To: Idsal, Anne[idsal.anne@epa.gov]
Cc: Campbell, Ann[Campbell.Ann@epa.gov]; Dominguez, Alexander[dominguez.alexander@epa.gov]; DeLuca, Isabel[DeLuca.Isabel@epa.gov]
From: Paul Balserak[pbalserak@steel.org]
Sent: Thur 4/2/2020 4:47:17 PM (UTC)
Subject: Thank You and Follow-Up
AISI Final MATS RTR Comments April 17 2019.pdf
R2C - MATS RTR Comments FINAL 4846-4404-3668 v.4.pdf

Dear Anne,

Thank you very much for speaking to our AISI Environment Committee earlier this week. AISI's membership is comprised of electric arc furnace and integrated steelmakers, iron ore mining operations, and our associate members who are suppliers to or customers of the steel industry. We are proud of the essential work we do serving as a dynamic part of the U.S. economy, accounting for more than $520 billion in economic output and nearly two million jobs in 2017 when considering direct, indirect and induced impacts.

We genuinely appreciated your time this past Tuesday, especially given all that must be on your plate right now. Your discussion of EPA air priorities for 2020 and the Q and A that followed were very helpful. As we discussed, I'm forwarding AISI's, as well as the Residual Risk Coalition's, comments to EPA on fish consumption rates (attached). Briefly, EPA used fish consumption rates in the MATS RTR (and several other subsequent RTRs) that were based on a single journal article (Daily consumption of wild fish and game: Exposures of high-end recreationalists. Environmental Health Research. 12(4):343–354, Burger, J. 2002). The MATS RTR and other RTRs used the journal article to derive unrealistic fish consumption rates of 373 g/day for adults and 108-331 g/day for children. Newer, more robust studies conducted by EPA itself and other states support appropriate fish consumption rates for RTR analysis at approximately 28 g/day for adults and 7-13 g/day for children. These data in the Burger study produce unrealistic and overly-conservative risk assessment results. We continue to ask EPA to consider this important information when finalizing MATS and other RTRs.

Best regards,

Paul

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Vice President, Environment

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April 17, 2019

U.S. Environmental Protection Agency
EPA Docket Center
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1200 Pennsylvania Avenue, NW
Washington, DC 20460
a-and-r-docket@epa.gov

Re: Comments on the National Emission Standards for Hazardous Air Pollutant Emissions: Coal- and Oil-Fired Electric Utility Steam Generating Units – Reconsideration of Supplemental Finding and Residual Risk and Technology Review (Docket ID No. EPA–HQ–OAR–2018–0794)

Dear Sir or Madam:

The American Iron and Steel Institute (AISI), on behalf of its United States producer members, is pleased to submit comments on the proposed rule for National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-Fired EGUs, commonly known as the Mercury and Air Toxics Standards (MATS). AISI is comprised of 19 member companies, including integrated and electric furnace steelmakers, and approximately 120 associate members who are suppliers to or customers of the steel industry. AISI members are directly regulated by NESHAP rules that have been or will be subject to residual risk and technology review (RTR) rulemakings pursuant to §§ 112(d)(6) and 112(f) of the Clean Air Act. The AISI is committed to working constructively with EPA in developing technologically sound and environmentally responsible approaches to regulations promulgated under these regulatory requirements. The AISI seeks to ensure that reasonable residual risk methodologies are employed and that any residual risk associated with HAP emissions remaining after the application of maximum achievable control technology (MACT) is addressed appropriately, while avoiding burdensome changes to existing emission limitations when changes are not necessary to protect public health.

The AISI has reviewed the risk modeling associated with this MATS proposal, and believes that EPA should change the fish consumption rate in the risk assessment to be consistent with the consumption rate used in more recent EPA documents. Fish consumption rate assumptions are a key factor when assessing both cancer and non-cancer hazards in RTR multi-pathway risk assessments. In the residual risk assessment report for the proposed MATS RTR, and in at least one other RTR (*i.e.* the Surface Coatings NESHAP RTR, 84 FR 9590 (Mar. 15, 2019)), EPA used flawed and outdated fish consumption rate values to conduct multi-pathway risk assessments. The proposed MATS RTR risk report uses fish ingestion rates of 373 g/day for adults and 107.7 - 331 g/day for children, depending on the age group. We believe that these unrealistic fish consumption rates lead to overly-conservative and inaccurate risk findings. Newer studies that are based on more recent data are available, and these studies support the use of lower fish ingestion rates in multi-pathway risk assessment. We believe that EPA

should adopt these newer studies for use in the MATS RTR final rule and for other RTRs. Based on these studies, a more appropriate fish consumption rate for use in the risk assessments supporting forthcoming RTR rulemakings would be 28.3 g/day for adults and between 6.7 and 13.2 g/day for children.

