rates applied in the Hg Risk TSD were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 135 - 145) of the RTC.

Because Petitioners have not demonstrated that it was impracticable to comment on fish consumption rate issues during the public comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue. In addition, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Moreover, Petitioners did not raise the specific issue regarding the SAB's prior reviews of other EPA actions in comments during the public comment period on the proposed MATS rule despite providing extensive comments on other aspects of the Hg Risk TSD, and they have not provided a reason why they were unable to do so. Because Petitioners have not demonstrated that it was impracticable to comment on the issue of SAB's prior comments on an unrelated study during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

Further, the EPA disagrees with Petitioners' assertion that the SAB's previous comment supports a lower percentile for fish consumption. The SAB's comments cited by Petitioner were specific to the context of the lead NAAQS risk assessment, which is a fundamentally different risk analysis involving a different pollutant, different exposure pathways, and different health

[28] Henderson, R. 2007. Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee, to Administrator Stephen L. Johnson. *Clean Air Scientific Advisory Committee (CASAC) Lead Review of the 2nd Draft Lead Human Exposure and Health Risk Assessments Document*. EPA-CASAC-07-007. September 27, 2007.

endpoints than the Hg Risk TSD. Importantly, the EPA assessed lead risk for the general population, whereas the Hg Risk TSD uses a scenario-based approach for high-end subsistence fishers. For these reasons, the SAB's comments, although appropriate for risk assessments for general populations such as the lead NAAQS risk assessment, are not relevant to risk assessments for particular sensitive populations (e.g. high-end subsistence fishers considered in the Hg Risk TSD). The EPA further notes that in the peer review of the Hg Risk TSD, the SAB supported the overall design and approach of the Hg Risk TSD (p. 2), which includes the fish consumption percentiles (U.S. EPA-SAB, 2011a).

Because Petitioners have not demonstrated that it was impracticable to comment on these issues during the public comment period and because the EPA disagrees with Petitioners' interpretation of the SAB's prior comments, and because the SAB letter identified is not of central relevance, the EPA is denying the petition for reconsideration of this issue.

1.5 Fish tissue concentrations and samples in Hg Risk TSD

Issue 14: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) claim that using the 75th percentile fish tissue concentration is likely to overestimate Hg exposure compared to the 95th percentile "upper confidence limit" (UCL) concentration recommended in the EPA's risk guidance (U.S. EPA, 1992,[29] 2002[30]). Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) further assert that the EPA's guidance recommends that a minimum of 10 to 15 samples are need to obtain meaningful results for the UCL (U.S. EPA, 2010),[31] but 41 percent of the watersheds in the Hg Risk TSD have only 1 to 2 samples per watershed.

Response to Issue 14: Issues regarding the 75th percentile fish tissue level were raised in public comments and the EPA responded to those comments in Section 1F of the RTC (pp. 140 - 145 and 176 - 178).

In the RTC (p. 140), the EPA acknowledged that some subsistence fishers could consume fish without consideration for size (given dietary necessity) and that some subsistence fishers could target larger fish in order to maximize the volume of edible fish. The Hg Risk TSD assumes that a subset of subsistence fishers likely target larger fish, which is represented by the 75th percentile fish tissue value. The EPA has focused the Hg Risk TSD on this subset of subsistence fishers targeting larger fish, to represent those subsistence fishers likely to experience the highest exposure to Hg emitted by U.S. EGUs. Further, as stated in the RTC (p. 141), the SAB supported the use of the 75th percentile fish tissue concentration for this purpose, and concluded that "[u]sing the 75th percentile of fish tissue values as a reflection of consumption of larger, but not the largest, fish among sport and subsistence fishers is a reasonable approach and is consistent

[29] U.S. EPA. 1992. *Supplemental Guidance to RAGS: Calculating the Concentration Term. Office of Solid Waste and Emergency Response*. Publication 9285.7-081. Washington, D.C. May.
[30] U.S. EPA. 2002. *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites.* Office of Emergency and Remedial Response. Washington, D.C. December.
[31] U.S. EPA. 2010. *ProUCL Version 4.00.05 User Guide*. Office of Research and Development. EPA/600/R-07/038, May.

with published and unpublished data on predominant types of fish consumed" (U.S. EPA-SAB, 2011a, p. 12). In addition, the EPA specifically addressed the issue of low sample size associated with the 75th percentile fish tissue concentration for each watershed. In the RTC (p. 141), the EPA stated, "[t]he EPA disagrees with the commenter that it is not reasonable to use watersheds where only a single fish sample is available. Although it is generally preferred to have multiple samples, the SAB noted that using a single sample is likely to underestimate the 75th percentile fish MeHg concentration and is therefore likely to underestimate the risk estimates for those watersheds." Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue. In addition, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

In addition, Petitioners did not raise the specific issue regarding the use of the UCL in comments during the public comment period on the proposed MATS rule despite providing extensive comments on other aspects of the Hg Risk TSD, and they have not provided a reason why they were unable to do so. Further, the EPA disagrees with Petitioners' assertion that the EPA should use the 95th percentile UCL instead of the 75th percentile level. The 95th percentile UCL provides a high-confidence estimate of the <u>average</u> fish tissue concentration within a given watershed, not an estimate of fish tissue concentrations in larger fish. Use of the 95th percentile UCL on the average fish tissue Hg concentration would not address the relevant sensitive populations considered in the Hg Risk TSD. Petitioners have not demonstrated that it was impracticable to comment on this specific issue during the public comment period on the proposed MATS rule and the SAB supported the approach. In addition, this issue is not of central relevance to the "Appropriate and Necessary" finding as explained above.

For all these reasons, the EPA is denying the petition for reconsideration of this issue.

Issue 15: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) state that the EPA included fish tissue samples in the Hg Risk TSD from large lakes including Lake Michigan, Lake Ontario, Lake Erie, Lake Champlain, and Lake Pontchartrain. Petitioners assert that fish tissue samples from these waterbodies do not meet the basic criteria for application of the Mercury MAPs assumption.

Response to Issue 15: Petitioners did not raise the issue regarding fish tissue samples from large lakes during the public comment period on the proposed MATS rule. In any case, the SAB recommended augmentations to the fish tissue data set (U.S. EPA-SAB, 2011a, p. 3), and the EPA revised the dataset for the revised Hg Risk TSD accordingly. The EPA also stated in the revised Hg Risk TSD (pp. 7 - 9), that large lakes were excluded from the risk assessment because of uncertainty in modeling the linkage between EGU-attributable Hg deposition and Hg concentrations in fish, and this exclusion likely results in an underestimate of the number of

watersheds with populations potentially at risk in the U.S. In response to this newly raised issue, the EPA reviewed the data in the revised spreadsheet and associated data files (EPA-HQ-OAR-2009-0234-19898) to determine if any of the watersheds in the revised Hg Risk TSD included fish tissue samples from the Great Lakes, Lake Champlain, or Lake Pontchartrain. This review revealed that, contrary to the assertion in the revised Hg Risk TSD (pp. 7 - 9), a small subset of the HUC-12 watersheds immediately adjacent to these large lakes included a small fraction of fish tissue samples taken within those larger lakes. Specifically, this review identified 48 watersheds out of the 754 watersheds with potentially at-risk populations due to total risk and 5 percent Hg contribution from U.S. EGUs were immediately adjacent to one of the Great Lakes and Lake Pontchartrain. In addition, this review identified 15 watersheds out of the 327 watersheds with potentially at-risk populations from U.S. EGU emissions alone were immediately adjacent to one of the Great Lakes and Lake Pontchartrain.

Next, considering the limitations in applying the proportionality assumption for fish from large lakes acknowledged in the revised Hg Risk TSD (pp. 7 - 9), the EPA conducted a new sensitivity analysis to determine the impact of excluding these watersheds on the risk estimates. The results of this sensitivity analysis shows that removing the 47 watersheds from the risk analysis reduces the percentage of watersheds with potentially at-risk populations due to total risk and 5 percent Hg contribution from U.S. EGUs from 24 percent to 23 percent. Removing the 15 watersheds from the risk analysis does not change the percentage of watersheds with potentially at-risk populations from U.S. EGUs alone (i.e., remains at 10 percent). In summary, this new sensitivity analysis shows that, even when those watersheds with some fish samples taken within large lakes are excluded, the impact on risk estimates is negligible. Because the issue raised by Petitioners would not, even if accepted by the EPA, change the conclusions of the revised Hg Risk TSD, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Because the issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying reconsideration of this issue.

Issue 16: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) assert that the State of Florida sampled Hg concentrations in fish in lakes in 2006 and sampled in lakes and streams in 2010 to 2011, covering 275 additional watersheds. Petitioner asserts that these additional fish tissue data should have been incorporated into the Hg Risk TSD.

Response to Issue 16: Issues regarding the fish tissue samples from Florida were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 175 - 176) of the RTC. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

In the RTC (pp. 175 - 176), the EPA stated that, "[t]he SAB concluded, 'Although the SAB considers the number of watersheds included in the assessment adequate, some watersheds in areas with relatively high Hg deposition from U.S. EGUs were under-sampled due to lack of fish tissue methy[l]mercury data. The SAB encourages the Agency to contact states with these watersheds to determine if additional fish tissue MeHg data are available to improve coverage of the assessment.' (U.S. EPA-SAB, 2011a). As a result of the SAB advice, the EPA obtained additional fish tissue MeHg sample data from several states, particularly Pennsylvania, Wisconsin, Minnesota, New Jersey, and Michigan." Consistent with this advice, the EPA incorporated additional fish tissue data only for areas with relatively elevated Hg deposition from U.S. EGUs.

Contrary to Petitioners' implication, the EPA did not willfully ignore available fish tissue data from Florida. In response to SAB's concern regarding the apparent lack of fish tissue data in "states that receive... 'relatively elevated' mercury deposition from U.S. EGU emissions and have limited fish methylmercury measurements" (U.S. EPA-SAB, 2011a; p. 11), the EPA added data for states likely to have higher Hg impacts or were specifically identified by the SAB. The EPA did not conduct an exhaustive search beyond those states, and Petitioners did not submit fish tissue data from Florida or any other state to the EPA, so we are unable to assess the legitimacy of Petitioners' assertions concerning the data. In addition, because modeled Hg deposition from U.S. EGUs in Florida was relatively low compared with the deposition in other states identified by the SAB (revised Hg Risk TSD, p. 59), obtaining additional fish tissue data from Florida was considered a lower priority, especially considering the limited impact the data could have on the results.

Given that the number of watersheds that Petitioners assert could have been added from Florida (i.e., 275 additional watersheds based on Petitioner's information) would have comprised less than 9 percent of the total number of watersheds modeled in the Hg Risk TSD, the overall percentage of at-risk watersheds would not be significantly affected. At most, hypothetically assuming that none of the 275 additional watersheds in Florida would have populations potentially at risk, the percentage of watersheds could decrease from 29 percent to 27 percent, which would remain unacceptable. Because the EPA has no direct information to suggest the 275 additional watersheds in Florida would have populations potentially at risk, this two percentage point difference reflects an upper bound on the potential impact of this issue. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because the issue is not of central relevance to the "Appropriate and Necessary" finding since it would not alter our conclusion even if the most conservative assumptions were made, the EPA is denying the petition for reconsideration of this issue.

Issue 17: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) assert that fish sampling programs conducted by states often target larger top predator species that can have higher Hg levels, which Petitioner asserts leads to overestimates of Hg concentrations in fish.

Response to Issue 17: Petitioners did not raise the issue regarding state fish sampling programs during the public comment period on the proposed MATS rule despite providing extensive comments on other aspects of the Hg Risk TSD, and they have not provided a reason why they were unable to do so.

The SAB (U.S. EPA, 2011a, p. 14) raised the issue regarding state fish sampling programs and recommended that the EPA add a discussion of how state programs contribute to uncertainty and variability in the dataset. Accordingly, in the uncertainty discussion in the revised Hg Risk TSD (p. 96), the EPA noted the differences in state-level protocols regarding fish sampling could result in high-bias in the characterization of fish tissue Hg levels due both to potential targeting of watersheds suspected of having higher fish tissue Hg levels as well as the types of species targeted for sampling. Further, the EPA stated that, "[b]ecause the goal of the risk assessment is to capture risk for subsistence fishers that are likely to experience elevated U.S. EGU-attributable risk, having fish tissue Hg concentrations that likely reflect targeting of more highly impacted waterbodies (i.e., biased towards higher risk locations) is not problematic and in fact, is preferable." This same observation holds for the targeting of larger fish species with potentially higher Hg levels. The fact that this issue was identified by the SAB demonstrates that Petitioners could have commented on the issue during the public comment period, but the Petitioner did not do so. Further, Petitioner provided no new information that would support a change to the Hg Risk TSD because this issue was described in the uncertainty section of the Hg Risk TSD, and the EPA added the discussion in response to the positive SAB review. There is no indication that this uncertainty undermined the SAB's confidence in the Hg Risk TSD.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule and because this issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying the petition for reconsideration of this issue.

1.6 Proportionality assumption in Hg Risk TSD

Issue 18: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) assert that several studies do not support the Mercury MAPs assumption (proportionality assumption) that a change in Hg deposition over a given watershed will result in a proportional change in fish tissue Hg concentrations (Watras and Morrison 2008,[32] Dittman and Driscoll 2009,[33] Johansson, et al.,

[32] Watras, C.J., and K.A. Morrison. 2008. "The response of two remote, temperature lakes to changes in atmospheric mercury deposition, sulfate and the water cycle" *Can. J. Fish. Aquat. Sci*. 65: 100–116.

[33] Dittman, J.A., C.T. Driscoll. 2009. "Factors influencing changes in mercury concentrations in lake water and yellow perch (Perca flavescens) in Adirondack Lakes." *Biogeochemistry* 93: 179–196.

2001,[34] MPCA 2007,[35] Chalmers, et al., 2011,[36] Butler, et al., 2008[37]). Based on these studies, Petitioners assert that (1) changes in fish Hg concentrations in response to changes in atmospheric deposition vary across water bodies; (2) data from Minnesota, Wisconsin and the Adirondacks show inconsistent responses in fish Hg concentrations to similar decreases in atmospheric deposition, (e.g., some lakes show increases in fish Hg concentrations and some decreases); (3) some lakes showed less decrease in fish Hg or an increase, which may suggest the possibility of relatively slow response from large watersheds or that other factors are controlling; (4) the fish Hg concentrations in drainage lakes are influenced by both changes in direct deposition and fluvial inputs of Hg and microbial substrates; and (5) different responses in fish Hg concentrations were observed in lakes from the same region that experience similar changes in atmospheric deposition. Petitioners also state that the METAALICUS study (Harris, et al., 2007)[38] shows that in the early years of the study, there was a proportional response of fish tissue Hg to direct Hg deposition, but no response in the fish tissue Hg from the watershed deposition. Petitioners assert that these factors undermine the EPA's use of the proportionality assumption in the Hg Risk TSD.

Response to Issue 18: The EPA denies the Petitions for Reconsideration on the issue because (a) many of the issues are similar to proportionality issues raised in public comments and the EPA responded to those comments; (b) Petitioners however did not raise these issues during the public comment period and have not asserted or explained that it was impractical to do so; and (c) Petitioners provide no new information that would support a change to the EPA's responses to these issues. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

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[34] Johansson, K. Bergback, B. and Tyler, G. 2001. "Impact of atmospheric long range transport of lead, mercury and cadmium on the Swedish forest environment." *Water Air Soil Pollution*. Focus 1, 279–297.

[35] Minnesota Pollution Control Agency (MPCA). 2007. *Minnesota Statewide Mercury Total Maximum Daily Load*. March 27.

[36] Chalmers, A.T., D.M. Argue, D.A.Gay, M.E. Brigham, C.J. Schmitt, D.L. Lorenz. 2011. "Mercury trends in fish from rivers and lakes in the United States, 1969-2005," *Environmental Monitoring and Assessment* 175: 175-191.

[37] Butler, T.J., M. D. Cohen, F. M. Vermeylen, G. E. Likens, D. Schmeltz, R. S. Artz. 2008. "Regional precipitation mercury trends in the eastern USA, 1998–2005: Declines in the Northeast and Midwest, no trend in the Southeast," *Atmospheric Environment* 42: 1582–1592.

[38] Harris, R.C., et al., 2007. "Whole-ecosystem study shows rapid fish-mercury response to changes in mercury deposition." *PNAS* 104 (42): 16586-16591.

Issues regarding the proportionality assumption were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 123 - 129) of the RTC.

As noted in the RTC (p. 123), the EPA stated that many factors can affect the lag time between a change in Hg deposition over watersheds and the associated change in fish tissue Hg concentrations (e.g., pH, sulfate deposition, topography including nature of the surrounding watershed, which influences importance of erosion/runoff as a source of loading). The differences in the response of watersheds to changes in Hg deposition (as described by Petitioner) reflect these differences in lag-times rather than a potential lack of applicability of the proportionality assumption. Different rates of change in fish tissue Hg levels will be reflected as different Hg levels in fish across watersheds if those measurements are taken before all watersheds have had sufficient time to reach steady-state.

Differences in lag time can also reflect the multi-phase impacts of deposited Hg on fish tissue Hg concentrations, with Hg deposited directly to the waterbody having a quicker response and Hg deposited to the surrounding watershed having a lagged response given the time needed for the erosion/runoff of that Hg to reach the waterbody (Harris, et al., 2007). Petitioner's comment regarding the METAALICUS study points to this multi-phase phenomena for fish Hg response and highlights the potential for different response times across watersheds. However, the multi-phase nature of the response of fish Hg concentrations to Hg deposition over watersheds does not contradict the applicability of the proportionality assumption provided that sufficient time is allowed for the full impact of Hg deposition to be realized in the fish.

Further, the SAB supported using the proportionality assumption in the Hg Risk TSD. As noted in the RTC (p. 125), the SAB stated that, "[s]ince the Hg Maps approach was developed, several recent publications have supported the finding of a linear relationship between Hg loading and accumulation in aquatic biota (Orihel, 2007; Orihel, 2008; Harris, 2007). These studies suggested that Hg deposited directly to aquatic ecosystems can become quickly available to biota and accumulated in fish, and that reductions in atmospheric Hg deposition should lead to decreases in MeHg concentrations in biota. These results substantiate EPA's assumption that proportionality between air deposition changes and fish tissue MeHg level changes is sufficiently robust for its application in this risk assessment" (U.S. EPA-SAB, 2011a). Given the SAB support for the proportionality assumption and the fact that differences in observed fish tissue Hg levels across watersheds in a region can reflect differences in the lag time associated with those Hg deposition changes, the issues raised by Petitioner have provided no new information that would support a change to the EPA's response on this issue.

In addition, the EPA noted in the Hg Risk TSD that specific regions of the country with similar general trends in Hg deposition could have notable differences in Hg deposition rates across watersheds within that region. For example, Figure 2-2 of the Hg Risk TSD shows that Minnesota, Wisconsin and the Adirondacks (i.e., the areas referenced by Petitioner) have spatial variability in total Hg deposition. Because of this spatial variability, any comparison of fish tissue Hg concentrations would need to consider watershed-level differences in Hg deposition rather than general patterns of deposition. However, apparent differences in the response of fish

tissue Hg levels to changes in Hg deposition likely reflect different lag periods for this linkage, rather than a lack of applicability of the proportionality assumption.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, as evidenced by comments on these issues from commenters and the SAB, and because the issue is not of central relevance, the EPA is denying reconsideration of these issues.

Issue 19: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) state that "[t]he SAB recommended a quantitative evaluation of the uncertainty associated with the proportionality assumption" and they noted that such an analysis was not completed by the EPA.

Response to Issue 19: The EPA disagrees that the revised Hg Risk TSD did not respond to a significant comment from the SAB. In fact, the revised Hg Risk TSD (pp. 4, 100 - 103) directly responded to this SAB recommendation by expanding the uncertainty discussion for the proportionality assumption, including references to specific studies on the proportionality assumption.

Further, Petitioners have misrepresented the SAB's comment as recommending a quantitative rather than qualitative uncertainty assessment. The SAB stated, "[a]lthough the Panel was generally satisfied with the presentation of uncertainties and limitations associated with the application of the Mercury Maps [proportionality] approach in qualitative terms, it recommended that the document include quantitative estimates of uncertainty that are available in the existing literature" (U.S. EPA-SAB, 2011a, p. 4). The SAB also reiterated their support for qualitative uncertainty assessments in the Hg Risk TSD, concluding that "[t]he qualitative nature of the discussion is appropriate since this is a conditional analysis" (p. 22). Considering these statements together, the EPA concluded that the SAB was not asking the EPA to conduct a quantitative uncertainty assessment regarding the proportionality assumption. Rather, the SAB requested that the Hg Risk TSD include a qualitative uncertainty discussion that included quantitative information to the extent it is available in the literature. Because the revised Hg Risk TSD fully responded to the SAB's recommendation and the assessment recommended by Petitioners would not have changed the core results of the Hg Risk TSD, this issue is not of central relevance to the "Appropriate and Necessary" finding.

In addition, the Hg Risk TSD included several quantitative sensitivity analyses to assess the potential impact of the application of the proportionality assumption. Specifically, the EPA conducted an assessment that excluded fish tissue data from four states with higher potential for non-air Hg and an assessment that excluded flowing waterbodies. Because the results of these sensitivity analyses did not change the overall conclusions in the Hg Risk TSD, this issue is not of central relevance to the "Appropriate and Necessary" finding. Because this issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying the petition for reconsideration of this issue.

1.7 Screening of watersheds with significant non-atmospheric deposition in Hg Risk TSD

Issue 20: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) found the EPA's method for screening out watersheds with significant non-atmospheric deposition to be inadequate. Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) identified several watersheds with very high Hg fish tissue measurements to be associated with historic mines, Superfund sites, and industrial facilities. Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) recommend the EPA apply a more thorough screening to remove watersheds with known or likely sources of terrestrial contamination from the Hg Risk TSD.

Response to Issue 20: Issues regarding the method for excluding watersheds were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 128 - 129) of the RTC. In the RTC (p. 129), the EPA states that (in relation to the methods EPA used to exclude watersheds that were likely significantly influenced by non-atmospheric sources), the SAB concluded, "[t]he technique used to exclude watersheds that may have substantial non-air inputs is sound. Although additional criteria could be applied, they are unlikely to substantially change the results" (U.S. EPA-SAB, 2011a).

In addition, in the revised Hg Risk TSD, the EPA conducted two sensitivity analyses addressing the potential issue of not excluding all watersheds with significant non-air Hg impacts (pp. 87 - 91). Specifically, the EPA assessed two scenarios: (a) excluding watersheds located in four states with potential for significant non-air Hg releases and/or increased methylation potential (i.e., LA, SC, MN, and ME) and (b) including only watersheds where atmospheric Hg deposition likely plays a dominant role (i.e., watersheds in the upper 25^{th} percentile of total Hg deposition). The results of the sensitivity analyses suggest that excluding watersheds in states with potential for significant non-air Hg loading does not substantially affect risk and that including watersheds with the highest total Hg deposition moderately increased risk. Together, these results suggest that the potential inclusion of a (likely small) subset of watersheds with significant non-air Hg loading in modeling risk is unlikely to bias the results of the Hg Risk TSD. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The EPA denies the Petition for Reconsideration on this issue because EPA provided an opportunity to comment on these issues and, in fact, substantively similar issues were raised in public comments and the EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule and because the issue is not of central relevance, the EPA is denying the petition for reconsideration of this issue.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion,* 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

1.8 Spatial scale of non-stationary watersheds

Issue 21: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) asserted that using HUC-12 watersheds might be too small for applying the proportionality assumption to streams, which can reflect Hg loading from the larger upstream watersheds.

Response to Issue 21: Petitioners did not raise the issue regarding the spatial scale of flowing water bodies such as streams and rivers during the public comment period on the proposed MATS rule despite providing extensive comments on other aspects of the Hg Risk TSD, and they have not demonstrated that they were unable to do so.

In addition, in the draft Hg Risk TSD, the core risk results reflected both stationary waterbodies and flowing waterbodies. The EPA also conducted a sensitivity analysis excluding flowing waterbodies to assess potential impact of the application of the proportionality assumption in these watersheds (pp. 58 - 62). This sensitivity analysis demonstrated (a) the risk estimates for the average watershed did not change from the core results including both stationary and flowing waterbodies, (b) risk estimates for the 90^{th} to 95^{th} percentile watersheds remained largely unchanged, and (c) risk estimates for the 99^{th} percentile watershed were actually higher for stationary waterbodies. Further, as stated in the revised Hg Risk TSD (pp. 87 and 102), because the SAB stated that the proportionality assumption can be readily applied for stationary and flowing waterbodies (U.S. EPA-SAB, 2011a, p. 18), and the prior sensitivity analysis demonstrated that this assumption would not substantially change the risk estimates, the EPA did not repeat this sensitivity analysis in the revised Hg Risk TSD.

The EPA believes that it is appropriate to include flowing waterbodies in the analysis and the SAB agrees. In addition, based on our sensitivity analysis, we believe the exclusion of flowing water bodies would actually demonstrate a higher percentage of at risk watersheds, which appears to be the opposite of the assumption made by Petitioners, and for these reasons, we do not believe the issue is of central relevance.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule and because we do not believe the issue is of central relevance based on the record, the EPA is denying reconsideration of this issue.

1.9 Alternative risk calculations for Hg Risk TSD

Issue 22: Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) generated risk estimates using alternative parameters for fish ingestion rates, fish tissue concentrations, and the cooking adjustment factor. Using these alternative parameters in different scenarios, the Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) found either no watersheds or a substantially smaller fraction of watersheds exceeding the HQ risk criteria. Based on these findings, Petitioners assert that the EPA has substantially overestimated actual risk through the use of multiple upper-bound values for exposure parameters used in their risk calculations.

Response to Issue 22: Issues regarding alternate parameters and scenarios in the analysis conducted on behalf of Petitioners were raised in public comments submitted in response to the

proposed MATS rule. Specifically, the analysis submitted by Petitioners acknowledges that similar comments were submitted on the proposed rule (Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5), p. 3).The EPA responded to these comments in Section 1F (pp. 171 - 172) of the RTC. In the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

As stated in the RTC (pp. 171 - 172), the EPA disagreed with the commenters' description of the purpose of the Hg Risk TSD and the EPA asserts that the revised analysis submitted by Petitioner 20183 (att. 4) and Petitioner 20180 (att. 5) still does not provide coverage for subsistence fishers likely to experience elevated U.S. EGU-related Hg exposure. Based on review of Petitioner 20183's (att. 4) and Petitioner's 20180 (att. 5) revised alternative risk calculations submitted with the reconsideration petition, the EPA maintains that the scenario calculations submitted for the reconsideration petition are substantively similar to the calculations submitted during the comment period still do not meet the stated goals of the Hg Risk TSD, which were to estimate risk for the subset of subsistence fishers expected to experience higher-end risk (pp. 5 - 10). Petitioner's scenarios represent (a) typical risk for all subsistence fishers and (b) recreational anglers. Neither of these two populations is the focus of the Hg risk assessment. Petitioners' approach would only be relevant if the EPA were trying to generate a representative range of risk experienced by all subsistence fishers and recreational anglers. For these reasons, and because the EPA addressed similar comments and explained that we were not changing our approach in light of the goals of the SAB-supported Hg risk TSD, this issue is not of central relevance.

The EPA denies the Petition for Reconsideration on this issue because this issue was raised in public comments and the EPA responded to those comments. Thus, Petitioners have not demonstrated that it was impracticable to provide their analysis during the public comment period on the proposed MATS rule. In addition, for the reasons stated above, we are also denying reconsideration because the new information provided by the Petitioners is not of central relevance to the "Appropriate and Necessary" finding.

1.10 MeHg bioavailability and Se/Hg ratio assumptions in Hg Risk TSD

Issue 23: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) assert that the EPA overestimates exposure and risk because of flawed assumptions regarding MeHg absorption. Specifically, they assert that the EPA's assumption that 95 percent of MeHg in fish is absorbed is based on older, poorly documented studies, and recent studies demonstrate that MeHg bio-accessibility from fish

is typically much lower (Cabañero, et al., 2004,[39] 2007;[40] Canuel, et al., (2006);[41] He, et al., 2010;[42] Kwaśniak, et al., 2012;[43] Laird, et al., 2009;[44] Maulvault, et al., 2011;[45] Metian, et al., 2009;[46] Ouédraogo and Amyot, 2011;[47] Shim, et al., 2009;[48] Torres-Escribano, et al., 2011a,[49] 2011b[50]). They also assert that the EPA did not account for factors that affect the bioavailability of MeHg, including fish species, size, cooking method and MeHg concentration.

Response to Issue 23: Issues regarding Hg bioaccessibility and absorption were not raised during the public comment period on the proposed MATS rule despite extensive comments on other aspects of the Hg Risk TSD, and Petitioners have not provided a reason why they were unable to raise these issues.

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[39] Cabañero AI, Madrid Y, Cámara, C. 2004. "Selenium and mercury bioaccessibility in fish samples: an *in vitro* digestion method." *Anal Chim Acta* 526:51–61.

[40] Cabañero AI, Madrid Y, Camara C. 2007. "Mercury-selenium species ratio in representative fish samples and their bioaccessibility by an *in vitro* digestion method." *Biol Trace Elem Res* 119:195–211.

[41] Canuel R, Boucher de Grosbois S, Atikessé L, Lucotte M, Arp P, Ritchie C, et al., 2006. "New evidence on variations of human body burden of methylmercury from fish consumption." *Environ Health Perspect* 114:302–306.

[42] He, M, Ke, CH, Wang, W.X., 2010. "Effects of cooking and subcellular distribution on the bioaccessibility of trace elements in two marine fish species." J Agric Food Chem 58:3517–3523.

[43] Kwaśniak J, Falkowska L, Kwaśniak M. 2012. "The assessment of organic mercury in Baltic fish by use of an *in vitro* digestion model." *Food Chem* 132:752–758 (available online 15 Nov 2011).

[44] Laird BD, Shade C, Gantner N, Man Chan H, Siciliano SD. 2009. "Bioaccessibility of mercury from traditional northern country foods measured using an *in vitro* gastrointestinal model is independent of mercury concentration." *Sci Tot Environ.* 407:6003–6008.

[45] Maulvault AL, Machado R, Afonso C, Lourenço HM, Nunes ML, Coelho I, Langerholc T, Marques A. 2011. "Bioaccessibility of Hg, Cd and As in cooked black scabbard fish and edible crab." *Food Chem Tox* 49: 2808–2815.

[46] Metian M, Charbonnier L, Oberhaënsli F, Bustamante P, Jeffree R, Amiard JC, Warnau M. 2008. "Assessment of metal, metalloid, and radionuclide bioaccessibility from mussels to human consumers, using centrifugation and simulated digestion methods coupled with radiotracer techniques." *Ecotox Environ Safe* 72:1499–1502.

[47] Ouédraogo O, Amyot M. 2011. "Effects of various cooking methods and food components on bioaccessibility of mercury from fish." *Environ Res* 111:1064–1069.

[48] Shim SM, Ferruzzi MG, Kim YC, Janle EM, Santerre CR. 2009. "Impact of phytochemical-rich foods on bioaccessibility of mercury from fish." *Food Chem* 112:46–50.

[49] Torres-Escribano S, Denis S, Blanquet-Diot S, Calatayud M, Barrios L, Vélez D, Alric M, Montoro R. 2011a. "Comparison of a static and a dynamic *in vitro* model to estimate the bioaccessibility of As, Cd, Pb and Hg from food reference materials Fucus sp. (IAEA-140/TM) and Lobster hepatopancreas (TORT-2)." *Sci Total Environ* 409: January, 604–611.

[50] Torres-Escribano S, Ruiz A, Barrios L, Vélez D, Montoro R. 2011b. "Influence of mercury bioaccessibility on exposure assessment associated with consumption of cooked predatory fish in Spain." *J Sci Food Agric* 91: April, 981–986.

All of the studies cited by Petitioner were published before the public comment period with the exception of two studies (Ouédraogo and Amyot, 2011, and Maulvault, et al., 2011), and these two studies provide substantively similar information regarding bioaccessibility and absorption as the previously published studies, which use *in vitro* digestion methods for estimation of bioavailability, as discussed in more detail below. The other comments that the EPA received on the Hg Risk TSD, including comments on the cooking loss factor, demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to the comments received in Section 1F of the RTC. In the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

In responding to comments regarding the cooking adjustment factor (pp. 131 - 134), the EPA addressed the issue of Hg bioaccessibility, stating that the EPA's Hg risk model for generating IQ loss estimates, which was de-emphasized in the revised Hg Risk TSD at the suggestion of the SAB, is currently parameterized for total Hg intake not measurements of bioaccessible Hg. In contrast, the approach used to generate HQ estimates does not require consideration of bioaccessibility because the risk metric is based on an estimate of the daily-ingested intake of MeHg, which is then compared against the MeHg RfD.

The core analysis in the Hg Risk TSD was based on comparisons of Hg ingestion from fish consumption to the U.S. EPA MeHg RfD, which does not involve estimating mercury bioavailability and absorption of MeHg from food. Because Hg bioavailability/absorption considerations are reflected within the RfD (U.S. EPA, 2001)[51], it was not necessary to include bioavailability as a separate factor in the HQ calculation. In contrast, issues regarding bioavailability and absorption of MeHg from food are relevant to the IQ loss analysis, which was de-emphasized in the revised Hg Risk TSD in response to SAB comments (U.S. EPA-SAB, 2011a, p. 2), because the IQ loss analysis does not rely on the RfD. As stated in the RTC (pp. 157 - 159), the U.S. EPA is neither reviewing nor revising its 2001 RfD for MeHg at this time. During peer review of the RfD for MeHg, both the NRC (2001)[52] and an independent peer review panel affirmed the validity of an absorption factor for MeHg over 90 percent (Response to RfD peer reviewers available at http://www.epa.gov/iris/supdocs/methpr.pdf). For example, one study that the EPA used to determine the absorption rate was Miettinen, et al., (1971),[53]

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[51] U.S. Environmental Protection Agency (U.S. EPA). 2001. Integrated Risk Information System (IRIS). *Methylmercury (MeHg)* (CASRN 22967–92–6). Available at http://www.epa.gov/iris/subst/0073.htm.

[52] NRC. 2000. *Toxicological effects of methylmercury*. Committee on the Toxicological Effects of Methylmercury, Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Research Council. Washington, DC: National Academy Press.

[53] Miettinen JK, Rahola T, Hattula T, Rissanen K, Tillander M. 1971. "Elimination of ^{203}Hg-methylmercury in man." *Ann Clin Res.* Apr 3(2):116-22.

which estimated that the absorption of the MeHg in cooked fish ranged from 91.2 percent to 97.0 percent with a mean of 94 percent. Contrary to Petitioner's assertions, the EPA did not cite the Charbonneau, et al., (1976)[54] study in cats in the derivation of the MeHg RfD. Although Petitioners cite the Canuel, et al., (2006) study as evidence of the inconsistency between measured hair Hg levels and a food frequency questionnaire, the authors state, "the relationship between MeHg oral dose and body burden – expressed as human MeHg exposure through fish consumption versus Hg levels in hair – may vary among certain ethnic groups." Canuel, et al., propose several hypotheses for this variation, including absorption, but this study did not measure MeHg absorption as implied by Petitioner.

Further, the EPA considers that studies in humans of measured MeHg absorption from ingested cooked fish are more relevant to risk assessment for MeHg than are *in vitro* studies; these *in vitro* studies cited by Petitioners are laboratory tests that simulate dissolution of chemicals in the gastrointestinal tract. Petitioner cites several *in vitro* studies to support their assertion of lower bioaccessibility and absorption rates (Cabañero, et al., 2004, 2007; He, et al., 2010; Kwaśniak, et al., 2012; Laird, et al., 2009; Maulvault, et al., 2011; Metian, et al., 2009; Ouédraogo and Amyot, 2011; Shim, et al., 2009; Torres-Escribano, et al., 2011a, 2011b). Although the EPA agrees that these studies can provide measures of *in vitro* bioaccessibility that would be useful in generating hypotheses regarding the potential for cooking methods to affect MeHg absorption from food, these studies do not provide evidence that undermines the absorption factor that the EPA used in the derivation of the RfD for MeHg. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding. In addition, as stated above, all but two of these studies were published prior to the public comment period.

Petitioners have not demonstrated that it was impracticable to comment on these issues during the public comment period on the proposed MATS rule. The fact that other commenters commented on similar issues during the comment period demonstrates that it was not impracticable to comment during the comment period. Further, even if the two new studies had been available prior to the end of the public comment period, the cited studies are not of central relevance to the "Appropriate and Necessary" finding. For all of these reasons, the EPA is denying the petitions for reconsideration on this issue.

Issue 24: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) assert that the EPA overestimates exposure and risk because of flawed assumptions regarding varying selenium (Se)/Hg ratios. Specifically, Petitioners assert that Se/Hg ratios may be higher in the smaller fish with lower Hg levels that are modeled in the Hg Risk TSD. Petitioner cites the Burger and Gochfeld (2012)[55] study as showing that the ratio between Se and Hg in fish varies with fish size, with lower ratios as fish size increases. Based on this argument, Petitioner concludes that Hg exposures may be reduced in subsistence populations that consume smaller fish.

[54] Charbonneau S, Munro I, Nera E, et al., 1976. "Chronic toxicity of methylmercury in the adult cat." *Interim Report Tox* 5:337-349.
[55] Burger J and Gochfeld M. 2012. "Selenium and mercury molar ratios in saltwater fish from New Jersey: Individual and species variability complicate use in human health fish consumption advisories." *Environ Res.* 114, 12-23.

Response to Issue 24: Issues regarding fish size-dependent Se and Hg ratios were not raised during the public comment period on the proposed MATS rule despite extensive comments on other aspects of the Hg Risk TSD, including the role of Se in MeHg toxicity (p. 166), and Petitioners have not provided a reason why they were unable to raise these issues.

However, the SAB did discuss the more general issue of the potential interaction between Se and Hg in fish during the peer review public meeting. Specifically, the SAB panel discussed the potential for amelioration of MeHg effects by co-exposure to Se. After consideration of studies on Se and Hg as well as other nutrients in U.S. fish, the SAB concluded that nutrients such as Se could mitigate the concentration-effect relationship, but there is not enough information to conduct a quantitative analysis of this impact (U.S. EPA-SAB, 2011a, EPA-HQ-OAR-2009-0234-19689, p. 20). The SAB further noted, "[s]ince the subsistence fish consumers that form the focus of this study are at notable risk of having poor nutrition, Hg exposures may be non-linearly related to toxicity risks. Other SAB members note that effects of Se on MeHg toxicity are based primarily on observations in animals, and there is disagreement in the scientific community regarding the significance of these observations to humans." (p. 21). In addition, in the RTC (pp. 162 - 163), the EPA addressed the potential for nutrients such as Se in fish (particularly marine fish) to ameliorate some of the observed adverse effects of MeHg when co-exposure occurs. Studies indicate that it is more appropriate to determine potential amelioration of MeHg effects by assessing co-exposure to MeHg and nutrients in people, not by the relative concentrations of MeHg and nutrients in the fish they consume. Petitioners have provided no data to indicate that humans consuming MeHg in fish have reduced exposure or no measured exposure to MeHg as a consequence of the Se also found in the fish.

Regarding the conclusions of the new Burger and Gochfeld (2012) study, Petitioners fail to note that this study found substantial variation in these ratios among saltwater fish species and that several fish species (i.e., tautog, sea bass, cunner, summer and winter flounder, weakfish, scup) did not show a lower ratio in smaller fish. Further, another new study (Burger, et al., 2012)[56] by the same authors on freshwater fish in Tennessee found no relationship between the Se/Hg ratio and fish size. The authors concluded, "it would be difficult to use the molar ratio in predicting either the risk from Hg toxicity or in devising consumption advisories." The authors noted the inconsistency in the results from their two studies without providing a rationale for the inconsistency. The Hg Risk TSD is focused on freshwater fish consumption. For these reasons, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because the issue is not of central relevance, the EPA is denying the petitions for reconsideration of this issue.

Issue 25: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) assert that the EPA assumed a linear dose-response relationship for MeHg in the derivation of the RfD.

[56] Burger, Joanna, Michael Gochfeld, C. Jeitner, M. Donio, and T. Pittfield. 2012 "Selenium: Mercury Molar Ratios in Freshwater Fish from Tennessee: Individual, Species, and Geographical Variations have Implications for Management." *EcoHealth* DOI: 10.1007/s10393-012-0761-y

Response to Issue 25: Issues regarding the derivation and use of the RfD were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 157 - 159) of the RTC.