AISI submits the attached review and discussion of these fish consumption rate studies for EPA's consideration: "Fish Ingestion Rate Summary for Use in Multi-pathway Risk Assessments." Thank you for the opportunity to provide these public comments. Please do not hesitate to contact me at (202) 452-7122 if you have questions or need additional information.

Sincerely,

Paul Balserak
Vice President, Environment

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American Iron and Steel Institute

AECOM Imagine it. Delivered.

Fish Ingestion Rate Summary for Use in Multi-pathway Risk Assessments

Executive Summary

In connection with the multi-pathway risk assessment conducted for the proposed Mercury and Air Toxics Standards (MATS) NESHAP Risk and Technology Review (RTR), this document reviews the studies relied upon by EPA for fish ingestion assumptions in the proposed MATS RTR residual risk report and identifies critical flaws in both of those studies, Burger 2002 and EPA 2002. This document then identifies and discusses several additional studies and resources for which fish ingestion rates are developed and provides a brief discussion of each study's appropriateness for use in multi-pathway risk assessments in RTRs. This review is a brief and focused discussion of fish ingestion rate studies that EPA has used to establish screening-level ingestion rates in their most recently published RTR, and to highlight more recent and representative potential candidate studies to develop alternative fish ingestion rates.

EPA Proposed MATS RTR Risk Report

The most recently published residual risk assessment report at the time of this analysis[1] is the "Residual Risk Assessment for the Coal- and Oil-fired EGU Source Category in Support of the Risk and Technology Review Proposed Rule," related to the MATS. This document assumes that the proposed MATS RTR risk report reflects the methodology EPA will use for the multi-pathway risk analysis for subsequent RTRs.

The proposed MATS RTR risk report uses fish ingestion rates of **373 g/day** from Burger 2002[2] for adults and **107.7 - 331 g/day** from EPA 2002[3] for children, depending on the age group, as shown in **Table 1**. As no ingestion rates were available for children 1-2 years old, the ingestion rate for children 3-5 years old was scaled down based on the ratio of the mean body weights of the two child age groups. The

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[1] National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units – Additional Post-Promulgation Actions. https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0794-0070

[2] Burger J. 2002. *Daily Consumption of Wild Fish and Game: Exposures of High End Recreationalists*. International Journal of Environmental Health Research 12:4, 343-354.

[3] EPA. 2002. *Estimated Per Capita Fish Consumption in the United States*. Office of Water, Office of Science and Technology, Washington, D.C. EPA-821- C- 02-003. August 2002. Note: the URL listed by EPA in the proposed MATS RTR risk report for this document does not work. An alternative URL was used to obtain this report. https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=901R0600.TXT

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body weights used for the risk analysis are from the 2011 EPA Exposure Factor Handbook[4] for adults and the 2008 Child-Specific Exposure Factor Handbook for children[5]. The proposed MATS RTR risk report further adjusts fish ingestion rates beyond the "as-prepared" weights (which account for preparation/cooking losses from removing parts of fish, water loss, etc.) to account for the change in chemical concentrations due to cooking. This Food Preparation/Cooking Adjustment Factor (FPCAF) varies by pollutant and is applied to the "as-prepared" fish ingestion rates in order to determine pollutant exposure. The Mercury FPCAF of 1.5 is from a 2011 EPA document[6], and Arsenic and Cadmium were assumed to be the same FPCAF as Mercury. PAH was assumed to have a neutral FPCAF due to a lack of clear documentation. The assumed Dioxin FPCAF of 0.7 is based on a literature review of several sources, as detailed in Section B.6.4.4 of Appendix 6 of the proposed MATS RTR risk report. A summary of the fish ingestion rates, using "as-prepared" assumptions, used in the proposed MATS RTR risk report are shown in **Table 1** below. EPA states on page B-72 of Appendix 6 of the proposed MATS RTR risk report that assessors are encouraged to use more locally relevant data whenever available, as consumption of locally caught fish can vary substantially among different regions and population groups.