As stated in the RTC (pp. 157 - 159), the U.S. EPA is neither reviewing nor revising its 2001 RfD for MeHg at this time. In the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Further, Petitioner's assertion regarding the basis of the RfD is incorrect. As noted in the RTC (pp. 150 - 151 and 158), a K-power model with K = 1 (a linear model) provided the best fit to the data; thus, the EPA made no assumptions about the shape of the dose-response relationship for MeHg health effects. Because the RfD was not revised in the proposed or final MATS rule and the Petitioners provide no new information that, if accepted, could have changed the EPA's previous response or Hg risk TSD, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because this issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying the petition for reconsideration of this issue.

1.11 Health benefits of fish consumption

Issue 26: Petitioners 20183 (att. 2) and Petitioner 20180 (att. 3) assert that the EPA should use caution assessing MeHg risks in order to not discourage the substantial health benefits from fish consumption without a commensurate reduction in Hg-related health risks.

Response to Issue 26: Issues regarding the benefits of fish consumption were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (p. 146) of the RTC.

These comments demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to those comments. In the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B).

Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Specifically, the EPA noted that "many studies show that beneficial effects of fish on both cardiovascular and neurodevelopmental health are decreased by concomitant exposure to MeHg." This means that reducing Hg in fish both reduces Hg-related risk and likely increases the beneficial aspects of fish consumption. Because the purpose of the Hg Risk TSD was to evaluate risk from EGU attributable Hg, the identified concerns about the Hg Risk TSD potentially causing the public to reduce fish consumption is not of central relevance.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, as evidenced by the comments received on this issue, and because the issue is not of central relevance, the EPA is denying the petition for reconsideration of this issue.

1.12 Assumptions regarding fish advisories in Hg Risk TSD

Issue 27: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) observe that the EPA stated in the RTC (p. 142) that because some states have set minimum size limits for catches, consumption of fish shorter than seven inches would violate state or local fish and game laws. Petitioners assert that if the EPA assumes that subsistence fishers observe such laws, it would be appropriate for the EPA to assume that they also observe fish advisories.

Response to Issue 27: Issues regarding fish advisories and fish size were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1F (pp. 166 - 168) of the RTC.

These comments demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Although Petitioner mentions this issue specifically in the context of the EPA's response in the RTC, Petitioner has provided no evidence that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

In addition, as noted in the RTC (p. 142), the focus of the Hg Risk TSD is on modeling risk for the subset of subsistence fishers whose behavior places them at greater risk. That behavior includes higher consumption rates as well as targeting fish that are larger. Although some subsistence fishers could consume fish without consideration for size, some subsistence fishers likely target larger fish to maximize the volume of edible fish. The EPA excluded fish smaller than 7 inches to reflect the minimum size limit for a number of key edible freshwater fish and

took the 75th percentile to reflect this focus on subsistence fishers who target larger fish to maximize their diet. The EPA cited the fact that states such as Pennsylvania use 7-inches as a minimum catch size for key edible freshwater fish species (Pennsylvania Fish and Boating Commission, 2011),[57] as an example to support a specific fish size assumption in the Hg Risk TSD, not as an argument (as suggested by Petitioner) that subsistence fishers necessarily follow fishing regulations. In addition, Petitioner neglects to mention that minimum catch sizes are generally codified in state laws or regulations, which can have legal consequences for noncompliance, whereas disobeying voluntary fish advisories has no legal consequences. In addition, the SAB supported the Agency's approach in the Hg Risk TSD.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petitions for reconsideration of this issue. In any case, the issue is not of central relevance for the reasons set forth above.

1.13 Rounding of EGU contribution thresholds in Hg Risk TSD

Issue 28: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) allege that the EPA changed the rounding convention for determining the Hg contribution from U.S. EGUs between the draft and revised Hg Risk TSDs, thus this change was not available for public comment.

Response to Issue 28: In the review of the draft Hg Risk TSD, the SAB asked EPA to "discuss the basis for selecting a HQ at or above 1.5 as the criteria for selecting potentially impacted watersheds" (U.S. EPA-SAB, 2011a). In preparing this discussion, the EPA confirmed that the appropriate level of precision for the HQ should be determined by the level of precision in the input data, specifically, that of the RfD, which is reported at one significant figure. In Section 1.4.5 of the revised Hg Risk TSD, the EPA explains the use of an HQ of 2 or greater as an indication that a watershed has populations potentially at risk. Specifically, in the risk calculations, an HQ of 2 is equivalent to an HQ of 1.5 or greater, because any HQ of 1.5 or greater is rounded to an HQ of 2. For consistency throughout the risk calculations, the EPA applied the same rounding convention throughout the remainder of the revised Hg Risk TSD (i.e., one significant figure) in the calculation of the percent contribution from U.S. EGU. For example, any watershed with 4.5 percent or greater would round up to 5 percent. Further, in the preamble to the proposed rule (76 FR 25010), the EPA stated, "Any contribution of Hg emissions from EGUs to watersheds where potential exposures from total Hg deposition exceed the RfD is a hazard to public health, but for purposes of our analyses we evaluated only those watersheds where we determined EGUs contributed 5 percent or more to deposition to the watershed. The EPA believes this is a conservative approach given the increasing risks associated with incremental exposures above the RfD."

Although the EPA slightly revised the specific rounding convention applied in the contribution thresholds, it did not change the overall approach used to calculate the EGU attributable

[57] Pennsylvania Fish and Boat Commission. 2011. *Summary Book: 2001 Pennsylvania Fishing Laws and Regulations.* Available on the Internet at http://fishandboat.com/fishpub/summary/inland.html.

contribution to each watershed. Specifically, the draft Hg Risk TSD applied a rounding convention that the EPA documented in the Hg Risk spreadsheets in the docket (EPA-HQ-OAR-2009-0234-3079), and the EPA received comments on other rounding conventions applied in the draft Hg Risk TSD from the SAB. Therefore, this revision was a logical outgrowth of the comments received from the SAB during the public comment period. *See NRDC v. Thomas,* 838 F.2d 1224, 1242 (D.C. Cir. 1988) and *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d at 547 (agency may make changes to proposed rule without triggering new round of comments, where changes are logical outgrowth of proposal and comments). Because the revision did not change the manner of calculating the contribution or the conclusions of the Hg Risk TSD, the EPA does not believe it was necessary to provide additional opportunity to comment on this issue.

Although this change had a small effect on the estimated percent of watersheds with populations potentially at risk where the RfD is exceeded from total Hg deposition, the EPA determined that the percent of watersheds would remain unacceptable under either rounding convention because it would not substantially change the results. In addition, the rounding convention for the percent of contribution from U.S. EGU emissions has no impact on the other risk metric: the percent of watersheds where potential exposures exceed the RfD from U.S. EGUs alone. Specifically, the revised Hg Risk TSD found that up to 10 percent of the watersheds exceed the RfD due to U.S. EGU emissions alone even before considering other sources of Hg deposition. Because this estimate is not affected by the percent contribution from U.S. EGU emissions, it also is not affected by the rounding convention. As stated in the preamble to the final MATS rule (76 FR 93111), this result "independently supports our conclusion that Hg emissions from U.S. EGUs pose hazards to public health." Therefore, for either risk metric, the rounding convention is not of central relevance to the "Appropriate and Necessary" finding.

Because the EPA received comments on rounding conventions used in the draft Hg Risk TSD and Petitioners have not demonstrated that it was impractical for them to comment on this rounding convention, we are denying the petition for reconsideration on this issue. In addition, the change in rounding convention was a logical outgrowth of the proposed rule and the comments received on the draft Hg Risk TSD and the Petitioner has provided no new data or information that calls into question the underlying determination. The EPA is also denying reconsideration because the issue is not of central relevance to the "Appropriate and Necessary" finding as an unacceptable level of risk exists under either rounding convention.

Issue 29: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) allege that the change in the rounding convention for determining the Hg contribution from U.S. EGUs would reduce the number of watersheds that exceed 5 percent Hg contribution from U.S. EGUs. Specifically, Petitioner provides an analysis that shows that retaining the rounding convention used in the draft Hg Risk TSD would decrease the percentage of watersheds with populations that are potentially at-risk due to total deposition from 22 percent in the draft Hg Risk TSD to 20 percent instead of increasing to 24 percent as concluded by the EPA. In addition, Petitioner claims that retaining the rounding convention used in the draft Hg Risk TSD would decrease the percent of at-risk-watersheds from 28 percent in the draft Hg Risk TSD to 26 percent instead of increasing to 29 percent as concluded by the EPA.

Response to Issue 29: As fully explained in the response to Issue 28, the SAB asked EPA to "discuss the basis for selecting a HQ at or above 1.5 as the criteria for selecting potentially impacted watersheds" (U.S. EPA-SAB, 2011a). For consistency throughout the risk calculations, at final the EPA applied the same rounding convention throughout the remainder of the revised Hg Risk TSD (i.e., one significant figure) in the calculation of the percent contribution from U.S. EGU. For all the reasons stated in response to Issue 28, we are denying the petitions for reconsideration of this issue.

In addition, although the change in the rounding convention had a small effect on the estimated percent of watersheds with populations potentially at risk where the RfD is exceeded from total Hg deposition, the EPA determined that the percent of watersheds would remain unacceptable under either rounding convention. Further, in the preamble to the proposed rule (76 FR 25010), the EPA stated, "Any contribution of Hg emissions from EGUs to watersheds where potential exposures from total Hg deposition exceed the RfD is a hazard to public health, but for purposes of our analyses we evaluated only those watersheds where we determined EGUs contributed 5 percent or more to deposition to the watershed. The EPA believes this is a conservative approach given the increasing risks associated with incremental exposures above the RfD." In addition, the rounding convention for the percent of contribution from U.S. EGU emissions has no impact on the other risk metric: the percent of watersheds where potential exposures exceed the RfD from U.S. EGUs alone. Because this estimate is not affected by the percent contribution from U.S. EGU emissions, it also it also is not affected by the rounding convention. Therefore, for either risk metric, the rounding convention is not of central relevance to the "Appropriate and Necessary" finding. For all these reasons, the EPA is denying the petitions for reconsideration of this issue.

Issue 30: Petitioner 20183 (att. 2) and Petitioner 20180 (att. 3) allege that the rounding convention that the EPA applied in the Hg Risk TSD is arbitrary because the EPA did not discuss the reason for applying a rounding convention, the rounding convention itself, or the reason for changing the rounding convention between the proposed and final MATS rules.

Response to Issue 30: As fully explained in the response to Issues 28 and 29, the SAB (p. 8) asked EPA to "discuss the basis for selecting a HQ at or above 1.5 as the criteria for selecting potentially impacted watersheds" (U.S. EPA-SAB, 2011a). For consistency throughout the risk calculations, at final the EPA applied the same rounding convention throughout the remainder of the revised Hg Risk TSD (i.e., one significant figure) in the calculation of the percent contribution from U.S. EGU. For all the reasons set forth in responses to Issues 28 and 29, we are denying the petitions for reconsideration on this issue.

1.14 Modeling Hg emissions from final CSAPR in Hg Risk TSD

Issue 31: Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) claim that the Hg Risk TSD overestimates risk because the EPA did not re-estimate Hg deposition based on updated Hg emissions from the final Cross-State Air Pollution Rule (CSAPR) (formerly called the "Transport Rule") and issued under CAA section 110.

Response to Issue 31: The EPA Administrator signed the final CSAPR on July 6, 2011, which was during the public comment period for MATS. The EPA included emission estimates reflecting the proposed CSAPR in the Hg deposition modeling for the Hg Risk TSD. Issues regarding the inclusion of the CSAPR emissions characterizations in the Hg deposition modeling were raised in public comments submitted in response to the proposed MATS rule, and the EPA responded to those comments in Section 1B (pp. 43 - 48) of the RTC.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petitions for reconsideration of this issue. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

As stated in the preamble to the final MATS rule (77 FR 9316), although CSAPR would likely achieve some Hg co-benefits from controls on sulfur dioxide (SO_2) emissions, the revised Hg Risk TSD indicates that an unacceptable percentage of modeled watersheds with populations potentially at-risk from U.S. EGU-attributable Hg deposition would remain after implementation of CSAPR. As stated in the preamble to the final MATS rule (77 FR 9316), modeling emissions based on the final CSAPR (in conjunction with additional updates to the emissions modeling) would not result in a substantial change in risk, because the final CSAPR would reduce Hg emissions by 2 tons nationally – a reduction of less than 10 percent – compared to the 29 tons of Hg emissions used in the Hg risk modeling. The EPA concluded that this would not result in a substantial change in risk. Further, as noted in the preambles to the proposed and final MATS rules (76 FR 25017, 77 FR 9311), owners and operators of EGUs can change their criteria pollutant compliance strategies and use methodologies that do not achieve the same level of Hg or other HAP co-benefit, and the only way to ensure permanent reductions in HAP emissions from U.S. EGUs and the associated risks to public health and the environment is through standards set under CAA section 112, such as MATS.

In addition, Petitioners also assert that the impact from CSAPR is likely much greater when considering individual EGUs. However, Petitioner provides no specific information to support this assertion and, as such, the assertion is speculation. As discussed in the revised Hg Risk TSD (pp. 5 - 7), the EPA evaluated the nature of risks likely to result from Hg emissions from U.S. EGUs and determined that a national-scale risk assessment was the appropriate scale of analysis for the "Appropriate and Necessary" finding, in part because of the regional nature of Hg transport and deposition. The specific impacts on individual EGUs of small changes in Hg emissions are not likely to be significant determinants of national risk estimates.

Because the EPA received comments on the CSAPR modeling issues, and the EPA responded to those comments, we are denying reconsideration on this issue. The EPA is also denying reconsideration because the issue is not of central relevance for the reasons set forth above.

1.15 Boundary conditions in Hg deposition modeling

Issue 32: Petitioner 20180 states that a new study (Baker and Bash, 2012),[58] which was published after the public comment period closed, suggests that non-U.S. emissions may contribute to overestimation of Hg deposition in some locations in the MATS modeling. Further, Petitioner 20180 (att. 6) also notes that this study hypothesized that too much Hg may be flowing into the model from outside the model boundaries in certain areas of the model domain (i.e., the continental U.S. including northern Mexico and southern Canada), which Petitioner contends would lead to a mischaracterization of Hg from inter-hemispheric transport into the U.S.

Response to Issue 32: The Baker and Bash study does not present any new information because the Hg deposition modeling presented in that study is the same as the Hg deposition modeling conducted for the Hg Risk TSD. In fact, both authors of the study are EPA staff. Although the publication of the study describing the modeling was published after the public comment period, all the Hg deposition modeling inputs and outputs for the Hg modeling assessment in the study were available in the docket (EPA-HQ-OAR-2009-0234-2989) as part of the proposed MATS rule. The EPA did not generate any new Hg deposition modeling using the Community Multi-scale Air Quality (CMAQ) model for the Baker and Bash study. Contrary to Petitioner's assertions, the Baker and Bash study does not quantitatively evaluate mercury concentrations at the boundary of the model domain. Further, lowering the amount of Hg flowing in from the boundaries would increase the percentage of Hg deposition from U.S. EGUs, which would strengthen the conclusions of the Hg Risk TSD. Because the information in the study is the same as the Hg deposition modeling for MATS and considering the study would not lead to any changes in the Hg deposition modeling even if it had been published prior to the end of the public comment period, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The public had ample opportunity to review the Hg deposition modeling inputs and outputs in the docket for the proposed MATS rule, and the EPA received comments on the modeling during the public comment period. Because Petitioner has not demonstrated that it was impracticable to comment on the modeling, including the boundary conditions, during the public comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue. Furthermore, for the reasons discussed above, the issues raised in the study cited by the Petitioner are not of central relevance to the "Appropriate and Necessary" finding, and we are denying the petition for reconsideration for that reason as well.

Issue 33: Petitioner 20180 claims that the EPA inadequately addressed Hg emissions from China in the boundary conditions for modeling Hg deposition. Petitioner 20180 (att. 6) asserts that the EPA should conduct an additional sensitivity analysis for Hg deposition modeling for variable boundary conditions due to changes in global Hg emissions.

[58] Baker, K.R., Bash, J.O., 2012. "Regional scale photochemical model evaluation of total mercury wet deposition and speciated ambient mercury." *Atmospheric Environment* 49: 151-162.

Response to Issue 33: Issues regarding the EPA's treatment of non-U.S. Hg emissions were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1D (pp. 93 - 100) and in Section 1E (pp. 101 - 108) of the RTC.

Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation. For these reasons, we are denying reconsideration.

During their peer review, the SAB raised the issue of uncertainties in the global Hg emissions and supported a qualitative discussion of these uncertainties (U.S. EPA-SAB 2011, pp. 22 and 26). The SAB did not request a sensitivity analysis for global Hg emissions. The EPA fully responded to each of the SAB recommendations, including describing the boundary conditions used in the Hg deposition modeling and the associated uncertainties.

The public had ample opportunity to comment on this issue and EPA did, in fact, receive such comments and the EPA responded to those comments. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

Issue 34: Petitioner 20180 (att. 6) asserts that the RIA for MATS acknowledges that international Hg emissions have been increasing.

Response to Issue 34: Issues regarding the EPA's treatment of non-U.S. Hg emissions were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1D (pp. 93 - 100) and in Section 1E (pp. 101 - 108) of the RTC.

The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment and the EPA responded to those comments. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation. The EPA is denying the petition for reconsideration for these reasons.

Further, Petitioner misinterprets the context of the EPA's statement in the RIA that "international emissions have increased." This statement refers to the general trend of increasing global Hg

emissions during previous years, not a potential change in international emissions from the current year towards the future. In addition, Petitioner has only provided information about changes in coal use in China, but the Petitioner has not provided additional information to support an assertion that international Hg emissions will increase into the future. For this reason, we are also denying reconsideration because the issue as presented is not of central relevance.

Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule and because the issue is not of central relevance, the EPA is denying the petition for reconsideration of this issue.

Issue 35: Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) contend that the Hg boundary conditions used in the Hg deposition modeling for the Hg Risk TSD do not correctly account for Hg emissions from China, which underestimates the Hg boundary conditions. Petitioners also claim that a study (Jaffe, et al., 2005)[59] shows that Chinese emissions have a large impact on Hg deposition in the U.S.

Response to Issue 35: Issues regarding the EPA's treatment of non-U.S. Hg emissions were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1D (pp. 93 - 100) and in Section 1E (pp. 101 - 108). The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment and the EPA responded to those comments. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion,* 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation. The EPA is denying the petition for reconsideration for these reasons.

In addition, the EPA disagrees with Petitioners' assertion because Petitioners have provided no data to support it. Specifically, Petitioners do not provide any quantitative analysis of the EPA's boundary conditions that compares CMAQ-modeled Hg concentration and deposition near the boundary when airflow is coming from outside the model domain with Hg measurements. Petitioners' claim that boundary conditions do not have high enough Hg concentrations is speculative and not based on any data.

Further, Petitioner misinterprets the results of the Jaffe, et al., study, the methodology employed, and the relevance to the entire continental U.S. The Jaffe, et al., study found a connection between Hg measured at one place in the western United States at an extreme elevation (Mt. Bachelor, Oregon) and the continent of Asia, not specifically China. The authors of the Jaffe, et

[59] Jaffe, D., Prestbo, E., Swartzendruber, P., Weiss-Penzias, P., Kato, S., Takami, A., Hatakeyama, S., Kajii, Y., 2005. "Export of atmospheric mercury from Asia." *Atmospheric Environment* 39, 3029-3038.

al., study acknowledge their techniques did not have the precision to differentiate the origin of Hg from specific countries.

The EPA has concluded that given the lack of new information provided by Petitioner and, as discussed in the RTC (pp. 94 - 95), the similarity in continental emissions totals between 2000 and 2006 in Streets, et al., (2009),[60] the boundary conditions used in the Hg deposition modeling are appropriate. Because Petitioner has not provided any new information that would, if accepted by EPA, change the results of the analysis, this objection is also not of central relevance.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because the issue is not of central relevance for the reasons set forth above, the EPA is denying the petition for reconsideration of this issue.

Issue 36: Petitioner 20180 (att. 6) asserts the EPA did not account for increasing global Hg emissions in the future associated with higher coal use in China and provides several citations intended to support this assertion (Shen, et al., 2012;[61] Wang, et al., 2010;[62] Li and Leung, 2012[63]).

Response to Issue 36: Issues regarding the EPA's treatment of non-U.S. Hg emissions were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1D (pp. 93 - 100) and in Section 1E (pp. 101 - 108) of the RTC. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

The citations that Petitioner provides to support their assertion omit important concepts and information. Specifically, long-term measurements taken in the northern hemisphere since 1995 show, at the majority of sites measured, steadily decreasing total Hg concentrations (Slemr, et

[60] Streets, D.G., Zhang, Q., Wu, Y., 2009. "Projections of Global Mercury Emissions in 2050." *Environmental Science & Technology* 43, 2983-2988.
[61] Shen L, Gao T-m, Cheng X. 2012. "China's coal policy since 1979: A brief overview." *Energy Policy* 40: 274-281.
[62] Wang SX, Zhang L, Li GH, Wu Y, Hao JM, Pirrone N, Sprovieri F, Ancora MP. 2010, "Mercury emission and speciation of coal-fired power plants in China." *Atmos. Chem. Phys. 10*, 1183-1192, 2010.
[63] Li R, Leung GCK. 2012. "Coal consumption and economic growth in China." *Energy Policy 40* (2012) 438-443.

al., 2011),[64] results that are as yet unexplained in the scientific literature. Moreover, monitoring data taken in the U.S. since 1996 show no trend in increased Hg wet deposition (Presbo and Gay, 2009).[65] Additionally, there are uncertainties in estimates of Chinese emissions and only considering coal use without accounting for emissions control implementation would lead to an erroneous conclusion about the magnitude of potential growth in emissions. Improvements are being made in efficiency and in application of technology that are offsetting at least part of the associated increase in emissions. For example, application of emission controls for particulate matter and SO_2 in China has reportedly resulted in co-benefit emissions reduction of power plant Hg emissions in recent years despite an increase in coal use (Tian, et al., 2012;[66] Wang, et al., 2012[67]).

Although Petitioner cites two new studies (Shen, et al., 2012; Li and Leung, 2012), these studies still do not provide information regarding how changes in coal use in China would necessarily increase Hg deposition in the continental U.S. for the scenario that the EPA modeled. For these reasons, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment and the EPA responded to those comments. Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule. Further, for the reasons set forth above, this issue is not of central relevance to the "Appropriate and Necessary" finding. For all these reasons, the EPA is denying the petition for reconsideration of this issue.

1.16 Chemical reactions in the Hg deposition modeling

Issue 37: Petitioner 20183 (att. 3), Petitioner 20180 (att. 4), and Petitioner 20180 (att. 6) contend that chemical reactions take place in plumes downwind from coal-fired EGUs that convert the fast depositing form of Hg (i.e., divalent Hg or Hg(II)) to the slower depositing form of Hg (i.e., elemental Hg or Hg(0)) and that the EPA should have used these reactions in the Hg deposition modeling. Petitioners assert that including these reactions in the model would convert some of the local Hg deposition shown in EPA's modeling into regional or continental Hg deposition.

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[64] Slemr, F., Brunke, E.G., Ebinghaus, R., Kuss, J., 2011. "Worldwide trend of atmospheric mercury since 1995." *Atmospheric Chemistry and Physics* 11, May, 4779-4787.

[65] Prestbo, E.M. and Gay, D.A. 2009. "Wet deposition of mercury in the US and Canada 1996-2005: Results and Analysis of the NADP mercury deposition network (MDN)," *Atmos. Environ.* 43, 4332-4233.

[66] Tian, Hezhong, Yan Wang, Ke Cheng, Yiping Qu, Jiming Hao, Zhigang Xue, and Fahe Chai. 2012. "Control strategies of atmospheric mercury emissions from coal-fired power plants in China." *Journal of the Air & Waste Management Association* 62(5):576–586. DOI: 10.1080/10962247.2012.663733

[67] Wang, Shuxiao, Lei Zhang, Bin Zhao, Yang Meng, and Jiming Hao. 2012. "Mitigation Potential of Mercury Emissions from Coal-Fired Power Plants in China." *Energy Fuels* 26, 4635−4642. dx.doi.org/10.1021/ef201990x. Publication Date (Web): February 21, 2012.

Petitioner provides several citations to support this assertion, including Kolker, et al., (2010),[68] Lohman, et al., (2006),[69] Amos, et al., (2012), [70] Landis, et al., (2009),[71] and ter Schure, et al., (2011).[72] In addition, Petitioner 20180 (att. 6) contends that the EPA's Hg deposition modeling should have used "Advanced Plume Treatment," which would have included these reactions.

Response to Issue 37: Issues regarding the EPA's treatment of in-plume Hg chemistry in the Hg deposition modeling were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1E (pp. 107 - 111) of the RTC, which include discussions of Petitioner's citations including Kolker, et al., (2010), Lohman, et al., (2006), and Landis, et al., (2009). Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

Although Petitioners provided several citations to support their assertions that in-plume chemical reactions would change divalent Hg to elemental Hg and, thus, alter the Hg deposition, Petitioners are incorrect in stating that all of the references cited in the petition have been published in peer-reviewed literature. Specifically, the EPA does not agree with Petitioners that the conference presentations cited by Petitioners in support of these reactions constitute peer-reviewed literature. Petitioners are incorrect to contend that a conference presentation such as Landis, et al., (2009) or a conference presentation cited in a peer-reviewed journal article such as ter Schure, et al., (2011) is a peer-reviewed study itself. Further, the field studies at Plant Crist in

[68] Kolker, A., Olson, M.L., Krabbenhoft, D.P., Tate, M.T., Engle, M.A., 2010. "Patterns of mercury dispersion from local and regional emission sources, rural Central Wisconsin, USA." *Atmospheric Chemistry and Physics* 10, 4467-4476.
[69] Lohman, K., Seigneur, C., Edgerton, E., Jansen, J., 2006. "Modeling mercury in power plant plumes." *Environmental Science & Technology* 40, 3848-3854.
[70] Amos, H.M., Jacob, D.J., Holmes, C.D., Fisher, J.A., Wang, Q., Yantosca, R.M., Corbitt, E.S., Galarneau, E., Rutter, A.P., Gustin, M.S., Steffen, A., Schauer, J.J., Graydon, J.A., St Louis, V.L., Talbot, R.W., Edgerton, E.S., Zhang, Y., Sunderland, E.M. 2012. "Gas-particle partitioning of atmospheric Hg(II) and its effect on global mercury deposition." *Atmospheric Chemistry and Physics* 12, 591-603.
[71] Landis, M, Ryan, J, Oswald, E, Jansen J., Monroe, L, Walters, J, Levin, L, ter Schure, AFH, Laudal, D, Edgerton, E. 2009. "Plant Crist Mercury Plume Study." Presented at Air Quality VII Conference, Arlington, VA, October 27.
[72] ter Schure A, Caffrey, J, Gustin,M, Holmes, C, Hynes, A, Landing, W, Landis, M, Laudal, D, Levin L, Nair, U, Jansen, J, Ryan, J, Walters, J, Shauer, J, Volkamer, R, Waters, D, Weiss, P. 2011. "An Integrated Approach to Assess Elevated Mercury Wet Deposition and Concentrations in the South Eastern United States." Presented at the 10th International Conference on Mercury as a Global Pollutant, Halifax, Nova Scotia, Canada, July 27, 2011.

west Florida used in the Landis, et al., presentation were sponsored by the authors of Petitioner 20180's att. 6.

Petitioners are also incorrect in their interpretation of two of the peer-reviewed studies related to this issue (Kolker, et al., 2010; Lohman, et al., 2006). The Kolker, et al., (2010) study, which was cited by both Petitioners and the EPA in response to comment on the proposed MATS rule (pp. 102 - 112), shows that when wind blows from the direction of a coal-fired EGU in central Wisconsin that divalent Hg increases as the plume travels away from that source. This contradicts Petitioner's assertion that in-plume chemistry converts divalent Hg, the form that deposits quickly near sources, to elemental Hg, the form that has local to global impacts. Petitioners also mistakenly contend that the Kolker, et al., study is not relevant to an analysis of coal-fired EGUs, but Petitioners acknowledge that this study evaluated dispersion from a variety of sources that included coal-fired EGUs.

Contrary to the assertion by Petitioners, the Lohman, et al., study, which was co-authored by Petitioner 20183, does not observe in-plume oxidation. Instead, the study merely suggests one possible explanation for the authors' observations and then finds that in-plume oxidation could explain some of their observed SO_2 to speciated Hg ratios. Specifically, the Lohman, et al., study used ambient measurements to infer two possible reactions and concluded that "those potential Hg(II) to Hg(0) reactions need to be studied in the laboratory to further investigate this hypothesis." In addition, the Lohman, et al., study fails to appropriately characterize model performance evaluation, which raises questions regarding whether the performance of the dispersion model used in the Lohman, et al., study is appropriate for local and regional scale regulatory modeling.

Although the Amos, et al., (2012) study is a new study, it provides no new information on in-plume Hg reactions. Instead, this study simply uses the inferred reactions presented by the Lohman, et al., study. Further, the Amos, et al., study clearly states that "[t]he implicit inclusion of Hg(II) in-plume reduction in the model comes with the important caveats that a chemical mechanism has not been identified (Lohman, et al., 2006)." Until in-plume reactions are clearly identified in the peer-reviewed literature, it would be inappropriate for the EPA to employ those reactions for tools such as the "Advanced Plume Treatment" that include inferred reactions based on the Lohman, et al., study. For these reasons, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments that the EPA received on in-plume chemistry issues demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to those comments. Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule. Further, because the new study provided by the Petitioners does not provide new data or information relevant to the EPA analysis, as explained above, this issue is not of central relevance to the "Appropriate and Necessary" finding. For all these reasons, the EPA is denying the petitions for reconsideration of this issue.

Issue 38: Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) suggest the EPA should have included Hg reactions with bromine, an ocean-emitted halogen, in the CMAQ modeling

assessment. Petitioners cite a study by Holmes, et al., (2010)[73] as a potential source of information about Hg chemical reactions with halogens emitted by oceans.

Response to Issue 38: Issues regarding potential Hg reactions with bromine were not raised during the public comment period for this rule, and the Holmes, et al., study was published prior to the close of the comment period for the proposed MATS rule. Petitioners did not raise the issue regarding bromine reactions during the public comment period on the proposed MATS rule despite providing extensive comments on other aspects of the Hg deposition modeling, and they have not provided a reason why they were unable to do so. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue.

In addition, inclusion of these reactions would not be appropriate for this analysis. The EPA's Hg deposition modeling focuses on point source impacts on local and regional Hg deposition in the continental U.S., and including bromine as the sole oxidant of elemental Hg would likely degrade model performance due to the distance of many U.S. EGUs to open oceans. The EPA notes that the CMAQ model used for the Hg deposition modeling includes Hg reactions with other ocean-emitted halogens (e.g., chlorine, Cl and Cl_2) to appropriately represent the fate of Hg in marine environments. Because the EPA already includes reactions to represent ocean-emitted halogens in the modeling, the inclusion of bromine is not necessary and, therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding. For all of these reasons, the EPA is denying the petitions for reconsideration.

1.17 Uncertainties in local and regional Hg deposition

Issue 39: Petitioner 20180 (att. 6) disagrees with EPA's characterization of U.S. coal-fired power plant impacts on local and regional Hg deposition in the excess local deposition analysis. Specifically, Petitioner states in att. 6 that because the Kolker, et al., (2010) study cited in comments submitted during the public comment period (EPA-HQ-OAR-2009-0234-17621) evaluated ambient Hg concentrations rather than deposition, the EPA incorrectly discounted the results of that study in its response that "the focus was on excess local deposition due solely to EGU emissions, rather than all local and regional deposition." Petitioner states that Kolker, et al., did not study (local) deposition of Hg, but instead measured ambient atmospheric Hg concentrations.

Response to Issue 39: Issues regarding the EPA's characterization of elevated Hg deposition in the excess local deposition analysis were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1E (pp. 114 - 119) of the RTC. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for

[73] Holmes, C.D., Jacob, D.J., Corbitt, E.S., Mao, J., Yang, X., Talbot, R., Slemr, F., 2010. "Global atmospheric model for mercury including oxidation by bromine atoms." *Atmospheric Chemistry and Physics* 10, 12037-12057.

public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

The EPA has concluded that the Hg deposition modeling conducted for the Hg Risk TSD appropriately reflects the impact of U.S. EGUs on Hg deposition. This modeling assesses local and regional changes in Hg deposition that result from the removal of Hg from U.S. EGUs. Because the Hg risk estimates are based on total and EGU-attributable CMAQ-modeled Hg deposition, delineation about whether Hg impacts from U.S. EGUs would be considered local or regional is not of central relevance to the "Appropriate and Necessary" finding.

Additionally, the EPA disagrees with Petitioner's interpretation of the EPA's responses to comments on local Hg deposition. The EPA believes Petitioner likely misinterpreted "the analysis" in the RTC (p. 117) to refer to the Kolker, et al., (2010) study when the EPA was instead referring to the "Potential for Excess Local Deposition of Hg in Areas near U.S. EGUs" analysis. The EPA agrees that the Kolker, et al., (2010) study does not provide information about Hg deposition. Therefore consistent with the RTC (pp. 117 – 118), the EPA maintains that this study does not provide information about the spatial extent of Hg deposition near U.S. EGUs.

Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, as evidenced by the comments received on this issue, the EPA is denying the petitions for reconsideration of this issue. The EPA also stands by the responses to the comments received and the Agency does not believe reconsideration is warranted based on the Petitioner's misinterpretation of the EPA response. Finally, as stated above, the EPA would not have changed the Hg risk assessment or the excess local deposition analysis based on the issues raised in the petition because the Kolker, et al., (2010) study does not provide information on Hg deposition, so the issue is not of central relevance and the Agency is denying the petitions for reconsideration for that reason as well.

Issue 40: Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) claim that the Caffrey, et al., (2010) study,[74] which was cited by the EPA in the RTC, does not support the EPA's argument regarding local impacts of U.S. EGUs.

Response to Issue 40: Petitioner disagrees with the EPA's interpretation of a scientific study cited in response to comments regarding local and regional Hg deposition from U.S. EGUs. Specifically, the EPA cited the Caffrey, et al., study and two additional studies in Section 1E (pp. 96 and 100) of the RTC as evidence that U.S. coal-fired power plants can significantly enhance local and regional Hg deposition. The Caffrey, et al., study shows that Hg deposition measurements highly correlate to sulfate deposition, which is similar to findings in other studies

[74] Caffrey, J.M., Landing, W.M., Nolek, S.D., Gosnell, K.J., Bagui, S.S., Bagui, S.C., 2010. "Atmospheric deposition of mercury and major ions to the Pensacola (Florida) watershed: spatial, seasonal, and inter-annual variability." *Atmospheric Chemistry and Physics* 10, 5425-5434.

in Michigan and the Ohio Valley (Keeler, et al., 2006;[75] Landis and Keeler, 2002[76]). The relationship between increased Hg and sulfate deposition in the Caffrey, et al., study is consistent with the conclusion that coal-fired power plants contribute to wet Hg deposition in that area. The EPA maintains that citing the Caffrey, et al., study is appropriate and supports the EPA's conclusions regarding local Hg deposition, and Petitioner has provided no data or evidence to support a contrary position. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because the issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying the petitions for reconsideration of this issue.

Issue 41: Petitioner 20180 (att. 6), disagrees with the EPA's conclusion that grid models such as CMAQ do not overestimate local deposition, and Petitioner alleges that CMAQ overestimates local deposition by up to 30 percent based on Karamchandani, et al., (2006),[77] which simulated deposition of sulfur and nitrogen oxides. Petitioner contends that the EPA's Hg deposition modeling should have included sub-grid plume treatment, such as the "Advanced Plume Treatment." Petitioner also questions the use of 12 km grid cells and cites concerns about the CMAQ-Hg model, including ratio of wet to dry Hg deposition.

Response to Issue 41: Issues regarding the EPA's treatment of regional Hg deposition from point sources with the CMAQ model were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1E (pp. 101 - 106) of the RTC. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation. The EPA is denying the petition for reconsideration for these reasons.

As the EPA notes in the RTC (p. 102), the "Advanced Plume Treatment" was not an option in the most recent versions of the CMAQ model. The EPA disagrees with Petitioner's assertion that

[75] Keeler, G.J., Landis, M.S., Norris, G.A., Christianson, E.M., Dvonch, J.T., 2006. "Sources of mercury wet deposition in Eastern Ohio, USA." *Environmental Science & Technology* 40, 5874-5881.
[76] Landis, M.S., Keeler, G.J. 2002. "Atmospheric mercury deposition to Lake Michigan during the Lake Michigan Mass Balance Study." *Environmental Science & Technology* 36, 4518-4524.
[77] Karamchandani, P., Vijayaraghavan, K., Chen, S.-Y., Seigneur, C., Edgerton, E.S., 2006. "Plume-in-grid modeling for particulate matter." *Atmospheric Environment* 40, 7280-7297.

the regional fate of nitrogen oxides (NO_X), SO_2, and Hg emissions is likely to be similar for all three pollutants from point sources. While there may be correlations between ambient concentrations and deposition of Hg, SO_2, and NO_X because some sources such as EGUs may emit all 3 of these species, the atmospheric chemistry is different for each and the amount deposited locally and regionally may be different. The Karamchandani, et al., (2006) study provides no evidence about near-source Hg plume dispersion and chemistry. The "Advanced Plume Treatment" in versions of CMAQ that are older than the version used for the Hg deposition analysis include in-plume Hg reactions that have not been demonstrated to exist, which means its use would be inappropriate. Petitioner does not support its assertions regarding potential bias when using grid cells to represent impacts from single sources with any quantitative evidence. In addition, the EPA notes that the Hg deposition modeling conducted for MATS represents the most advanced modeling platform used for a national Hg deposition assessment and the application of a photochemical grid model at 12 km resolution for the entire continental U.S. provides the most robust grid resolution and scale in the published literature at the time of the modeling assessment. The EPA has concluded that the modeling analysis appropriately captures the local and regional impacts of coal-fired power plants, and Petitioners show no compelling evidence to the contrary.

The EPA disagrees with Petitioner that the ratio between wet and dry Hg deposition predicted by the CMAQ model does not match Hg deposition measurements. Dry deposition is not routinely measured, so it is not possible to evaluate this ratio. Petitioner claims that the EPA's ratio has a "high bias of roughly 30%," but the cited Karamchandani, et al., study provides no evidence related to Hg deposition to support this claim. Petitioner provides no new quantitative information about the EPA's Hg deposition modeling. In addition, Petitioner could have raised this issue during the public comment period. The EPA provided all CMAQ model inputs and outputs in the docket (EPA-HQ-OAR-2009-0234-2989), which Petitioners could have used to generate quantitative information about the EPA's Hg deposition analysis to support this alleged issue.

Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, as evidenced by the comments EPA received on these issues, the EPA is denying the petition for reconsideration of this issue. The EPA is also denying reconsideration because the issue is not of central relevance to the rule for the reasons cited above.

Issue 42: Petitioner 20180 (att. 6) claims that the uncertainty analysis for Hg deposition "appears cursory" and that the EPA could have used dry deposition data from the Atmospheric Mercury Network (AMNet) stations to better evaluate the model results.

Response to Issue 42: Issues regarding the use of AMNet were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to this comment in Section 1E (pp. 114) of the RTC. Furthermore, in the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the

Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation. The EPA is denying the petition for reconsideration for these reasons.

Contrary to Petitioner's assertion, AMNet does not routinely measure dry deposition and was not operational in 2005, which is the base year of the Hg deposition modeling analysis, which the EPA noted in the RTC. It would be impossible for the EPA to compare CMAQ-modeled estimates of Hg dry deposition to AMNet monitors because those monitors did not collect that data in 2005. As such, Petitioner provides no new information or data that could have been incorporated into the Hg deposition modeling. The public had ample opportunity to comment on this issue, and the EPA responded to those comments.

Regarding the uncertainty analysis, the SAB recommended (U.S. EPA-SAB, 2011a), and the EPA added, additional discussion on deposition uncertainty to the revised Hg Risk TSD. The EPA fully responded to each of the SAB's recommendations including adding a more detailed description of uncertainty in CMAQ and referencing existing evaluations of the model. Because uncertainty assessments are generally ancillary to the core modeling, expanding the uncertainty analysis would not have changed the results of the Hg deposition modeling. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Because Petitioner has not demonstrated that it was impracticable to comment on AMNet during the public comment period on the proposed MATS rule, as evidenced by comments on this issue, and because the issue is not of central relevance to the "Appropriate and Necessary" finding, the EPA is denying the petition for reconsideration of this issue.

Issue 43: Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) assert that the EPA did not address critical comments from the SAB regarding uncertainty in the Hg emissions and Hg deposition modeling. Specifically, Petitioners state that the EPA did not perform a quantitative CMAQ modeling assessment of Hg deposition uncertainty as directed by the SAB.

Response to Issue 43: Petitioners are incorrect in their interpretation of the SAB's recommendations to the EPA. The SAB stated that "[t]he qualitative nature of the [uncertainty] discussion is appropriate because this is a conditional analysis. However, the SAB recommends an expanded discussion in Appendix F of variability and uncertainty to make explicit the uncertainties associated with the Agency's key analytical choices, which the SAB supports." (U.S. EPA-SAB, 2011a, p. 22). The SAB did not request a quantitative evaluation of uncertainty.

The EPA fully responded to each of the SAB recommendations, including adding a more detailed description of uncertainty in CMAQ and referencing existing evaluations of the model. Because uncertainty assessments are generally ancillary to the core modeling, expansion of the uncertainty analysis would not cause EPA to revise its conclusions concerning the Hg deposition modeling. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding, and the EPA is denying the petition for reconsideration of this issue.

1.18 Alternate analysis of Hg deposition

Issue 44: Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) claims that the EPA's RTC regarding their alternative analysis of Hg deposition is inadequate.

Response to Issue 44: The EPA's RTC regarding the alternative analysis performed by Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) is in Section 1D (p. 99) of the RTC.

The Petitioners' assertion demonstrates that it was not impractical to comment on this issue during the public comment period and that the EPA responded to the comments. In the *White Stallion* decision, the Court found that "EPA's 'appropriate and necessary' determination in 2000, and its reaffirmation of that determination in 2012, are amply supported by EPA's findings regarding the health effects of mercury exposure." *White Stallion*, 748 F.3d at 1245-46. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, parties may not use this final action denying reconsideration as a basis to litigate issues that could have been raised in the initial litigation.

In addition, the EPA disagrees that the response was inadequate and repeating the comment does not provide any additional data or information to change the EPA's opinion. The analysis conducted by Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) adjusts CMAQ Hg deposition estimates using incorrect assumptions about boundary inflow, Hg chemical reactions, and incommensurate models. As stated in more detail the EPA's RTC (p. 99), the EPA finds the methodology used by Petitioner 20183 (att. 3) and Petitioner 20180 (att. 4) to be inappropriate, and the EPA maintains that conclusion. For these reasons, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because this issue is not of central relevance, the EPA is denying the petition for reconsideration of this issue.

1.19 Emissions in non-Hg risk case studies

Issue 45: Petitioners 20180 and 20183 request the EPA reconsider the risk posed by chromium (Cr) in light of new Cr emissions data from five coal-burning EGUs.[78] Petitioner 20180 repeats the allegation made during the public comment period that the Cr and nickel (Ni) measurements collected from these EGUs as part of the 2010 Information Collection Request (ICR) are anomalous, were most likely caused by sample contamination – perhaps by the use of metallic fittings, as purportedly observed at one EGU during subsequent testing, and do not represent actual emissions. Petitioner 20180 identifies these new data, suggests these new data confirm sample contamination of previous data, and asserts the older data should not have been used in the risk assessment. Further, Petitioner 20180 (att. 1) asserts that these data issues were raised during the public comment period, to which the EPA provided a condescending response.

[78] The Petitioner identified the following EGUs as having excessive Cr emissions obtained as part of the ICR data collection process:

- City Utilities' James River Power Plant Unit 4 (The ICR data submittal code for this EGU is 2135);
- City Utilities' James River Power Plant Unit 5 (The ICR data submittal code for this EGUs is 21351);
- We Energies' Valley Power Plant Boiler 3 (The ICR data submittal code for this EGU is 735);
- We Energies' Valley Power Plant Boiler 4 (The ICR data submittal code for this EGU is 736);
- Tennessee Valley Authority's Gallatin Plant Unit 2; and
- Tennessee Valley Authority's Colbert Plant Units 3 and 4.

Petitioners provided a summary sheet listing non-Hg metals results identified as being from Unit 3 of American Electric Power Company's Conesville Power Plant, as well as copies of non-Hg metals test reports identified as being from Units 4 and 5 of City Utilities' James River Power Plant and from Boilers 3 and 4 of We Energies' Valley Power Plant. These tests were conducted in February and March 2012, at least 6 months after the close of the public comment period and at least 17 months after the end of the ICR data collection period. In addition, Petitioners submitted these data without the EGU owner or operator certifications (of truth, accuracy, and completeness) required by the ICR, without an explanation as to why the testing had to wait so long given that the proposed rule had been available for almost a year, without an indication that these were the only data collected from these EGUs during the retesting period, and without the testing representative certification (that the test methods were followed) required by the ICR. Despite these limitations, the EPA accepted and reviewed the deficient data summary and deficient test reports. The Petitioners provided no TVA data, but TVA provided test reports for Gallatin Unit 2 and Colbert Unit 4 on November 6, 2010; these data, which suffer from the same limitations as the data from the other 5 EGUs, were tested after the deadline for submission of petitions for judicial review for the MATS rule, unlike the other EGUs, which were tested prior to the deadline for submission of petitions for judicial review for the MATS rule. As a result, the TVA test reports were not reviewed by EPA.

Response to Issue 45: As a general matter, the EPA disagrees that the Cr and Ni measurements collected as part of the ICR are anomalous, that the Cr and Ni measurements represent values caused by sample contamination, that the Cr and Ni measurements do not represent actual emissions, and that the original Cr and Ni measurements should be excluded from emissions factor development used in the risk assessment. Moreover, these allegations are not new; they were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in section 1G (pp. 187 - 188) of the RTC. The EPA disagrees that the responses were condescending.

The Cr and Ni measurements are not anomalous. In describing individual test run values as anomalous, Petitioners appear to lack understanding of EPA's emissions factor development process, because the average of individual test run values – not the individual test run values – is used in determining emissions factors. In addition, the emission factor development process includes a step for conducting outlier analysis; this analysis allows the EPA to identify and not use those test averages from facilities with similar emissions control devices and operational characteristics but with unrepresentative emissions when calculating emissions factors. As emissions are assumed to follow a lognormal distribution, the outlier analysis is conducted on the logarithm of test averages, and there must be at least 3 discrete test averages before an outlier analysis can be conducted.

With respect to the EGU ICR data, outlier analyses were not conducted for specific EGUs, because the ICR required just one test per pollutant from each EGU. Consistent with the emission factor development process, at least 3 tests per pollutant would have been necessary for an outlier analysis to have been conducted for a specific pollutant for a specific EGU. While nothing in the ICR precluded an EGU owner or operator from conducting 3 or more tests for a specific pollutant at a specific EGU during the specified data collection period, the EPA is unaware of any additional testing from any EGU during the specified data collection period. On the other hand, the EPA conducted outlier analyses for groups (or "bins") of at least 3 EGUs with similar emissions control devices and operational characteristics as a part of developing emissions factors for those bins.

As there is just one test value per pollutant per specific EGU, no outlier can exist for that specific EGU. Because no outlier can exist for a site-specific EGU with just one test value, the EPA has no reason – and the Petitioners have provided no evidence – to exclude these test values either from site-specific emissions factors or from the emissions factor bins for EGUs with similar control device and operational characteristics. While other situations, including sample contamination, could cause test values to be excluded from emissions factor calculations, sample contamination as alleged by the Petitioners appears unlikely and Petitioners have provided no data or evidence to suggest contamination may have occurred.

The record does not support the assertion that the Cr and Ni measurements were contaminated. The ICR placed responsibility for emissions test quality assurance and control on EGU owners or operators. Efforts to identify and prevent sample contamination would be a part of emissions test quality assurance and control, as would development of a test plan that would specify means of

corrective action should sample contamination occur. Moreover, adherence to EPA Method 29[79], which contains numerous warnings not to contaminate samples[80], should have caused emissions testing representatives, as well as EGU owners or operators, to exercise great caution with respect to ensuring contamination did not occur. As part of the ICR data submission, emissions testing representatives from these EGUs provided certifications that the testing details and results had been reviewed and that the test reports were authentic and accurate, and these EGU owners or operators provided certifications that the statements and information in the test report were true, accurate, and complete, based on information and belief formed after reasonable inquiry.

If sample contamination had occurred, as the Petitioners allege, the EGU owners or operators would have neglected their quality assurance and control activities and the testing representatives, along with the EGU owners or operators, would have falsely certified their ICR data submissions, because the test method directs users to prevent possible sample contamination problems. Petitioners cannot have it both ways. Either testing representatives and EGU owners or operators willfully ignored their quality assurance and control obligations, as well as test method requirements, and knowingly provided false certifications, or testing representatives and EGU owners or operators conducted the ICR emissions testing appropriately. Given that it is the Petitioners who, as third parties neither participated in the operation, emissions sampling, emissions analysis, certification, or submission of ICR data, assert the claim of sample contamination, rather than the EGU owners or operators, and that the EGU owners or operators have not withdrawn the original certifications and provided revised certifications or requested that the ICR data be withdrawn, the EPA may rely on the certifications of actual participants in the ICR data collection and submissions. *See White Stallion*, 1222 F.3d at 1249 (finding that the EPA acted reasonably in relying on certified data).

<u>The Cr and Ni measurements represent actual emissions.</u>

The ICR also directed owners or operators of EGUs to conduct emissions testing at a load and with a fuel that reflects typical operations at the facility. Moreover, the ICR required the EGU owners or operators to certify that the fuel fired during emissions testing was representative of the fuel that is burned routinely at their EGUs; that all of the pollution control equipment was operated in accordance with manufacturer's specifications and requirements for proper operation; and that pollution control equipment was operated to optimize reduction of the pollutants for which the equipment was designed. Given these requirements and the EGU owners or operators' certifications, the EPA has no reason to believe EGU operation during emissions testing was anything other than representative. Moreover, as the emissions testing was conducted during representative EGU operation, the EPA has no reason – and Petitioner has provided no

[79] See Method 29, *Determination of Metals Emissions From Stationary Sources*, in Appendix A-8 to 40 CFR part 60

[80] See section 6.1.1 concerning connectors to the sampling train for the probe nozzle: "…probe fittings of plastic such as Teflon, polypropylene, etc. are recommended instead of metal fittings to prevent contamination…" and section 8.1.3.4 concerning ensuring the sampling train is sealed so as not to introduce outside contamination: "…to prevent possible sample contamination problems, use Teflon tape or other non-contaminating material…"

relevant evidence – to assume that the Cr or Ni emissions obtained from the EGUs in question during the period of ICR data collection are unrepresentative of normal operation.

Moreover, as discussed in footnote 77, when the EPA, for its own purposes, combined the new data with the ICR data, conducted an outlier analysis, generated emissions factors from the combination of new and ICR data, and used those emissions factors in risk assessments, it found the resulting cancer risk estimates for three facilities (Chesapeake, James River, and Yorktown) were greater than 1-in-1 million, which is consistent with the conclusions in the final rule. Because the new data would not have affected the conclusions of the non-Hg case studies, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Given that the Petitioners' issues regarding the ICR data were raised in public comments on the proposed MATS rule, and the EPA responded to those comments and that the Petitioners have not demonstrated that the Cr and Ni measurements are anomalous, or were caused by sample contamination, or were not representative of actual emissions, the EPA denies the Petition for Reconsideration on these issues.

In addition, in the *White Stallion* decision, the Court affirmed the EPA's assertion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources, and the Court found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." 748 F.3d at 1244-45. Because of the Court's decision, the non-Hg metals findings are not of central relevance and are moot because the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 46: Petitioners 20180 and 20183 state that new emissions data available since the close of the public comment period voids the EPA's conclusions in the non-Hg chronic inhalation risk assessment and that, using retested Cr emissions, no coal-fired facility considered in that assessment exceeds 1-in-1 million cancer risk. Petitioners state that because the EPA cannot show a coal-fired facility that exceeds 1-in-1 million cancer risk, the EPA has no factual basis for concluding that it is appropriate to regulate non-Hg HAP, and request that the EPA reconsider the risks posed by Cr.

Response to Issue 46: As stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, the objections relating to the non-Hg metals findings are not of central relevance and are moot because the appropriate and necessary finding can be sustained on the Hg findings alone.

Furthermore, the EPA is under no obligation to consider any of the additional test data provided by Petitioner because, as noted above, the additional data are not comparable to those data submitted under auspices of the ICR. Specifically, these additional data were not submitted using the ERT; no certification as specified in the ICR regarding representative operation, fuel use, control device operation, and control device efficiency during the emissions testing period was

provided; and the test results were not certified as specified in the ICR by either the testing representatives or the EGU owners or operators. [81] Moreover, the EPA does not know the testing conditions, number of additional test runs performed, or if the Petitioner provided all available data. For these reasons, the data are not of central relevance to the final MATS rule and the EPA denies the petition for reconsideration on this issue.

Issue 47: Petitioners 20180 and 20183 suggest that the EPA used a Ni emission factor approximately three times greater than the ICR test value to estimate annual Ni emissions for Yorktown Unit 3.

Response to Issue 47: Issues regarding the emission rates used in the non-Hg risk case studies were raised in public comments submitted in response to the proposed MATS rule. The EPA responded to these comments in Section 1G (p. 185) of the RTC.

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[81] Nevertheless, the EPA decided for its own purposes to determine what, if any, impact these new uncertified data could have on the non-Hg risk assessment. Although Petitioners seek review of just the Cr emissions factors obtained during the ICR data collection period, the EPA reviewed not only the Cr emissions data, but also Ni and As emissions data when conducting this voluntary analysis.

The EPA recalculated the emissions factors in the same manner as was done for the final MATS rule, except that for this situation the combined set of individual test run values (not test averages) were subjected to an outlier analysis. ICR and retest data were combined and used, rather than using just the retest data as suggested by Petitioners. Using emissions factors developed from the combined dataset, the EPA conducted dispersion modeling and calculated risks for the facilities noted by Petitioners: Dominion Chesapeake VA, Conesville, OH, City Utilities of Springfield - James River, MO, AmerenUE - Labadie, MO, OG & E - Muskogee, and Yorktown, VA. The dispersion modeling and risk calculations followed the same methodologies described in the TSDs for the non-Hg case study assessments.

Even after incorporating this combined emissions dataset, the resulting cancer risk estimates for three facilities (Chesapeake, James River, and Yorktown) were greater than 1-in-1 million, which is consistent with the conclusions in the final rule. Because the new data would not have affected the conclusions of the non-Hg case studies, this issue is not of central relevance to the "Appropriate and Necessary" finding.

Further, the EPA disagrees with the premise that a non-Hg finding was required to support the "Appropriate and Necessary" finding. As stated in the preamble to the final MATS rule (77 FR 9326), "[t]he EPA reasonably concluded that we must find it ''appropriate'' to regulate EGUs under CAA section 112 if we determine that a single HAP emitted from EGUs poses a hazard to public health or the environment." In addition, the preamble to the final MATS rule (77 FR 9307) also stated, "[o]nce the EPA lists a source category pursuant to CAA section 112(c), the EPA must then establish technology-based emission standards under CAA section 112(d)". See *White Stallion*, 748 F.3d at 1244-45 (affirming EPA's interpretation). Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The EPA disagrees with Petitioners regarding the use of the Ni emissions factor from the ICR, as Petitioners incorrectly seek to use an emissions factor developed for MACT floor purposes (2.43E-03 pounds per million British thermal units (lb/MMBtu))[82] for case study purposes. As stated in the RTC (p. 185), the purposes of the emissions factors developed for the case study emissions is quite different from the MACT program, which establishes emissions limits using emissions data from the best performing sources in a specific category.

As shown in the Part III ICR data, Ni emissions run data obtained during ICR testing from Yorktown Unit 3, in lb/MMBtu, were 1.73E-03, 1.96E-02, and 1.40E-03.[83] The average of these three runs is 7.58E-03 lb/MMBtu, which is the value the EPA used in the non-Hg risk case studies for Yorktown Unit 3's site-specific emissions factor for Ni.[84]

These comments demonstrate that the public had ample opportunity to comment on the issue, and EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, the objections relating to the non-Hg metals findings are not of central relevance and are moot because the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 48: Petitioners 20180 and 20183 state that hexavalent Cr has not been detected in any coal-fired power plant stack measurements.

Response to Issue 48: Issues regarding hexavalent Cr emissions were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in section 1G (pp. 192 - 193) of the RTC.

Although the EPA does not have a means of selectively identifying hexavalent Cr within the Cr measurements obtained by employing EPA Method 29, and the ICR did not request such data,

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[82] See the "Metallic_oil_Metals US" tab in the "a5_oil_mact_floor_analysis_121611.xlsx" file labeled as the "MACT Floor analysis –oil" in the MATS ICR Data section of the Air Toxics Standards for Utilities website, which is located at the following internet address: <http://www.epa.gov/ttn/atw/utility/utilitypg.html>.

[83] See the Microsoft database file contained in the "EGU ICR PartIII" portion of the MATS ICR Data section of the Air Toxics Standards for Utilities website, which is located at the following internet address: <http://www.epa.gov/ttn/atw/utility/utilitypg.html>.

[84] See the "mats_final_current_base_hap.inven.xlsx" file labeled as the "Emissions Spreadsheet" in the Technical Support Documents section of the Air Toxics Standards for Utilities website, which is available on the Internet at <http://www.epa.gov/ttn/atw/utility/utilitypg.html>.

the singular Cr measurement supplied by Method 29 includes any hexavalent Cr that may be present. A portion of the measured total Cr compounds (12 percent) was assigned as hexavalent Cr, which the EPA had peer-reviewed as part of the methods to assess Ni and Cr risk. As stated in the final rule (77 FR 9317), "[a]ll three authors also considered EPA's use of the average of the range of the available speciation data (i.e., 12 percent and 18 percent Cr(VI) contained in coal- and oil-fired EGUs, respectively) as a reasonable approach for the derivation of default speciation profiles to be used when there is no speciation data available. All reviewers agreed that there is high uncertainty associated with the variability in the speciation data available for Cr (e.g., range of approximately 4 to 23 percent Cr(VI) from coal-fired units)." All materials related to this peer review are available in the docket at EPA-HQ-OAR-2009-0234-19744.

These comments demonstrate that the public had ample opportunity to comment on this issue, and EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, the non-Hg metals findings are not of central relevance and are moot because the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 49: Petitioner 20180 (att. 1) commented that during the ICR review and OMB approval process the EPA should have been better prepared to address data quality given the amount of testing conducted under the EPA's compressed schedule.

Response to Issue 49: The EPA disagrees with Petitioner. As mentioned earlier, the ICR placed responsibility for emissions test quality assurance and control on EGU owners or operators, and it advised them to prepare Quality Assurance Test Plans specific for each facility required to perform emissions testing (See ICR Part A – Page 10 of 22). Further, as part of the data submission, the ERT required testing company representatives to certify that the testing details and results had been reviewed and that the test report was authentic and accurate. *See White Stallion*, 1222 F.3d at 1249 (finding that the EPA acted reasonably in relying on certified data). Also as part of the data submission, the ERT required all EGU owners and operators to certify that the statements and information contained in the test report were true, accurate, and complete, based on belief formed after reasonable inquiry. Moreover, the ICR Part B (page 35) required EGU owners or operators to certify process and pollution control device operational characteristics. Given these requirements and certifications, the EPA has no reason – and Petitioner has provided no relevant evidence – to assume that the data quality is compromised. For this reason, this issue is not of central relevance and we are denying reconsideration for this reason. In addition, the Petitioners have not demonstrated that it was impractical to comment on this issue during the public comment period, and we are denying the petition for reconsideration for this reason as well.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, the objections relating to the non-Hg metals findings are not of central relevance as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 50: Petitioners 20180 and 20183 suggest the emission rates used in the MACT analysis are more appropriate than the emission rates used in the non-Hg metals risk case studies.

Response to Issue 50: The EPA disagrees with Petitioners. This issue was raised in public comments submitted in response to the proposed MATS rule. As mentioned earlier, the purpose of the emissions factors developed for the case study emissions is quite different from the MACT program, which establishes emissions limits using emissions data from the best performing sources in a specific category. The EPA's responses to the comments on this issue are in section 1G (pp. 184 - 188) of the RTC.

These comments demonstrate that the public, including Petitioner 20180, had ample opportunity to comment on this issue, and EPA responded to those comments. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 51: Petitioners 20180 and 20183 say the EPA used the arithmetic mean rather than the geometric mean to develop emission factors for the different groupings of units, and Petitioners maintain that this approach is neither statistically sound nor defensible, as shown by the EPA's own analysis that the distribution of emission rates from the ICR units has a log-normal distribution.

Response to Issue 51: The EPA disagrees with Petitioners. This issue was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in section 1G (pp. 184 - 187) of the RTC.

These comments demonstrate that the public had ample opportunity to comment on this issue, and EPA responded to those comments. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petitions for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." 748 F.3d at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 52: Petitioners 20180 and 20183 say using a statistically robust methodology for calculating the emission factor for the arsenic (As) bin would have substantially lowered the risk at Chesapeake.

Response to Issue 52: The EPA disagrees with Petitioners. Issues related to the non-Hg case studies were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in section 1G (pp. 184 - 193) of the RTC.

In addition, As was not the cancer driver for any of the facilities estimated to have cancer risk above 1-in-1 million in the final MATS rule. Even if the EPA were to assume that As emissions at Chesapeake were more than 90 percent lower, the cancer risk at Chesapeake would still exceed 1-in-1 million. Therefore, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments received during the comment period demonstrate that the public had ample opportunity to comment on these issues, and EPA responded to those comments. Because Petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petitions for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 53: Petitioners 20180 and 20183 suggest that the EPA erroneously employed an arithmetic mean, as compared with a geometric mean, to develop plant-specific emission estimates.

Response to Issue 53: The EPA disagrees with Petitioners. This issue was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in section 1G (pp. 184 - 187) of the RTC.

The comments received on this issue during the comment period demonstrate that the public had ample opportunity to comment on this issue, and EPA responded to those comments. Because

petitioners have not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 54: Petitioners 20180 and 20183 suggest that the geometric mean provides a more robust estimate for an individual plant's emission rate (i.e., for individual plant data where the sample population dataset is not normally distributed).

Response to Issue 54: The EPA disagrees with Petitioners. As mentioned earlier, this issue was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in section 1G (pp. 184 - 187) of the RTC.

These comments demonstrate that the public had ample opportunity to comment on this issue, and EPA responded to those comments. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petitions for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 55: Petitioners 20180 and 20183 reiterate their claim on the proposed rule that some of the ICR chromium measurements from the 2010 ICR testing were contaminated and suggest that the EPA must grant reconsideration to allow the new chromium emissions data from the retested EGUs - James River 4, James River 5, Valley 3, and Valley 4 – as well as the summary data from Conesville 3, to be fully and fairly considered. Petitioners claim use of those data as replacements for the ICR data would lead to revised emissions factors and risk assessments less than 1-in-1 million for Cr for the Dominion Chesapeake Energy Center, Conesville, TVA Gallatin, and City Utilities of Springfield - James River coal-fired EGUs and for Ni for the Dominion - Yorktown oil-fired EGU.

Response to Issue 55: The EPA disagrees with Petitioners. The sample contamination claim for Cr emissions from James River 4, James River 5, Valley 3, Valley 4, and Conesville 3 (and from 12 other EGUs) was raised in public comments submitted in response to the proposed MATS

rule. The EPA's response to the comments are in section 1G (pp. 187) of the RTC. Moreover, as discussed earlier, the Petitioners have not demonstrated that the Cr and Ni were caused by sample contamination. The EPA responded to these comments in Section 1G (p. 185) of the RTC.

These comments demonstrate that the public had ample opportunity to comment on this issue, and EPA responded to those comments. Because the Petitioners have not demonstrated that it was impracticable to comment on these issues during the public comment period on the proposed MATS rule, the EPA is denying the petitions for reconsideration of these issues.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 56: Petitioners 20180 and 20183 allege that EPA ignored comments in the ERT Comments field of the 2010 ICR Cr and Ni test results that noted the likely presence of metallic contamination in the sample.

Response to Issue 56: The EPA disagrees with Petitioners. As mentioned earlier, the ICR placed responsibility for emissions test quality assurance and control on EGU owners or operators. Therefore, EGU owners or operators should have developed specific procedures to detect sample contamination and to correct it and provide replacement data, if necessary. No specific procedures for sample contamination detection, correction, or supplemental data appear in the test reports for the EGUs in question, nor are any such measures or data described. However, as mentioned earlier, each test report contains a certification from the testing representative that the testing details and results had been reviewed and that the test reports were authentic and accurate, and these EGU owners or operators provided certifications that the statements and information in the test report were true, accurate, and complete, based on information and belief formed after reasonable inquiry. *See White Stallion*, 1222 F.3d at 1249 (stating that the EPA may rely on certified data).

If sample contamination had occurred, as the Petitioners allege, the EGU owners or operators would have neglected their quality assurance and control activities and the testing representatives, along with the EGU owners or operators, would have falsely certified their ICR data submissions, because the test method directs users to prevent possible sample contamination problems. Petitioners cannot have it both ways. Either testing representatives and EGU owners or operators willfully ignored their quality assurance and control obligations, as well as test method requirements, and/or knowingly provided false certifications, or testing representatives and EGU owners or operators conducted the ICR emissions testing appropriately. Given that it is the Petitioners who, as third parties neither participated in the operation, emissions sampling, emissions analysis, certification, or submission of ICR data, assert the claim of sample contamination, rather than the EGU owners or operators, the EPA reasonably relies on the

certifications of actual participants in the ICR data collection and submissions. Rather than ignore the comments, the EPA reviewed the Petitioner's concern during the public comment period on the proposed MATS rule and upon consideration of all factors– such as the warnings to preclude sample contamination contained in the test method, no specific objection related to Cr testing, no additional emissions testing runs to offset or replace deficient runs conducted during the ICR data collection period or the rule comment period, the inability to determine the Cr emissions as outliers, and the certifications by owners or operators of the EGUs in question - the EPA found the comments suggesting potential sample contamination not to be reasonably supported. See Responses 3 and 4 in section 1G (pp. 187 - 188) of the RTC.

Because the Petitioners have not demonstrated that it was impractical to comment on this issue during the comment period, and because the issue is not of central relevance for the reasons set forth above, the EPA denies the Petition for Reconsideration on this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 57: Petitioners 20180 and 20183 recommend that the EPA perform a detailed evaluation of all Method 29 ICR results because other test runs may have data quality issues.

Response to Issue 57: The EPA disagrees with Petitioners. As mentioned earlier, the ICR placed responsibility for emissions test quality assurance and control on EGU owners or operators, and it advised them to prepare Quality Assurance Test Plans specific for each facility required to perform emissions testing. Further, as part of the data submission, the ERT required testing company representatives to certify that the testing details and results had been reviewed and that the test reports were authentic and accurate. Also as part of the data submission, the ERT required all EGU owners and operators to certify that the statements and information contained in the test report were true, accurate, and complete, based on belief formed after reasonable inquiry. *See White Stallion*, 1222 F.3d at 1249 (finding that the EPA acted reasonably in relying on certified data). Moreover, the ICR required EGU owners or operators to certify process and pollution control device operational characteristics. Given these requirements and certifications, the EPA has no reason – and Petitioner has provided no relevant evidence – to assume that the data quality is compromised. For these reasons, this issue is not of central relevance.

Because the Petitioners have not demonstrated that it was impractical to comment on this issue during the comment period, and because the issue is not of central relevance, we are denying the petitions for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the

appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 58: Petitioner 20180 (att. 6) claims that it could not replicate EPA's analysis of EPRI equations and requested the underlying spreadsheet and supporting information.

Response to Issue 58: All components of the analysis are available to the public, and the Petitioners could use these components to replicate EPA's analysis. Given that the components are contained in the rule docket, the ICR Part III database, and AP-42 all of the relevant information is available to the public, and Petitioners have not shown they were unable to access and use this information. For this reason, the issue is not of central relevance and the EPA denies the petition for reconsideration on this issue

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

1.20 Nickel risk

Issue 59: Petitioner 20180 (att. 6) alleges that the conclusions regarding Ni risk were based on a peer review sponsored by the EPA that was limited to two charge questions, was not open to external review or comment, and was not clearly documented.

Response to Issue 59: The EPA followed the process that is described in the EPA's *Peer Review Handbook* (U.S. EPA, 2012). The *Handbook* provides several examples of peer review mechanisms, and describes factors to consider in selecting a particular mechanism (pp. 44 - 47). For the Ni methods review, the EPA selected a formal external letter review by independent experts from outside the agency. The EPA chose this mechanism because the issues associated with the Ni and Cr methods review were relatively narrow in scope and were not scientifically complex. The EPA also followed the method in the handbook for selecting the peer reviewers, and per the handbook, considered the following factors: expertise of the peer reviewers, balance, independence and potential conflicts of interest (peer review handbook pp. B11 - 14). The *Handbook* states that public participation can be important (p. B14), but it does not require the EPA to include public comment as part of every peer review. In this case, the agency determined that the Ni and Cr methods review was not a highly influential assessment, and therefore the agency was not required to provide an opportunity for public comment during the peer review.

Regarding documentation of the peer review, the EPA followed the recommendations in the *Handbook* (pp. 49 - 50). The EPA developed a "Peer Review Record" that contains sufficient documentation for an uninvolved person to understand the decision to conduct the peer review,

the type of peer review conducted, and how the peer review comments were addressed. In accordance with the *Handbook* recommendations, this Peer Review Record includes the following materials: (1) draft work submitted for the peer review, (2) charge questions and all additional information provided to the peer reviewers, (3) the peer review report, which contains a summary of the review findings and detailed information about the reviewers, (4) logistical information about the review (e.g., when it was conducted, time allotted for the review of the draft document), (5) a written record of the response to peer review comments with specifics on acceptance or, where appropriate, rebuttal and non-acceptance, and (6) the final work product. The final product of this review is available in the docket (EPA-HQ-OAR-2009-0234-1999), as well as a memorandum containing all documents developed in connection with the peer review (i.e., all materials considered by the individual peer reviewers, the peer review report, and other input) (EPA-HQ-OAR-2009-0234-19744). Because the EPA appropriately conducted the external review and clearly documented all aspects of this review according to the recommendations of EPA's *Handbook*, and parties were able to comment on this issue during the comment period, the issue is not of central relevance and the EPA is denying the petition for reconsideration of these issues.

The EPA is also denying reconsideration because the Petitioners have not demonstrated that it was impractical to comment on this issue during the public comment period.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 60: Petitioner 20180 (att. 6) disagrees with EPA's conclusions that all Ni compounds are of equal cancer potency, and thus the EPA should continue to apply unit risk estimates based solely on nickel subsulfide.

Response to Issue 60: Issues regarding Ni risk were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in Section 1G (pp. 210 - 212) of the RTC.

In the response, the EPA states that based on the available scientific evidence and in agreement with major scientific bodies (the International Agency for Research on Cancer, the National Toxicology Program, the World Health Organization), the EPA considers all Ni compounds to be potentially carcinogenic to humans. The EPA also acknowledged that there are potential differences in toxicity and/or carcinogenic potential across the different Ni compounds and considers it reasonable to use values other than that existing for Ni subsulfide (0.00048 per $\mu g/m^3$), which has the highest existing Unit Risk Estimate (URE) value and therefore it is

potentially the most potent carcinogen among Ni compounds.[85] The EPA also stated that there are three existing Ni UREs other than that derived for nickel subsulfide including one derived by EPA's Integrated Risk Information System for Ni refinery dusts (0.00024 $\mu g/m^3$), and two others that consider Ni compounds as a group derived by the California Department of Health Services (CDHS, 1991)[86] and the Texas Commission on Environmental Quality (TCEQ, 2011),[87] with values of 0.00026 per $\mu g/m^3$ and 0.00017 $\mu g/m^3$, respectively. In the response to comments, the EPA also noted that the existing UREs for Ni only vary quantitatively 2 – 3 fold, and that the use of any of the existing UREs would yield roughly similar risk estimates. In addition, the UREs derived by CDHS and TCEQ have considered all Ni compounds as a group which indicates that these values can be applied across all Ni compounds. In the case studies for MATS, the EPA applied 100 percent of the current IRIS URE for nickle subsulfide because IRIS is at the top of the list of the preferred sources of dose response values used in the EPA's risk characterizations, and because of the concerns about the potential carcinogenicity of all forms of Ni raised by the major national and international scientific bodies. The EPA also concluded that in certain instances (e.g., when high quality data is available on the composition of Ni emissions from a specific source), it is reasonable to consider a value that is 50 percent of the IRIS URE for nickle subsulfide for providing an estimate of the lower end of a plausible range of cancer potency values for different mixtures of Ni compounds. Even if the EPA applied a value 50 percent of the URE for nickel subsulfide in the case studies, several coal-fired facilities and one oil-fired facility would still exceed 1-in-1 million cancer risk. Thus this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments submitted on this issue during the comment period demonstrate that the public had ample opportunity to comment on the issue and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue. In addition, because we determined that there would still be EGU facilities with a risk greater than 1 in a million even if we took the Petitioner's approach, the issue is not of central relevance to the "Appropriate and Necessary" finding.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the

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[85] U. S. EPA. 2011g. *Methods to Develop Inhalation Cancer Risk Estimates for Chromium and Nickel Compounds*. Available online at http://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=238881. EPA-HQ-OAR-2009-0234-19909.

[86] California Department of Health Services (CDHS), 1991. *Health Risk Assessment for Nickel. Initial Statement for Rulemaking, Proposed Identification of Nickel as a Toxic Air Contaminant – Technical Support Document, part B.* Available online at http://www.arb.ca.gov/toxics/id/summary/nickel_tech_b.pdf.

[87] Texas Commission on Environmental Quality (TCEQ), 2011. *Development Support Document for nickel and inorganic nickel compounds.* Available online at http://www.tceq.state.tx.us/assets/public/implementation/tox/dsd/final/june11/nickel_&_compounds.pdf

appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 61: Petitioner 20180 (att. 6) disagrees with EPA in that the relative speciation/component data for Ni from EGUs does not need to be considered. According to Petitioner, the EPA inappropriately equates the statements that all Ni compounds should be considered as a group for cancer classification with the statement that all Ni should be considered as a group for quantitative risk characterization, regardless of the toxicological and epidemiologic evidence.

Response to Issue 61: Issues regarding Ni compounds being considered as a group were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in Section 1G (pp. 210 - 212) of the RTC.

In the RTC, the EPA stated that, in agreement with the peer reviewers of the Ni and Cr methods document, it considers all Ni compounds to be potentially carcinogenic and did not focus on Ni speciation or Ni solubility as strong determinants of Ni carcinogenicity. The EPA noted that these views are based on reviews of the carcinogenic potential of Ni compounds by major scientific bodies (i.e., the International Agency for Research on Cancer, the National Toxicology Program, the World Health Organization) which conclude that the integrated evidence from epidemiological studies, mechanistic studies and carcinogenesis studies in rodents support the concept that Ni compounds should be considered carcinogenic, as a group. The EPA also noted that there may be differences in toxicity and/or carcinogenic potential across the different Ni compounds and the available Ni UREs are only 2 - 3 fold different. In the case studies for MATS, the EPA applied 100 percent of the IRIS URE for nickle subsulfide, but it is reasonable to consider a value that is 50 percent of the IRIS URE for nickel subsulfide for providing an estimate of the lower end of plausible range of cancer potency values for different mixtures of Ni compounds. Even if the EPA applied a value 50 percent of the URE for nickel subsulfide in the case studies, several facilities would still exceed 1-in-1 million cancer risk. Thus, this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments received on this issue demonstrate that the public had ample opportunity to comment on the issue and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, the EPA is denying the petition for reconsideration of this issue. In addition, the issue is not of central relevance to the "Appropriate and Necessary" finding for the reasons set forth above.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

Issue 62: Petitioner 20180 (att. 6) alleges that the EPA continues to be overly conservative by relying on dose-response values derived from exposures to mixed Ni compounds or solely to nickel subsulfide.

Response to Issue 62: Issues regarding the Ni risk analyses based solely on nickel subsulfide were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in Section 1G (pp. 210 - 212) of the RTC.

In the response to this previously raised issue, the EPA stated that after consideration of all the available scientific evidence, and the recommendations from the Ni methods peer reviewers (EPA-HQ-OAR-2009-0234-19744), the EPA decided to continue using 100 percent of the current IRIS URE for Ni subsulfide because IRIS is at the top of preferred sources of dose response information used in the EPA's risk characterizations, and because of the concerns about the potential carcinogenicity of all forms of Ni raised by the major national and international scientific bodies. The EPA also concluded that it is reasonable, in certain instances (e.g., when high quality data are available on the composition of Ni emissions from a specific source), to consider a value that is 50 percent of the IRIS URE for Ni subsulfide for providing an estimate of the lower end of a plausible range of cancer potency values for different mixtures of Ni compounds. Even if the EPA applied a value 50 percent of the URE for nickel subsulfide in the case studies, several facilities would still exceed 1-in-1 million cancer risk. Thus this issue is not of central relevance to the "Appropriate and Necessary" finding.

The comments raised on this issue during the public comment period demonstrate that the public had ample opportunity to comment on the issue and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the public comment period on the proposed MATS rule, and because the issue is not of central relevance, the EPA is denying the petition for reconsideration of this issue.

In addition, as stated above, the Court in *White Stallion* affirmed EPA's conclusion that a finding that it is appropriate and necessary to regulate any one HAP is sufficient to list EGUs and regulate all HAP from those sources. 748 F.3d at 1244-45. The Court also found that the appropriate and necessary finding is "amply supported by EPA's findings regarding the health effects of mercury exposure." *Id*. at 1244-45. Because of the Court's decision, objections relating to the non-Hg metals findings are not of central relevance and are moot as the appropriate and necessary finding can be sustained on the Hg findings alone.

1.21 EPRI's Multipathway Risk Assessment

Issue 63: Petitioner 20180 (att. 6) disagrees with the EPA's conclusion that EPRI's multipathway risk modeling[88] (submitted during the public comment period) does not support delisting coal-fired EGUs and the report provides additional documentation supporting the

[88] Electric Power Research Institute, 2011. *Multi-Pathway Human Health and Ecological Risk Assessment for a Model Coal-Fired Power Plant.* August 2011. EPA-HQ-OAR-2009-0234-17773.

previous EPRI modeling. Further, Petitioner 20180 (att. 6) claims that the EPA's assertion that EPRI's modeling does not represent a suitably worst-case scenario is unfounded. Petitioner 20180 (att. 6) asserts that EPRI's modeling, although indicating cancer risks up to 4-in-1 million, is overly conservative because of the modeling scenario and parameters for As, which is the pollutant driving the cancer risk in the multipathway risk modeling. Petitioner 20180 (att. 6) claims that if the As assumptions in EPRI's modeling were refined, the lifetime cancer risk for all receptors and pathways would be well below 1-in-1 million.

Further, Petitioner 20180 disagrees with EPA's conclusion that EPRI multipathway screening risk modeling does not support delisting coal-fired EGUs, and the Petition states an intention to "…renew its petition to delist once non-Hg metals testing has been completed…" for certain EGUs.

Response to Issue 63: Because the EPA did not rely on the EPRI multipathway assessment in the "Appropriate and Necessary" finding, the EPA does not consider the additional documentation on the EPRI multipathway risk assessment to be relevant to the "Appropriate and Necessary" finding. Although the EPA did rely on EPRI's multipathway assessment in denying the petition to delist coal-fired EGUs, Petitioner did not request reconsideration of the EPA's decision to not delist coal-fired EGUs. Even if the As assumptions in EPRI's multipathway assessment were overly conservative, as Petitioner claims, this issue is not of central relevance to the decision to regulation EGUs under section 112. For these reasons, the EPA is denying the petition for reconsideration of this issue.

In the proposed MATS rule (76 FR 24998), the EPA stated that EGUs do not meet the delisting criteria in CAA section 112(c)(9) and, consequently, that they may not be delisted. Specifically, the EPA stated that information in the *Utility Study Report to Congress* (U.S. EPA, 1998) indicated that HAP emissions from a number of EGUs caused a lifetime cancer risk greater than 1-in-1 million, and the EPA's non-Hg inhalation risk case studies indicated risks greater than 1-in-1 million. (EPA-HQ-OAR-2009-0234-2939).[89] During the public comment period for the proposed MATS rule, the petition to delist coal-fired EGUs and the EPRI multipathway risk assessment were both submitted. In the preamble to the final MATS rule (77 FR 9364), the EPA stated that the petition to delist "improperly seeks to delist a portion of a CAA section 112(c) listed source category", and that because the "request to delist is contrary to the plain language of CAA section 112(c)(9)(B) and NRDC, we are denying the delisting petition." In addition to this primary basis for denying the delisting petition, the EPA also concluded that estimated cancer risks were still greater than 1-in-1 million for several facilities in the non-Hg inhalation risk case studies even after addressing public comments and peer review comments (EPA-HQ-OAR-2009-0234-19912).[90] These results alone are sufficient to deny the delisting petition. Lastly, EPRI's multipathway assessment concluded that there were potential cancer risks greater than 1-in-1

[89] U.S. EPA. 2011h. *Non-Hg Case Study Chronic Inhalation Risk Assessment for the Utility MACT Appropriate and Necessary Analysis.* Office of Air Quality Planning and Standards. March 2011. EPA-HQ-OAR-2009-0234-2939.