Table 1 MATS RTR Fish Ingestion Rates

	Child 1-2 yrs	Child 3-5 yrs	Child 6-11 yrs	Child 12-19 yrs	Adult 20-70 yrs
Fish Ingestion (g/day)	107.7	159.0	268.2	331.0	373.0

Burger 2002 / EPA 2002 used in Proposed MATS RTR Risk Report

Burger 2002 was used to determine an adult subsistence fisher ingestion rate for the proposed MATS RTR risk report. This study surveyed "high end recreationalists" in South Carolina. The survey was conducted on 458 people during their attendance at a single hunting and fishing show in 1998 to determine the amount of raccoons, squirrels, quail, deer, and fish consumed over the previous month. The average wild-caught fish consumption rate in the study was **50.2 g/day**. EPA used the 99th percentile ingestion rate for women of **373 g/day** as representative for the proposed MATS RTR risk report. This study did not differentiate between freshwater, estuarine, and marine fish.

The stated source for data used in the EPA 2002 document referenced by EPA in the proposed MATS RTR risk report for child fish ingestion rates was a USDA 2000 report (finalized in 2005)[7]. The USDA 2000 report was based on survey data collected from 1994 to 1996 and in 1998 by USDA. This study surveyed

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[4] EPA 2011. *Exposure Factors Handbook: 2011 Edition*. Office of Research and Development, Washington, D.C. EPA/600/R-090/052F. September 2011. https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252

[5] EPA 2008. *Child-Specific Exposure Factors Handbook*. Office of Research and Development, Washington, D.C. EPA/600/R-06/096F. September 2008. https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=199243

[6] *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, Research Triangle Park, NC. EPA-452/R-11-009. December 2011.

[7] Data collected as part of the 1994-1996; 1998 USDA Continued Survey of Food Intakes by Individuals (CSFII), published in 2000, finalized in 2005. https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=132173

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people and had them recall their dietary intake on two separate days, including where the food was obtained, whether the intake of food was unusual compared to their normal dietary intake and more. The sample data was adjusted for each demographic group (e.g., male, female, employment status, etc.) to be a weighted average based on U.S. Census Bureau population estimates in order to portray a more accurate representation of the overall U.S. population. Data was collected and used from 19,731 individuals. The age groups identified in this survey were split into 8 categories: less than 1 year, 1–2 years, 3–5 years, 6–11 years, 12–19 years, 20–39 years, 40–69 years, and greater than 70 years. Data was also categorized by geographical region and race. The EPA 2002 document referenced by EPA in the proposed MATS RTR risk report, though somewhat different age categories than the USDA survey data report, broke out the fish ingestion rates specifically for freshwater/estuarine fish, and has adjusted tables for consumers only (individuals who consumed fish at least once during the 2-day study period; non-consumers are individuals who did not consume fish during study period). As one would expect, this adjustment for consumers-only greatly increases the 99th percentile ingestion rate, as shown in **Table 3**. **Table 2** below shows the per capita intake of fish for each age group for consumers and non-consumers, illustrating the importance of focusing on ingestion rates for consumers only. Note that both tables show fish ingestion that is both commercially bought and self-caught.

Table 2 EPA 2002 Report 99th Percentile Freshwater/Estuarine Fish Ingestion Rates, Consumers and Non-Consumers

	Child 3-5 yrs	Child 6-11 yrs	Child 11-15 yrs	Child 16-17 yrs	Adult 18+ yrs
Fish Ingestion (g/day)	38.72	60.85*	69.51*	81.18*	105.12

*Sample size does not meet minimum reporting requirements (ranged from 363 to 1,670 individuals, depending on age group).

Table 3 EPA 2002 Report 99th Percentile Freshwater/Estuarine Fish Ingestion Rates, Consumers Only

	Child 3-5 yrs	Child 6-11 yrs	Child 11-15 yrs	Child 16-17 yrs	Adult 18+ yrs
Fish Ingestion (g/day)	158.99*	260.41*	307.10*	371.61*	338.21*

*Sample size does not meet minimum reporting requirements (ranged from 28 to 1,633 individuals, depending on age group).

Discussion on Using these Sources

EPA indicates in Exhibit B-19 of Appendix 6 of the proposed MATS RTR risk report that a very small fraction (4-8.5%) of the population consumes freshwater/estuarine fish on a single day, and uses this information to calculate long-term fish ingestion rates in Exhibit B-20. The 99th percentile long-term fish ingestion rates are summarized in **Table 4** below. *This comparison shows that the fish ingestion rates used in the screening analysis substantially overestimates chronic exposure by assuming the subsistence fisher consumes the 99th percentile fish ingestion rates used in the proposed MATS RTR risk report for 350 days/year every year of the exposure period.*

Table 4 Long-Term 99th Percentile Fish Ingestion Rates

	Child 1-2 yrs	Child 3-5 yrs	Child 6-11 yrs	Child 12-19 yrs	Adult 20-70 yrs
Fish Ingestion (g/day)	6.98	10.3	17.0	20.9	43.02