[90] U.S. EPA. 2011i. *Supplement to Non-mercury Case Study Chronic Inhalation Risk Assessment for the Utility MACT Appropriate and Necessary Analysis.* Office of Air Quality Planning and Standards. November 2011. EPA-HQ-OAR-2009-0234-19912.

million, even though EPRI's multipathway assessment was not the primary basis for denying the petition.

In addition, the EPA's denial of the delisting petition was challenged in the *White Stallion* case. The Court affirmed the EPA's denial of the petition to delist. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B).. We are denying the petitions for reconsideration of this issue for all of these reasons.

2.0 Affirmative Defense

Issue 64: Petitioner 20187 states that in an attempt to defend its "affirmative defense" for violations of the CAA that occur during malfunctions, the EPA has advanced new arguments to which Petitioners did not have an opportunity to object. Petitioner maintains that the affirmative defense functions as a *de facto* exemption for facilities with a chronic history of violating CAA limits.

Petitioner notes that during the comment period, the EPA received comments pointing out that its proposed affirmative defense to penalties for violations of emission standards during periods of malfunction ("affirmative defense") was unlawful and arbitrary because, among other things, it purports to limit federal district courts' statutory authority to determine the appropriate penalty for such violations. In its final rule, Petitioner states that the EPA revised the affirmative defense and advanced new arguments in attempt to explain why it is not unlawful. Petitioner maintains that because the EPA did not include these revisions and arguments in the proposed rule, it was impracticable to raise objections to them and that because the EPA's affirmative defense purports to limit the statutory authority of federal courts and undermines the enforceability of its standards, Petitioner's objection is of central relevance and the final rule must be reconsidered on this point.

Petitioner alleges that the affirmative defense in the final rule does nothing to meet the continuous compliance requirement of the CAA. Petitioner maintains that limiting the enforceability of these standards to obtaining injunctive relief for violations that meet certain agency requirements does not make such standards enforceable. To the contrary, Petitioner states that it makes them less enforceable by purporting to prevent district courts from imposing penalties where the CAA unambiguously gives them authority to do so.

Petitioner also states that the EPA expresses a new "view" "that the affirmative defense is part of the emission standard and defines two categories of violation," one category of violation being when all the elements of the affirmative defense are met and only injunctive relief is available and the other category including all other violations, for which both injunctive relief and penalties are available. Petitioner states that the EPA further argues that because the CAA allows it to establish enforceable emission limitations, it also allows the agency to establish some limitations that are enforceable only through injunctive relief and that from that premise, apparently the Petitioner infers that the EPA claims that its affirmative defense is "part of the emission standard." Petitioner maintains that Congress did not intend to authorize citizen suits for past violations where there was no "evidence that the violation has been repeated" but, other than that, intended all emission limitations to be enforceable without limitation by "any person" against "any person" and that once a violation has been established in a citizen suit, it is up to the district court, not EPA, to determine what penalty if any should be applied. Petitioner states that, contrary to EPA's claim, the agency may not establish any "category" of emission limitation that is enforceable only by injunction and, thus, the affirmative defense is not, in any sense, a part of any emission standard but rather an unlawful attempt by EPA to infringe on district courts' jurisdiction to set penalties.

Petitioner notes that the EPA argues that the affirmative defense "appropriately balances competing concerns:" citizens' ability to enforce the law on the one hand and violators' concerns about being penalized for penalties they regard as unavoidable and appropriately handled on the other. Petitioner alleges that Congress struck the balance it viewed as appropriate in the text of the CAA and that the EPA lacks authority to strike a different balance regardless of whether it thinks that balance is more appropriate than the one Congress chose.

Petitioner states that the EPA also argues that the affirmative defense will not hamper citizen enforcement by claiming that penalties will not deter violations where the criteria for the affirmative defense are met and further claiming that citizens will have to litigate some of the issues relevant to the affirmative defense in the penalty phase of litigation. Petitioner maintains that the EPA's arguments are without merit – citizens may need to litigate some issues that might be criteria for the affirmative defense at the penalty phase, such as whether the violation was avoidable and whether the violator took adequate steps to prevent it and to minimize emissions. Petitioner alleges that the EPA's affirmative defense creates factors that citizens must litigate that they otherwise would not have to litigate – thus necessarily adding the expense and complexity of enforcing emission standards – and prevents the consideration of factors that might lead to the imposition of penalties.

Petitioner states that the EPA attempts to dismiss the significant differences between the penalty criteria established by Congress and the criteria in its affirmative defense. Petitioner maintains that the EPA's argument merely seeks to elevate EPA's policy preferences over the law and that it is Congress and not the EPA that writes the law and Congress' decisions must be respected. Further, Petitioner alleges that the EPA conveniently ignores other differences between CAA section 113(e)(1) and the EPA's affirmative defense, including that CAA section 113(e)(1) does not impose an absolute bar to penalties under any circumstances and directs courts to consider "the violator's full compliance history."

Response to Issue 64: The EPA is denying this petition because the issue is moot. An affirmative defense provision substantively the same as the MATS affirmative defense was recently struck down in *NRDC v. EPA*, 749 F.3d 1055, 1063 (D.C. Cir. 2014). For this reason, the EPA recently published proposed corrections to the MATS rule that include a proposal to remove the affirmative defense provisions from the rule. See 80 FR 8442, 8448-9 (February 17, 2015)

Moreover, the EPA received comments on the affirmative defense to civil penalties in the proposed MATS rule. As Petitioner notes, the EPA responded to the comments raised and made revisions to the affirmative defense when issuing the final rule. *See* 77 FR 9382 - 9383; RTC, Vol. 2, pp. 429 - 437. Petitioner maintains that the EPA raised "new arguments" in support of the affirmative defense developed in response to the comments and the revisions to the affirmative defense require the EPA to reconsider the affirmative defense so that it has an opportunity to comment on the new rationale. The EPA does not agree that its response to comments requires reconsideration of the affirmative defense under CAA section 307(d)(7)(B).

It is well established that "an agency must be able to respond flexibly to comments and need not provide a new round of notice and comment every time it modifies a proposed rule." *Fertilizer*

Institute v. EPA, 935 F.2d 1303, 1311 (D.C. Cir 1991); *see also*, *International Fabricare Institute v. EPA*, 972 F.2d 384, 399 (D.C. 1992) (notice and comment is not intended to result in "interminable back-and-forth"). Courts will generally not find a procedural error unless "the agency's final rule so departs from its proposed rule as to constitute more surprise than notice." *Air Transport Ass'n v. FAA*, 169 F.3d 1, 7 (D.C. Cir 1999). The petition for reconsideration generally argues that the affirmative defense is not consistent with the CAA, but suggests that the new rationale put forth by the Agency is what justifies reconsideration. But the EPA responded to arguments questioning the legality of the affirmative defense, and providing another round of notice and comment is unnecessary.

3.0 Averaging

Issue 65: Petitioner 20180 objects to the requirement in the final rule that facilities using an alternative emissions averaging period (i.e., 90-day group boiler operating day) must comply with a more stringent numerical Hg emissions limit than other facilities, even if the compliance averaging period is longer, and claims that it is not clearly articulated as an alternative. Petitioner also claims that because the EPA did not propose this approach, Petitioner was unable to comment on it.

Response to Issue 65: The EPA proposed a 30-boiler operating day averaging period for all standards and requested comments on all aspects of the proposed averaging approach. The EPA specifically requested comment on whether the Agency should include a discount factor for EGUs that comply with MATS by averaging emissions from multiple units. *See* 76 FR 25053-54. The EPA received comments on the proposed averaging, and the Agency responded to the comments received on the issue. RTC, Vol, 2, pp. 342-365. The EPA received comments both in favor and opposed to a discount factor, and the Agency also received comments that suggested a longer averaging period should be employed. *See*, *e.g.*, RTC, Vol. 2, p. 354. In the final MATS rule, the EPA determined that a discount factor was not appropriate for sources that average on a 30-day basis, but the Agency concluded that with the increase in averaging time to 90 days a discount factor was appropriate, in part, because there is less variability in Hg emissions over a 90-day period. 77 FR 9385.

Because the commenter has not demonstrated that it was impracticable to comment on this issue during the public comment period, and because the revisions to the averaging provisions for Hg constitute a logical outgrowth of the proposed rule, the Agency is denying reconsideration on this issue.

In addition, the averaging provisions were challenged in the *White Stallion* case, and the Court affirmed the EPA's action. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B).

Issue 66: Petitioner 20180 claims that it was unable to comment on the definition of the term "30- (or 90-) group boiler operating day," which was included in the final rule but not the proposal, though Petitioner supports the use of an operating day period. Petitioner also claims that it was unable to comment on the equations used to calculate weighted rolling averages, as they were included in the final rule but not the proposal. Petitioner also suggests corrections to the equations.

Response to Issue 66: The EPA proposed a 30-boiler operating day averaging period be used for those EGUs contained in an emissions averaging group and requested comment on all aspects of the proposed emissions averaging approach.[91] As mentioned above, the EPA also received comments that suggested a longer averaging period should be employed. *See*, *e.g.*, RTC, Vol. 2, p. 354. In the final MATS rule, the EPA determined that an increase in averaging time to 90

[91] *See* 76 FR 25078, May 3, 2011.

days, along with use of a discount factor, to be appropriate. 77 FR 9385. Although the final rule maintained a 30-group boiler operating day averaging period for those EGUs contained in an emissions averaging group, it also included a 90-group boiler operating day averaging period as an alternative standard for Hg emissions from existing coal-fired EGUs that do not use low rank virgin coal. Just as adding the alternative averaging period of 90 days was a logical outgrowth based on comments, so is including this 90-day averaging period in the definition of group boiler operating day. This affords EGU owners or operators the ability to choose between a 30- or a 90-group boiler operating day emissions standard for Hg emissions from existing coal-fired EGUs that do not use low rank virgin coal and reduces the number of steps necessary to determine compliance. For these reasons, we maintain that the final rule is a logical outgrowth of the proposed rule.

The technical corrections identified in Table 4 and made to Equations 2a and 3a in 40 CFR 63.10009(b) in the proposed MATS reconsideration notice (*see* 77 FR 71332; November 13, 2012), proposed clarifications that address the concerns identified by the Petitioner relating to the equations. These clarifications were finalized on April 24, 2013 (78 FR 24073). This issue was further addressed in the Technical Corrections notice proposed on February 17, 2015 (see 80 FR 8445) by proposed revisions to equations 1a and 1b in 40 CFR 63.10009(b)(1). As a result, the Petitioner's comments are moot and we are denying reconsideration on this issue for this reason as well.

4.0 Beyond-the-floor – Low Rank Virgin Coal Hg Limit

Issue 67: Petitioner 20174 objects to the EPA's response to its and others' comments on the proposed rule regarding the beyond-the-floor (BTF) analysis for the Hg emission limit for existing sources designed to burn low rank virgin coal. Petitioner claims that the EPA's response is "both unresponsive and misrepresentative of the comment and the information that EPA provided at proposal."

Petitioner claims that at proposal the BTF TSD analysis for low rank virgin coal EGUs did not specifically explain the technological feasibility of the BTF limit. Petitioner acknowledges that the TSD did provide cost estimates associated with fuel switching to non-low rank virgin coal coals or activated carbon injection (ACI) control retrofits. Petitioner also states that the TSD specifically indicated that EPA's IPM modeling projected 4.7 GW of capacity would switch from low rank virgin coal to subbituminous coal to comply with the BTF Hg limit.

Petitioner states that though the EPA indicated in the proposed rule's preamble that ACI was not being used to its "fullest extent," on the low rank virgin coal EGUs not meeting the proposed limit, the EPA provided no technical analysis to justify the BTF limit in the rule. Petitioner states that its comment on the proposed rule challenged the EPA's BTF determination and questioned the appropriateness of setting a BTF standard for a subcategory that resulted in EGUs switching out of that fuel category. Petitioner maintains that in response to its comment, the EPA denied knowledge of any EGUs that switch fuel to comply with the BTF MACT limit. Petitioner contends that the EPA also removed all discussion and cost information associated with fuel switching from low rank virgin coal to subbituminous coal in the final version of the BTF TSD.

Petitioner maintains that the EPA "failed to address the specific question raised by its own initial IPM modeling results and questioned in comments" by Petitioner. Petitioner further maintains that the EPA's statement that it knows of no EGUs that utilize fuel switching to comply with the Hg MACT limit does not answer the question that Petitioner specifically asked in its comments on the proposed rule. Petitioner acknowledges that the EPA did supplement the final BTF TSD with expected EGU-specific Hg reductions necessary to meet the BTF Hg limit based on IPM projections and that the EPA states in the final rule's BTF TSD that the facilities would need less than 90 percent Hg reduction to meet the standard and that use of ACI could achieve greater than 90 percent Hg reduction. Petitioner contends that this technical information, however, was not provided in the TSD with the proposed rule for comment.

Response to Issue 67: The EPA received comments on the proposed MACT standard for Hg emissions from low rank virgin coal-fired EGUs that was based on a BTF level of control, and the EPA responded to the comments received (*see, e.g.*, RTC, Vol. 1, section 4C01). The EPA disagrees with Petitioner's claims that the response to the comments was inadequate and the Petitioner does not provide any new information that could not have been submitted during the comment period. For the reasons discussed below, the EPA is denying the Petition for Reconsideration on the issues raised.

At proposal, the EPA provided two documents supporting the BTF analysis for the Hg emission limit for existing low rank virgin coal EGUs. One is titled "National Emission Standards for

Hazardous Air Pollutants (NESHAP) Beyond the Maximum Achievable Control Technology (MACT) Floor Analysis for Coal- and Oil-fired Electric Steam Generating EGUs" (EPA-HQ-OAR-2009-0234-2924), and the other is titled "Emission Reduction Costs for the Beyond-the-Floor Mercury Rate in the Toxics Rule" (EPA-HQ-OAR-2009-0234-2925). These documents provide details on the data, assumptions and methodologies used to set the proposed BTF emissions standard and to evaluate the cost-effectiveness and other impacts from achieving the stricter standard.

The analysis in the first TSD noted above (EPA-HQ-OAR-2009-0234-2924) analyzes facilities' current control configurations and the controls needed to meet other MATS emissions standards (especially the particulate matter (PM) standard). The document explains that the emission limit of 4.0 lb/TBtu was based on the performance of the best controlled similar source which "is equipped with ACI and a fabric filter (FF)." The document then explains that all EGUs without ACI or a FF would add the technology – with the FF being added primarily to meet the PM limit. Clearly the expectation was that existing EGUs would be able to meet the BTF limit using the ACI plus FF technology configuration. Table 5 in the TSD lists specific EGUs with expected BTF controls added.

Further, in "Documentation Supplement for EPA Base Case v4.10_PTox – Updates for Proposed Toxics Rule" (March 2011, available at http://www.epa.gov/airmarkt/progsregs/epa-ipm/docs/suppdoc.pdf and at EPA-HQ-OAR-2009-0234-3048), the EPA explains specific assumptions in IPM regarding the technical performance of ACI:

> The technology specifically designated for mercury control is Activated Carbon Injection (ACI) downstream of the combustion process in coal fired units. In preparation for performing modeling of air toxics, a comprehensive update of ACI cost and performance assumptions was undertaken by Sargent & Lundy, the same engineering firm that developed the SO_2 and NO_X control assumptions used in EPA Base Case v4.10. The ACI update, whose elements are described below, incorporates the latest field experience through 2010.
>
> Assuming a target of 90% removal from the level of mercury in the coal, three alternative ACI options were identified as providing the required rate of removal for all possible configurations of boiler, emission controls, and coal types used in the U.S. electric power sector. The three ACI options differed based on the type of particulate control device − electrostatic precipitator (ESP) or pre-existing or new fabric filter (also called a "baghouse"), i.e.,
>
> • ACI with Existing ESP
> • ACI with Existing Baghouse
> • ACI with an Additional Full Baghouse (also referred to as Toxecon)
>
> All three configurations assume the use of brominated ACI, where a small amount of bromine is chemically bonded to the powdered carbon which is injected into the flue gas stream. The use of brominated ACI exploits the discovery that by converting elemental mercury to oxidized mercury, halogens (like chlorine, iodine, and bromine) can make activated carbon more effective in capturing the mercury at the high temperatures found in industrial processes like power

> generation. The ionic mercury adheres to the activated carbon (and to fly ash and unburned carbon in the fuel gas) which can be removed efficiently from the flue gas by the particulate control device (ESP or fabric filter). In the third option listed above the additional baghouse is installed downstream of the pre-existing particulate matter device and the activated carbon is injected after the existing controls. This configuration allows the fly ash to be removed before the mercury controls to preserve its marketability.
>
> The applicable ACI option depends on the coal type burned, its SO_2 content, the boiler and particulate control type and, in some instances, consideration of whether an SO_2 scrubber (FGD) system and SCR NOx post-combustion control are present. Table 5-16 shows the ACI assignment scheme used in EPA Base Case v4.10_PTox to achieve 90% mercury removal.

Table 5-16 of the document details control configurations and assumed sorbent injection rates to achieve 90 percent Hg removal. This includes configurations for EGUs burning low rank virgin coal (listed as lignite in the table).

The second TSD noted above (EPA-HQ-OAR-2009-0234-2925) details IPM modeling results for the proposed MATS. In the document, the EPA explains that it projects two methods for compliance: fuel switching from lignite to subbituminous coal and retrofitting ACI systems. And, as Petitioner claims, the TSD specifically indicates that the EPA's IPM modeling projected that 4.7 GW of capacity would switch from low rank virgin coal to subbituminous coal to comply with the MATS standards (though it is not certain that the BTF Hg limit would be the basis for the fuel switching decision). Petitioner claims that "in response to [Petitioner's] comment, the EPA denied having any knowledge of any EGUs switching fuel to comply with the BTF MACT limit." The EPA disagrees with Petitioner's claim. In the RTC (Vol. 1, p. 578) the EPA explained as follows:

> The EPA did not state that some units in this subcategory <u>would have to switch fuels</u> in order to comply with the beyond-the-floor Hg standard as the commenter suggests, but even that conclusion would not have made the beyond-the-floor standard invalid. [emphasis added]

The TSDs make clear that the EPA believed that ACI plus FF was an adequate control technology. The EPA's analysis in the first TSD was based entirely on the use of ACI plus FF. The EPA did not state that some EGUs <u>would have to switch fuels</u> in order to comply with the BTF Hg standard. Yet, EPA also did not claim that no EGUs would decide to switch fuels in order to comply. The IPM considers fuel switching as an operational decision, and EGUs switch fuels for a variety of reasons, such as compliance with regulatory requirements or economic factors (i.e., burning an alternative fuel may cost less). The EPA is aware of several EGUs designed to burn low rank coal that switched to burning subbituminous coal – a switch done before MATS was proposed. In the RTC (Vol. 1, p. 578), as noted above, the EPA stated:

> As with all MACT standards, sources are required to comply with the emissions limits and the EPA does not dictate how compliance must be attained. Fuel

> switching is certainly among the available options for all EGUs subject to this final rule, including EGUs in the low rank, virgin coal subcategory. We disagree with the commenter that the beyond the floor standard assumes sources will have to switch fuels to comply and we have no data to suggest that is the case. [emphasis added]

In the final MATS rule, the EPA provided a TSD to support the BTF Hg emission limit. This document is titled "Emission Reduction Costs for Beyond-the-floor Mercury Rate for Existing Units Designed to Burn Low Rank Virgin Coal" (EPA-HQ-OAR-2009-0234-20130). Petitioner is correct in its claim that the final BTF TSD does not discuss any EGU having to switch fuels in order to comply with the BTF Hg limit or costs associated with fuel switching. Rather, the document discusses the use of brominated ACI as the expected compliance option. The IPM modeling for the final MATS rule predicted that only one low rank coal-fired EGU would choose to switch to subbituminous coal. However, that EGU was also predicted to install an ACI system, and it is not clear if the fuel switch would be for compliance or economic reasons.

Petitioner states that the EPA, in the MATS proposal preamble, indicated that ACI on the low rank virgin coal EGUs not meeting the proposed BTF limit was not being used to its "fullest extent" but provided no technical analysis justifying the BTF limit. In the preamble the EPA wrote:

> EPA has learned that the units of this design that were using ACI during the testing were using ACI to meet their permitted Hg emission levels. However, EPA believes that the control level being achieved is still not that which could be achieved if ACI were used to its fullest extent. (76 FR 25046)

The EPA clearly stated that the EGUs using the ACI during the testing were using the technology to meet permitted emission levels, which are much higher than the Hg BTF value. ACI is a "tunable" technology – i.e., the performance can be "tuned" to a certain degree by controlling the amount of injected sorbent. Increased sorbent injection rates result in increased Hg capture up to a certain point. The primary cost of ACI operation is the cost of sorbent, and the EPA maintains that EGUs striving to meet permit levels less stringent than the MATS emission limit would not be motivated or obligated to "over control" emissions, because it would require increased sorbent use beyond that which is required for compliance and hence incur unnecessary cost. So, if an EGU is using ACI to meet its "permitted Hg emission levels," and only to those levels, then the EPA believes that ACI is not being used "to its fullest extent." In fact, the only EGU (Monticello, ORIS ID 6147) using ACI that did not meet the BTF Hg limit had the lowest ACI rate of all of the EGUs that were using ACI during ICR testing. Commenters did not provide data to rebut the EPA's statements concerning ACI utilization by EGUs in this subcategory.

Because the Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period, we are denying reconsideration of this issue.

In addition, the BTF limit was challenged in the *White Stallion* case. The Court upheld the BTF standard, noting that the issue ultimately amounted to a factual dispute, and found that "because

the record contains no data inconsistent with EPA's position on the efficacy of activated carbon injection, we defer to the agency's determination that the beyond-the-floor emission standard for lignite-fired EGU's is achievable." *White Stallion*, 1222 F.3d at 1251. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). The Petitioners here have not provided any new data calling into question the EPA's factual conclusion, therefore, we are also denying this petition as moot.

5.0 Bias Against New Cogeneration EGUs

Issue 68: Petitioner 20174 states that all new EGUs subject to the rule must comply with output-based only emission standards and, although the definition of "gross output" in the rule considers cogeneration EGUs, the output-based emission calculations in the rule's appendices are based solely on "gross electrical output." Petitioner claims that because cogeneration EGUs only use a portion of their steam to produce electric power, the rule is inherently biased against new cogeneration EGUs. Petitioner claims that the rule's requirement that new EGUs comply with output-based emission limits, although only considering gross electrical output in the emission calculations for those limits, results in inflated lb/MW or lb/GW emissions for cogeneration EGUs, because these EGUs' gross electric output can be substantially lower than their true total output. Petitioner suggests that the rule should be revised to allow new cogeneration EGUs to use an alternate output-based emission calculation.

Response to Issue 68: The issue of addressing thermal energy production in MATS was raised in public comments submitted in response to the May 3, 2011, proposed MATS rule (76 FR 24976). The EPA responded to the comments submitted on this issue and revised the final rule to address this issue. (RTC, Vol. 2, p. 482).

As noted in the RTC, the final rule provides 75 percent credit for thermal output in the definition of "gross output." We believe that this is a solution to the Petitioner's issue, and the Petitioner does not provide any new information or data to support its argument to the contrary (e.g., what specific "alternate output-based emission calculations" should be allowed). The EPA believes that the final definition is consistent with the EPA's stated intent of accommodating cogeneration EGUs. The EPA believes that applicability determinations in which the case-by-case specifics may be analyzed and addressed are the more appropriate forum to address the other issues raised by Petitioner, rather than a rule.

Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the petition of this issue. The EPA is also denying this issue because it is not of central relevance for the reasons set forth above.

6.0 Common Stack

Issue 69: Petitioner 20180 claims that the rule does not resolve how the startup and shutdown definitions and work practice provisions apply to EGUs that share a common stack and acknowledges that the work practice provisions can be applied separately on each EGU. Petitioner requests that the rule establish that emissions limits do not apply unless both EGUs sharing a common stack are not starting up or shutting down. Petitioner also claims that it was unable to comment on a new option that allows owners or operators of EGUs that share a common control device or devices that discharge to the atmosphere through multiple stacks the ability to monitor each stack or duct or to monitor with a CMS or sorbent trap monitoring system for one stack and flow and dilution rates in all stacks or ducts.

Response to Issue 69: The EPA received comments requesting a work practice standard for periods of startup and shutdown and also on the optional common stack monitoring approach included in the final rule. *See, e.g.*, RTC, Vol.1, p. 563 and RTC, Vol. 2 pp. 138 and 354, respectively. The Agency responded to these comments.

First, concerning startup and shutdown, the EPA finalized a work practice standard in lieu of requiring compliance with the numerical standards during periods of startup and shutdown. The EPA reconsidered the startup and shutdown work practice in the MATS reconsideration and provided an opportunity for comment on all aspects of that work practice (*see* 77 FR 71323; November 30, 2012). The EPA received comments on common stack issues related to startup and shutdown periods, and the Agency responded to those comments in the final startup and shutdown reconsideration action that published in the Federal Register on November 19, 2014. 79 FR 68777. Because the Agency has already reconsidered these issues, the request for reconsideration of these issues is now moot.

As to Petitioner's second claim concerning being unable to comment on the optional monitoring approach, the EPA disagrees. As noted above, the EPA received comments relevant to this option (*see, e.g.*, RTC, Vol. 2, p. 138), and the change in the final rule was based on those comments. Thus, the Petitioner has not demonstrated it was impracticable to comment during the comment period. *See NRDC v. Thomas*, 838 F.2d 1224, 1242 (D.C. Cir 1988) and *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983) (Agency may make changes to proposed rule without triggering new round of comments, where the changes are logical outgrowth of the proposal and comments). Where, as here, the EPA framed the subjects for discussion, interested parties commented on the subjects, and EPA responded directly to these comments by modifying the proposal, the purpose of the notice requirement is satisfied. *See Fertilizer Inst. V. EPA*, 935 F.2d 1303 (D.C. Cir. 1991) (citing *Small Refiner*, 705 F.2d at 547) ("an agency must be able to respond flexibly to comments and need not provide a new round of notice and comment every time it modifies a proposed rule").

This issue was further addressed in the final action on reconsideration of the startup and shutdown provisions in the MATS and Utility NSPS on November 19, 2014 (see 79 FR 68784). Consistent with the monitoring provisions in the final rule, owners or operators of EGUs with common stacks are required to monitor and report emissions for compliance purposes at all times when any EGU using a common stack is operating in a non-startup/shutdown mode, even if

another EGU using that common stack is in startup/shutdown mode. 40 CFR 63.10005(a)(2) was amended by adding paragraph (iii) which reinforces and clarifies this requirement.

Moreover, as the monitoring approach is optional, the Petitioner's comment is not of central relevance. Since the Petitioner is able to choose another approach for stack measurement, even acceptance of Petitioner's claim would not necessitate a change in the final rule. Because the commenter has not demonstrated that it was impracticable to comment on the optional monitoring approach, as evidenced by the comments the EPA received on the issue, we are denying reconsideration on this issue. Further, because the alternative monitoring approach was included in response to comments and is optional, we are denying reconsideration of the issue for that reason as well. The petition issues concerning startup and shutdown are moot as the EPA has reconsidered those provisions and the commenter had an opportunity to comment on that rule.

7.0 Deadlines

7.1 Deadlines for "Newly Applicable Monitoring Requirements"

Issue 70: Petitioner 20180 states that the EPA added a new provision establishing a deadline for monitoring system installation, operation and testing for EGUs that become subject to "newly applicable monitoring requirements" as a result of becoming subject to 40 CFR Part 63, subpart UUUUU. Petitioner states that because EPA did not propose this provision, Petitioner was not able to comment on it.

Petitioner maintains that the provision makes no sense as promulgated. According to Petitioner, in addition to addressing EGUs that become "subject to" 40 CFR Part 63, subpart UUUUU, the provision requires installation of monitoring systems and completion of some tests "as of the date your source *ceases to be*" subject to 40 CFR Part 63, subpart UUUUU, and that the "[r]elative accuracy test must be performed as of the performance test deadline for PM CEMS, if applicable." Petitioner maintains that the reference to EGUs that "cease to be" subject to the rule is incongruent. According to Petitioner, if the provision is intended to address EGUs that are newly subject to 40 CFR Part 63, subpart UUUUU, a deadline cannot be established based on the date the EGU ceases to be subject to the subpart. Petitioner asserts that establishment of a relative accuracy test audit (RATA) deadline based on the "performance test" deadline for PM continuous emission monitoring systems (CEMS) also is nonsensical, as PM CEMS are not subject to relative accuracy testing, and not all EGUs that must perform RATAs under the rule will use PM CEMS. Petitioner asserts that the EPA must issue and solicit comment on a proposal that articulates clearly what the Agency intended.

Response to Issue 70: In the proposed MATS rule, the EPA discussed the fact that certain units could at times meet the definition of an EGU subject to the MATS rule and at other times not meet the definition of an EGU and instead meet a definition that subjects the unit to another CAA rule. In the proposal, the Agency specifically discussed co-generation units because the CAA section 112 definition of such units includes thresholds that could be met at some times but not others. 76 FR 25025-26. The same is also true for an EGU that combusts solid waste such that it becomes as solid waste incineration unit. The proposed rule stated, in part:

> EPA solicits comment on the extent to which [sources changing applicability] might occur and whether the 6-month period is appropriate. Given the difference between the rules, should EPA address the reclassification of the sources between the rule, *particularly with regard to initial and ongoing compliance requirements and schedules*?...We specifically solicit comment on whether we should include provisions similar to those included in the final CISWI rule to address units that combust different fuels at different times. See Final CISWI Rule, 40 CFR 60.2145.

76 FR 25026 (*emphasis added*).

As can be seen from the proposed rule, the Agency did provide notice that it was considering the inclusion of additional provisions to address EGUs that might at times not meet the definition of an EGU and potentially be subject to another CAA rule. We specifically requested comment on

the need for additional compliance requirements, such as the monitoring provisions that the Petitioner identifies. Further, the CISWI provisions that are referenced in the rule address units that cease to be subject to that rule and provide for the compliance assurance mechanisms to ensure that the source is in continual compliance with the alternately applicable requirements. The EPA received comments suggesting that EPA include provisions similar to those in the CISWI rule. RTC, Vol. 1, pp. 272 - 74. The EPA responded that it was including such provisions in the final MATS rule.

The EPA finds the Petitioner's claims concerning relative accuracy testing and PM CEMS mistaken. Petitioner misreads 63.10000(k) – "…Relative accuracy tests must be performed as of the performance test deadline for PM CEMS, if applicable…" – as mandating relative accuracy test audits (RATAs), despite that language having no mention of RATAs, and the Petitioner chooses to ignore the conditional phrase "if applicable."

While RATAs are one means of providing relative accuracy checks, they are not the sole means, and, in any event, other procedures for ensuring the quality of data (i.e., its accuracy) produced by PM CEMS exist. These other procedures include relative response audits (RRAs) and response correlation audits (RCAs) and their use is specified in Procedure 2 in Appendix F to 40 CFR part 60 for use by owners or operators of PM CEMS. Moreover, the final rule in 63.10010(i)(2) and Table 5, as well as the preamble at 77 FR 9371 and 77 FR 9420, specifies use of Procedure 2 in Appendix F to 40 CFR 60. Furthermore, the instruments require ongoing quality assurance checks and that one instance of an overly generic term (relative accuracy) to refer to ongoing quality assurance checks does not negate the need for such checks or the many other instances in which the specific terms for ongoing quality assurance checks for PM CEMS (RRAs and RCAs, as well as the use of QA Procedure 2) were used in the rule. In addition, the petitioner's comment regarding timing being 'incongruent' makes no sense. Every instrument, once installed, must meet the ongoing accuracy provisions. In this case, the installed instrument (PM CEMS) must be current with its ongoing accuracy requirements prior to its use, meaning that if the instrument has already performed its accuracy checks, no further activity need occur before beginning to collect data. Such a condition is unlikely for an instrument connected to a source that has just become applicable to subpart UUUUU. The more likely case is as the rule describes: A source becomes an EGU by switching fuels and must conduct the relative accuracy checks upon switching, so that the data collected after the switch are valid. For the reasons above, we find this issue is not of central relevance and we are denying reconsideration for this reason.

Because EPA specifically identified in the proposed MATS rule the provisions identified in the petition for reconsideration, and some commenters suggested EPA include provisions similar to the CISWI rule, the Petitioner was on notice that additional monitoring and other requirements might be included in the final rule to address sources that might at times meet and not meet the definition of an EGU subject to the MATS rule. Because the Petitioner has not demonstrated that is was impractical to comment on this issue during the comment period, the EPA is denying reconsideration of this issue. *See NRDC v. Thomas*, 838 F.2d 1224, 1242 (D.C. Cir 1988) and *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983) (Agency may make changes to proposed rule without triggering new round of comments, where the changes are logical outgrowth of the proposal and comments).

7.2 January 1, 2012, start date for reporting of performance test results

Issue 71: Petitioner 20180 states that the EPA proposed to require, "[a]s of January 1, 2012," electronic reporting of any performance test data recorded under the rule within 60 days of completing the test. Petitioner states that it commented on the reporting requirement but did not object to the start date because it was not clear at the time of proposal that the rule would not be effective on the first possible date a report could be due under the rule, and Petitioner assumed the EPA would adjust the date in the final rule to account for any change in timing. Petitioner asserts that the EPA did not finalize the rule on the schedule it had initially announced and also did not adjust the reporting start date. According to Petitioner, the rule requires EGUs to report the results of performance tests required under subpart UUUUU starting on January 1, 2012, and Petitioner objects to this requirement. Petitioner states that although existing EGUs are not required to conduct performance tests until 180 days after April 16, 2015, at the earliest, new and reconstructed EGUs must comply by 180 days after April 16, 2012, (or, if later, startup) and may rely on tests conducted before that date. As a result, according to Petitioner, a new or reconstructed EGU that conducts a stack test to show compliance with 40 CFR Part 63, subpart UUUUU, after January 1, 2012, could be required under the rule to report the results "before the rule becomes effective on April 16, 2012." Petitioner maintains that the EPA could not have intended that result. Petitioner states that if it had known at the time of proposal that finalization of the rule would be delayed, Petitioner would have objected to the January 1, 2012, date.

Response to Issue 71: The EPA disagrees with Petitioner because the Petitioner misunderstands the basis for establishing a starting date for electronic reporting of performance test data. Although no EGU owner or operator is required to begin electronic reporting of performance test data prior to the applicability date in the rule (no later than April 2015 for many existing EGUs), some EGU owners or operators may choose to seek LEE status for their EGUs as early as the promulgation date of the rule. As 3 years of performance test results are needed to qualify for LEE status for most non-Hg emissions, it is important to let EGU owners or operators know that electronic reporting of performance test data is available in 2012. Further, as Petitioner admits, the proposal contained the starting date for electronic reporting, Petitioner provided comments but did not object to the starting date, and the rule was finalized with the proposed starting date.

In addition, the Petitioner's claim that it did not comment because initially the final MATS signature date was supposed to be one month earlier is not credible. Major rules often take well over a month to be published in the Federal Register (the proposed MATS rule took over a month and a half), and major rules are not effective until 60 days after publication in the Federal Register pursuant to the Congressional Review Act. Thus, even if the EPA had signed the rule on November 16, 2011, as initially required under Consent Decree, and the rule published in the Federal Register the next day, the January 1, 2012, date would still have been prior to the effective date of the final rule. In any case, the EPA received comments on this issue, which demonstrates that Petitioner had ample opportunity to comment on various aspects of the January 1, 2012, issue, and the EPA responded to those comments (*see, e.g.*, RTC, Vol. 2, pp. 238, 278, 279 - 280, 283). Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying reconsideration of this issue.

In addition, the EPA is denying the Petition for Reconsideration on this issue because the issue is moot. The EPA is not aware of any EGU that faced reporting requirements before the effective date of the rule. The EPA maintained the January 1, 2012, date in order to allow owners or operators to be able to provide emissions data in advance of their compliance date, which is necessary if a source owner or operator wants to qualify for low emitting EGU (LEE) status on the compliance date for existing EGU. For all of these reasons, we are denying reconsideration of this issue.

7.3 Deadline for certification of Hg CEMS and sorbent trap monitoring systems

Issue 72: Petitioner 20180 states that the EPA proposed to require that all Hg CEMS and sorbent trap monitoring systems be "certified" prior to "the applicable compliance date." According to Petitioner, under the proposed rule, new and reconstructed EGUs were required to comply by the later of publication of the final rule or startup, and existing EGUs had 3 years from publication of the final rule to comply.

Petitioner asserts that the final rule differs in several respects from the proposed rule. First, rather than establish a fixed deadline, the final rule requires "certification" of monitoring systems "in a timely manner, such that the initial compliance demonstration is completed" by the applicable deadline. Petitioner supports this change because the change allows EGUs to certify their monitoring systems during the 180-day period provided for the initial compliance demonstration.

Petitioner notes that rather than cite final 40 CFR 63.9984(f), which establishes the deadlines for initial compliance demonstrations for all EGUs, the final rule refers to the applicable date in 40 CFR 63.10005(g), which establishes the deadline for initial compliance demonstrations for new and reconstructed units only. Petitioner states that the rule references no deadline for existing units and that other provisions discussing the deadlines for initial compliance demonstrations include references to both 40 CFR 63.9984(f) and 40 CFR 63.10005(g).

Petitioner maintains that the EPA should revise Appendix A, section 4.1 to similarly reference both provisions. Petitioner also states that alternatively the EPA could remove the deadline. According to Petitioner, because the rules already require performance tests to be conducted with a "certified CEMS," a deadline for CEMS certification is not necessary; the deadline for the initial compliance demonstration achieves the same result. Petitioner notes that the rules do not specify a separate "certification" deadline for EGUs opting to use SO_2, PM, hydrogen chloride (HCl) or hydrogen fluoride (HF) CEMS.

Response to Issue 72: As explained in the November 2012 proposed MATS reconsideration notice, the reference to 40 CFR 63.100005(g) in Appendix A, section 4.1, was incorrect; this was corrected (with the correct cite to 40 CFR 63.9984(f) as the Petitioner suggests) in the final new source reconsideration notice (*see* 78 FR 24073; April 24, 2013). Because the issue has been addressed in the MATS new source reconsideration, the EPA is denying reconsideration of this issue as moot.

8.0 Definitions – Applicability

Issue 73: Petitioner 20180 states that proposed Subpart UUUUU would have applied to each coal- or oil-fired EGU, as defined in 40 CFR 63.10042. In May 2011, the EPA proposed definitions of "fossil fuel-fired," "coal-fired electric utility steam generating unit," and "oil-fired electric utility steam generating unit" that would have covered any unit that combusted a fossil fuel (*e.g.*, natural gas, oil, or coal) for more than a 10 percent of its average annual heat input in the "previous 3 calendar years" or 15 percent in "any one of those calendar years," or that currently combusts oil "alternately with" other fuels. Petitioner notes that where the EPA proposed to exclude EGUs that did not actually combust coal or oil in significant amounts (*e.g.*, gas-fired EGUs and biomass-fired EGUs), the EPA also referred to fuel combustion in "previous" calendar years. Commenters noted that under those definitions and provisions, the rule would apply to coal- and oil-fired EGUs that convert to combustion of alternative fuels (*e.g.*, natural gas or biomass) between 2012 and 2015, because they either would have combusted fossil-fuel in a previous calendar year (or years) or because they still combust some oil (*e.g.*, for startup or emergencies).

Petitioner notes that in the preamble to the final rule, the EPA explains which EGUs it intended to cover and acknowledges that the definitions "as proposed, were not sufficiently descriptive." Petitioner states that to address concerns regarding fuel conversion, the EPA says it revised the definition of "fossil fuel fired" so that the fossil fuel combustion thresholds "are evaluated after the applicable compliance date of the final rule on a rolling basis." Petitioner states that the EPA similarly states in the response to comments that the definition was revised "to make clear that units must only look at the present capability and utilization of the unit to determine if it is an affected source on the compliance date."

Petitioner also states that the EPA goes on to state that an EGU "that spends the 3 year (or 4 years if necessary for the installation of controls) compliance period converting the unit to natural gas or biomass will not be subject to this rule based on our revised definition of fossil fuel-fired."