Burger 2002 has some disadvantages as a source for fish ingestion rates. The survey was conducted at a single sport show event in South Carolina in 1998 and the sample size for adults of 458 individuals is

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small. The sample sized used as representative for a subsistence fisher rate in the proposed MATS RTR risk report (women fishers), was even smaller at 149 individuals. The median fish ingestion rate for this sample size was 11.6 g/day, and the 95th percentile ingestion rate was 172 g/day. The 99th percentile ingestion rate above 172 g/day therefore is comprised of only 1-2 individuals. Female anglers were chosen as representative for the proposed MATS RTR risk report adult fish ingestion rate because, according to EPA, *"although the fish ingestion rate for this group of subsistence fishers is not the highest fish ingestion rate available for use by EPA, it strikes the appropriate balance between being health protective and having screening scenarios so conservative that they are of limited use in the decision making process. This high-end fish ingestion rate is appropriate in the context of the conservative screening scenario used in the RTR process. This methodology is particularly applicable for national rulemakings given that it is very likely that subsistence woman fishers of child bearing age are located throughout the United States.".*

This study did not differentiate between freshwater and marine fish, while only freshwater fish are considered in human health risk analyses. This is especially important to note because the study was conducted in South Carolina, where marine fishing is likely to make up a substantial portion of all fishing in the area. For these reasons, we believe the 99th percentile fish ingestion rates in this study would result in artificially high estimated health risks and are not appropriate for use in the multi-pathway RTR model. In addition, due to the relatively informal nature of the survey conducted in the Burger 2002 study, there is a greater potential for inaccurate self-reporting.

The USDA 2000 data cited in the EPA 2002 report does not differentiate between commercially obtained and locally caught fish, and therefore would overestimate exposure from consumption of locally caught fish. In addition, the sample sizes for the consumer-only data is relatively small. The use of the 99th percentile of "consumers only" combined with not taking into account real world long-term ingestion rates is overly conservative in obtaining a health protective, but representative, subsistence fisher ingestion rate for chronic exposure.

An additional concern regarding the EPA RTR fish consumption rates is the use of the 99th percentile fish ingestion rates for both screening analyses and refined site-specific analyses. EPA has established numerous precedents for applying the 95th percentile upper confidence limit of environmental data in assessing health risks. The use of the 95th percentile rather than a mean or median is a recognition of the many sources and degree of variability of environmental risk related parameters, and the desire to estimate "upper limit" risks that are less likely to be affected by extreme values or "outliers" that may be present in a data set. Examples of EPA's adoption the 95th percentile estimate "upper limit" risk are included in a varied array of programs of which a few examples follow:

- *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites*[8] *where* EPA recommends using the average concentration to represent "a reasonable estimate of the concentration likely to be contacted over time". The guidance states that, "because of the

[8] Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites, OSWER 9285.6-10, December 2002

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uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable."

- *Choosing a Percentile of Acute Dietary Exposure as a Threshold of Regulatory Concern*[9] where EPA "uses the estimated 95th percentile of exposure in calculating a threshold of concern when actual tolerance levels and 100% crop treated assumptions are used during exposure assessment, but recognizes that this approach can significantly overestimate actual exposure levels."
- *Exposure Factors Handbook: 2011 Edition*[10] where "the 95th percentile was used throughout the handbook to represent the upper tail because it is the middle of the range between 90th and 99th percentile."
- *Risk Assessment Guidance for Superfund: Volume III - Part A, Process for Conducting Probabilistic Risk Assessment*[11] where "Because an EPC [exposure point concentration] is calculated from a sample, there is uncertainty that the sample mean equals the true mean concentration within the [site]...The 95% UCL is combined in the same risk calculation with various central tendency and high-end point estimates for other exposure factor".
- ProUCL Version 5.0.00 Technical Guide Statistical Software for Environmental Applications[12] where "the main objective...is to compute rigorous statistics to help decision makers and project teams in making correct decisions at a polluted site which are cost-effective, and protective of human health and the environment. Since many environmental decisions are based upon a 95% UCL of the population mean, it is important to compute correct UCLs of practical merit".
- *EPA's Approval of Idaho's New and Revised Human Health Water Quality Criteria for Toxics and Other Water Quality Standards Provisions*[13] where the mean tribal fish ingestion rate, which was approximately equal to the 95th percentile general population fish ingestion rate, was chosen as representative for determining human health risks for Idaho, where subsistence fishers and recreational anglers reside.