However, Petitioner alleges that the only change the EPA made to the final definition of "fossil fuel-fired" was to change the reference to "previous" year(s) to "any" year(s) and add the "any" calendar year thresholds to the final definitions of "coal-fired electric utility steam generating unit" and "oil-fired electric utility steam generating unit," and included similar thresholds in a new definition of "natural gas-fired electric utility steam generating unit."

Petitioner alleges that there is no language in any of the relevant definitions, or applicability provisions, to implement the Agency's stated intent to look only at present capability and utilization when determining how to categorize an EGU with respect to fuel combustion and applicability. Moreover, Petitioner notes that because "any" year can include not only the "previous 3 calendar years," but also "any" year in the past, the final definitions would actually expand the number of EGUs covered by the rule to include EGUs that converted to an alternative fuel *more than* three years ago. Because EPA did not propose these final definitions or applicability provisions, Petitioner states that it was not able to comment on them.

Petitioner indicates that it supports EPA's stated intent, but objects to the final definitions of "fossil fuel fired," "coal-fired electric utility steam generating unit," "oil-fired electric utility steam generating unit," and "natural gas-fired electric utility steam generating unit" because they are not consistent with that intent and will result in improper application of the rule to EGUs that do not combust coal or oil in significant quantities

Petitioner similarly objects to the final exclusions in 40 CFR 63.9983(b) and (d). Petitioner states that to implement its stated intent and avoid expanding application of the EGU MACT standards, the EPA must revise the definitions to allow EGUs to be categorized based on actual (and projected) fuel combustion on the applicable compliance deadline, even if the EGU may have previously combusted other fuel (and may still be capable of combusting other fuels).

Response to Issue 73: The EPA provided an opportunity to comment on the definitions included in the proposed MATS rule. In response, the EPA received comments raising the concern that EGUs that converted to fuel other than coal or oil close to the compliance date would potentially be subject to MATS, which was not the EPA's intent. (*See*, *e.g.*, RTC, Vol. 2, pp. 705 - 709). Specifically, commenters were concerned that the definitions would require units that convert to natural gas or other non-fossil fuels prior to the compliance date would still be subject to the rule for up to 3 years after converting based on the proposed definitions. The EPA responded to the comments at length in the preamble to the final rule. (*See* 77 FR 9376 - 9378.) Because Petitioners have not shown they were incapable of raising these issues during the comment period, EPA is denying the petition for reconsideration on this issue.

The EPA stated that it revised the definitions so that sources that convert to a non-regulated fuel prior to the compliance date will not be subject to the final rule. The Agency accomplished this change by including in the definition of "coal-fired electric utility steam generating unit," "oil-fired electric utility steam generating unit," and "natural gas-fired electric utility steam generating unit" a requirement that the units be "fossil fuel-fired." The definition of "fossil fuel fired" states, in part, that "fossil fuel-fired means any EGU that fired fossil fuels for more than 10.0 percent of the average annual heat input during any 3 consecutive years or for more than 15.0 percent of the annual heat input during any 1 calendar year *after the applicable compliance date*." 40 CFR 63.10042 (*emphasis added*). As can be seen from that definition, sources are to consider their fossil fuel usage after the applicable compliance date. This means that sources that do not convert prior to the compliance date must project their fossil-fuel usage for the first year after the compliance date and comply with the MATS rule if their coal or oil usage will exceed the definitional thresholds in the rule. The Petitioner's interpretation of the MATS rule is not correct and sources are not required to comply with the MATS rule if they convert to a non-regulated fuel prior to the compliance date.. Because Petitioner's objection is based on a misunderstanding of the MATS rule, this issue is not of central relevance.

The provision at 40 CFR 63.9983(b) was included in the proposed rule and merely excludes natural gas-fired EGUs from applicability under MATS. This exclusion is appropriate because the EPA did not find regulation of natural gas-fired EGUs appropriate and necessary. The provision at 40 CFR 63.9983(d) was added in the final rule because EGUs meeting the definition of a solid waste incineration unit may not be subject to standards under CAA section 112

pursuant to CAA section 129(h)(2). For these reasons, these issues are not of central relevance and the EPA is denying reconsideration.

In addition, on February 17, 2015, EPA proposed further revisions to the definitions identified above. 80 FR 8442, 8447. For this reason, EPA is also denying the petition for reconsideration as moot.

9.0 Definitions – FGD Definition Should Include CFB

Issue 74: Petitioner 20175 states that MATS would authorize the measurement of SO_2 as a surrogate for HCl emissions under certain circumstances, including for units equipped with FGD. In addition, Petitioner notes that the definition of "FGD" in MATS appears to properly acknowledge that such technology should qualify as FGD. Specifically, the second sentence of the relevant definition expressly states that "[a]kaline sorbent injection systems in fluidized bed combustors (FBC) or circulating fluidized bed (CFB) boilers are included in this definition."

However, Petitioner alleges that the definition otherwise creates confusion because the first sentence of the definition appears to state that any dry FGD technology shall require an "add-on air pollution control system located downstream of the steam generating unit." In order to avoid the potential inconsistency between these two sentences comprising the relevant definition, Petitioner maintains that the EPA should revise the definition of "FGD" to expressly state in the second sentence that the sorbent injection system in a CFB boiler need not be a separate add-on pollution control system located downstream of the steam generating unit. Petitioner asserts that revising the definition of "FGD" in this manner would be consistent with the EPA's apparent intent to classify sorbent injection systems in FBCs as FGD for purposes of MATS, notwithstanding that such systems accomplish desulfurization without the use of an add-on, back-end control device. For these reasons, Petitioner requests that EPA revise the definition of "FGD" by either eliminating the reference to a required back-end pollution control device, or clarifying that such reference does not apply to sorbent injection systems associated with CFB boilers.

Petitioner 20174 alleges that for the coal-fired and petroleum coke-fired new unit SO_2 surrogate emission standards, the EPA used units that do not actually qualify for the alternate standard. Petitioner maintains that neither unit is equipped with FGD controls, which the rule requires to qualify for the surrogate limit, and that both facilities are fluidized bed units and are equipped with fluidized bed lime injection for SO_2 control. Petitioner asserts, however, that fluidized bed lime injection does not meet the definition of "FGD" specified in 40 CFR 63.10042. Therefore, Petitioner maintains that the facilities should not have been used to set a new unit surrogate standards. Petitioner notes that it commented on this discrepancy in the proposed rule.

Response to Issue 74: The issue of clarifying the definitions of FGD was raised in public comments submitted in response to the May 3, 2011, proposed MATS rule (76 FR 24976). The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 2, p. 715). Because the Petitioners have not demonstrated that it was impractical to comment on these issues during the

comment period, and in fact acknowledge that they did comment on it, we are denying reconsideration of this issue.

Further, as noted in the RTC (and by Petitioner 20175), the definition in 40 CFR 63.10042 for "*Dry flue gas desulfurization technology*, or *dry FGD*, or *spray dryer*, or *dry scrubber*" indicates that CFB technology is considered to be an "FGD system" ("[a]kaline sorbent injection systems in fluidized bed combustors (FBC) or circulating fluidized bed (CFB) boilers are included in this definition"). The EPA believes that the definition, when taken as a whole, adequately addresses Petitioners' concerns. For these reasons, the issue is not of central relevance and the EPA is denying the petition for reconsideration.

The EPA disagrees with Petitioner's allegation that the EGUs selected as the basis for the solid oil-derived fuel-fired new source SO_2 alternate limits do not qualify for the alternate standard because they are FBC EGUs because, as noted above, the EPA believes that the definition of "*Dry flue gas desulfurization technology*, or *dry FGD*, or *spray dryer*, or *dry scrubber*" in 40 CFR 63.10042 includes FBC systems. The EPA, therefore, is denying reconsideration on this issue because it is not of central relevance.

10.0 Definitions – "Modification" in Definition of New or Reconstructed

Issue 75: Petitioners 20174 and 20185 state that the final rule defines a new EGU as either (1) an EGU that commenced construction after May 3, 2011, or (2) an EGU that commenced reconstruction or modification after May 3, 2011, and that the term "modification" is not defined under 40 CFR Part 63. Petitioners state that because this was a change in the final rule from proposal, they were unable to comment on the error previously. Petitioners assert that the preamble of the final rule does not explain why modification was included. According to Petitioners, if including modification in the trigger classification for new sources is intentional, the EPA must provide an explanation and legal basis for inclusion and a definition of modification for 40 CFR Part 63.

Response to Issue 75: The issue noted by Petitioners was a typographical error in the final rule. The error was corrected in the technical corrections notice published on April 19, 2012 (77 FR 23399) and thus the petition for reconsideration of this issue is moot.

11.0 Definitions – Natural Gas

Issue 76: Petitioner 20192 requests the EPA to reconsider the definition of "natural gas" in the final rule to include synthetic natural gas derived from coal that otherwise satisfies the chemical definition of natural gas and meets a pipeline-tariff-approved quality specification for natural gas, or to otherwise clarify that the use of synthetic natural gas is acceptable during startup and shutdown. Petitioner notes that the final MATS rule added the definition for natural gas, which excludes "coal-derived gas" from the definition of natural gas and that the work practice standards in the final rule require sources to use either natural gas or distillate oil for ignition during startup.

Petitioner notes that it would like the option of using any natural gas that meets the specification necessary for that gas to be transported on a Federal Energy Regulatory Commission (FERC) regulated pipeline, during startup and shutdown, including synthetic natural gas. Petitioner alleges that even though the synthetic natural gas it would like to use chemically satisfies the definition of "natural gas" contained in the first sentence of the new rule, the phrase "coal-derived gas" in the last sentence of the new definition may technically make the synthetic natural gas fall outside of the requirement for "sources to operate using either natural gas or distillate oil for ignition during startup." Petitioner believes that the exclusion of synthetic natural gas from the definition of "natural gas" was an unintended oversight by the EPA.

Petitioner asks that the EPA reconsider this oversight, and allow synthetic natural gas to be used as a startup fuel. Petitioner alleges that it was impractical to raise this issue during the public comment period because synthetic natural gas was included in the definition for natural gas in the proposed rule.

Response to Issue 76: EPA provided an opportunity for comment on the proposed definition of "natural gas" (76 FR 25123), which did not include synthetic natural gas or "coal-derived gas," as the Petitioner implies, because the definition specifically referred to a "naturally occurring" material or liquid petroleum gas:

> *Natural gas* means:
> (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or
> (2) Liquid petroleum gas, as defined by ASTM Method D1835–03a (incorporated by reference, see § 63.14(b)(41)).

Moreover, numerous comments on the definition of "natural gas" (*see*, *e.g.* RTC Vol.2 p.700) were submitted during the period for public comment, and revisions to the definition were made to ensure consistency with other EPA rules. The issue of including synthetic natural gas or "coal-derived gas" in the definition of "natural gas" under MATS was not raised during the public comment period. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the petition for reconsideration of the issue. However, we note that Petitioner's general issue relates more to the use of syngas as a clean fuel that can be used during startup rather than to its exclusion from the

definition of “natural gas.” The definition of clean fuels that may be used during startup was reconsidered in the MATS reconsideration rulemaking (*see* 79 FR 68777; November 19, 2014), and, thus, the petition is moot.

12.0 Differentiation Between "Coal-fired" and "Solid Oil-derived Fuel-fired" EGUs

Issue 77: Petitioner 20184 alleges that the proposed rule did not provide clear notice that the EPA was contemplating classifying any "unit designed to burn solid oil derived fuel" as a "coal-fired EGU" if it co-fired coal above nominal levels. According to Petitioner, the record appears to lack a reasoned explanation, relevant to establishing emission limitations under CAA section 112(d)(3), for classifying as "coal-fired EGUs" EGUs otherwise clearly designed for combusting petroleum coke if they co-fire coal at any rate minimally greater than the specified 10/15 percent threshold. Petitioner maintains that the EPA first needs to reconsider and subsequently explain the criteria it uses to categorize and differentiate "solid oil derived fuel units" from "coal-fired" EGUs. Petitioner states that the Rule's revisions are far more than clarifications of the subcategory definitions. Petitioner maintains that the changes are "a significant and a material redefinition of the sub-categories, moving new and existing EGUs operating with or intended to operate with flexibility in the blend of coals, petroleum coke and other fuels from the solid oil-derived subcategory to a coal-fired subcategory whose floor units are completely dissimilar in boiler design, applicable controls and fuels." Petitioner also suggests that the EPA may need to reconsider the MACT "floors" for the "solid oil derived fuel" EGUs based upon the EGUs that will remain within that subcategory.

Petitioner further asserts that adding the phrase "except solid waste" in the discussion of the changes made since proposal to the definitions (77 FR 9376) "changes the meaning of the quoted section" as discussed at proposal (76 FR 25020).

Response to Issue 77: EPA provided an opportunity to comment on issues related to how "coal fired" and "solid oil-derived fuel-fired" should be defined. The issue of clarifying the proposed definitions of "coal fired" and "solid oil-derived fuel-fired" was raised in public comments submitted in response to the May 3, 2011, proposed MATS rule (76 FR 24976). The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 1, pp. 303 and 354 - 355, Vol. 2, pp. 392 - 393 and 708 - 709). Based on the comments the EPA received, the EPA recognized that there was a conflict between some definitions that may cause confusion in applying those definitions to a specific EGU. The EPA explained at length in the preamble to the final rule (77 FR 9376 - 9378) the reasons the Agency was revising the definitions and why the revised definitions were a logical outgrowth of the proposed rule. Because Petitioners have not demonstrated that it was impractical to comment on this issue during the comment period, we are denying the petition for reconsideration on this issue.

The EPA does not agree with Petitioner's statement that the rule's revisions are far more than clarifications of the sub-category definitions. While the Petitioner alleges that the revised definitions may or will cause units to shift subcategories, the Petitioner did not provide data or other information to support the claim. The EPA did not identify any EGUs that changed subcategories as a result of the revisions to the definitions, and the Agency would not have expected to have EGUs shift subcategories because the definitions in the final rule reflected how the Agency approached its evaluation of sources when determining the appropriate subcategory of particular EGUs in developing the proposed rule.

The EPA also disagrees that addition of the phrase “except solid waste” in the discussion of the changes made since proposal to the definition of solid oil-derived fuel “changes the meaning of the quoted section,” as alleged by Petitioner, because solid oil-derived fuel is not solid waste, and thus the phrase is not relevant to the discussion. For these reason, the objection is not of central relevance.

13.0 Emission Standards – Based on Non-detectable Test Results

Issue 78: Petitioner 20182 claims that reliance on measurements that are below method detection levels (MDLs) to establish emissions standards is problematic, because low emissions concentration levels have large potential measurement errors or uncertainty. Petitioner also claims that the 3xRDL approach, in which the MACT limit value is checked against a value equivalent to three times the representative method detection level (RDL), which is the average of best performing EGUs' MDLs, and increased to the 3xRDL value as necessary, is not appropriate because it relies on what Petitioner believes are perceived or estimated laboratory and testing company MDL values.

Response to Issue 78: The EPA proposed to establish standards equivalent to the product of 3 times the MDL (3xMDL) if the calculated MACT floor was lower than the level 3xMDL. The EPA received comments on this issue and responded to those comments. *See, e.g.*, RTC Vol. 1, pp. 541 - 548). In the final rule, the EPA used the representative method detection level or "RDL" instead of the MDL. As explained further below, the RDL approach is a refinement of the proposed MDL approach and for this reason the approach used in the final rule is a logical outgrowth of the proposed rule. Because Petitioner has not demonstrated that it was impractical to comment on the non-detect approach, we are denying the Petition for Reconsideration on this issue.

As explained in the RTC, no emissions standards in the final rule rely solely on measurements below a MDL. Rather, measurements below the relevant MDL are initially adjusted to the MDL for the testing contractor that conducted the test, and then those data are averaged with other data from the best performing sources and adjusted for variability using the upper predictive level (UPL) technique. In the proposed rule, the EPA compared that MACT floor value to the value equivalent to three times the MDL (3xMDL) (the value 3xMDL has an uncertainty comparable to values obtained by EPA test methods, which is why the Agency makes these comparisons for MACT floors established in part on non-detect data). If the calculated MACT floor was less than 3xMDL, then the EPA established the standard at the level 3xMDL. Thus, the EPA proposed MACT emission limits with a value that was at least equivalent to 3xMDL.

In the final rule, the EPA determined that an average of all the MDLs (which can vary by laboratory and by test run) for the sources in the MACT floor pool provided a more appropriate mechanism for identifying an alternative to the calculated MACT floor, and the Agency determined it was reasonable to use the RDL and the 3xRDL value instead of the MDL and the 3xMDL value. The RDL approach is a logical outgrowth of the MDL approach, and, because we proposed that approach and responded to public comments submitted on the MDL approach in the proposed MATS rule, the public has had ample opportunity to comment on the issue. (*See, e.g.*, RTC, Vol.1, pp. 522, 527, and 695).

In addition, the 3xRDL approach was challenged in *National Association of Clean Water Agencies (NACWA) v. EPA*, 734 F.3d 1115 (D.C. Cir. 2013). The Court upheld the Agency's 3xRDL approach for addressing non-detect data as reasonable. *Id*. at 1155. The EPA continues to believe that the 3xRDL approach is the correct approach for addressing non-detect data, and the Court has confirmed that the approach is reasonable.

For all these reasons, the EPA is denying the petition for reconsideration of this issue.

Issue 79: Petitioner 20174 claims that: 1) use of the 3xRDL approach for 10 of 16 new source emissions limits is not appropriate 2) the 3xRDL approach does not consider actual accuracy of the methods, 3) the EPA has not demonstrated that the required methods can produce quality data to provide reliable demonstrations of compliance, 4) the EPA has provided no guidance to States for enforcing limits so close to the MDL, and (5) the new source Hg limit is close to the lower detection limit for monitoring and testing.

Response to Issue 79: As a preliminary matter, the EPA provided opportunity for comment on its approach for using non-detect data when setting standards. As explained above, while the Agency switched to a 3xRDL approach instead of a 3xMDL approach as a logical outgrowth, no change was made regarding use of non-detect data.

As also explained above, the 3xRDL approach was challenged in *National Association of Clean Water Agencies (NACWA) v. EPA*, 734 F.3d 1115 (D.C. Cir. 2013). The Court upheld the Agency's 3xRDL approach for addressing non-detect data as reasonable. *Id*. at 1155.

In addition, the EPA received comments on the first four issues raised in the petition in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 1, pp. 522 - 527). Because the RDL approach is a logical outgrowth of the MDL approach, the comments the EPA received on the MDL issues are generally applicable to the RDL approach such that the public had ample opportunity to comment on the Agency's approach to addressing non-detect data. For these reasons, the EPA is denying the petition for reconsideration of the first four issues discussed above.

Regarding the last claim, the EPA reconsidered the new source Hg limit and provided an additional opportunity for comment on that issue in the MATS reconsideration of certain new source limits. The petition is therefore moot as to this issue (*see* 78 FR 24073; April 24, 2013).

14.0 Emission Standards – Existing IGCC Pb limit

Issue 80: Petitioner 20174 states that the lead emission standards for existing IGCC EGUs in Section 3 of Table 2, *Emission Limits for Existing EGUs*, are not correct. According to the Petitioner, the input-based and output-based existing IGCC lead standards in the rule are respectively 1,000,000 times and 1,000 times greater than the MACT analysis results. Because this was a change in the final rule from proposal, Petitioner contends that it was unable to comment on the error.

Response to Issue 80: The issue noted by Petitioner was a typographical error in one table of the final rule. This error was corrected in the technical corrections notice published on April 19, 2012 (77 FR 23399). Therefore, this issue in the petition for reconsideration is now moot.

15.0 General Provisions – Applicability

Issue 81: Petitioner 20180 states that the EPA proposed to require submission of a Notification of Intent to conduct a performance test "at least 30 days before" the performance test is scheduled to begin. The EPA also proposed to require compliance with the General Provisions, which also address notification of performance testing. Those General Provisions require submission of such notices "at least 60 calendar days before" the test is scheduled to begin. Petitioner states that in its comments, it identified the conflict, asserted that requiring compliance with both deadlines is not reasonable, and asked the EPA to identify the inconsistent General Provisions as inapplicable. However, according to Petitioner, the EPA finalized the rule without addressing the conflict. Petitioner states that although it appears the EPA intended to revise the rule to clarify that only the 30-day notice provision applies, the EPA did not implement that intent. Petitioner objects to this provision in the final rule and asserts that the EPA should either revise Table 10 to state that those sections of the General Provisions are inapplicable or revise 40 CFR Part 63, subpart UUUUU, to explicitly state that 40 CFR Part 63, subpart UUUUU, supersedes the General Provisions in the case of a conflict.

Response to Issue 81: Comments on this issue were submitted (*see, e.g.*, RTC, Vol. 2, p. 283). Although the EPA stated its intent to include a consistent period of 30 days in response to the comments (*see, e.g.*, RTC, Vol. 2, p. 283), that clarification was not made in the final MATS rule. However, Table 9 to Subpart UUUUU of Part 63 was revised in the final new source reconsideration (*see* 78 FR 24073; April 24, 2013) to indicate that the MATS provisions supersede those of the General Provisions. (Note that Petitioner is in error in referring to Table 10 in that there are only 9 tables to Subpart UUUUU of Part 63.) Petitioners had an opportunity to comment and did comment on this issue during the period for public comment. This issue was further addressed in the Technical Corrections notice proposed on February 17, 2015 (see 80 FR 8448) by proposed revisions to equations Table 9 which would allow a 30 day notice. However, because this issue has been clarified in the MATS new source reconsideration rule, the petition for reconsideration of this issue is now moot.

Issue 82: Petitioner 20180 claims that no changes to the General Provisions table were made in response to Petitioner's comments and suggests that the EPA should respond specifically to each of Petitioner's comments and revise the rule to implement any changes that the EPA intended to make. Petitioner notes that the EPA said that the rule and that Table 9 had been revised where appropriate to remove inconsistencies.

Response to Issue 82: The EPA disagrees with Petitioner. As noted by Petitioner, this issue was raised in comment on the proposed rule and the EPA responded that the Petitioner's concerns had been reviewed and that the rule and the table were revised as necessary to remove inconsistencies (*see, e.g.*, RTC, Vol. 2, p. 731). The EPA did not state that it was making all of the suggested changes when responding to the comments on this issue. This issue was further addressed in the Technical Corrections notice proposed on February 17, 2015 (see 80 FR 8448) by proposed revisions to Table 9 to correct an inadvertent omission of 30-day notification of §63.9. Because the Petitioner has not demonstrated that it was unable to comment or that the Agency erred in responding to the comments, we are denying reconsideration of this issue.

In addition, most, if not all, of the Petitioner's perceived concerns involved items such as opacity or visible emission, which the Petitioner acknowledges are not applicable to the rule. Table 9's title clearly excludes those portions of items cited in sections of the General Provisions that are inapplicable to the rule, as well as not including other complete cites of specific sections of the General Provisions that are inapplicable to the rule (such as 63.6(e)(iii)). For these reasons, the issues raised are not of central relevance. Moreover, EPA has subsequently made in technical corrections or on reconsideration, all the appropriate changes to the provisions identified by the Petitioner. For this reason, the petition for reconsideration on these issues is now moot.

16.0 Heath-based Emission Limit for Acid Gases

Issue 83: Petitioner 20180 (att. 6) claims that it was inappropriate for the EPA to consider non-HAP health co-benefits in its decision not to exercise its discretion under CAA section 112(d)(4) to establish health-based emission limits for acid gases from U.S. EGUs.

Response to Issue 83: Issues regarding health-based emission limits were raised in public comments submitted in response to the proposed MATS rule. Petitioner raises the same issue that was raised by other commenters regarding the proposed rule, and the issue was addressed by the response the EPA provided in the RTC (Vol. 1, pp. 10 - 12). The comments received on this issue demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to those comments.

Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying reconsideration of this issue.

The EPA's decision to establish MACT standards for acid-gas HAP instead of health based emission limits was challenged in the *White Stallion* case. When affirming the EPA's decision, the Court noted that "[p]etitioners dispute EPA's weighing of the evidence, but petitioners offer no compelling basis for second-guessing EPA's analysis." 748 F.3d at 1248. Included among the Petitioners' arguments was that the EPA incorrectly considered non-HAP co-benefits. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Moreover, Petitioner does not provide any new information that became available after the close of the comment period but within the time for judicial review, and the Court has affirmed the EPA's approach to establish the acid-gas HAP standards (including its method of weighing the evidence). Petitioner's objection thus does not provide support for the argument that the rule should be revised, and this issue is not of central relevance.

17.0 Low Emitting EGU – Bypass Stack

Issue 84: Petitioners 20183 and 20180 object to changes from the proposal that prohibit participation in the Low Emitting EGU (LEE) program for EGUs equipped with acid gas scrubbers that have main and bypass stacks.

Response to Issue 84: The EPA proposed to allow units that qualify as LEE to conduct reduced testing and included the approach in the final MATS rule. 76 FR 25029-30. The EPA received comments on bypass stacks and the requirements applicable to LEE. (*See, e.g.,* RTC, Vol. 2, pp. 16, 182, 211-212, and 216). In response to comments and consideration of the appropriate compliance assurance measures for LEE designation, the EPA modified the compliance assurance provisions applicable to LEE. Because the Petitioners have not demonstrated that it was impractical to comment on LEE monitoring issues generally, the EPA is denying reconsideration on this issue.

The EPA provides reduced testing and reporting requirements for units that qualify as LEE in part because sources must control their HAP emissions to a level more stringent than the promulgated standard to qualify as LEE and that over-control provides benefits to the environment. LEE status also provides a benefit to owners or operators because the testing costs are significantly reduced for LEE. However, the EPA must have confidence that sources are meeting the LEE requirements or the purpose of providing the option – reduced HAP emissions – may be subverted. The changes made to the final LEE provisions are necessary to assure that LEE status is properly assigned and EPA provided ample opportunity for comment on the LEE program including how LEE status is assigned. The LEE provisions in the final rule are a logical outgrowth of the proposed rule and Petitioners have not demonstrated that they did not have an adequate opportunity to comment.

In addition, the statute does not require the EPA to provide EGUs with the opportunity to become LEE, and determining whether or not to participate in the optional LEE program is a decision made by an EGU owner or operator (*see* 63.10000(c)(1)(i)(A) and (B). An EGU owner or operator has the option of complying with the non-LEE testing requirements if he does not believe his unit can comply with the LEE provisions because of the bypass stack provisions that were included in the final rule. The EPA believes the bypass stack provisions are necessary additions to the rule. Further, an EGU owner or operator can always request specific alternative emissions limits or use of a specific alternative monitoring method, provided the owner or operator follows the procedures established in the General Provisions at 40 CFR 63.8(f) and 63.6(g). This issue was further addressed in the Technical Corrections notice proposed on February 17, 2015 (see 80 FR 8444) by proposed revisions to 10000(c)(1)(i)(A) and 10005(h) to clarify the provisions of units designated as being LEE when an acid gas scrubber and a bypass stack are present. For all of these reasons, the issues raised by the Petitioner are not of central relevance to the final rule, and we are denying reconsideration on that basis as well.

For the reasons above, the EPA is denying reconsideration of this Petition.

18.0 Monitoring and Testing

18.1 Definition of "deviation"

Issue 85: Petitioner 20187 states that, according to the final rule, if an EGU "ha[s] a deviation from any emission limit, work practice standard, or operating limit," the owner or operator need only "submit a brief description of the deviation." Petitioner notes that the Rule expressly states that such deviations are "not always violations" and that the determination of whether a deviation "constitutes a violation of the standard is up to the discretion of the entity responsible for the enforcement of the standards."

Petitioner maintains that, in combination with the newly devised parametric monitoring options and the affirmative defense for malfunctions, those definitions undermine the enforceability of the standards. Petitioner asserts that the rule monitors parameters that are associated only with the emission levels exhibited during an annual or triennial stack test, not the limits themselves. Hence, according to Petitioner, a facility that relies on parametric monitoring and violates its specified parameters reports no information that would reliably allow EPA, a state, or the public to readily discern whether HAP emissions during that "deviation" violate the emission standard, and the final rule's definitions provide no basis by which a violation could be enforced.

As a result, Petitioner alleges that the EPA's final standard fails to establish monitoring sufficient to ensure continuous compliance with its standards and states that the EPA should revise its monitoring to clearly tie exceedances of all of the rule's requirements to violations of the underlying standards.

Response to Issue 85: The issue of deviations was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 2, pp. 714 - 715). Language stating that "[a] deviation is not always a violation" was included in the proposed rule (76 FR 25122). The proposed rule contained a number of parameter monitoring requirements such as control device operation and fuel analysis in fuel in conjunction with continuous emissions and Hg sorbent trap monitoring requirements. Many of these parameters were indicators, rather than direct compliance measurements. As such, failure to meet the appropriate indicator level was not necessarily a violation of an associated emissions limit, but it was a deviation from the appropriate indicator level. Apart from continuing to require liquid oil-fired EGUs to identify and use parameter monitoring for acid gas emissions, the final rule removed most other parameter monitoring requirements in response to public comments concerning duplicate monitoring (*see* 77 FR 9386, February 16, 2012).

The definition of violation was also revised in the final rule to clarify that the authority delegated with responsibility for the rule is the body with the ability to determine the condition where one or more deviations constitute one or more violations. For instance, a missed daily calibration check for a PM CEMS is a deviation. By itself, that deviation may not invalidate a day's worth of PM emissions recorded by the CEMS, particularly if a subsequent successful calibration check occurs before the end of the day. Moreover, given that the rule's emissions limit is based on a 30-boiler operating day rolling average, even if the PM emissions for a particular day turned out to be high based on a missed daily calibration check, it is possible that when that value is

averaged with others over the appropriate period, compliance may be assured – meaning that the missed daily calibration check, while important, did not constitute a violation of the emissions limit.

The EPA finds the Petitioner's specific stated concern – that parameter monitors are associated only with the emission levels exhibited during an annual or triennial stack test, not the limits themselves – is misapplied. In designing this and other continuous parameter monitoring situations, the EPA requires parameters to be identified and their operating limits determined via concurrent emissions testing. Further, such parameters and operating limits are to be revised when subsequent operation or testing shows revisions to meet the emissions limits are necessary.

The EPA disagrees with Petitioner's supposition that a facility that relies on parametric monitoring and violates its specified parameters reports no information that would reliably allow the EPA, a state, or the public to readily discern whether HAP emissions during that "deviation" violate the emission standard, and the final rule's definitions provide no basis by which a violation could be enforced. As specified in the final rule, each deviation is to be identified and included in semiannual reports (*see* 40 CFR 63.10031(e)). Moreover, records of each deviation, as well as the conditions coincident with each deviation, are to be kept (*see* 40 CFR 63.10032(b)(4)).

The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA's response provided clarity in a logical fashion. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying reconsideration of the issue.

18.2 Monitoring system requirements

Issue 86: Petitioner 20180 asserts that because a requirement for monitoring system installation and operation, as well as testing, for EGUs that cease to be subject to the rule was added after proposal, it was unable to provide comments. Moreover, Petitioner states that the requirement makes no sense and that the EPA must issue and solicit comment on a proposal.

Response to Issue 86: The EPA disagrees with Petitioner. The proposal at 76 FR 25026 specifically solicited comment on how the EPA should address reclassification of sources between MATS and section 129 standards, particularly with respect to initial and ongoing compliance, and directed the public to provisions in the CISWI rule (76 FR 15753) that are almost identical to the provision included in the final MATS rule. 76 FR 25026. For this reason, the public had ample opportunity to comment on the provisions included in the final rule, including the monitoring provisions identified by the Petitioner. Indeed, one commenter noted that EGUs might not have the additional monitoring required by CAA section 129 standards if they were to begin combusting solid waste. In response to this and other comments, the EPA revised the final rule to include provisions based on the CISWI provisions identified in the proposed MATS rule and contained at 40 CFR 60.2145(a)(2) through (6) (*see* 40 CFR 63.10000(f) through (k), and, *e.g.*, RTC, Vol. 1, pp. 274 - 283). Because the Petitioner has not demonstrated that it was impracticable to comment on these issues during the comment period, the EPA is denying the petition for reconsideration of these issues.

18.3 Citation correction

Issue 87: Petitioner 20180 asserts that the EPA should revise paragraph 4.1 of Appendix A to correct a citation (from 40 CFR 63.10005(g) to 63.9984(f)) or to eliminate the deadline for Hg CEMS or sorbent trap monitoring systems.

Response to Issue 87: The EPA has addressed this issue in the MATS new source reconsideration rulemaking (*see* 78 FR 24073; April 24, 2013).

18.4 Testing

Issue 88: Petitioner 20180 states that EPA proposed that for CEMS (and sorbent trap monitoring systems) the "performance test" consist of the "first 30 operating days of data collected with the certified monitoring system." In comments, Petitioner asked EPA to allow EGUs to specify when a performance test based on CEMS starts, explaining that there are good reasons why an EGU may need to delay the performance test to some point after monitoring system certification and that some monitoring systems may have been certified years ago (noting that the EPA did not define in the proposed rule the point at which new systems are deemed "certified"). In response to Petitioner's comments, Petitioner notes that 40 CFR 63.10005(a)(2) was changed to state that the performance test consists of "30 boiler operating days of data collected by the initial compliance demonstration date…with the certified monitoring system." However, Petitioner indicates that 40 CFR 63.10011(c)(1) and (2) still describe the performance test for Hg CEMS (or a sorbent trap monitoring system) and for SO_2 and PM CEMS as "the first 30-boiler operating day rolling average emission rate obtained with certified CEMS after the applicable date in 40 CFR 64.9984 (or, if applicable, prior to that date, as described in 40 CFR 63.10005(b)(2))." Petitioner asserts that to implement its stated intent, the EPA must remove the reference to the "first" average in 40 CFR 63.10011(c)(1) and (2) as well.

Response to Issue 88: Petitioner acknowledges that it raised this issue during the comment period for the proposal and that the EPA responded to the comments on this issue (*see* RTC, Vol. 2, pp. 450 – 451). The EPA noted that the final rule had been revised so that the 30-day test is no longer tied to the certification of the CEMS or sorbent trap monitoring system and that the requirements for the mandatory use of PS-11 had been removed from the final rule. The comments the EPA received on this issue demonstrate that Petitioner had ample opportunity to comment on these issues, and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying reconsideration of this issue.

Issue 89: Petitioner 20180 claims that the EPA should issue a proposal that explains why a grace period would compromise data integrity and why the single-level system integrity check for Hg CEMS should be treated differently than other Hg CEMS quality assurance tests. Petitioner also claims that the EPA should revise other portions of the rule in order to clarify that the single-level system integrity check for Hg CEMS does not have to be performed on the same day each week and could be performed early.

Petitioner 20180 suggests that the rule contain a grace period for quality assurance testing intervals for PM CEMS, as the rule does for HCl and HF CEMS.

Response to Issue 89: Petitioner acknowledges that it raised this issue during the comment period for the proposal, and the EPA responded to the comments on this issue in the RTC (*see*, *e.g.*, Vol. 2, pp. 25 - 26, 106 - 109, 116 - 117, 127 - 128, and 227). As mentioned in the responses, the EPA agrees that a grace period similar to the 40 CFR Part 75 RATA grace period provisions should be provided for RATA testing and these provisions were added to Appendices A and B; however, the EPA disagrees that grace period provisions should be provided for the performance testing requirements because the tests need to occur at the scheduled intervals in order to maintain the rule's compliance timeframe. The comments the EPA received on these issues demonstrate that Petitioner had ample opportunity to comment on these issues. Because Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying reconsideration of these issues.

Issue 90: Petitioner 20180 claims that the EPA said in the response to comment document that it would amend the rule to allow use of Method 30B sorbent traps for up to 15 days for LEE testing and Appendix A sorbent trap monitoring systems, but that the EPA did not change the rule. Petitioner requests that the EPA revise the rule consistent with its stated intent.

Response to Issue 90: The comments the EPA received on this issue, including those from Petitioner, demonstrate that Petitioner had ample opportunity to comment on these issues, and the EPA responded to those comments (*see*, *e.g.*, RTC, Vol. 2, pp. 238 and 247). This issue was further addressed in the Technical Corrections notice proposed on February 17, 2015 (see 80 FR 8448) by proposed revisions to paragraph 5.2.1 of Appendix A which proposes to correct the number of days for sorbent trap use from 14 to 15 days. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying reconsideration of this issue.

Issue 91: Petitioner 20180 claims that in response to its comment, the EPA agreed to revise the final rule to provide procedures for calculating total concentrations under Method 29 but finalized the rule without providing the procedures. Petitioner requests that the EPA revise Table 5 to reflect the appropriate procedure.

Response to Issue 91: The Petitioner sought instruction on how to combine the front and back half fraction of metals determined using Method 29, in order to determine total metals emissions.

The EPA disagrees with Petitioner's claim that additional instruction are needed. Method 29, available at Appendix A-8 to 40 CFR 60, already contains requirements for reporting metals, so no additional direction should be needed. However, the EPA responded to the Petitioner's comments by changing Table 5 to require reporting of both the front half and back half value (*see*, *e.g.*, RTC, Vol. 2, p. 20 and section 2 of Table 5 to the MATS rule). The fact that Petitioner did comment on this issue during the comment period demonstrates that it was not impracticable for them to raise the issue. The EPA responded to the comments. For these reasons we are denying reconsideration of this issue.

Issue 92: Petitioner 20180 claims that the rule's requirement to use Methods 2, 2F, or 2G to determine velocity and the flow rate of stack gas may not be "necessary, or reasonable" because all of the "methods specified in Table 5 to determine concentrations of those pollutants also provide measurements of stack gas velocity and flow;" that the EPA, in response to Petitioner's comment, said the rule had been amended to clarify that use of Method 2 or its equivalent was only necessitated by the calculation of the emissions limit; and that it is unclear where the EPA addressed this change. Petitioner requests that the EPA revise Table 5 with the clarification.

Response to Issue 92: As mentioned above, the Petitioner suggests that the EPA clarify in Table 5 which methods are acceptable for determining velocity and flow rate of stack gas, suggesting that the EPA has not amended the rule to provide such specificity.

The EPA disagrees with Petitioner. The EPA responded to those comments (see the list of acceptable methods for determining velocity and flow rate of stack gas (2, 2A, 2C, 2F, 2G, and 2H) in sections 1, 2, 3, and 4 of Table 5 to the MATS rule, e.g., RTC, Vol. 2, pp. 5 and 6). Because the EPA responded to the comment, the EPA is denying reconsideration of this issue.

18.5 Bypass Stack

Issue 93: Petitioners 20183 and 20180 object to changes from the proposal that allow EGUs with main and bypass stacks to count bypass hours as deviations from monitoring requirements in lieu of installing CEMS on the bypass stacks (if it is infeasible to certify and quality-assure data from such CEMS), because Petitioners claim they were unable to comment on the changes. Petitioners recommend use of other alternatives, including use of default values, clean fuel use (for EGUs that can use clean fuels), or other, unspecified work practices during events in which bypasses occur (especially State-declared emergencies) be allowed.

Response to Issue 93: The EPA disagrees with the Petitioners regarding their claimed inability to comment on the provisions included in the final rule on bypass stack monitoring. The proposed rule would have required EGUs with a main and a bypass stack to install CEMS and other monitoring systems on both stacks. *See* 76 FR 25111 (40 CFR 63.10010(a)(4)). The proposed rule did not provide an alternative to this requirement so noncompliance with the CEMS and other monitoring requirements would have been a deviation and likely a violation of the standard. The EPA received comments on bypass stacks (*see, e.g.*, RTC, Vol. 2, pp. 16, 182, 211-212, and 216) suggesting alternative approaches to addressing bypass stacks and expressing concern with the feasibility of installing CEMS on all bypass stacks. In the final rule, the EPA maintained the CEMS requirement and added an option for EGUs that could not feasibly certify and quality assure a monitoring system on a bypass stack. The final rule further stated that sources that used this option would be required to treat any hours of bypass stack emissions as periods of deviation from the monitoring requirements. Thus, the proposed and final rule contain almost identical provisions in regard to the main requirement (i.e., the requirement to monitor emissions from bypass stacks) The additional flexibility in the final rule, added in response to comments, simply provides sources that can demonstrate an inability to monitor their bypass stack an additional compliance mechanism. To the extent the petitioners are concerned about the labeling of bypass hours as deviations, that issue does not warrant reconsideration because, as

stated above, noncompliance with the proposed rule provision would also have been considered a deviation.

Regarding Petitioners' suggestions for use of other alternatives to monitoring during bypass, those suggestions were not accompanied by any data or information that was unavailable at the time the EPA proposed the MATS rule and the Petitioners have not explained why they were unable to raise these issues during the period for public comment. In addition, EGU owners or operators that believe a specific form of alternative monitoring is suitable for use during periods of bypass operation can submit an alternative monitoring request to the Administrator in accordance with the procedures given in the MACT rule general provisions at 40 CFR 63.8(f).

This issue was further addressed in the Technical Corrections notice proposed on February 17, 2015 (see 80 FR 8444 - 8447) in which we proposed how LEEs could bypass their stacks under limited circumstances by proposed revisions to 10000(c)(1)(i)(C), 10005(h), and 10031(c)(6). In addition, proposed 10010(a)(4) which would require exhaust gas that bypass control devices be routed to stacks with measurement instruments and to clarify that hours that a bypass stack is in operation are to be counted as hours of deviations from monitoring requirements.

Because Petitioners have not demonstrated that it was impracticable to comment on the bypass stack monitoring requirements, we are denying the petition for reconsideration on this issue. We are also denying this petition because Petitioners have not provided new information that was unavailable during the comment period. Finally, we are denying this petition because it is not of central relevance because the EPA's regulations provide a mechanism for sources to obtain alternative monitoring requirements if appropriate given source-specific issues.

19.0 Non-continental liquid oil-fired EGUs

19.1 Subcategory size and applicability

Issue 94: Petitioner 20188 asserts that the final rule has three new subcategories, including "liquid oil-fired, non-continental" (LONC) EGUs and "limited-use oil-fired" EGUs. According to Petitioner, because the scope of these two new subcategories and, in the case of the LONC subcategory, final emission limits, were not available during the public comment period, issues related to the emission limits and other requirements for these two new subcategories are ripe for reconsideration.

Petitioner 20188 states that 31 non-continental EGUs burn liquid oil. Petitioner notes that at the time that the MATS rule was being finalized, the EPA had received ICR data from 15 of these 31 EGUs. Petitioner believes that at least two (Costa Sur 3 and 4) and possibly more of its 14 EGUs actually are or will be in the newly created limited-use liquid oil-fired subcategory. Petitioner also believes that one or more of the EGUs owned by other non-continental utility companies may be in the limited use liquid oil-fired subcategory. Petitioner states that removal of only 2 limited-use EGUs from the data set reduces the actual size of the LONC subcategory to 29 EGUs.

Petitioner states that given the MACT-setting requirements of CAA section 112(d)(3), whether the subcategory's size is more or less than 30 sources is of critical importance in setting MACT emission limits for a subcategory like the newly created LONC subcategory. Petitioner states that because the EPA had data from 15 of the 31 LONC EGUs, it applied CAA section 112(d)(3)'s 12 percent requirement and used the data from two EGUs to set MACT limits. However, asserts Petitioner, with the LONC subcategory actually containing less than 30 EGUs because of two or more EGUs actually being in the limited-use subcategory, CAA section 112(d)(3)(B) dictates that MACT be set at the average emission limits achieved by the best performing five EGUs of the 15 EGUs for which EPA had data.

Petitioner 20188 also requests reconsideration of EPA's decision to establish the limited-use liquid oil-fired subcategory capacity factor threshold at less than 8 percent on two grounds. Petitioner asserts that it did not have the opportunity to comment on the methodology utilized by the EPA to cull its data set and select less than 8 percent rather than another number as the capacity factor threshold for the limited-use liquid oil-fired subcategory. Petitioner believes that the EPA should grant reconsideration on the less than 8 percent capacity factor threshold because that threshold fails to reflect the differences between operation of continental electric systems and non-continental electric systems. According to Petitioner, on isolated non-continental grids, "peaking units likely will run more frequently for reliability purposes than comparable units on the continental grid." Regardless of the EPA's methodology for selecting the less than 8 percent capacity factor threshold, states Petitioner, a data set dominated by continental peaking EGUs, which, because of the nature of the continental grid, operate differently than similar EGUs that must support an isolated non-continental grid, influenced that threshold. Petitioner suggests an amendment to the definition of "limited-use liquid oil-fired subcategory" that would include non-continental oil-fired EGUs with a capacity factor of less than 25 percent in the subcategory.

Response to Issue 94: The EPA specifically identified limited-use or peaking EGUs as a potential subcategory in the proposal notice (76 FR 25037). Further, the EPA solicited comment on other potential subcategory approaches (*see, e.g.*, 76 FR 25037, 25047). In the proposal, the EPA included requests for comments on the bases upon which the subcategories could or should be established and provided guidance on the type of information that would be useful in an analysis of potential subcategories. *Id*. Based on comments received on the proposed rule that the EPA should establish subcategories for non-continental liquid oil-fired EGUs (including comments from Petitioner) and limited-use liquid oil-fired EGUs, the EPA established subcategories for both non-continental liquid oil-fired EGUs (*see, e.g.*, RTC, Vol. 1, pp. 349 - 353, Vol. 2, pp. 334 - 335 and 382 - 383) and limited-use liquid oil-fired EGUs (*see, e.g.*, RTC, Vol. 1, pp. 366 - 389) in the final rule. Because the EPA solicited comments on establishing additional subcategories, including specifically identifying limited use EGUs as a potential subcategory, the EPA maintains that the final rule is a logical outgrowth of the proposed rule. In addition, the comments received on potential subcategories demonstrate that it was not impracticable to comment on these issues during the comment period. For these reasons, the EPA is denying reconsideration on this issue.

The EPA disagrees with Petitioner's contention that limited-use liquid oil-fired EGUs inappropriately are included in the population of non-continental liquid oil-fired EGUs and that the analysis should be changed. Based on Petitioner's responses to the EPA's 2010 ICR, the two EGUs noted by Petitioner as potentially being in the limited-use liquid oil-fired EGU subcategory had average annual capacity factors of 46 and 57 percent for the 3-year period 2007 - 2009, above the value for inclusion in the limited-use subcategory (and well above even Petitioner's suggested cut-off value for inclusion in a limited-use subcategory). The EPA appropriately populated the non-continental liquid oil-fired EGU population based on the data in the record, and the Petitioner has not provide new information or data for these or other units in the category that would support the argument that the units met the limited use liquid oil-fired EGU definition at the time the EPA promulgated the final rule (e.g., by providing capacity factor data from years 2010 - 2012 that shows a capacity factor less than 8 percent). Further, Petitioner did not present any new information justifying why a higher capacity factor threshold for the limited-use liquid oil-fired EGU subcategory for non-continental areas is warranted. Commenters on the proposed MATS rule provided a range of potential capacity factors for the limited use subcategory, and the EPA considered the comments when establishing the capacity factor threshold for limited use EGUs (*see, e.g.*, RTC, Vol. 1, pp. 366 - 389). The fact that the EPA received comments on these issues during the rulemaking process demonstrates that it was not impracticable to comment during the rulemaking process. Petitioners also have not provided new information or data, much less new information or data of central relevance to the rule.

For all of these reasons, the EPA is denying reconsideration on this issue.

19.2 Subcategory data

Issue 95: Petitioner 20188 asserts that when the EPA solicited test data from liquid oil-fired EGUs, the EPA assumed that the subcategory comprised 180 EGUs. From that population, the EPA requested test data from approximately 100 EGUs, or about 56 percent. Petitioner maintains that with a sample size of 180, collecting data from 100 members made sense from a statistical

perspective. However, states Petitioner, when the sample size was reduced to 31, basing MACT floor calculations on data from only 50 percent of the population (15 EGUs) does not make good statistical sense. Petitioner indicates that the EPA should use the reconsideration process to gather data from the 16 EGUs in the LONC subcategory that previously had not been surveyed. Petitioner states that this collection effort could include data from compliance tests already conducted on these EGUs, as the EPA did with continental oil-fired EGUs. According to Petitioner, if EPA had test data from those EGUs, the MACT floors and emission limitations for the subcategory would be based on the best performing four or five LONC EGUs, rather than only one or two, and Petitioner asserts that this is a more statistically sound outcome.

Response to Issue 95: As noted above, the EPA solicited comment on potential additional subcategories and the EPA included a new subcategory for non-continental liquid oil-fired EGUs in response to comments requesting such an approach, including comments from this Petitioner (*see, e.g.*, RTC, Vol. 1, pp. 349 - 353). The comments requesting this subcategory were primarily from commenters that own and operate such units and if they believed the EPA should have additional data from untested units they could have provided those data to EPA. (In fact, the EPA received comments on the proposed rule that it already had data sufficient to establish a non-continental liquid oil-fired subcategory; *see, e.g.*, RTC, Vol. 1, p. 351.) The EPA did not receive new data from non-continental liquid oil-fired EGUs during the comment period, after the comment period prior to the final rule, or during the period for judicial review of the final MATS rule. In any case, the statute does not set a minimum data requirement for subcategories with 30 or more sources as the Petitioner suggests. Specifically, CAA section 112(d)(3)(A) provides, in part, that the EPA shall establish standards that are not less stringent than "the average emission limitation achieved by the best performing 12 percent of the existing sources (*for which the Administrator has emissions information*)." (*Emphasis added*). For these reasons, the issue is not of central relevance to the final rule and we are denying reconsideration for that reason. In addition, the Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period, and the Petitioner did not provide new data or information that became available after the close of the comment period but during the period to request judicial review. The EPA is denying reconsideration for these reasons as well.

19.3 Exclusion of data

Issue 96: Petitioner 20188 contends that the EPA's calculation of the LONC MACT floor for "Total Metals" is flawed, because the EPA excluded all of Petitioner's EGUs from that data set. According to Petitioner, this exclusion reduced the number of EGUs in the data set to seven EGUs, and thus the EPA calculated the floor based on the best performing single boiler. Petitioner surmises that the absence of cobalt data from Petitioner's EGUs in the EPA data base was the reason for the data omission. Petitioner asserts that this absence resulted from the omission of cobalt from the original version of the EPA's Emissions Reporting Tool (ERT), which caused the need for separate entry of cobalt into files prior to submittal to the EPA and which data Petitioner states was in the eight written test reports Petitioner submitted to EPA. Petitioner surmises that the EPA did not notice the omission and states that the EPA did not ask Petitioner about the missing data.

Petitioner contends that inclusion of its EGUs in the Total Metals data set would increase the total number of tested EGUs to 15 and the number of EGUs used to calculate the floor to 2. According to Petitioner, the MACT floor recalculated with these data would result in a limit of 0.003 lb/MMBtu (based on a calculated floor of 0.0025 lb/MMBtu) in contrast to the emission limit of *0.00006 lb/MMBtu* adopted in the final MATS Rule. Petitioner maintains that on reconsideration, the EPA should include all available data, including Petitioner's, and reassess the MACT emission limits for the LONC subcategory.

Response to Issue 96: The EPA has completed an exhaustive search of its hard copies and archived electronic copies with regard to Petitioner's submittal of responses to the 2010 ICR. Petitioner's final certified ERT files contained run-level data in the ERT format necessary for bulk uploading, but their final submittals did not contain cobalt data in any form, for any of Petitioner's eight EGUs (i.e., there were no cobalt data in the ERT tables, and there were no attachments included with any of the final ERT files). The EPA is denying the Petition for Reconsideration on this issue because the Petition does not provide sufficient support for its argument to reconsider the rule on this basis, thus the issue is not of central relevance. We are also denying the petition because the issue is also not of central relevance because the EPA is unable to confirm the alleged data exist and, therefore, the EPA could not consider the data even if the issue were reconsidered. Moreover Petitioner had ample opportunity to submit relevant data during the period for public comment and has not demonstrated that it was impracticable to do so.

19.4 Use of outlier data

Issue 97: Petitioner 20191 maintains that the filterable PM data from one of Petitioner's stack tests conducted during the 2010 ICR was abnormally low compared to the test results at some of Petitioner's other EGUs that were combusting the same oil. Petitioner states that it conducted new filterable PM stack testing on the outlier EGU and confirmed that the filterable PM emissions data from the test with abnormally low data values were inaccurate and clearly not representative. Petitioner contends that the EPA should have recognized the abnormally low filterable PM emissions from the subject EGU, classified the stack test as an outlier, and discarded the data. Petitioner acknowledges it cannot explain with certainty why the data appeared to be low. Petitioner also states that it did not identify the subject test results as anomalous when it submitted the data to the EPA through the 2010 ICR because the total HAP metals results for the EGU were consistent with the total HAP metals results for its other EGUs, and Petitioner was unaware that the EPA intended to establish a filterable PM standard. Thus, Petitioner claims it could not have provided comments earlier in the rulemaking process.

Response to Issue 97: The EPA disagrees with Petitioner's contention that because more recent, additional data show different results than the data submitted in response to the 2010 ICR, the initial data are somehow incorrect and notes Petitioner's acknowledgement that it cannot "explain with certainty" the differences. The discrepancy instead shows that there may be variability in the data, which the EPA accounts for in establishing MACT floor standards. Petitioner was obligated to certify through the ERT and the electronic submittal process that the data were correct to the best of its knowledge, and the Petitioner has not claimed that the certification was in error. The EPA conducted a standard outlier test on the data as part of the

UPL analysis and the data passed the test. Petitioner notes that it did not identify the subject test results as being anomalous because "the total HAP metals results for the unit were consistent with the total HAP metals results for its other units." However, the limit in question is the PM limit, not the HAP metals limit, and Petitioner has not identified any similar analyses of its PM data. In addition, Petitioner's assertions that the standard would have been less stringent if the supposed "outlier" was excluded is unsubstantiated because it is possible that its EGU would not have remained in the MACT floor after exclusion of the data. For this reason, the issue is not of central relevance.

Further, the data submitted by Petitioner and used by the EPA for the final rule were included in the MACT floor spreadsheets at proposal and Petitioner could have commented on the data during the public comment period. That is, the filterable PM data included in the total PM analysis (EPA-HQ-OAR-2009-0234-3040; column CI in "Metallic_oil" tab) at proposal are the same data as were used for the filterable PM analysis (EPA-HQ-OAR-2009-0234-20132, attachment a5; column CU in "Metallic_oil_Metals and Hg_OTUS" tab) at final. Thus, because the EPA established a non-continental liquid oil-fired EGU subcategory and moved to filterable PM based on comments received (including supporting comments from Petitioner on both issues; *see* EPA-HQ-OAR-2009-0234-18477, pp. 8 - 10, 20), Petitioner, as a potential member of this subcategory, should and could have commented on its alleged data issues at proposal as it was aware that the EPA could accept either request made in comments. Petitioner had ample opportunity to raise its data issues in public comments on the proposed rule. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule and because Petitioner does not provide sufficient support for its argument that the rule needs to be reconsidered on this basis, the EPA is denying the Petition for Reconsideration of the issue.

The EPA is also denying the petition because it is not of central relevance. The EPA maintains that it is reasonable to rely on the certified data submitted by industry, and in this case the Agency has no tangible reason to question the validity of the data and Petitioner has not provided new data to support its contention that reconsideration is required. *See White Stallion*, 1222 F.3d at 1249 (finding that the EPA acted reasonably in relying on certified data).

20.0 PM Limits

20.1 Filterable PM as a surrogate

Issue 98: Petitioner 20187 alleges that filterable PM is not a valid surrogate for As, Se, and other non-Hg metals and states that the EPA should revise the filterable PM standard used as a surrogate for non-Hg metals. Petitioner states that during the comment period, the EPA received comments pointing out several problems with its use of total PM as a surrogate for non-Hg metals and that rather than correct these problems, the EPA exacerbated them by announcing in the final rule that it would instead use filterable PM as a surrogate for all non-Hg metals.

Petitioner notes that the EPA's rationale for switching to filterable PM as a surrogate for non-Hg metals is that "no specific particulate form provided a consistently superior indicator of better metals control" (77 FR 9402) and characterizes this rationale as "cursory." Petitioner maintains that the relevant test is not whether filterable PM is a better or worse surrogate than total PM but whether (1) all the metals for which EPA seeks to use filterable PM as a surrogate (here, all non-Hg metals) are "invariably" present in the surrogate pollutant; (2) methods to control or capture filterable PM "indiscriminately" control or capture all non-Hg metals as well; and (3) controls of filterable PM are the "only means" by which facilities "achieve" reductions of non-Hg metals.

Petitioner maintains that a surrogate must meet all three prongs of this test to be valid and that filterable PM meets none of them. According to Petitioner, first "vapor-phase" metals are not "invariably" present in filterable PM because they are not filterable particles; Petitioner states that the EPA "admits" this. Second, states the Petitioner, the methods to control or capture filterable PM do not "indiscriminately" control or capture non-Hg metals as well as filterable PM. Petitioner states that filterable PM also fails the third part of the *National Lime Ass'n* surrogacy test; the control of filterable PM, as with total PM, is not the only means by which facilities achieve reductions in non-Hg metals.

Petitioner alleges that the EPA claims that some metals might be controlled by acid gas control measures in attempt to dismiss the flaws in its use of filterable PM as a surrogate for non-Hg metals. Petitioner maintains that the EPA does not claim that any acid gas is a surrogate for any of the non-Hg metals and that accordingly the EPA's discussion of the alleged effects of acid gas control on non-Hg metals is irrelevant. Petitioner states that if the EPA wished to use some acid gas as a surrogate for specific non-Hg metals, it could have proposed to do so and provided support for the reasonableness of such a surrogacy relationship in the record. Petitioner states that the only purported surrogate for non-Hg metals in the final rule, however, is filterable PM, characterizes that surrogacy relationship as "unlawful" and "unreasonable," and asserts that the possibility that emissions of some non-Hg metals might also be affected by acid gas controls does not render that relationship any less "unlawful" or "unreasonable."

Response to Issue 98: The issue of the use of PM as a surrogate for the non-Hg metal HAP was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.,* Vol. 1, section 4F01a, pp. 728 - 735). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Petitioners thus have not

demonstrated that it was impracticable to comment on whether total PM or filterable PM should be used as the surrogate. Indeed, a number of commenters also specifically raised the issue of whether total PM or filterable PM should be used as a surrogate. Commenters argued that the EPA should use filterable PM as a surrogate for non-Hg metal HAP instead of total PM, in part because of testing concerns associated with total PM testing. (RTC, Vol. 1, pp. 736 - 751.) In addition, the EPA has historically used filterable PM as a surrogate for non-Hg metal HAP. (*See, e.g.*, Industrial Boilers NESHAP (80 FR 3114 - 3119; January 21, 2015); Portland Cement (75 FR 54971-2, 54974, 54987, 55020; September 9, 2010)). Moreover, Petitioner's fundamental objection goes to the use of any form of PM as a surrogate for the metallic HAP, not specifically to whether total PM or filterable PM should be used as the surrogate. For all of these reasons, Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period for the proposed rule, and the EPA is therefore denying the Petition for Reconsideration of the issue.

Further, the EPA specifically addressed the relationship between HAP metals and both filterable and total PM in the RTC (Vol. 1, pp. 733 - 734). As noted in the RTC, the EPA re-assessed the relationships between individual metal emissions, filterable PM emissions, total PM emissions and total $PM_{2.5}$ emissions, compared the measured emissions of metals and particulate with the uncontrolled emissions estimates, and found that the control of metals emissions (i.e., removal from the flue gas stream) was generally consistent with that of filterable PM. In addition, the EPA compared the correlations associated with non-Hg HAP metal emissions and the three forms of PM and found that no specific particulate form provided a consistently superior indicator of better metals control. In addition, the EPA noted that the vapor fraction of non-Hg metals form acid gases and that the controls for HCl and SO_2 would indiscriminately control the non-Hg metal acid gases. For these reasons, the EPA maintains that the switch from total to filterable PM is not of central relevance to the rulemaking, and the EPA is denying the petition for reconsideration of the issue.

20.2 Requirement for fuel sampling

Issue 99: Petitioner 20187 states that the EPA's final rule does not require sampling of the HAP metal concentrations in coal burned in boilers for EGUs that adopt the PM surrogate and that emissions of PM cannot be used to predict the release of As, Cr, and other metals in the absence of reasonably accurate information about the concentration of specific metals in the coal that is being burned. Petitioner maintains that concentration of metals in coal can vary widely, and testing for the metal content of coal as it is fired is critical to understanding the amount of metals emitted during coal firing and that the range in metals concentrations can have a significant impact on the amount of metals emissions released at power plants. Petitioner indicates that it understands that the EPA's final rule is meant to take variability into account, and that metal concentrations measured at the mine may be higher than they are in coal that is actually burned due to coal washing and other practices, but Petitioner maintains that the variability in HAP-content of coal is significant enough to justify sampling of specific metals during the annual PM stack tests the rule requires.

Response to Issue 99: The issue of fuel sampling was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see*,

e.g., Vol. 2, section 5A03, pp. 45 - 60). The comments EPA received on fuel sampling demonstrate that it was not impracticable to comment on the issue during the comment period.

Many of the comments pointed to the technical issues associated with analysis of the fuel samples at the low HAP constituent concentrations expected to be found for certain pollutants at various times. The requirement for fuel sampling was changed based on the legitimate challenges to fuel sampling that were identified in the public comments. In addition, the Agency did solicit comment on whether the Agency should require stack testing for total metals or PM from liquid oil-fired EGUs instead of requiring fuel sampling only, so EPA was considering whether fuel sampling alone was appropriate. For these reasons, the petition on this issue is not of central relevance.

In addition, for coal-fired EGUs, the EPA proposed to require stack testing for all the standards and also proposed to require fuel sampling. The compliance mechanism for coal-fired EGUs was and is stack testing, and the fuel sampling was additional testing that was not associated with demonstrating compliance with the final standards. While the Agency maintains that it has the authority to require this testing, because it was not actually associated with demonstrating compliance, it is not of central relevance.

For the reasons above, the EPA is denying the petition for reconsideration of this issue.

20.3 Methodology for calculating PM floor

Issue 100: Petitioner 20187 maintains that the EPA used inconsistent measures of EGUs' actual performance, which resulted in a standard that "exceeds the statutory maximum." Petitioner states that when choosing its "best performing" EGUs, the EPA defined the EGUs' performance as each EGU's single lowest test (the lowest result from all available three-run stack tests in the last 5-plus years for that EGU). Petitioner asserts that when calculating the "average emissions" of those best-performing EGUs, however, the EPA measured the EGUs' performance differently by first including additional stack tests in the Agency's record for each EGU, rather than the single lowest test, and secondly, by adjusting the EGUs' performance (via an Upper Prediction Limit (UPL)) to account for purported variability within and between those EGUs' emissions.

Response to Issue 100: The issue of the approach used to establish the MACT floors was raised in public comments submitted in response to the May 3, 2011, proposed MATS rule (76 FR 24976). The EPA's responses to the comments are in the RTC (*see*, *e.g.*, Vol. 1, pp. 435 - 436, 519 - 520, and 577 - 578). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of the issue.

In addition, the EPA ranked the EGUs and established all the MATS MACT standards in the same manner and the issue could have been raised in the *White Stallion* litigation. As the Court may only consider issues raised during the period for public comment, issues that could have been raised in the litigation and addressed by the Court clearly do not meet the criteria for

reconsideration in CAA section 307(d)(7)(B). Moreover, Petitioner has not presented information that provides substantial support for an argument that the rule should be revised or that any error warranting reconsideration exists. For this reason, we are also denying the petition as not of central relevance.

20.4 The Agency improperly assumed that its data captured all best performing EGUs

Issue 101: Petitioner 20187 states that the EPA based its PM floor for existing coal-fired plants on data from 130 EGUs, which represent 12 percent of the total fleet (1,091 EGUs) rather than 12 percent of the EGUs for which the Agency had "emissions information" (approximately 720 EGUs). Petitioner notes that in the RTC the EPA states that it based that decision on its belief that it "identified and required testing from the best performing 15 percent of EGUs for non-Hg metal HAP" (RTC, Vol.1 at pp. 473 - 474) by collecting data from "the 175 units with the newest PM controls installed."

Petitioner maintains that the results of EPA's analysis, however, indicate that the best performing EGUs are not those with "newest PM controls installed." Petitioner states that of the 130 EGUs constituting EPA's floor pool for coal-fired EGUs, 60 have PM controls (including devices such as SO_2 scrubbers which incidentally control PM) installed before 2000. Petitioner alleges that demonstrates that a significant fraction of low PM-emission coal-fired EGUs use older controls. Petitioner states that the EPA cannot therefore assume that its data includes all the best-performing EGUs and that the Agency's record suggests that a significant number of best-performing EGUs lie outside its data-set. Petitioner states that at a minimum, the Agency should use the data in its possession to craft a better estimate of the number of sources that should be included in its floor pool, in light of its knowledge that a significant fraction of sources outside its data-set are performing at levels lower than those for which it has data.

Response to Issue 101: As Petitioner notes, the issue of the pool of sources used to establish the MACT floor was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 1, pp. 473 - 474). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of the issue.

In addition, the EPA used this approach in both the proposed and final rules and the issue could have been raised in the *White Stallion* litigation. No parties challenged this aspect of the standard setting process and we do not believe any errors warranting reconsideration exist.

20.5 Beyond-the-floor (BTF) analysis for PM

Issue 102: Petitioner 20187 notes that the EPA does not revisit its refusal to undertake a BTF analysis for total filterable PM. Petitioner notes that at proposal, the EPA based its refusal to set a BTF standard for existing coal-fired EGUs on two rationales. Petitioner states that first, the EPA stated that the proposed standard required use of a fabric filter (FF), and that the only available method of further reducing PM emissions would be combining multiple FFs, which the

EPA deemed to be not cost effective, and second, the EPA asserted that "there is simply not enough long term performance data under actual power plant conditions to justify establishing a beyond-the-floor standard based on filter efficiency." Petitioner asserts that regardless of their merit as to the EPA's total PM surrogate initially proposed, those rationales do not justify the EPA's refusal to set a BTF standard for the filterable PM standard adopted by the final rule. Petitioner notes that the final standard does not require use of a FF and that the EPA "maintain[s]" instead "that the standards are achievable at all time[s], even with an [electro-static precipitator (ESP)]." Petitioner states that most – 76 out of 130 – of the coal-fired EGUs identified as best performers by EPA lack a FF (they instead utilize an ESP). Petitioner maintains that FFs provide superior reductions to ESPs, and can achieve PM emissions below the final limits. Petitioner asserts that review of recent permit limits set pursuant to BACT showed that multiple EGUs had filterable PM BACT determinations well below the final limit using baghouses. Petitioner alleges that the EPA should establish a BTF standard for existing, coal-fired EGUs at a rate lower than the final limit and/or an averaging time below 30 boiler-operating days.

Response to Issue 102: The EPA received comments on the BTF analysis in the proposed rule, including comments on the PM BTF analysis, and the EPA responded to the comments (*see, e.g.*, RTC, Vol. 1, section 4C05). We do not agree with the Petitioner's contention that the change from total to filterable PM undermines the legitimacy of the PM BTF analysis, and the petition does not provide new data and information that cause us to question our conclusion. As stated in the RTC (Vol. 1, page 668), the EPA believes that its decision to not set beyond-the-floor emission limits for PM is reasonable based on the available information. Although the EPA does encourage use of the best performing filters, there is simply not enough long term performance data under actual power plant conditions to justify establishing a beyond-the-floor standard based on filter efficiency. Because the public had an opportunity to comment on the BTF analysis for PM, we are denying reconsideration of this issue.

In addition, the EPA has utilized permit data in MATS and in other MACT standards. However, the EPA believes that where sufficient emission test data are available, as is the case with most of the MATS categories, those data should be used over permit data. Therefore, the EPA used the data available to the Agency in establishing the coal-fired EGU PM emission limit. A review of the MACT floor pool of sources used to set the final limit (130 EGUs) indicates that both FFs and ESPs are employed by the best performing sources. Our review revealed 67 units using FF only, 54 units using ESP only, and another 9 units that employed some combination of ESP + another downstream polishing PM control device. Units using ESPs only were distributed throughout the top 130 best performing units. At proposal the EPA indicated that "... we could not identify better HAP emissions reduction approaches that could achieve greater emissions reductions of HAP than the control technology combination(s) ... that we expect will be used to meet the MACT floor levels of control (and that are already in use on EGUs comprising the top performing 12 percent of sources), though we did consider duplicate controls (e.g., multiple scrubbers) in series and found the cost of that option unreasonable." In modeling for the proposed rule, the EPA predicted installation of 166 GW of FF (beyond that predicted for the base case). However, some of the FF installations were tied directly to use of dry sorbent injection (DSI) (predicted 56 GW over base case) and activated carbon injection (predicted 93 GW over base case). In the final rule, the EPA recognized in the modeling that well performing

ESPs could meet the filterable PM emission limit. In documentation supporting the IPM modeling for the final MATS rule, the filterable PM compliance technologies for existing units are described as follows:

> In the MATS policy case all coal units with a capacity greater than 25 MW must meet the filterable PM compliance requirement. Units that have an existing fabric filter are assumed to meet the requirement. Depending on the incremental filterable PM reduction needed to bring a unit into compliance, uncontrolled units and units with electrostatic precipitators (ESPs) for PM control that do not currently meet their compliance requirement are assigned either a fabric filter or one of three tiered ESP upgrades to bring them into compliance.

Thus, the EPA assumed that an EGU that is not in compliance would choose to install a fabric filter or, depending upon the incremental PM reduction needed, would choose to upgrade their ESP. In modeling for the final rule, the EPA predicted installation of 102 GW of FF (beyond that predicted for the base case). However, as with the modeling for the proposal, some of the FF installations were tied directly to use of DSI (predicted 43 GW over base case) and activated carbon injection (predicted 141 GW over base case). For the final rule, the EPA predicted that 34 GW of ESP capacity would be upgraded in order to meet the final PM standard. Consistent with our position at proposal, the EPA continued to believe - and the modeling supported it - that the PM emission standard would be met primarily by use of existing and newly installed FFs or by upgraded ESPs that achieve a performance very similar to existing FFs. For these reasons, the issue is not of central relevance to the final MATS rule and the EPA is denying the Petition for Reconsideration of this issue.

20.6 Final PM "MACT" floor for existing coal-fired EGUs is weaker than existing PM limits at more than 12 percent of EGUs subject to the rule

Issue 103: Petitioner 20187 notes that, as the EPA has acknowledged, "[u]nits complying with stringent PM limits represent the top performers with regard to non-Hg metallic HAP emissions…" Yet in establishing final PM standards, Petitioner alleges that the EPA apparently did not evaluate the PM limits already in effect.

Petitioner states that, through a partial review of existing PM standards at existing plants, it has identified 161 units that already have to meet PM emission limits at 0.03 lb/MMBtu or below on an *hourly* basis, which is well above 12 percent of the 1,100 sources subject to the rule. Petitioner notes that compliance determinations for such units are usually based on a 3-hour rolling average, which is far more stringent than the 30-day rolling average adopted in the final MATS. Petitioner maintains that these limits are found in Title V permits or consent decrees, sources that are readily available to EPA and that some have been in place for over two decades.

Petitioner states that many of these are based on the hourly limits established under subpart Da of the new source performance standards (NSPS). Those NSPS apply to any unit for which construction commenced after September 18, 1978. The Subpart Da limit adopted at that time applies on a unit specific basis, i.e., facilities cannot average compliance across multiple units. Compliance is generally determined by stack testing, but all Title V permits are required to

include additional methods for determining compliance with such limits on an hourly basis (or 3-hour average).

Petitioner alleges that, in other words, the proposed MATS limits are less stringent than the limits that the EPA has imposed on any new or modified coal unit 34 years ago, and less stringent than limits with which at least 161 units in operation today claim to continuously comply. Petitioner maintains that by allowing compliance with an 0.03 lb/MMBtu filterable PM limit to be averaged across 30 days and multiple units, the MATS limit adopted by EPA is much less stringent than NSPS standards in effect since 1978, and already met or exceeded at more than 12 percent of existing sources.

Response to Issue 103: CAA section 112(d)(3) requires the EPA to establish MACT floors based on the performance of the best performing 12 percent of existing sources in a subcategory for which the Agency has data for subcategories with 30 or more sources (and the best 5 sources for subcategories with less than 30 sources). In establishing the standard, the EPA utilized the extensive emission test data available to the Agency to determine the MACT floors. The EPA also determined that a beyond-the-floor level of control was not appropriate. The fact, if correct, that more than 12 percent of coal-fired EGUs meet the final limit does not make the standard invalid or insufficiently stringent. Coal-fired EGUs are almost universally subject to a PM standard and the fact that a large number of such units meet the calculated MACT standard does not make the standard invalid, and it is to be expected.

In addition, the EPA requested data through the 2010 ICR and used the data available to the Agency in establishing the coal-fired EGU PM emission limits. That is, the EPA evaluated PM emissions through the available emissions data from more than the 161 EGUs noted by Petitioner rather than evaluating what these EGUs were supposed to be achieving as evidenced by their permit or consent decree requirements. The EPA believes that Petitioner is misinterpreting the information – a stack test conducted over a 3-hour period does not equate to an hourly emission limit, and most of the limits Petitioner provides in its Attachment are not indicated as being hourly limits (nor are the provided data sufficient to reassess the final MATS emission limits). The EPA believes that the final rule, which requires continuous compliance on a 30-day rolling average basis, is more protective of the environment than one based on an annual manual stack test.

For these reasons, the issue is not of central relevance to the final MATS rule, and EPA is denying the Petition for Reconsideration of this issue. In addition to not being of central relevance, because the Petitioner has not explained why it could not have commented on this issue during the comment period, we are also denying reconsideration for that reason as well.

20.7 Solid oil-derived fuel-fired EGUs

Issue 104: Petitioner 20173 alleges that, based on technical documents that revealed a significant number of datasets, 32 out of the 47, were excluded from the EPA's emissions floor analysis. The omitted data included reported filterable PM test results from both Phase II and Phase III of the EPA's 2010 ICR databases that were used in the final rule. Petitioner maintains that the EPA technical documents made available along with the final rule reveal that the EPA did not

consider all of the available PM emission data collected from existing petroleum coke EGUs in setting the filterable PM standard. Petitioner states that it and other commenters were unable to evaluate EPA's calculation of the filterable PM standard until these technical documents were released along with the final rule, well after the public comment period closed. Petitioner thus alleges that Commenters were denied a meaningful opportunity to submit comments regarding the final filterable PM standards and the floor analysis, as the EPA's proposal was an entirely different approach imposing emission standards for total PM. Petitioner also alleges that the EPA's original floor analysis contained a number of significant flaws that resulted in standards that were biased low in most cases, including inappropriate handling of non-detect values, determining the units in the emissions floor pool (e.g., "pool determinate method") based on minimum test averages, and using inadequate criteria to determine the appropriate UPL methodology to address variability. For the PM standards, Petitioner states that there were additional problems such as inconsistencies in calculating the UPL compared with other subcategories and the exclusion of significant amounts of PM emissions data obtained under Phase II of the ICR.

Response to Issue 104: Petitioner cites to the EPA's 2010 ICR to support this assertion, but fails to identify which datasets the EPA "ignored." It appears from Petitioner's attachment that the 47 datasets quoted are run-by-run data from the top 5 units; however, the EPA was not able to match the number of runs Petitioner says are available for each EGU (Petitioner's Table 2 in the attachment) as the text is not detailed enough. Petitioner also has claimed to screen the ICR data to exclude runs where (1) the petcoke firing rate was less than 90 percent of total rated capacity, (2) there was missing fuel data during the test, and (3) there were potential test issues identified in the database or by the source test contractor. The EPA tried to replicate Petitioner's item (1) with the boiler rated capacity data available in the database to see if this brought our data set closer to Petitioner's count, but we could not see how Petitioner arrived at 47 run-level data points. When the EPA looked to screen the available data for the 90 percent of total heat input, we did not see any data drop out. Absent Petitioner's spreadsheet, showing the data used and the data rejected, we cannot replicate their MACT floor result.

The data used between proposal and final (as presented in the MACT floor spreadsheets) did not change. The data used by the EPA at final in establishing the filterable PM limit were included in the MACT floor spreadsheets at proposal and stakeholders could have commented on the data and analyses during the public comment period. That is, the filterable PM data included in the total PM analysis (EPA-HQ-OAR-2009-0234-3040; column CM in "Filterable PM_petcoke" tab) at proposal are the same data as were used for the filterable PM analysis (EPA-HQ-OAR-2009-0234-20132, attachment a7; column CI in "Filterable PM_petcoke" tab) at final. Further, the EPA moved to filterable PM based on comments received (including supporting comments from Petitioner), and Petitioner should and could have commented on the alleged data issues at proposal as it was aware that the EPA could accept the request to switch formats made in comments. Petitioner had ample opportunity to raise its data issues in public comments on the proposed rule. Because Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule and because the issue is not of central relevance, the EPA is denying the Petition for Reconsideration of the issue.

The EPA did not ignore relevant data sets related to pet-coke units, as Petitioner argues. Additionally, the EPA did not rely on data where the pet-coke firing rate was less than 90 percent of the total heat input during a particular performance test in order to ensure that the standards were not based on EGUs that fired a significant amount of a different fuel, which potentially excluded some of Petitioner's data sets. As for all the subcategories in the MATS Rule, the EPA also excluded 2010 ICR data where there was missing fuel data, or where the source test contractor identified potential test issues. *See* Docket ID EPA-HQ-OAR-2009-0234-20220, Reconsideration MACT Floor Memo. The EPA did not subject pet-coke units to disparate statistical treatment, and its approach was reasonable because the EPA used this same approach for other small data sets (e.g., for the IGCC subcategory).

Responses to Petitioner's other issues (e.g., use of non-detects, selection of the MACT floor pool of sources, and use of the UPL) are addressed elsewhere in this document.

Because the Petitioner has failed to demonstrate it was impractical to comment on this issue in the proposed rule, and because the Petitioner has not provided new relevant information or data that became available after the close of the comment period but during the time specified for seeking judicial review, we are denying this petition. In addition, we are denying the petition because it is not of central relevance for the reasons discussed above.

21.0 Regulatory Impact Analysis and Statutory or Executive Order Analyses

21.1 Regulatory Impact Analysis (RIA) for non-continental liquid oil-fired EGUs

Issue 105: Petitioner 20188 states that the EPA should complete a separate RIA to address the specific impacts for the non-continental liquid oil-fired EGU sub-category. Petitioner cites CAA section 112(d)(2) to support its assertion that the EPA was required to consider costs, benefits, and other impacts when setting the MATS emission limits. Petitioner believes that this mandate extends to subcategories that may have different economic considerations than other subcategories; in this situation this includes the facts that each non-continental area is an isolated grid without interconnections that allow least-cost dispatch, current non-continental electric rates are substantially higher than continental rates, and access to alternative fuels is more limited and costly.

Response to Issue 105: EPA fully complied with the executive order requirements to prepare a regulatory impact analysis (RIA) for this final rule. The purpose of the RIA is in part to evaluate the cost and benefits of the promulgated standards, but the RIA is not directly relied upon during the rulemaking process. Moreover, even if EPA had prepared a separate analysis of impacts on the non-continental liquid oil-fired EGU sub-category, it would not have altered the MACT standards for sources in that category, which were set at the minimum level of stringency permitted by the statute. CAA section 112(d)(2) states that emission standards set under that section shall require the maximum degree of reduction in emissions that the Administrator determines is achievable. CAA section 112(d)(2) does allow for consideration of costs and other impacts. CAA section 112(d)(3), however, specifies that the level of emission reduction deemed achievable for new sources shall not be less stringent than the emission control achieved by the best controlled similar source (the minimum stringency level of control is the MACT floor). Similarly, the CAA requires that the existing source MACT floor shall not be less stringent than the average level of HAP emission control achieved by the top 12 percent of sources for each category or subcategory with 30 or more sources and the best performing 5 sources for each category or subcategory with less than 30 sources. All of the MACT standards for non-continental EGUs are set at this minimum stringency level, and thus would not have been impacted by additional analyses of other considerations. For these reasons, Petitioner's objection is not of central relevance, and we are denying the petition for reconsideration on this issue.

Additionally, the EPA disagrees that it is obligated under any law or executive order to produce a separate RIA for any individual subcategory of regulated sources and notes that it has not produced such an analysis for any other subcategory of sources subject to MATS. The EPA agrees with Petitioner's view that the unique considerations faced by non-continental EGUs, including their limited ability to obtain alternative fuels that produce different emissions characteristics, warrant a separate subcategory for these EGUs and, in response to data received after publication of proposed rule, the EPA included such a subcategory in the final rule. The final MATS RIA (EPA-HQ-OAR-2009-0234-20131) includes costs for oil-fired EGUs that were not included in the proposal analysis. Although the EPA does not estimate specific costs or benefits for non-continental liquid oil-fired EGUs, in Chapter 3 of the RIA the EPA notes that the data suggest the final MATS emission limitations for non-continental EGUs will likely allow these EGUs to continue firing residual fuel oil without additional air pollution controls (p. 3-29).

Petitioner does not introduce any additional data that would cause the EPA to reassess this conclusion. Although Petitioner notes that it would incur significant costs if forced to achieve compliance with MATS by burning distillate rather than residual oil, MATS does not force the use of any specific compliance method. Further, Petitioner admits that it is not planning to comply by that method, making the estimated cost data irrelevant.