Based on the sound scientific approach used by the above EPA guidance documents, it is appropriate to apply the 95th percentile value of fish ingestion data for refined multi-pathway human health risk assessments. For a refined assessment for which the purpose is to estimate upper limit risk for a site,

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[9] USEPA 2000. Choosing a Percentile of Acute Dietary Exposure as a Threshold of Regulatory Concern, Office of Pesticide Programs, March 16.

[10] Exposure Factors Handbook: 2011 Edition, EPA/600/R-090/052F, Office of Research and Development, September 2011.

[11] Risk Assessment Guidance for Superfund: Volume III - Part A, Process for Conducting Probabilistic Risk Assessment, EPA 540-R-02-002, Office of Emergency and Remedial Response, December 2001.

[12] ProUCL Version 5.0.00Technical Guide Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations, EPA/600/R-07/041, September 2013.

[13] EPA Region 10 letter to Mr. John Tippets, Director of Idaho DEQ, *Technical Support Document, EPA Approval of the State of Idaho's New/Revised Human Health Water Quality Criteria for Toxics and Other Water Quality Standards Provisions Submitted on December 13, 2016*. April 4, 2019. https://www.epa.gov/sites/production/files/2019-04/documents/04042019_cover_letter_approval_of_deq_human_health_criteria_signed.pdf

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site-specific fish ingestion data would be preferable. In the absence of site-specific data of sufficient quality and data points, the use of the 95th percentile of the general population has been determined by EPA to represent a conservative, health-protective approach.

Alternative Fish Consumption Studies

The following sections describe recent, more representative fish consumption studies that should be considered when developing fish consumption rate inputs to the multi-pathway RTR model. Note that though the 95th percentile fish ingestion rates are more appropriate than the 99th percentile for site-specific analysis for the reasons stated in the section above, the fish consumption studies detailed below are presented using the 99th percentile fish ingestion rates for a more direct comparison to the ingestion rates adopted by EPA for the MATS RTR risk analysis. The fish ingestion rates ultimately proposed, however, are the 95th percentile rates.

EPA 2014 Report on Estimated Fish Consumption Rates for the U.S.

In 2014, EPA published a report[14] detailing fish consumption rates in the United States based on data from the National Health and Nutrition Examination Survey (NHANES) 2003-2010. There, a recommended fish consumption rate was developed by EPA for use in developing ambient water quality criteria. The methodology used in this report was designed to determine long-term average fish consumption rates, and was split into two broad categories: a youth population under 21 years old and an adult population 21 years old and older. More granular age group data was collected (1 to <3, 3 to <6, 6 to <11, 11 to <16, 16 to <18, 18 to <21, 21 to <35, 35 to <50, 50 to <65, and 65 years and older) within each table, however data specific to these age groups were not available by region (regional statistics were only summarized into the two broad age groups).

Similar to the USDA data collection efforts, the survey was conducted over two separate days for each individual. Individuals were asked to recall their diet over the past 24 hours, and to recall the frequency at which they consumed fish or shellfish over the past 30 days. The total sample size was 29,463 individuals, with a sample size of 2,931 individuals for the Great Lakes region.

Out of the 29,463 individuals surveyed, 6,891 reported consuming any fish. Fish consumption was categorized between freshwater/estuarine and marine fish, as well as categorized by trophic level. Fish ingestion rates were determined for both "raw, whole" fish weights and "as-prepared" weights, with an average moisture loss due to cooking of 22% (which varied based on cooking method). This adjustment factor was stated to be the same one used in the EPA 2002 study discussed above. Only the raw weight, edible portion fish consumption was summarized in the report. **Table 5** below summarizes the 99th percentile ingestion rates across the United States for both the raw weights and the "as-prepared" weight using the 11% cooking loss factor recommended by EPA in the proposed MATS RTR risk report. This differs from the average 22% cooking loss, varying by cooking method, discussed in this study.

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[14] *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations (NHANES 2003-2010).* EPA. April 2014. EPA-820-R-14-002. https://www.epa.gov/fish-tech/estimated-fish-consumption-rates-reports

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Table 6 shows similar statistics, but provides ingestion rates specifically for the Great Lakes region. This data was only provided for the two broad age groups. **Table 7** and **Table 8** summarize the same statistics and **Table 5** and **Table 6**, respectively, only provide information for freshwater plus estuarine fish (i.e., FW+Est.) instead of total fish.

Table 5 99th Percentile Total Fish Ingestion Rates, U.S., Raw, Edible Portion and "As-Prepared" Weights

	Child 1-2 yrs	Child 3-5 yrs	Child 6-10 yrs	Child 11-15 yrs	Child 16-17 yrs	Child 18-20 yrs	Adult 21+ yrs
Raw, Edible Portion (g/day)	32.8	39.6	58.6	53.2	61.0	88.1	105.1
"As-Prepared" (g/day)	29.2	35.2	52.2	47.3	54.3	78.4	93.5

Table 6 99th Percentile Total Fish Ingestion Rates, Great Lakes, Raw, Edible Portion and "As-Prepared" Weights

	Child <21 yrs	Adult 21+ yrs
Raw, Edible Portion (g/day)	50.4	80.5
"As-Prepared" (g/day)	44.9	71.6

Table 7 99th Percentile FW+Est. Fish Ingestion Rates, U.S., Raw, Edible Portion and "As-Prepared" Weights

	Child 1-2 yrs	Child 3-5 yrs	Child 6-10 yrs	Child 11-15 yrs	Child 16-17 yrs	Child 18-20 yrs	Adult 21+ yrs
Raw, Edible Portion (g/day)	17.1	22.3	27.3	29.6	32.2	37.5	61.1
"As-Prepared" (g/day)	15.2	19.8	24.3	26.3	28.7	33.4	54.4

Table 8 99th Percentile FW+Est. Fish Ingestion Rates, Great Lakes, Raw, Edible Portion and "As-Prepared" Weights

	Child <21 yrs	Adult 21+ yrs
Raw, Edible Portion (g/day)	32.9	44.5
"As-Prepared" (g/day)	29.3	39.6

Discussion on Using this Source

For the purpose of conducting multi-pathway RTR analyses, a fish consumption rate of **54.4 g/day** for adults and **15.2 – 33.4 g/day** for children, depending on the age group as shown in **Table 7**, would be appropriate based on this study. EPA's 2014 report is a thorough source with a relatively high number of respondents used for statistical analysis. This study also has the benefit of providing data for several child age groups that could be used to develop both adult and child fish ingestion rates. This survey also presents regional-specific data and separate data for freshwater plus estuarine fish. One weakness of

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this study is that it does not distinguish between self-caught fish and other sources of fish. This study also did not provide statistics for "consumers only", because the authors stated that two 24-hour recalls might not be sufficient to determine true fish consumers vs. non-consumers. However, these potential weaknesses are the same as in the EPA 2002 report that EPA used for child fish ingestion rates in the proposed MATS RTR risk report. This study has the benefit of using newer data (data collected in 2003-2010 *vs.* data from 1994-1996; 1998 in the 2002 report). This study also included in-person interviews asking for a 30-day recall of fish and shellfish consumption, increasing the likelihood that individuals consumed fish during the surveyed period. When both the EPA 2002 report data and the data in this report are compared for similar demographics (across the U.S., consumers and non-consumers, for freshwater and estuarine fish only), this more recent study appears to indicate a downward trend in fish consumption, ranging from a ~45-65% decrease, depending on the age group. The number of individuals surveyed in this study is also approximately 50% larger than in the EPA 2002 report. It is therefore a much stronger potential resource for fish ingestion rates nationwide.

National Survey on High-Frequency Fish Consumers Paper (2017)

Harvard University published a 2017 article[15] discussing fish ingestion rates of high-frequency adult consumers (approximately equivalent to the 95th percentile of fish consumption) within the United States. The survey was conducted in 2013 on 2,037 individuals and is stated to be representative of the approximately 17.6 million individuals consuming three or more fish meals per week.

The average total fish ingestion rate (including store-bought and other sources) was 111 g/day (95th confidence interval of 106-116 g/day), and the average in West-North Central region specifically was **108 g/day**. For individuals reporting any self-caught fish (208 individuals, or 10% of all those surveyed), **Table 9** summarizes the self-caught fish ingestion rates as well as the total fish ingestion rates. The data from this survey shows that the percentage of fish ingestion from self-caught fish represents a relatively small portion of total fish ingestion for recreational anglers. Approximately 15% of these individuals (33 people) reported consuming self-caught fish exclusively. For the most part, self-caught species tend to be freshwater species, though clearly marine species were present for individuals in coastal regions. For exclusively self-caught anglers, trout, bass and salmon were the most common species, making up about two thirds of all fish consumed.