21.2 Regulatory Flexibility Act (RFA) and Small Business Regulatory Enforcement Fairness Act (SBREFA) issues

Issue 106: Petitioner 20189 states that the EPA failed to meet its obligations under the Regulatory Flexibility Act (RFA) and Small Business Regulatory Enforcement Fairness Act (SBREFA). Specifically, Petitioner states that the SBREFA panel EPA conducted was inadequate, the Initial Regulatory Flexibility Analysis (IRFA) and Final Regulatory Flexibility Analysis (FRFA) failed to meet the requirements set out in RFA sections 603 and 604, and the FRFA does not recognize the unique problems faced by public power utilities.

Response to Issue 106: These issues were raised in public comments submitted in response to the May 3, 2011, proposed MATS rule (76 FR 24976). The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 2, pp. 669 - 675). The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment on these issues, and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of these issues.

Petitioner had ample opportunity to comment on the Initial Regulatory Flexibility Analysis, and those comments were taken into account in developing the FRFA, which accompanies the final rule. The commenter does not raise any new issues beyond those already addressed in the RTC document regarding the IRFA and does not introduce new information related to the FRFA. The EPA is not required to provide additional opportunity to comment on the agency's responses to comments received on these issues.

In addition, this issue is not of central relevance under the CAA because the statute does not require consideration of the FRFA when acting under section 112. Alleged noncompliance by the EPA with these requirements could also have been raised in the *White Stallion* litigation. No parties challenged the Agency's actions in implementing the FRFA requirements and we do not believe any errors exist in the manner we implemented these separate statutory mandates.

21.3 Unfunded Mandate Reform Act (UMRA) and Executive Order 13132 (Federalism) issues

Issue 107: Petitioner 20189 states that the EPA failed to meet its obligations under the Unfunded Mandates Reform Act of 1995 (UMRA) and Executive Order 13132 (Federalism). Specifically, Petitioner states that the EPA did not conduct required consultation with municipal governments and violated the requirements of Title II of the UMRA.

Response to Issue 107: These issues were raised in public comments submitted in response to the proposed MATS rule published May 3, 2011 (76 FY 24976). The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 2, pp. 676 - 680). The comments that the EPA received on these issues demonstrate that the public had ample opportunity to comment on these issues, and the EPA responded to those comments. Alleged noncompliance by the EPA with these requirements could also have been raised in the *White Stallion* litigation. As the Court may only consider issues raised during the period for public comment, issues that could have been raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). Because Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of these issues.

In addition, these issues are not of central relevance under the CAA because the statute does not require consideration of any UMRA or Executive Order 13132 analyses when acting under CAA section 112. Moreover, the EPA does not believe Petitioner has identified any errors in the manner we implemented this separate statutory mandate.

21.4 Methodological issues in estimates of $PM_{2.5}$ co-benefits

Issue 108: Petitioner 20180, att. 6 claims that the EPA did not respond to methodological issues identified in the Greven, et al., (2011) study[92] regarding the epidemiology studies used to estimate $PM_{2.5}$ co-benefits in the RIA. Petitioner also expresses concerns with the EPA's treatment of uncertainty in benefits estimates, differential toxicity of particle species, and mortality valuation that differs from other federal agencies.

Response to Issue 108: The purpose of a RIA is to inform the public about the potential costs, potential benefits, and other potential impacts associated with a regulatory action. As stated in the RTC (Vol. 1, p. 62), "[t]he RIA is not a requirement of the CAA generally, or CAA section 112 specifically. The agency's legal and factual bases for this rule are set forth in the preambles to the proposed rule and in this final action." Further, as stated in the RTC (Vol. 1, p. 64), "[t]he EPA does not use the benefits estimates in the RIA to support the Appropriate and Necessary Finding. As shown in the Hg and non-Hg risk assessments supporting the finding, Hg and non-Hg HAP continue to pose hazards to public health and the environment, and U.S. EGU emissions cause and contribute to these hazards.'" Therefore, RIA issues are not of central relevance to the "Appropriate and Necessary" finding or to the emission standards established in the final MATS rule, and we are denying reconsideration for that reason.

Further, issues regarding the EPA's methods for calculating $PM_{2.5}$ co-benefits were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to these health benefits comments are in Section 6K (Vol. 2, pp. 624 - 632) of the RTC. The EPA also addressed each of these issues extensively in Chapter 5 of the proposal RIA (EPA-HQ-OAR-2009-0234-3051) and the final RIA (EPA-HQ-OAR-2009-0234-20131). The comments

[92] Greven S, Dominici F, Zeger S. 2011. "An Approach to the Estimation of Chronic Air Pollution Effects Using Spatio-Temporal Information." *J. Amer. Stat. Assoc., 106,* 494, 396-406.

received on these issues demonstrate that the public had ample opportunity to comment on this issue, and the EPA responded to those comments.

Because the issue is not of central relevance to the final MATS rule and because Petitioners did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying reconsideration of this issue.

22.0 Reliability and Compliance Time

22.1 Electricity reliability

Issue 109: Petitioner 20180 stated that the EPA did not include in the docket for public comment certain studies that Petitioner alleges show that the EPA's regulations would have serious effects on reliability. As an example, Petitioner presents a 2010 study by the North American Reliability Corporation (NERC). Petitioner further states that the EPA did not properly consider the impact of MATS on electricity reliability in finding that it was appropriate and necessary to regulate coal and oil-fired power plants under CAA section 112 and cites a FERC staff analysis to support its assertion.

Petitioner argues that the EPA dismissed information that MATS would seriously compromise electricity reliability and asserts that the EPA should grant reconsideration to address the impacts on system reliability and take public comment on all "relevant information." Petitioner states that the EPA should reconsider the rule because the EPA underestimated the number of EGUs that would retire as a consequence of MATS. Petitioner further asserts that the EPA did not do a cumulative analysis of retirements due to MATS and other regulations that were recently or soon to be promulgated.

Petitioner states that there would be short-term reliability impacts at the end of the compliance period, as many plants complete their retrofits during the spring of 2015.

Petitioner also states that the EPA did not account for the effect of impacts to local reliability beyond acknowledging that there could be an impact. Petitioner adds that the EPA is not the proper agency to analyze reliability but regardless, the EPA should reconsider its decision not to analyze local reliability.

Response to Issue 109: The argument put forth by Petitioner that the EPA did not consider the reliability impacts of MATS in developing the rule is not a new comment, and the EPA addressed this at length in the preamble to the proposed rule (76 FR 25054, section V.M.), in the RTC (Vol. 2, p. 287, section 5C01), and in the preamble to the final rule (77 FR 9406, section VII.F.). For this reason, the EPA is denying reconsideration of this petition.

The preambles of both the proposed and final rules as well as of the actions the agency was taking in concert with its federal partners include lengthy discussions of the potential impact of MATS and thus demonstrate that the EPA did consider potential impacts of the rule on electricity reliability. The EPA undertook analysis of the amount of generating capacity that would be retired rather than retrofitted with pollution controls to meet the requirements of the rule. This analysis showed that although local reliability issues could not be ruled out, the bulk power system has adequate resource capacity, even with projected retirements. The EPA also analyzed recent investments by the industry and compared that to what MATS would require, and the EPA concluded that the industry was capable of meeting MATS without compromising reliability. The preamble to the proposed rule discussed these analyses, and they were in the docket, allowing the opportunity for public comment. The DOE also performed a study of resource adequacy under MATS and reached the same conclusion as the EPA.

The EPA explained in the preamble to the final MATS (77 FR 9406, section VII.F.) and in the RTC (Vol. 2, p. 287, section 5C01) that several studies conducted by groups outside of the EPA were seriously flawed. The NERC study and the FERC Preliminary Staff Analysis that Petitioner asserts should have been considered by EPA as part of the rulemaking were both based on assumptions about requirements for the EPA's rules that differed substantially from what the EPA proposed. As such, these studies are not relevant to this rulemaking, and the EPA has no obligation to solicit comment on them and reconsider the rule on this basis. Regarding the FERC staff analysis that Petitioner cited, which remains a staff draft, the FERC chairman stated that the analysis was "inadequate to be used as a basis of decision-making."[93] The EPA agrees with the Chairman of FERC and further notes that this staff draft is not relevant to the appropriate and necessary finding.

The possibility that plants may not be able to retrofit by the end of the compliance period and thus cause a reliability problem was raised during the comment period and is discussed in the preamble to the rule (77 FR 9406, section VII.F.) and in the RTC (Vol. 2, p. 287, section 5C01).

The EPA notes that although the EPA expects that most plants would be able to meet the MATS requirements within the compliance period, when the EPA issued the final rule the EPA offered flexibilities allowable under the CAA in order to avoid the unlikely situation that a plant needed for reliability could not timely comply and hence compromise local reliability. The EPA also encouraged early planning and action to ensure timely compliance with MATS.[94]

The EPA disagrees with Petitioner's assertion that the EPA did not account for local reliability issues. The EPA has worked closely with interested parties since promulgation of the MATS rule to monitor compliance, identify potential reliability concerns, and ensure that any potential problems are addressed, and reliability is not compromised. Parties have included DOE, FERC, states (both their public utility commissions and administrative environmental departments), system operators and other planning authorities, and power generators. Consistent with the analyses of EPA and DOE performed during the rulemaking process, it appears that the tools that these parties have at their disposal are adequate to ensure electric reliability related to MATS compliance and that all parties are moving forward to address reliability concerns related to EGU retirements and outages to install controls. Further, though more cumulative retirements of coal capacity are occurring due to market conditions, existing mechanisms appear to be adequately addressing these retirements.

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[93] Testimony of Chairman Jon Wellinghoff, FERC before the House Subcommittee on Energy and Power of the Committee of Energy and Commerce, US House of Representatives, September 14, 2011.

[94] US Environmental Protection Agency, *An Assessment of the Feasibility of Retrofits for the Mercury and Air Toxics Standards Rule*, EPA-HQ-OAR-2009-0234-20001;
US Environmental Protection Agency, *National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial- Commercial-Institutional Steam Generating Units*, February 16, 2012, 77 FR 9406 – 9411.

The EPA is denying reconsideration because the Petitioner has not demonstrated that it was impracticable to raise these issues during the comment period, because the Petitioner has not provided new data or information that became available before the end of the period for judicial review, and because the issue is not of central relevance to the final MATS rule.

22.2 Policies and procedure for extending the compliance time beyond 3 years

Issue 110: Petitioner 20189 maintains that the EPA brushed aside its concerns that public power entities need additional time for compliance with the rule due to their additional procedural requirements for procuring the equipment, engineering and labor needed for compliance. Petitioner cites the need for public and competitive bidding, procedures for obtaining public bonds, and the use of eminent domain, which might be necessary in some cases. Petitioner also states that because some of its members are small entities, they will not be as able to compete for services, equipment and labor as larger entities are. Petitioner also maintains that the enforcement response policy memorandum that outlines a procedure for the use of Administrative Orders for an additional year to come into compliance does not address Petitioner's members' special needs and notes that it was not subject to public notice and comment.

Petitioner 20180 maintains that the EPA has not provided sufficient time for compliance with the rule and failed to adequately consider comments to that effect. They maintain that not even 5 years is sufficient time to achieve compliance. Petitioner maintains that remedies the EPA presented to address potential issues related to the MATS compliance time frame were inadequate. Petitioner asserts that the fourth year that states can grant for compliance is inadequate, as is the enforcement policy. Petitioner also asserts that the enforcement policy was never subject to notice and comment, and therefore the EPA should grant reconsideration. Petitioner argues that states may take too long to issue a fourth year, and hence the EPA should issue a "general permit" that could be in the rule itself explaining that an additional year is necessary and the conditions under which it applies. Petitioner also states that the requirements for a Presidential Exemption are met and that the EPA should seek a Presidential Exemption.

Response to Issue 110: The EPA provided ample opportunity to comment on the amount of time that public power entities need to install controls. In fact, numerous commenters raised this issue in comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see*, *e.g.*, Vol. 2, pp. 342 - 343). Because Petitioners have not demonstrated that it was impractical to raise this issue during the public comment period, we are denying reconsideration of this issue.

Regarding the enforcement policy memorandum which is the subject of comments from both Petitioners, this memorandum is not a part of the MATS rule. This comment is therefore irrelevant to the final MATS rule and, thus, not of central relevance. Moreover, the enforcement memorandum is not a rulemaking under the CAA and is not subject to notice and comment requirements. For similar reasons, Petitioner 20180's assertion that the EPA should seek a Presidential Exemption is irrelevant to the petition. The President possesses the authority to grant a presidential exemption under CAA section 112(I)(4), not the EPA. Because these issues are not

of central relevance to the MATS rule, we are denying the petitions for reconsideration on this issue.

In addition, the Agency's decision not to issue a blanket extension to public utility companies was challenged in the *White Stallion* case, and Petitioners in that case raised many of the same arguments identified in the petition for reconsideration. The Court affirmed the EPA's decision to reject a blanket extension based on the information in the record. *White Stallion*, 748 F.3d at 1251-52. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). In addition, petitioners have not provided new information or data relevant to that decision and thus the petition does not provide substantial support for an argument that the rule should be revised and the issue is thus not of central relevance.

For these reasons, the EPA is denying the petitions for reconsideration on these issues.

22.3 EPA made erroneous assumptions with regard to ERCOT

Issue 111: Petitioner 20174 states that EPA made erroneous assumptions regarding ERCOT and the Texas electric grid when it analyzed the effects of the rule on electric reliability and that the EPA refused to correct those assumptions for the final rule. Specifically Petitioner maintained that the EPA assumed unlimited transmissions capability with ERCOT and that the EPA used different estimates of capacity, demand, and reserve margins than ERCOT was using.

Response to Issue 111: Issues related to the regional agencies, including ERCOT, were raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 2, pp. 289 - 296 and 324 - 331). Because Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying the petition for reconsideration of the issues.

Furthermore the assumptions that the EPA used in its analysis reflect factors specific to each NERC region, including ERCOT. These factors include the transmission dynamics of Texas and the NERC region ERCOT. See section 3.3 of IPM 4.10 Documentation which details the assumptions regarding the transfer capabilities, wheeling costs, and inter-regional transmission used in EPA's IPM modeling (available at: http://www.epa.gov/airmarkets/progsregs/epa-ipm/BaseCasev410.html#documentation). The EPA's assumptions regarding load modeling, capacity and reserve margins are documented in sections 3.2, 3.5 and 3.6 respectively.

In addition, as explained in the preamble to the final rule, the EPA has made every effort to provide the fullest compliance period allowed by the CAA to assure that plants will have adequate time to come into compliance. The EPA notes that since the rule was promulgated agency staff along with staff from the DOE and the FERC have met regularly with ERCOT to monitor MATS compliance and the efforts of all parties to assure electricity reliability in the region. Because the EPA has provided the maximum time for compliance authorized by the statute, the issue is not of central relevance to the final MATS rule, and, therefore, we are denying reconsideration of this issue for that reason as well.

23.0 Reporting

Issue 112: Petitioner 20180 objects to the requirement to report Hg, HF, and HCl emissions data in a greater number of significant figures than required by the proposed standards and claims it was unable to comment on this requirement because the number of significant figures required to be reported by the final rule changed from those proposed. Petitioner claims that the EPA has provided no data to suggest that the additional figure is significant, or consistent with its calculation of the final emission standards. Petitioner similarly claims it was unable to comment on the rule's requirement to round the 30-day average Hg emissions rate to two significant figures and that no language is found in Appendix A to warrant rounding to two significant figures for Hg emissions.

Response to Issue 112: The EPA disagrees with Petitioner's objection that it was unable to comment on requirements concerning the number of significant figures required to be reported by the final rule for Hg, HF, and HCl emissions. Comments were received on the number of significant figures required to be reported in the proposed rule (*see*, *e.g.*, RTC, Vol. 1, pp. 465, 786; Vol. 2, pp. 126); Petitioner does not explain how or why it was unable to provide comments. Based on comments received concerning reporting of values such that a specific number of decimal places would be provided, the EPA revised the rule's requirement to instead report values to a specific number of significant figures. Such an approach contains three significant figures for hourly concentrations and emission rates, which are then rounded to two significant figures for 30-day averages (which is consistent with the number of significant figures contained in the emissions limits). Those changes to the rule, which are based on public comments, as well as the EPA responses, can be found in the RTC, Vol. 2, p. 126. As the Petitioner has not demonstrated that it was impracticable to comment on the HF and HCl significant figures reporting requirement during the comment period on the proposed MATS rule, the EPA is denying reconsideration of these issues.

Issue 113: Petitioner 20180 states that although the EPA finalized provisions that allow use of a diluent cap for Hg emissions during periods of startup and shutdown, the EPA did not finalize provisions that allow use of a diluent cap for SO_2, HCl, and HF or a megawatt default value for Hg, HCl, HF, PM, and non-Hg metals under low load conditions and that Petitioner was unable to comment on the implications of recording and reporting CEMS values without the benefit of the proposed but not finalized default diluent and megawatt values.

Response to Issue 113: This issue is moot, as the EPA addressed this issue as part of the reconsideration. 77 FR 68785. EPA provided an additional opportunity to comment on the issue in that context. For this reason, the EPA is denying reconsideration of this issue.

Issue 114: Petitioner 20180 objects to the final rule's requirement to evaluate HCl and/or HF monitoring plans using the Emissions Collection and Monitoring Plan System (ECMPS) and claims it was unable to comment on this requirement, as the EPA did not propose it.

Response to Issue 114: In the proposed rule preamble, the EPA mentioned that with just a few tweaks, the ECMPS could be used to evaluate the other monitoring plans, including those for HCl and HF, and the EPA asked for comment on such an approach (*see* 76 FR 25033). A

commenter asked the EPA to include HCl and HF monitoring plan evaluation as part of ECMPS, and after consideration, the EPA made that expansion in the final rule (*see, e.g.*, RTC, Vol. 2, pp. 266 - 271). The EPA disagrees with Petitioner's objection that it was unable to comment on requirements to evaluate HCl and/or HF monitoring plans using the ECMPS. The Petitioner provided comments on requirements to evaluate Hg monitoring plans using the ECMPS, but does not explain how or why it was unable to provide the same type of comments for HCl or HF monitoring plans, especially since the proposed rule pointed out that HCl and HF monitoring plan evaluation could be accomplished via ECMPS and sought comment on the proposal's approach. As the Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed MATS rule, the EPA is denying reconsideration of this issue.

Issue 115: Petitioner 20180 claims that the EPA added requirements for EGU owners or operators to submit reports of startup or shutdown periods without proposing to require such reports; that some of the rule's cites appear to be misplaced, as the cited material does not require report submission; and that it was unable to comment on the requirements because they were not proposed. Petitioner claims that the EPA must propose and solicit comment on such requirements.

Response to Issue 115: The EPA reconsidered the requirements applicable during periods of startup or shutdown, and provided an additional opportunity for public comment on this issue in that context. 77 FR 68777 Therefore, this issue is moot.

Issue 116: Petitioner 20180 claims the nature and purpose of the requirement to include in the notice of compliance a justification for the selection of fuel(s) burned during the performance test is unclear since the EPA did not finalize a requirement from the proposal to conduct performance tests while combusting the worst case fuel or fuel mixture. Petitioner claims the EPA must explain and solicit comment on these requirements.

Response to Issue 116: The EPA denies reconsideration of the rule on this issue. The Petitioner is incorrect to believe that the requirement to have the notification of compliance justify why a particular fuel was used during a performance test is a relic associated with now-removed independent operating limits. Knowing what fuel was used and why that fuel remains an appropriate choice is important for emissions limit applicability determinations, for alternative monitoring option selections, for establishing a baseline for determining when retesting for parametric monitoring operating limits may be required, and, for the EGUs that combust fuels other than fossil fuels or waste, for complying with those fuel combustion requirements. Moreover, the Petitioner has not demonstrated that it was impracticable to comment on this issue. In fact, other commenters did comment on the issue and EPA's responses to those comments are in the RTC (*see, e.g.*, RTC, Vol. 2, p. 263). For these reasons, we are denying reconsideration.

Issue 117: Petitioner 20180 claims that the EPA finalized a requirement to have EGU owners and operators report new types of fuel being combusted, as well as dates of performance testing using the new types of fuel, without having proposed such requirements. Petitioner claims the EPA must explain and solicit comment on these requirements.

Response to Issue 117: The EPA denies reconsideration of the rule on this issue because the promulgated reporting requirements under 40 CFR 63.10031(c)(3) are consistent with the proposed initial testing requirements under 40 CFR 63.10011(b)(1)(i), (2)(i), (3)(i), and (4)(i) that require affected source operators to "determine the fuel type or fuel mixture that you could burn in your EGU that has the highest content" of each regulated HAP prior to conducting the initial performance test, and the promulgated reporting requirements under 40 CFR 63.10031(c)(3) are also consistent with the proposed continuous compliance requirement under 40 CFR 63.10021(a)(2) to "keep records of the type and amount of all fuels burned in each EGU during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of HCl, HF, SO2, non-Hg HAP metals, or Hg, than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of chlorine, fluorine, sulfur, non-Hg HAP metals, or Hg than the maximum values calculated during the last performance tests (if you demonstrate compliance through performance stack testing)." The EPA provided an opportunity to comment on reporting requirements for the rule. Changes to the reporting requirements were based on public comments the EPA received regarding fuel use from EGU owners or operators whose EGUs combust other than fossil fuel or waste and who self-determine or have the EPA determine via petition that their fuel is a non-waste under 40 CFR 241.3 or who combust fuel processed from discarded non-hazardous secondary materials (*see, e.g.*, RTC, Vol. 2, p. 263). The Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule. For this reason, the EPA is denying reconsideration of this issue.

Issue 118: Petitioner 20180 claims that the EPA proposed many duplicative reporting requirements but did not provide regulatory language to implement the reporting using ECMPS, that Petitioner provided extensive comments on the reporting requirements, and that the EPA rejected most of the Petitioner's comments but claimed to have revised the rule to address the duplicative requirements. Petitioner claims it was unable to provide comments on the requirements in the final rule, that the EPA should remove what Petitioner believes to be other duplicative requirements, and that the EPA should provide mechanisms for others to use data already reported to the EPA.

Response to Issue 118: Petitioner acknowledges that it submitted comments during the comment period for the proposal and that the EPA provided responses to the comments on this issue. (*See, e.g.*, RTC, Vol. 2, pp. 128 - 129, 283 - 284, 200 - 201, and 264 - 271). In response to the Petitioner's and other comments, the EPA revised the rule to remove the duplicative requirement to submit hard copies of the Notification of Compliance Status and Compliance Reports to EPA Regions. The EPA also provided the "delegated authority" discretion to require submission of performance test results and RATA reports, believing these changes will address the Petitioner's concerns. As the Petitioner has not demonstrated that it was impracticable to comment on these issues during the comment period, the EPA denies reconsideration of these issues.

Issue 119: Petitioner 20180 claims that in some cases the proposal was not clear with respect to reporting requirements for deviations or excess emissions, that the final rule is still unclear, and

that it was unable to comment on the reporting requirements for deviations or excess emissions contained in the final rule. Petitioner objects to these reporting requirements and suggests that the EPA issue and solicit comment on a proposal that clearly defines these reporting requirements using consistent terminology.

Response to Issue 119: Petitioner appears to believe the terms 'deviation' and 'excess emission' are exclusive; this misunderstanding appears to be the basis of its issue. As defined in the proposed and final rules, a deviation means any occurrence outside what is normal or expected and a deviation may or may not be a violation of the rule. In response to comments received on the proposed rule – including those from the Petitioner – the final rule now contains a definition of excess emissions (*see*, *e.g.*, RTC, Vol. 2, p. 285). Although a deviation may or may not cause excess emissions or a violation, an excess emission event is both a deviation and a violation. Moreover, in response to comments submitted by this Petitioner, the EPA revised the final rule to clarify what constitutes an excess emissions report, as referenced in the General provisions of part 63 (*see*, *e.g.*, RTC, Vol. 2, pg. 284). Because the Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying reconsideration of these issues.

Issue 120: Petitioner 20180 claims that the EPA finalized changes to the proposal concerning monitoring systems deviations that it was unable to comment on because the EPA did not propose this language or propose its interpretation with respect to scheduled maintenance. Petitioner seeks revision of the rule language to exclude monitoring system maintenance from being a deviation unless the activities are included in a site-specific monitoring plan.

Response to Issue 120: As mentioned in the preamble to the final rule, commenters suggested that the EPA needed to clarify the excused reasons for monitor downtime (including an exclusion for scheduled and unscheduled maintenance, as suggested by the Petitioner) and the final rule was revised to require that an EGU report as deviations to the rule a failure to collect data during required periods if the deviations were not covered by exceptions allowed in the final rule (*see* 77 FR 9421). More specifically, the final rule was revised to clarify that data from PM CEMS, PM CPMS, or HAP metals CEMS need not be collected during periods of scheduled maintenance (*see* 63.10010(h)(6)(ii), (i)(5)(i)(B), and (j)(4)(i)(B)). Should an EGU owner or operator want additional periods of scheduled maintenance for data exclusion, he should specify such periods in the site-specific monitoring plan. Because the Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying reconsideration of these issues.

24.0 Statistical Analyses

Issue 121: Petitioner 20188 asserts that in other MACT rules, the EPA evaluates whether the data were more consistent with a normal or log normal distribution and assumes log normality, unless the skewness and kurtosis tests indicate that normality better describes the data distribution. Petitioner states that for the MATS Rule, however, the EPA has argued that the analysis of data should be based on test averages, and that, per the Central Limit Theorem, the average of individual measurements tends toward normality as the number of samples increases. Petitioner believes that the EPA had insufficient data to support an assumption that the test data used to set the MACT floor levels for LONC EGUs is normally distributed and quotes the EPA's consultant as saying, "[w]hen the sample size is less than 15 the Central Limit Theorem cannot be used to support the normality assumption." Petitioner states that given the amount of existing data that shows that environmental samples tend to be log normally distributed (reflecting the fact that many reasons can result in occasionally higher than "normal" readings and that lower than "normal" readings are constrained by the physical reality that low readings cannot be less than zero and by the detection limit), using the Central Limit Theorem to argue that a small data set consisting of data from one or two EGUs is normally distributed is not statistically defensible. Because of the small sample size used for the LONC subcategory, Petitioner contends that the EPA should evaluate the data assuming log normal distribution.

Petitioners 20188 and 20191 contend they have found examples of where the EPA did not correctly use its chosen analytical methods. Petitioners note that the EPA chose to base its MACT floor analysis on the use of average emission rates and the assumption that such averages are normally distributed. However, Petitioners state, when determining the MACT floor for filterable PM for LONC EGUs, the Excel spreadsheet documenting the EPA's analysis shows that the EPA based the calculations on six individual test values from two boilers, not on the average emission rates from these two boilers, to develop a MACT emission limit of 0.03 lb/MMBtu. According to Petitioners, if the average emission rates for these two boilers were used in the analysis, the calculated UPL for filterable PM would be 0.134 lb/MMBtu, which would round upward to 0.14 lb/MMBtu. Petitioners state that although the EPA may have some discretion in selecting the methodology to be used for analyzing data, once the EPA selects methodology, the EPA must consistently apply that methodology and that the EPA did not do so with the LONC subcategory.

Response to Issue 121: The issue of the statistical analysis was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see*, *e.g.*, Vol. 1, pp. 490 - 521). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. The EPA followed the same procedures on this issue at proposal and final. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of the issue.

Issue 122: Petitioner 20191 maintains that the PM standard does not properly reflect EGU variability over a 30-day rolling average. Petitioner states that the EPA determined the 30-day rolling average PM standard using the UPL formula and six data points from two stack tests but that the UPL has been demonstrated to produce seriously flawed results when based on a significantly larger data set and similar assumptions. According to Petitioner, the EPA relied on an extremely limited data set to set the PM standard for the existing LONC subcategory, and this reliance exacerbates these flaws. For these reasons, Petitioner contends that the PM standard for existing LONC EGUs in the final rule is so stringent that it is not achievable by any of Petitioner's EGUs.

Additionally, Petitioner contends that the EPA used a different methodology to set the PM standard for the LONC subcategory than it used to set standards for other HAP for the continental liquid oil-fired EGUs. According to Petitioner, for total metals, individual HAP metals, HCl, and HF, the EPA calculated the continental liquid oil-fired standards based on the average emissions reported by the best performing EGUs; for filterable PM, however, the EPA used data from each of the six individual test runs at two of Petitioner's EGUs, rather than the average. Petitioner alleges that if the EPA had applied the same methodology to filterable PM as it did for the other HAP at continental liquid oil-fired EGUs, the PM standard for LONC EGUs would be significantly higher. Petitioner states that the application of different approaches to setting limits is arbitrary and that the EPA should recalculate the PM standard for the LONC subcategory by using the average emissions from each test rather than using each test run.

Response to Issue 122: The issue of the methodology used to account for variability (i.e., the UPL) was raised in public comments submitted in response to the proposed MATS rule. See 76 FR 24976, 25041-46 (May 3, 2011) (describing EPA's approach to establishing MACT floors for public comment). The EPA's responses to the comments are in the RTC (*see*, *e.g.*, Vol. 1, pp. 459 - 460 and 491 - 496). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Because Petitioners did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of this issue.

The EPA believes that its analysis procedures were consistent among both the coal and oil data sets. Further, the EPA disagrees with Petitioner with regard to the "achievability" of the filterable PM standard for existing non-continental liquid oil-fired EGUs as the final limit (0.030 lb/MMBtu) is 89 percent higher than the maximum run for the EGUs in the non-continental subcategory floor data set.

Issue 123: Petitioner 20187 states that the EPA reached its PM floor by taking a 99 percent UPL, based upon the emissions of its best-performing EGUs. Petitioner maintains that the resulting floors are not "the average emission limitation achieved by the best performing 12 percent" of coal-fired EGUs. Petitioner notes that the UPL, according to the EPA, is the emission level at or below which it would "expect [a three-run stack test] to fall" (in this case, with 99 percent confidence); in other words, it is a number representing the highest extreme in EPA's data. Petitioner states that Merriam Webster defines "average" as "a single value (as a mean, mode, or

median) that summarizes or represents the general significance of a set of unequal values," "equaling an arithmetic mean," or "being about midway between extremes."

Petitioner alleges that a UPL and an average thus pose different questions: one seeks the highest extreme within in a data-set, the other seeks the middle. And they result in correspondingly different answers. Petitioner maintains that by using a UPL, the EPA has set its floor at the high extreme of its projected emissions from the best-performing plants, but that the statute requires the EPA to set the floor at a level mid-way between extremes.

Response to Issue 123: The issue of the use of the UPL was raised in public comments submitted in response to the proposed MATS rule. See 76 FR 24976, 25041-46 (May 3, 2011) (describing EPA's approach to establishing MACT floors for public comment). The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 1, pp. 459 - 460 and 491 - 496). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Because Petitioners did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the Petition for Reconsideration of this issue.

Issue 124: Petitioner 20187 states that the EPA should establish an averaging time consistent with its floor analysis. Petitioner asserts that the EPA calculated its floors based on emissions limitations achieved over three operating-hour stack tests whereas the rule's final standards require facilities to comply on a 30 boiler-operating-day rolling average. Petitioner maintains that emissions over 30 days vary less than emissions over 3 hours and that a UPL calculated using 30 operating-day averages will, as a result, be much lower than one calculated using 3-hour averages. Petitioner states that the formula the EPA uses to calculate its UPL depends upon a specific number of runs (n), as well as variability over those runs (s^2). Petitioner indicates that in using that formula, the EPA assumes that "compliance with [the] limitations will be based on the same" three-run test average as used to derive the UPL. Petitioner alleges that that formula and assumption do not support an emission limit reflecting 717 additional hours of emissions.

Petitioner alleges that as a practical matter – because it allows short-term emissions well above the specified limit – an emission limit using a 30 operating-day average is much less stringent than an otherwise equivalent limitation using a shorter averaging period. According to Petitioner, the Proposed Rule justified that lower stringency by noting that the standard would apply during startup and shutdown, when hourly emission rates may spike above normal, but in the final rule, the EPA exempted startups and shutdowns, leaving no justification for use of a 30-day average.

Petitioner additionally notes that if the EPA had wanted to consider the most relevant data for determining an appropriate PM limit based on a 30-day rolling average, the EPA could have evaluated emissions data from PM CEMS that Petitioner alleges are currently installed at more than 70 EGUs. Petitioner indicates that data from these CEMS should have been used to test the EPA's assumption that emission limits based on hourly stack tests are a reasonable reflection of emissions measured over much longer periods of time.

In short, Petitioner maintains that the Agency has no reasonable basis to conclude that the final standards over 30 boiler-operating days reflect the "average emission limitation achieved by the

best performing 12 percent of existing" coal-fired EGUs. Petitioner maintains that the EPA should revise its PM standards to reflect the emissions average upon which it based its calculation of the MACT floor.

Response to Issue 124: The issue of the use of short-term emission test data to establish 30-day rolling average emission limits was raised in public comments submitted in response to the proposed MATS rule. See 76 FR 24976, 25041-46 (May 3, 2011) (describing EPA's approach to establishing MACT floors for public comment). The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 1, pp. 462 - 463, 494 - 496, 500, and 549 - 551). The comments the EPA received on this issue demonstrate that the public had ample opportunity to comment on the issue, and the EPA responded to those comments. Because Petitioner did not demonstrate that it was impracticable to comment on this issue during the comment period on the proposed rule, the EPA is denying the petition for reconsideration of this issue.

The EPA also disagrees with Petitioner's assertion that CEMS data could have provided additional insight. In any case, no PM CEMS data were provided to the EPA through the 2010 ICR. Further, Petitioner identified, but did not provide data from, a number of EGUs with PM CEMS installed. Absent data from Petitioner, the EPA reviewed the provisions of three publicly available consent decrees that required the installation of PM CEMS on coal-fired EGUs.[95,96,97] Contrary to Petitioner's assertion that data from these CEMS would be useful, the EPA generally found that the method for compliance with the PM emission limits was an annual Reference Method 5 (a short-term manual stack test method) test.

The EPA also notes that though the consent decrees require the companies to "install, correlate, maintain, and operate PM CEMS," the consent decrees also state that each company "maintains that its agreement in this Consent Decree to install, correlate, maintain, and operate PM CEMS shall not prevent...in any future proceedings from challenging the relationship between the data generated from such PM CEMS, including the averaging period for which such data is reported...and the results of performance tests for PM..." or "may attempt to demonstrate that it is infeasible to continue operating PM CEMS..." Therefore, the EPA does not consider the PM CEMS data unchallengeable. Further, the EPA has no information to confirm that these PM CEMS were calibrated according to specified procedures, and thus the data obtained would have questionable value for establishing emission limits. Hence, in addition to the reason stated above,

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[95] United States District Court, Eastern District of Kentucky, Central Division, Lexington. United States of America, Plaintiff, v. East Kentucky Power Cooperative, Inc., Defendant. Civil Action No. 04-34-KSF. Consent Decree. EPA-HQ-OAR-2009-0234-20347.

[96] United States District Court for the District of Arizona. United States of America, Plaintiff, v. Salt River Project Agricultural Improvement and Power District, Defendant. Civil Action No. 2:08-cv-1479-JAT. Consent Decree. EPA-HQ-OAR-2009-0234-20348.

[97] United States Environmental Protection Agency. In the matter of: Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902. Allen, Bull Run, Colbert, Cumberland, Gallatin, Johnsonville, John Sevier, Kingston, Paradise, Shawnee, and Widows Creek Fossil Plants. Federal Facilities Compliance Agreement Between the United States Environmental Protection Agency and the Tennessee Valley Authority. Docket No. CAA-04-2010-1760. EPA-HQ-OAR-2009-0234-20349.

the EPA is denying the petition for reconsideration of this issue because it is not of central relevance.

25.0 Subcategorization – Coal Refuse-fired Circulating Fluidized Bed (CFB) EGUs

Issue 125: Petitioner 20175 maintains that existing coal refuse-fired CFB boilers cannot satisfy the final emissions standard for HCl for coal-fired EGUs through the current CFB design and control configuration. Petitioner alleges that the EPA has not identified, nor is Petitioner aware of,[98] any situation where an existing coal refuse-fired CFB has installed additional back-end scrubbing technology in a retrofit setting to further reduce SO_2 or HCl emissions or otherwise achieved through any control measure the HCl (or corresponding SO_2 surrogate) emission standard included in the final rule (i.e., 0.002 lb/MMBtu). Petitioner maintains that its member plants would generally be required to reduce HCl emissions between 73 and 99 percent beyond the level of control already achieved through the effective use of limestone injection, to meet the HCl emission rate of the final rule.

Petitioner also states that increased limestone injection, consistent with current design and operational constraints, cannot further reduce HCl emissions from these existing EGUs to levels that meet the final limit. Petitioner's members also extensively evaluated alternative means to satisfy the stringent emission standard for HCl imposed through the MATS rule and Petitioner indicates that such means necessarily would require either the installation of additional emission control equipment, or the use of alternative sorbent additives to achieve the substantial degree of further emission reduction mandated by the regulation. Petitioner evaluated each of these alternatives and concluded that neither option is both technically and economically available for application to Petitioner's member units.

Petitioner states that to the extent that installation and operation of add-on emission control equipment could be technically feasible for retrofit application to coal refuse-fired CFB EGUs, the capital costs associated with such equipment would render the facilities economically non-viable in a competitive electricity generation market, largely due to the relatively small size of these facilities (generally due to the "size restrictions pursuant to the Public Utility Regulatory Policy Act (PURPA)"), the inconsistency of the add-on equipment platform with the combustion zone-based emission control inherent in the distinct design characteristics of the EGUs, and the long-term fixed-price power purchase agreements that are common to the sources. Petitioner cites an analysis it undertook indicating that capital costs for installation of an add-on flyash conditioning and reinjection system (similar to that used at the Gen-On Seward facility) would exceed $54 million. Petitioner states that this analysis indicated the capital cost of necessary retrofits, which would include the replacement of existing bag houses, would be cost prohibitive for application to Petitioner's members' existing plants and that a vendor that supplies both scrubber and fly ash reinjection technologies estimated that the costs required for retrofit installation at a typical member plant of a Seward-type fly ash reinjection system would be even higher than for dry scrubbing technology. Petitioner further alleged that it is uncertain whether the retrofit installation of such systems at the Petitioner's member plants, which are older and otherwise incorporate distinct design characteristics than the Gen-On Seward facility, would be effective in reducing HCI emissions to the levels required under the final MATS rule.

[98] Petitioner notes that because it is not aware of a single retrofit installation of back-end scrubbing technology for a coal refuse-fired CFB EGU, the technology cannot be said to be "available" for application to this source category.

Petitioner maintains that introduction of sodium-based sorbents, at a level effective at sufficiently reducing HCl emission rates, would render the ash generated by coal refuse-fired CFB EGUs unsuitable for beneficial reuse in the context of mine reclamation. According to Petitioner, the resulting disposal costs, especially considering the significant additional quantity of ash that these EGUs would generate, would make continued operation of these sources economically non-viable and eliminate the significant environmental benefits provided by coal refuse-fired CFBs. Petitioner alleges that in order for its member plants to achieve the HCl emission reductions required under MATS through the use of DSI, the plants would be required to add significant quantities of either trona or sodium bicarbonate, both of which are sodium-based sorbents. According to Petitioner, the addition of such sorbents would alter the leaching characteristics of the ash, such that the Petitioner's member plants would no longer be able to beneficially reuse the ash to reclaim abandoned mines in Pennsylvania (because of degradation of the chemical characteristics of the CFB-derived ash and increased leaching of sulfate and chloride from the ash). Instead, Petitioner maintains that the plants would be forced to dispose of the ash in lined landfills. Petitioner states that the costs associated with disposing of ash in lined landfills range between 10 and 50 times higher than those associated with beneficially reusing ash in the reclamation of mine sites. Accordingly, Petitioner states that the increased ash disposal costs resulting from the use of DSI to control HCl emissions would render economically infeasible the use of such control technology by coal refuse-fired CFB units.

Petitioner states that, based on these considerations, the Agency should revise the final rule to eliminate or revise application of the current HCl emissions limitation for this source type. According to Petitioner, the EPA could accomplish this objective by eliminating any specific numeric HCl emissions limit for coal refuse-fired CFB EGUs from the final regulation or by adjusting the limit to a level appropriate (including under relevant provisions of the CAA) for these sources. Specifically, Petitioner requested that the EPA apply the methodology, consistent with the statutory directive, for calculating an HCl emission rate for coal refuse-fired CFB EGUs for which the ash is beneficially used (i.e., establish a subcategory for such sources).