Table 9 National Fish Ingestion Rates by Percentile, Recreational Anglers

	Mean	10th	50th	90th	Max
Self-Caught Fish Ingestion (g/day)	30	2.4	11	78	336
Total Fish Ingestion (g/day)	130	55	104	211	933

Discussion on Using this Source

This is a potentially defensible source for fish ingestion rates as it differentiates specifically for the average self-caught fish ingestion rate among individuals who consume self-caught fish. A potential

[15] Stackelberg, Li, Sunderland. *Results of a national survey of high-frequency fish consumers in the United States.* October 2017. https://www.sciencedirect.com/science/article/pii/S0013935117304024?via%3Dihub

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downside of using this ingestion rate, however, is that the number of individuals who were surveyed who reported consuming self-caught fish (out of the 2,037 individuals surveyed) was only 208, which is a relatively small sample size. This survey also contains data specifically for those individuals who consume exclusively self-caught fish, although a very small sample size of 33 people, that provides insight into potentially representative subsistence fisher ingestion rates.

HHRAP

The Human Health Risk Assessment Protocol (HHRAP) for Hazardous Waste Combustion Facilities, published in September 2005, has historically been the basis for EPA's current RTR methodology for calculating risk from ingestion according to the latest published RTR. The recommended fish ingestion rates in HHRAP are located in Table C-1-4 of Appendix C of the protocol[16] and are 0.00125 kg/kg-day FW for adults and 0.00088 kg/kg-day FW for children. The ingestion rates recommended by HHRAP are from Table 10-23 of an EPA 1997 document[17], which derived values from the 1987-1988 USDA National Food Consumption Survey[18] and then determined an "as-consumed" fish ingestion rate using a 41% total preparation and cooking loss adjustment factor. The child receptor fish ingestion rate used in HHRAP is a time-weighted mean. Using the HHRAP ingestion rates, combined with the mean body weights used in the proposed MATS RTR risk report, provide the ingestion rates summarized in **Table 10** below. Note that these ingestion rates are "as-prepared".

Table 10 HHRAP Fish Ingestion Rates

	Child 1-2 yrs	Child 3-5 yrs	Child 6-11 yrs	Child 12-19 yrs	Adult 20-70 yrs
Fish Ingestion (g/day)	11.1	16.4	31.7	56.5	100.0

Discussion on Using this Source

EPA indicated in Section B.6.3.4 of Appendix 6 of the proposed MATS RTR risk report that there are weaknesses to the 1987-1988 USDA National Food Consumption Survey used in HHRAP. EPA states that there were inadequate sample sizes for children of different age groups, and there are no fish ingestion rate available for children <6 years old. EPA also states the age of the study as another disadvantage of using this fish ingestion rate information, as well as a lack of adjustment for cooking and loss factors (HHRAP used a 41% cooking and loss factor). EPA does not see this study as a large enough sample size, expansive enough for all age groups, or representative for a subsistence fisher. Subsistence fish ingestion rates, rather than a recreational fish ingestion rates, are desired in order to ensure that exposure risks are not underestimated.

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[16] Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities. https://archive.epa.gov/epawaste/hazard/tsd/td/web/html/riskvol.html

[17] *Exposure Factors Handbook*. EPA Office of Research and Development. EPA/600/P-95/002F. August 1997. https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=12464

[18] *Food and Nutrient Intakes by Individuals in the United States, 1 Day, 1987-88*. U.S. Department of Agriculture, Human Nutrition Information Service. September 1993. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/8788/nfcs8788_rep_87-i-1.pdf

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It should be noted that the fish ingestion rates in this document are based on the 1997 Exposure Factors Handbook, which is now considered outdated. The 2011 version of the Handbook, which was used for the proposed MATS RTR risk report, is the latest version. The USDA consumption survey that the fish ingestion rates were based on has also been redone in 1994-1996; 1998, which is the basis for the child ingestion rates in the proposed MATS RTR risk report. Therefore, we do not recommend the use of this data source for fish ingestion rates.

Conclusions

In reviewing the various resources for fish ingestion rates, we believe that there are more appropriate sources of information for use in the MATS RTR and subsequent RTRs than those chosen in the proposed MATS RTR risk report (i.e. **373 g/day** for adults and **107.7 - 331 g/day** for children, depending on the age group). For child ingestion rates, using the "consumers-only" fish ingestion rate in the EPA 2002 study based on 24-hour dietary recall results in an artificially high fish ingestion rate for chronic exposure. This result is due to the fact that if an individual consumed fish in the past 24 hours (therefore being categorized as a "consumer"), it is then assumed that the individual consumes that amount of fish every day for the entire exposure period (350 days per year, the number of years varying by age group). This assumption has a very substantial impact on the estimated fish ingestion rates, as seen by comparing the long-term 99th percentile fish ingestion rates in **Table 4** to the "consumers-only" rates in **Table 3**. This bias towards overestimating the ingestion rate is amplified when combined with the use of the total fish ingestion rate, which includes bought fish as well as caught fish. Adult fish ingestion rate information from the Burger 2002 study is from a survey conducted at a single sport show event in South Carolina in 1998 and is based on the smallest number of individuals surveyed out of any of the studies discussed above. The 99th percentile ingestion rate used for adults in the proposed MATS RTR risk report is based on self-reporting of very few individuals. In addition, as stated above, we believe that there was high positive bias in self-reported fish consumption rates. While this study does look at only self-caught fish, it does not differentiate between freshwater and marine fish consumption.