In addition, Petitioner notes that the definition of "coal refuse" included within the final rule includes criteria for ash content and heating value. Petitioner alleges that these specifications are inconsistent with the actual characteristics of coal refuse, contrary to the standards identified by other federal agencies, and conflict with the EPA's own regulatory definitions. Petitioner notes that the EPA should revise the definition of "coal refuse" within the final rule to be consistent with pre-existing definitions of such terms previously promulgated by the EPA through NSPS. Petitioner maintains that revising the definition of coal refuse in this manner would also serve to resolve the ambiguity currently existing within the MATS related to the applicability of the subcategories for coal-fired EGUs to units that combust coal refuse.

Response to Issue 125: EPA provided ample opportunity for public comment on issues related to the subcategorization of EGUs covered by the MATS rule. In fact, the issue of establishing a separate subcategory for coal refuse-fired CFB EGUs was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 1, pp. 358 - 365). The issue of a separate HCl limit for coal refuse-fired EGUs was also raised in public comments submitted in response to the proposed rule. The EPA's

responses to the comments are in the same RTC (*see*, *e.g.*, Vol. 1, pp. 584 - 587). The issue relating to the inability of coal refuse-fired EGUs to add on additional controls was also raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the same RTC (*see*, *e.g.*, Vol. 1, p. 761). The issue of the impact of sodium-based sorbents on the ability of coal refuse-fired EGUs to reuse their ash was also raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see*, *e.g.*, Vol. 2, pp. 509 - 511). Because the Petitioner has not demonstrated it was unable to comment on these issues, we are denying reconsideration. In addition, the decision not to subcategorize CFBs and coal refuse-fired CFBs was challenged in the *White Stallion* case, and the court rejected those challenges. 748 F.3d at 149-50. As the Court may only consider issues raised during the period for public comment, issues raised in the litigation and addressed by the Court clearly do not meet the criteria for reconsideration in CAA section 307(d)(7)(B). The court has affirmed EPA's decision not to create the requested subcategory and the Petitioner has not presented new, information or data relevant to that determination. For this reason, the petition does not provide substantial support for an argument that this aspect of the rule should be revised and it is therefore also being denied because it is not of central relevance.

As noted in the RTC (Vol. 1, p. 761), the EPA is aware of at least two coal refuse-fired CFB EGUs that reported add-on "polishing" technologies for SO_2 (or, at least, technologies beyond the CFB itself) in their responses to the 2010 ICR. One of these EGUs had the additional equipment installed during initial construction; however, the other EGU retrofitted the equipment. Petitioner has not provided information that would lead the EPA to believe that this information is incorrect. Further, Petitioner's allegation that there is no "situation where an existing coal refuse-fired CFB has...otherwise achieved through any control measure the HCl (or corresponding SO_2 surrogate) emission standard included in the final rule" is rebutted by Petitioner's own information. In meetings held subsequent to the filing of the Petition for Reconsideration, Petitioner provided the EPA with a list of "twenty CFB (circulating fluidized bed) combustion units that utilize coal refuse as a primary fuel source (anthracite culm and/or bituminous "gob"), inject limestone in the combustion zone for the control of SO_2 gases, and beneficially utilize CFB ash."[99,100] Of the 19 CFB EGUs, 12 are highlighted as being unable to "currently meet the UMACT-MATS rule." However, by difference, 7 of the 19 (37 percent or well above the CAA's stipulated 12 percent criteria) CFB EGUs must be presumed to currently be meeting the MATS HCl or SO_2 limit(s). In addition, 14 of the 19 CFB EGUs are located in Pennsylvania; of these, 9 are highlighted as being unable to currently meet the MATS limits – leaving, by difference, 5 CFB EGUs that are presumed to be meeting the limits. Of these five CFB EGUs presumed to be able to achieve the limits, one is in western Pennsylvania and four are in eastern Pennsylvania; of the nine CFB EGUs listed as being unable to achieve the limits, five are in western Pennsylvania and four are in eastern Pennsylvania.[101] Thus, Petitioner's claim that no CFB EGU has "achieved through any control measure the HCl (or corresponding SO_2

[99] *See* EPA-HQ-OAR-2009-0234-20338; EPA-HQ-OAR-2009-0234-20373.
[100] Note that 1 of the 20 listed CFB units is an Industrial Boiler not subject to the MATS rule.
[101] Compare list in EPA-HQ-OAR-2009-0234-20338 with "Location of ARIPPA members in Pennsylvania (from http://arippa.org/index.php?id=51)" in docket EPA-HQ-OAR-2009-0234.

surrogate) emission standard included in the final rule" is not supported by the information available to the EPA.

The EPA does not believe (as Petitioner implies) that the cost of such add on (or additional) "polishing" equipment is prohibitive for coal refuse-fired EGUs or that the add-on technologies are not "available." Petitioner has provided no "hard" cost information supporting its allegation beyond a generic spreadsheet analysis that used estimated capital and operating costs, unit sizes, and sorbent use (i.e., no cost analysis for a specific coal refuse-fired CFB EGU has been provided). The EPA has found that at least one control device vendor markets such add-on technology (including installations on a coal refuse-fired CFB EGU, on CFB EGUs using other coal ranks, and on retrofit applications) that will lower HCl (and HF) emissions to the 1 part per million level.[102,103] One unique feature of the technology when employed on CFB EGUs is the "ability to use the ash (which contains surplus lime) supplied by the CFB (via the flue gas stream)" for enhanced SO_2 control.[104,105] The EPA believes that this "left over" lime in the ash will lessen or eliminate the need to add lime, thus lessening the overall cost of the technology. Although not specifically installed for HCl control, the EPA believes that the humidification step inherent in the process will further remove HCl. Therefore, the EPA believes that such add-on technology is "available" and is a viable option for use on coal refuse-fired CFB EGUs. Limited cost information for this technology installed on two coal-fired EGUs indicate that the total capital cost ranges from approximately $56 (for a 630 MW EGU) to $72/kilowatt (kW) (for two 660 MW EGUs),[106] considerably less than either the capital cost of wet FGD installation ($407/kW)[107] or the $675/kW (for a hypothetical 80 MW EGU) presented by Petitioner.[108] Therefore, the EPA does not believe, as Petitioner states, that the HCl limit in the final rule is unachievable for such EGUs and the "excessive" cost has not been demonstrated.[109]

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[102] Gatton, Lawrence, Principal Engineer, Alstom Power ECS. Next Generation NID for PC Market. Presented at Coal-Gen Conference and Exposition, Columbus, Ohio. August 17 – 19, 2011. Found in docket EPA-HQ-OAR-2009-0234.
[103] *See* EPA-HQ-OAR-2009-0234-20344.
[104] *See* EPA-HQ-OAR-2009-0234-20346.
[105] *See* EPA-HQ-OAR-2009-0234-20343.
[106] *See* "Kiewit Chooses Alstom Clean Air Technology to Meet Stringent New Missions Standards: Brayton Point 3 to see reduced SO_2 and mercury emissions" and "Alstom to supply NID™ emission control system for the Homer City Generating Station." *Power Engineering*. 10/01/2010. Found in docket EPA-HQ-OAR-2009-0234.
[107] *See* "Acid Gas Emission Control Measures" in docket EPA-HQ-OAR-2009-0234.
[108] The EPA would note that the basis years for the cost quotes are different which may introduce a limited amount of error in the calculations. However, given the general lack of specificity in any of the quotes, the EPA believes they are reasonable to use for comparison purposes.
[109] Petitioner notes that it also evaluated "potential installation of...fly ash reinjection systems" comparable to those installed on the Gen-On Seward facility (presumed by the EPA to be the Alstom NID system noted elsewhere). However, Petitioner provided no definitive rationale eliminating this technology other than an unsubstantiated vendor estimate that "the costs required for retrofit installation at a typical ARIPPA plant of a Seward-type fly ash reinjection system would be even higher than for dry scrubbing technology."

Petitioner acknowledges that such coal refuse-fired EGUs are eligible for the alternate SO_2 emission limit in lieu of the HCl limit but maintains that the CFB EGUs are unable to achieve this limit. The EPA has reviewed a number of Title V permits for coal refuse-fired EGUs and, based on those permits, believes that the alternate SO_2 emission limit is achievable by such EGUs if they believe that they cannot achieve the HCl emission limit.[110]

The EPA would note that the discussion cited by Petitioner relating to use of sodium-based sorbents, etc. is merely an example provided by the EPA to acknowledge that there are alternate means of achieving the emission reductions (the Alstom NID technology noted elsewhere does not use sodium-based sorbents but achieves low levels of HCl and SO_2).

Additionally, EPA provided ample opportunity for comment on the definition of "coal refuse." The definition was modified based on public comment (*see*, *e.g.*, RTC, Vol. 2, pp. 709 - 710) and the definition in the final rule is a logical outgrowth of the proposed rule. Further, the EPA disagrees with Petitioner's allegation that the final definition is inconsistent with other, utility NSPS-related definitions of "coal refuse," as the final definition is consistent with that found in 40 CFR Part 60, subpart Da. Petitioner has not demonstrated that it was impracticable to comment on this issue during the period for public comment. Also, because the Petitioner does not demonstrate that there is definitional inconsistency, the EPA maintains this issue is not of central relevance.

For all of these reasons, we are denying reconsideration of this petition.

[110] *See* "Pennsylvania Title V permits for coal refuse-fired EGUs" in docket EPA-HQ-OAR-2009-0234 (permits cited in memo are also in docket EPA-HQ-OAR-2009-0234).

26.0 Subcategorization – IGCC

26.1 IGCC-specific definitions

Issue 126: Petitioner 20183 claims that the ambiguity of the finalized startup and shutdown definitions creates additional uncertainty with respect to IGCC EGUs. Accordingly, Petitioner requests reconsideration of the final rule to provide definitions for startup and shutdown and applicable work practice standards that are tailored specifically for IGCC EGUs.

Response to Issue 126: The EPA reconsidered definitions of *startup* and *shutdown* in the MATS reconsideration rulemaking, and provided an additional opportunity for public comment through that process. See 79 FR 68777. For that reason, this issue is moot.

26.2 Revision of IGCC to specifically exclude the gasifier

Issue 127: Petitioner 20183 specifically requests that the EPA confirm that it does not intend for the gasification process in IGCC EGUs (i.e., emissions from the gasification process from, for example, the gasifier startup stack or the gasifier flares, or other emission points from the gasification system) to be subject to final rule. Petitioner further requests that the EPA revise its definition of IGCC to specify that the definition excludes any gasification processes or systems.

Response to Issue 127: The definition of the covered source (i.e., "electric utility steam generating unit") in CAA section 112(a)(8) is for a "fossil fuel fired combustion unit," and based on this definition the gasifier is excluded from coverage by the rule. The EPA considers the definition to be sufficiently clear. The EPA is also denying reconsideration on this issue because the Petitioner has not demonstrated that it was impracticable to comment on this issue during the comment period on the proposed rule.

26.3 IGCC-specific work practice standards

Issue 128: Petitioner 20183 suggests that the EPA revise the work practice standards in the final rule to reflect IGCC-specific standards because the rule's work practice standards are not consistent with operation of an IGCC. Petitioner points out as an example that synthetic gas (the cleaned gasifier product consisting of a mixture of hydrogen and carbon monoxide) is a clean fuel but is not identified as such in the work practice standards. Petitioner also states that if the EPA intended the work practice standards for coal- and oil-fired EGUs to apply to IGCCs, those work practice standards are not consistent with operation of an IGCC and suggests that the EPA add language specific to IGCC EGUs (e.g., "Maintain burners associated with the combustion turbine and duct burners in the heat recovery steam generator in accordance with vendor recommendations, such as those contained in applicable long-term service agreements").

Response to Issue 128: The EPA reconsidered definitions of *startup*, *shutdown*, and *clean fuels* and the work practice requirements for periods of startup and shutdown in the MATS reconsideration rulemaking and provided an additional opportunity for public comment through that process. 79 FR 68777. For that reason, these issues are moot.

The EPA also understands that IGCC EGUs often use syngas as both a clean startup fuel and as the production fuel; that syngas is generated in the gasifier of an IGCC EGU; and that after the syngas achieves the desired site-specific composition, it is fired in the combustion turbine as a clean startup fuel and as the primary production fuel. The EPA generally considers the syngas fired in the combustion turbine a clean fuel as long as it is cleaned to remove trace contaminants such as sulfur before its injection in the turbine. The EPA also understands that during startup and shutdown periods, some or all of the syngas produced may not be combusted in the turbine. In the November 2012 reconsideration proposal, we proposed two options for IGCC EGUs for handling syngas not fired in the combustion turbine: that either (1) syngas must be flared, not vented, or (2) syngas must be routed to duct burners, which may need to be installed, and the flue gas from the duct burners must be routed to the heat recovery steam generator. These options were finalized in the November 19, 2014, final startup/shutdown reconsideration notice. Id.

Further, the EPA revised the work practice standards in 40 CFR 63.10021(e)(6) in the final MATS and believes that this revision adequately addresses Petitioner's concern related to non-startup work practice standards and IGCC EGUs.

27.0 Variability

Issue 129: Petitioner 20182 claims that the EPA has set new-source HAP standards that are based on a flawed analysis of the variability in the emissions data. Petitioner further claims that the EPA did not sufficiently address and support the variability approach in the final rule. Petitioner points out that any normally operating coal-fired EGU has variations in the pollutant levels emitted and maintains that the EPA did not correctly address the role of normal variability in coal-fueled power plant operations when setting the standards, because it based calculations on short-term test runs rather than longer tests showing variability over time. Petitioner asserts that short-term stack tests do not represent emissions over time and that therefore the EPA has erred in using only this approach to gather data to set the emission standards.

Petitioner acknowledges the EPA's use of the UPL to account for variability but claims that "the stack test data to which EPA applied the UPL lacked the completeness required to ensure the UPL formula would work correctly." Petitioner then suggests that the EPA "should have adjusted emissions achieved by the best controlled similar source to reflect the variability occurring over the full range of operating conditions, not just during the stack test." Petitioner points out the availability of additional stack tests that they feel should have been used in setting new source standards.

Response to Issue 129: The EPA disagrees with Petitioner regarding this issue. The EPA has explained its use of the UPL methodology in the rulemaking preamble(s) and in associated TSDs (*see, e.g.*, RTC, Vol. 1, pp. 457 - 458, 460 - 463, 491 - 496, 496 - 497, 501 - 502, 504, and 554 - 557). The EPA continues to believe that the use of the UPL methodology adequately accounts for variability. The EPA is denying the petition for reconsideration on this issue because the Petition does demonstrate that it was impractical to comment on this issue during the public comment period. Further, to the extent that Petitioner is focusing on new-source issues, those issues are moot as the EPA reconsidered the new-source limits (*see* 78 FR 24073).

28.0 Work practice Standards – Organic HAP

Issue 130: Petitioner 20178 claims that the work practice standards for dioxin/furans and other organic HAP cannot be met by EGU owners or operators who employ CFB technology because there are significant differences in design and operation between pulverized coal and CFB EGUs (e.g., CFB EGUs do not use coal burners that can be tuned; CFB EGUs do not have flame whose pattern can be adjusted). Petitioner seeks reconsideration of these requirements and guidance on tune-ups that will satisfy the final rule for EGUs with CFBs.

Response to Issue 130: The EPA provided ample opportunity to comment on the work practice standards for dioxin/furans and other organic HAP. In fact, the concern that a specific EGU technology or process could have difficulty with the tune-up requirements was raised in public comments submitted in response to the proposed MATS rule. The EPA's responses to the comments are in the RTC (*see, e.g.*, Vol. 2, pp. 464 - 470). The comments the EPA received on these issues demonstrate that the public had ample opportunity to comment on these issues, and the EPA responded to those comments. Moreover, as Petitioner admits, the rule qualifies the portions of the tune-up requirements that Petitioner considers problematic by stating those portions only apply "(a)s applicable." In other words, if the portions of the tune-up requirements are inapplicable, then the EGU owner or operator does not need to comply with them. Concerning tune-up guidance, Petitioner has not demonstrated that it was impracticable to raise this issue during the comment period. Because Petitioner did not demonstrate that it was impracticable to comment on these issues during the comment period on the proposed rule, the EPA is denying reconsideration of this issue.

Issue 131: Petitioner 20187 claims that the EPA proposed standards in the MATS rule based on a method detection level (MDL) approach, that it used but did not propose a representative method detection level (RDL) approach for standards other than the dioxins and other organic HAP standards in the final MATS rule, and that the proposal did not acknowledge what Petitioner claims to be flaws with the MDL approach for the dioxins and other organic HAP standards in the MATS rule. Petitioner requests reconsideration on this issue, as Petitioner claims it was unable to comment on the use of an RDL approach for the dioxins and other organic HAP standards. Petitioner suggests that the EPA must redo its analysis using an RDL approach or provide a rational explanation for using the MDL approach for the dioxins and other organic HAP standards.

Response to Issue 131: The EPA disagrees with Petitioner. Non-dioxin/furan organic and dioxin/furan organic HAP measurements obtained as part of the ICR data collection effort differ from other categories of HAP measurements with respect to amounts collected above and below the respective MDLs. As mentioned in RTC, Vol.1, p. 476 and as explained in the preamble to the proposed rule, a significant majority of the measured emissions from EGUs of non-dioxin/furan organic and dioxin/furan organic HAP were below detection levels of the EPA test methods (76 FR 25040), so work practice standards were proposed and finalized. In contrast, the measured emissions from other pollutants had a significant majority of measured emissions above the respective MDLs, so numerical emissions limits were found to be appropriate. The change from the use of 3xMDL to 3xRDL is thus not relevant to the regulation of organic HAP

emissions. For this reason, the objection is not of central relevance to the rule, and we are denying the petition for reconsideration of this issue.

Concerns about the quality of measurements at very low emission limits (especially for new sources) were raised regarding standards other than non-dioxin/furan organic and dioxin/furan organic HAP in public comments submitted in response to the proposed MATS rule. The changes to the rule are based on public comments (*see*, *e.g.*, RTC, Vol. 1, pp. 547 - 548) and thus are a logical outgrowth of the proposed rule. Additionally, concerns about using RDLs as opposed to MDLs are not relevant for non-dioxin/furan organic and dioxin/furan organic HAP work practice standards because no emissions measurements (which could result in values at or below detection levels) are made for work practice standards. Because the Petitioners have not demonstrated that it was impractical to comment on these issues in the proposed rule, the EPA is denying reconsideration. In addition, because these issues are not of central relevance to the final MATS rule, the EPA is denying reconsideration of these issues.

Appendix A. List of NESHAP Petitioners

Petitioners	Docket number (EPA-HQ-OAR-2009-0234-)
American Public Power Association (APPA)	20189
ARIPPA	20175
Babcock & Wilcox (B&W)	20193
Basin Electric Power Cooperative	20192
Climate Policy Group (CPG)	20185
Coal Utilization Research Council (CURC)	20186
Earthjustice	20187
East Kentucky Power Cooperative (EKPC)	20178
Edgecombe/Spruance Genco	20194
Edison Mission Energy	20177
FirstEnergy	20173
Hawaiian Electric Company (HECO)	20191
Institute of Clean Air Companies (ICAC)	20176
International Brotherhood of Boilermakers (IBB)	20182
Power4Georgians	20181
Puerto Rico Electric Power Authority (PREPA)	20188
Southern Company	20183
State of Texas (Texas Commission on Environmental Quality, Texas Public Utility Commission, Railroad Commission of Texas)	20174
Utility Air Regulatory Group (UARG)	20180
Wolverine Power Supply Cooperative	20184

NSPS

29.0 Limiting Opacity Standard Exemption for Subpart D EGUs

Issue 1: Petitioner 5777 requests that applicability of the exemption from the opacity standards under the EGU NSPS be expanded to apply to all affected EGUs using a particulate matter (PM) continuous emissions monitoring system (CEMS) to demonstrate compliance with a PM emissions limit in the rule (i.e., EGUs subject to Subpart D and EGUs subject to Subpart Da). Petitioner notes that the amendment to the EGU NSPS applies only to those affected EGUs for which the owner or operator elects to comply with the PM emissions limit of 0.03 pounds per million British thermal units (lb/MMBtu) under Subpart Da. Petitioner states that the EPA has not clearly explained the rationale for its decision to restrict the applicability of the opacity standards exemption and associated periodic visible emissions testing requirements and has not fully addressed previous public comments submitted on the Agency's past proposal notices regarding such an exemption limitation. Petitioner states that there is no basis to support the EPA's rationale that by complying with the EGU NESHAP requirements, all affected EGUs subject to Subpart D will have to comply with a PM emissions standard such that they would qualify for opacity standards exemption under the EGU NSPS.

Response to Issue 1: The EPA did not amend the previous requirements in a fundamental way and is, therefore, denying the Petition for Reconsideration on this issue because it is outside the scope of the final rule and it therefore does not meet the criteria for reconsideration under CAA section 307(d)(7)(B). Further, EPA has previously denied a petition for reconsideration raising this issue submitted in the context of another rulemaking and commenter has presented no new information that would cause the EPA to revisit that decision. As stated in previous rulemakings, the contribution of filterable PM to opacity at emission levels of 0.03 lb/MMBtu or less is generally negligible (see 76 FR 25071). We concluded, and continue to believe, that an opacity standard is no longer necessary for sources that can demonstrate continuous compliance with a PM standard of 0.03 lb/MMBtu by continually monitoring the mass of PM emissions because this would ensure that the source is also in compliance with the otherwise applicable opacity standard. The EPA further stated that this did not reflect an agency view regarding the efficacy of opacity limits generally. On the contrary, at higher PM emissions rates, the contribution of filterable PM to opacity is not negligible and we, therefore, concluded that facilities subject to a PM emission standard greater than 0.03 lb/MMBtu should continue to be subject to the opacity standard.

30.0 Subpart Da Condensable PM Testing for Post-2011 EGUs

Issue 2: Petitioner 5777 requests that the condensable PM testing requirement applicable to certain new EGUs constructed after May 3, 2011, to be removed from Subpart Da on the basis that this requirement is flawed, burdensome, and unreasonable and was not included in the proposed rule to allow for public comment. Petitioner notes that the requirement specifies that condensable PM be measured using Method 202 and reported to EPA in conjunction with each performance test conducted to determine compliance with the applicable PM emissions limit. Reasons presented by Petitioner for removal of the condensable PM testing requirement from the rule include: (1) the requirement does not apply to all new EGUs constructed after May 3, 2011, but only to the subset of those EGUs that elect to conduct Method 5 performance tests to determine compliance with the PM emissions limit; (2) for those affected EGUs using wet flue gas desulfurization (FGD) and required to conduct the condensable PM testing, the testing presents significant burdens, because these EGUs must use EPA Method 5B to demonstrate compliance with the PM emissions limit although Method 202 prohibits its use in conjunction with Method 5B; and (3) including testing requirements in the EGU NSPS that are unrelated to any standard in the rule is unreasonable, and the appropriate use of Clean Air Act (CAA) section 114 authority to collect additional condensable PM data is instead using a properly structured and supported ICR, of limited duration and appropriate scope.

Response to Issue 2: The EPA is denying the Petition for Reconsideration on this issue because it does not meet the criteria for reconsideration under CAA section 307(d)(7)(B). The EPA did provide notice of its intent to require such testing and the commenter commented on the issue. The fact that the commenter disagrees with EPA's response to its comments does not present a legal basis compelling reconsideration of the issue. The EPA proposed a total, i.e., filterable plus condensible, PM standard for new EGU's constructed after May 3, 2011. The proposed rule specified: "Total particulate matter concentration consists of the sum of the filterable and condensable fractions. The condensable fraction shall be measured using Method 202 of appendix M of part 51 …." Proposed 40 CFR 60.50Da(b)(4). (76 FR 25099, column 1.) Thus, Petitioner both had notice that EPA intended to require that condensable PM be measured using Method 202 and an opportunity to comment on the appropriateness of the requirement. Petitioner acknowledged that the EPA intended to require that the fraction of condensible PM be determined using Method 202. Comments of Utility Air Regulatory Group, at 12. Section 60.50Da(b)(1)(ii) requires the use of either Method 5 (for affected facilities that do not use a wet FGD) or Method 5A (for affected facilities that do use a wet FGD) to determine compliance with the applicable PM limit without exception. Because 60.50Da(b)(2) requires affected facilities for which construction, reconstruction or modification is commenced after May 3, 2011, to measure condensable PM using Method 202 in conjunction with a performance test performed according to the requirement of 60.50Da(b)(1), all affected facilities constructed after May 3, 2011, are required to test for condensable PM using Method 202. The assertion that the requirement presents significant burdens for EGUs using wet FGD is also unfounded. Under such circumstances the Method 5B performance test can be used in conjunction with Method 202 with only a minor modification to the analysis procedure. The tester would perform the test by weighing the filters twice; once before the filter is heated in a 320^{o}F oven for six hours and once after the filter is heated. We have concluded that this additional modification would increase the cost of a performance test by about $150 to $200. The EPA also disagrees with Petitioner's

characterization of the required testing for condensable PM as being unrelated to any standard in subpart Da. The data collected through that testing will allow EPA to assess the appropriateness of the stringency of the applicable filterable PM standard on an ongoing basis. Further, although Petitioner may believe that it is most appropriate to collect additional condensable PM data using an ICR, the EPA's use of its authority under CAA section 114 is not constrained in this manner. In addition, the condensable PM testing requirement was specifically included in the ICR for MATS, which was approved by OMB.

31.0 Subpart Da Electronic Reporting Requirements for Facilities with PM CEMS

Issue 3: Petitioner 5777 requests that the requirement for electronic reporting of data by affected EGU owners and operators that use a PM CEMS to demonstrate compliance with the PM emissions limits be removed from 40 CFR Part 60, subpart Da. Petitioner asserts that as promulgated, the requirement is inexplicable due to the fact that no such data exist for these EGUs. Petitioner states that affected EGUs that use PM CEMS to demonstrate compliance with the applicable PM emissions limit do not conduct periodic PM performance tests or perform relative accuracy test audits (RATAs) comparing the PM CEMS performance to results from an independent reference method. According to Petitioner, these EGUs use data measured by the PM CEMS and conduct quality assurance tests under EPA Procedure 2 (which does not include a RATA). Petitioner states that if the EPA intended to promulgate a general electronic reporting requirement applicable to other EGUs (e.g., EGUs that conduct periodic performance tests or conduct RATAs for SO_2 or NO_X CEMS), then the EPA must propose and solicit comment on such a requirement and that if EPA intended to require affected EGU owners and operators to report the data collected from the PM CEMS and/or reference method conducted during Performance Specification (PS) 11 correlation testing, then the EPA must propose and solicit comment on such a requirement. In addition, Petitioner also states that the EPA would need to explain how those PS 11 correlation data are useful to the EPA's development of emission factors.

Response to Issue 3: The Petitioner has not demonstrated that the issue presented meets the criteria for reconsideration set forth in CAA §307(d)(7)(B). The Petitioner has neither demonstrated that it was impracticable to raise the objection during the comment period, nor that the grounds for the objection arose after the close of the comment period. The EPA, therefore, denies reconsideration of the issue. Further, the Petitioner's assertion that EGUs that use PM CEMS to demonstrate compliance with the applicable PM emissions limit do not conduct periodic PM performance tests is incorrect. EGU owners or operators subject to 40 CFR Part 60, subpart Da, who use PM CEMS are required to conduct a number of performance tests, including periodic emissions tests. They must also conduct periodic absolute correlation audits, response correlation audits, relative response audits, and sample volume audits – in accordance with the requirements of 40 CFR 60.49Da(v). These tests, which as Petitioner acknowledges in its Petition for Reconsideration for the NESHAP "are similar to RATAs…," along with any other RATAs, must be reported electronically in accordance with the requirements of 40 CFR 60.49Da(v)(4). As Petitioner's claim is factually incorrect and Petitioner has failed to demonstrate that the issue presented meets the criteria for reconsideration set forth in CAA §307(d)(7)(B), the EPA is denying reconsideration of this issue. The EPA notes that it agrees with Petitioner that the requirements as written only apply to affected facilities using PM CEMS and has concluded that this issue is best addressed by applicability determinations, in which the case-by-case specifics may be analyzed and addressed.

32.0 Periods of Startup, Shutdown, and Malfunction for EGUs

Issue 4: Petitioners 5775 and 5777 request reconsideration of the startup, shutdown, and malfunction (SSM) requirements added to the EGU NSPS and assert that the EPA did not address alleged "fundamental" questions previously raised by public commenters on the proposed rule; did not explain why compliance with the NSPS emissions limits is necessary during SSM given the long standing exemption in the NSPS rules; and in the absence of any legal mandate by the courts. Petitioners state that the decision of the U.S. Court of Appeals for the D.C. Circuit in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008) regarding compliance during periods of SSM only pertained to NESHAP regulations and did not address NSPS rules. Reasons presented by Petitioner 5775 for reconsideration of the SSM requirements include: (1) the definition of "startup" does not allow time for all startup systems to be set into operation; (2) the startup work practice standards require emission control devices to be used in an unsafe manner; (3) the definition of "startup" does not recognize integrated coal combine cycle (IGCC) unit-specific startup practices; (4) the definition of "startup" does not recognize supercritical unit-specific practices; (5) the definition of "startup" does not take into account emissions monitoring issues; (6) the EPA fails to recognize differences in EGU shutdown procedures; (7) the EPA fails to reconcile application of startup and shutdown provisions to multiple EGUs at a facility sharing a common stack; and (8) the EPA fails to account for startup fuel availability issues. Petitioner 5775 further states that the EPA did not justify revoking the exemption in the NSPS regarding compliance during SSM events and requiring new, modified, or reconstructed units under Subpart Da to comply with emission standards during SSM.

Response to Issue 4: Petitioners have not demonstrated that the issue presented meets the criteria for reconsideration set forth in CAA §307(d)(7)(B). Petitioners have neither demonstrated that it was impracticable to raise the objection during the comment period, nor that the grounds for the objection arose after the close of the comment period. The EPA, therefore, denies reconsideration of the issue. The EPA proposed that the PM, NO_X, and SO_2 emissions limits apply at all times. In response to comments regarding this proposed approach, including comments from Petitioners 5775 and 5777, and based on its own further analysis of the issue, the EPA adjusted the approach such that the NO_X and SO_2 emissions limits apply at all times and the applicable PM limit applies at all times except during periods of startup and shutdown. The data used in developing the NOx and SO2 emissions limits included periods of startup and shutdown. As a result, the EPA has concluded there is no justification for not requiring compliance with those standards during periods of startup and shutdown. The EPA did not have data on PM emissions during periods of startup and shutdown and, as a result, the final rule establishes work practice standards for the control of PM that apply during such periods. These changes, together with the responses set forth in the response to comments document (RTC) for the final rule constitute a reasonable response to the comments received as they relate to the NO_X and SO_2 standards. The EPA previously finalized reconsideration of various issues associated with the control of PM during periods of startup and shutdown and Petitioners have provided no basis for revisiting the issue.

33.0 Affirmative Defense for EGUs

Issue 5: Petitioner 5775 requests reconsideration for the addition of a requirement to the EGU NSPS allowing the use of EPA-approved state affirmative defense provisions as an alternative to the affirmative defense provisions included in 40 CFR Part 60, subpart Da, under 40 CFR 60.48Da. Petitioner states that such an alternative allows both affected EGU owners and operators and State air regulatory agencies to avoid issues arising from duplicative affirmative defense programs. Petitioner states that in the EGU NESHAP, the EPA allows states to petition for an alternative approach with regard to the affirmative defense provisions (40 CFR 63.93). Petitioner states that the general provisions of the NSPS rules in 40 CFR Part 60 do not have a similar provision. According to Petitioner, not having this alternative will force states to either modify existing EPA-approved state implementation plan (SIP) rules for affirmative defense provisions to be consistent with the new NSPS provisions or to maintain two legally distinct affirmative defense programs in a state. Petitioner asserts that the EPA has not provided any justification for denying Petitioner's request or not at least modifying the NSPS rule to allow states to petition EPA for an alternative affirmative defense provision.

Response to Issue 5: The EPA denies the request for reconsideration because the Petitioner has failed to demonstrate that the issue presented meets the criteria for reconsideration set forth in CAA §307(d)(7)(B). The Petitioner has neither demonstrated that it was impracticable to raise the objection during the comment period, nor that the grounds for the objection arose after the close of the comment period. As Petitioner notes, the EPA responded to comments on the affirmative defense to civil penalties in the proposed MATS rule and made revisions to the affirmative defense when issuing the final rule. Petitioner's request for reconsideration merely maintains that the EPA's response was not adequate. The EPA provided a reasoned response to the comments and the Clean Air Act requires nothing more. As further grounds for denying the request for reconsideration, the EPA notes that the issue for which reconsideration is sought is not of central relevance to the outcome of the final rule. In addition, as EPA has previously stated (see EPA-HQ-OAR-2011-0044-5759, RTC, p.26), the NSPS is a nationally applicable rule and as such the affirmative defense provisions should be the same regardless of where the affected facility is located. Any other approach would create confusion for both the regulated community and the implementing authority. Therefore, allowing the use of a SIP-approved affirmative defense as an alternative is not appropriate. Finally, the revision to the NSPS General Provisions (40 CFR part 60, subpart A) that Petitioner suggests is beyond the scope of this rulemaking.

34.0 Definition of Periods of Out-of-control for EGUs

Issue 6: Petitioner 5777 states that the EPA adopted a definition of "out-of-control" for the EGU NSPS that is similar to the definition in 40 CFR Part 75 for the Acid Rain program, except that the "out-of-control" period under the EGU NSPS begins and ends with the corresponding "quadrant" instead of the corresponding "hour." Petitioner objects to the definition used for the EGU NSPS because the definition is inconsistent with the definitions of the term used for requirements applicable to EGUs under both Part 75 and Part 63. Petitioner asserts that inconsistent definitions make data programming more difficult and could result in inconsistent data sets and inappropriate invalidation of data. Petitioner also states that the EPA's use of the term "quadrant" is unclear and that to the extent that the EPA intended to invalidate and validate hourly data based on 15 minute periods, the practical implications of such action are not clear. Petitioner requests that the EPA propose and solicit comment on a revised definition of an "out-of-control" period provider a rationale for the definition, and discuss how the definition would apply in practice.

Response to Issue 6: The EPA is denying the request for reconsideration of this issue because it does not meet the criteria for reconsideration under CAA section 307(d)(7)(B). The EPA proposed the definition, received comment thereon and adequately responded to those comments. Further, the Petition does not demonstrate that the issue is of central relevance to the outcome of the final rule. Finally, the fact that "out-of-control" period is defined somewhat differently in the EGU NSPS as compared to how it is defined in 40 CFR Part 75 does not render the EGU NSPS definition inappropriate. While the EPA strives to maintain consistent definitions where appropriate, when dealing with programs that are fundamentally separate and distinct, such as the NSPS and Acid Rain programs, the use of inconsistent definitions may be appropriate.

35.0 Frequency of Subpart D Visible Emissions Testing

Issue 7: Petitioner 5777 requests reconsideration of the revisions to the frequency of visible emission testing for EGUs subject to 40 CFR Part 60, subpart D, in order to be consistent with the opacity monitoring requirements used for EGUs subject to 40 CFR Part 60, subpart Da. Reasons presented by Petitioner for revision of the visible emission testing requirements in the rule include: (1) the EPA provided no rationale for its decision not to reduce the testing frequency for EGUs subject to 40 CFR Part 60, subpart D, in the same manner it did for EGUs subject 40 CFR Part 60, subpart Da; (2) the EPA concluded without discussion or record citation that additional visible emissions testing is needed for all EGUs with opacity greater than 5 percent; and (3) the EPA does not explain why existing state visible emissions testing requirements are not adequate for EGUs and why the more frequent visible emissions testing required under the EGU NSPS is necessary and not redundant to assure compliance if such testing already is required by a state Title V operating permit.

Response to Issue 7: The EPA is denying the request for reconsideration of this issue because it does not meet the criteria for reconsideration under CAA section 307(d)(7)(B) as it was not impractical to raise the objection during the period for public comment nor did the grounds for the objection arise after the close of the comment period. Petitioner raised precisely this issue in commenting on the proposed rule. (Comments of Utility Air Regulatory Group at 46 - 47.) In response, the EPA noted that subpart D had been amended to allow the permitting authority the discretion to establish site-specific monitoring plans for owners/operators of facilities burning fuels that typically result in low opacity. The EPA also noted that the frequency of Method 9 performance testing for owners/operators of facilities with some visible emissions, but with all 6-minute readings of 5 percent or less, had been reduced from every 6 months to every 12 months for facilities subject to subpart Da. Finally, the EPA stated that the additional testing frequency for facilities with opacities of 5 percent and higher is necessary to adequately assure compliance with the applicable opacity standard. (RTC at 20.) In response to Petitioner's comment regarding existing state visible emissions testing requirements, the EPA notes that the NSPS itself must contain monitoring sufficient to assure compliance with the applicable emission standards. Further, owners/operators of affected facilities can currently petition the agency for alternate monitoring procedures to account for site specific conditions.

36.0 Redundant Subpart Da Recordkeeping

Issue 8: Petitioner 5777 requests reconsideration of the addition of the requirement to the EGU NSPS under 40 CFR 60.51Da(d), that affected owners and operators must maintain records of the results of Method 9 performance tests and submit "excess emissions" reports. Petitioner asserts that the requirement serves no purpose and duplicates existing recordkeeping requirements in the rule. Petitioner notes that the requirement as promulgated applies only to steam generating units subject to 40 CFR Part 60, subpart Dc, and states that because EGUs are not subject to opacity limits in 40 CFR 60.43c(c), this requirement does not apply to EGUs. Petitioner states that assuming that the EPA intended the requirement to apply to EGUs subject to the opacity limit in 40 CFR 60.42Da(b), the requirement duplicates existing recordkeeping requirements in 40 CFR 60.52Da(b)(1). Specifically, according to Petitioner, 40 CFR 60.52Da(b)(1) already requires affected EGU owners and operators subject to the opacity standards in 40 CFR 60.42Da(b) to maintain all of the records identified in 40 CFR 60.51Da(d). Petitioner requests that the EPA identify what units must comply with this new recordkeeping requirement and remove the redundant recordkeeping requirements.

Response to Issue 8: The EPA is denying the request for reconsideration of this issue because it does not meet the criteria for reconsideration under CAA section 307(d)(7)(B). Although the EPA acknowledges that the reference to 40 CFR 60.43c(c) is incorrect, this error is not of central relevance to the outcome of the final rule. Further, as Petitioner points out, EGUs are not subject to 40 CFR Part 60, subpart Dc. As a result, the referenced provision does not apply to owners/operators of EGUs and, therefore, imposes no burden on them. The EPA will correct the reference to 40 CFR 60.43c(c) at some point in the future and may propose to remove the requirement itself in a future notice and comment rulemaking.

37.0 De Minimis Use of Natural Gas in Subpart Db Steam Generating Units

Issue 9: Petitioner 5773 asserts that the use of natural gas for safety purposes and stable flame operation (i.e., less than 5 to 10 percent of the capacity factor) should not cause a steam generating unit subject to 40 CFR Part 60, subpart Db, to comply with the rule's SO_2 standard when the affected unit would not otherwise be required to meet the standard. Petitioner states that a *de minimis* use of natural gas for safety purposes and minimization of air pollutant emissions from stable flame operation should not be considered to be a "mixture of fuels" for purposes of applying the 0.32 lb/MMBtu SO_2 emissions limit under 40 CFR 60.42b(k)(l). Specifically, Petitioner states that it is not clear whether a steam generating unit subject to 40 CFR Part 60, subpart Db, that burns *blast furnace gas* (BFG) combined with a very limited amount of natural gas is exempt from the SO_2 emissions limit. Petitioner states that for these types of units, there is a need for a flame stabilization fuel that provides for both lower and controlled NO_X and CO emissions during variations in the BFG composition burned and that reduces the risk of a BFG deflagration or detonation in the unit following a flameout. Petitioner states that the supplemental natural gas fuel provides an instantaneous source of ignition within the burner as the BFG fuel properties change rapidly, preventing flameouts. Petitioner recommends that *de minimis* use of natural gas for safety purposes and air pollutant emissions minimization from stable flame operations should not be considered a "mixture of fuels" for purposes of implementing 40 CFR 60.42b(k)(1). Petitioner states that the NSPS without this revision could discourage the development of energy recovery technologies and processes.

Response to Issue 9: As currently written, the subpart Db SO_2 standard would apply to a new industrial boiler facility that burns any amount of coal, oil, or natural gas. The EPA did not amend the industrial boiler SO_2 standard in promulgating this final rule. As a result, the EPA is denying the request for reconsideration as outside the scope of the final rule.

Appendix B. List of NSPS Petitioners

Petitioners	Docket number (EPA-HQ-OAR-2011-0044-)
Air Products	5773
State of Texas (Texas Commission on Environmental Quality, Texas Public Utility Commission, Railroad Commission of Texas)	5775
Utility Air Regulatory Group (UARG)	5777