For the purpose of conducting NESHAP RTR multi-pathway risk assessments, it is more appropriate to use 95th percentile fish ingestion rates based on the EPA 2014 Report on U.S. Fish Consumption are, as shown in **Table 11**. This study follows a similar methodology as the EPA 2002 report, but uses more updated survey data ~10 years after the EPA 2002 study survey date, and from a population of surveyed individuals that is approximately twice as large as the EPA 2002 study. A side-by-side comparison of the fish ingestion rates by age group, shown in **Table 2** and **Table 7**, shows that fish ingestion rates have appeared to decrease by a substantial amount (45-65%) in more recent years. This result has the same limitation as many of the other studies in that it does not break out the data between caught and bought fish, however it does break out data specific to consumption of freshwater and estuarine fish.

Table 91 95th Percentile FW+Est. Fish Ingestion Rates, U.S., Raw, Edible Portion and "As-Prepared" Weights

	Child 1-2 yrs	Child 3-5 yrs	Child 6-11 yrs	Child 12-19 yrs	Adult 20+ yrs
Raw, Edible Portion (g/day)	7.50	9.50	12.45	14.88	31.80
"As-Prepared" (g/day)	6.68	8.46	11.08	13.24	28.30

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Residual Risk Coalition

April 17, 2019

U.S. Environmental Protection Agency
EPA Docket Center
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
a-and-r-docket@epa.gov

Re: Comments of the Residual Risk Coalition on the National Emission Standards for Hazardous Air Pollutant Emissions: Coal- and Oil-Fired Electric Utility Steam Generating Units – Reconsideration of Supplemental Finding and Residual Risk and Technology Review (Docket ID No. EPA–HQ–OAR–2018–0794)

Dear Sir or Madam:

The Residual Risk Coalition (R2C) appreciates this opportunity to submit comments on the above-referenced proposed rule, published at 84 Fed. Reg. 2,670 (Feb. 7, 2019) (the "proposed rule"). The R2C is a coalition of national trade associations comprised of the American Chemistry Council, American Coke and Coal Chemicals Institute, American Forest & Paper Association, American Fuel & Petrochemical Manufacturers, American Iron and Steel Institute, American Petroleum Institute, National Lime Association, National Oilseed Processors Association, National Rural Electric Cooperative Association, and U.S. Tire Manufacturers Association.

Each R2C member organization has member companies that are directly regulated by National Emission Standards for Hazardous Air Pollutants (NESHAP) rules that have been or will be subject to residual risk and technology review (RTR) rulemakings pursuant to §§ 112(d)(6) and 112(f) of the Clean Air Act (CAA). The R2C is committed to working constructively with EPA in developing technologically sound and environmentally responsible approaches to regulations promulgated under these authorities. The R2C seeks to ensure that reasonable residual risk methodologies are used and that any residual risk associated with HAP emissions remaining after the application of maximum achievable control technology (MACT) is addressed appropriately, while avoiding burdensome changes to existing emission limitations when changes are not necessary to protect public health.

These comments address the following aspects of the proposed rule:

1. EPA should not give disproportionate weight to potential benefits of non-HAP emission reductions when evaluating the costs and benefits of HAP emission reductions under § 112(d)(6) due to a change in technology.

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2. EPA employed a fish consumption rate in the RTR risk assessment that is unrealistically high and well above EPA's previous assumptions regarding fish consumption.

These comments address the cross-cutting issues that likely will arise in many of the residual risk assessments for rules applicable to R2C's members. The R2C is not providing comments on the particular details of the coal- and oil-fired electric utility steam generating unit (EGU) source category addressed in the subject proposal.

1. Cost-Benefit Analyses Should Not Give Disproportionate Weight to Potential Benefits of Reducing Non-HAP Pollutants.

As a general matter, when EPA is deciding whether to regulate and the level of regulation based on a cost-benefit analysis, the Agency should base its decisions on the benefits achieved from reductions of the primary pollutant being regulated. While co-benefits from the reduction of other (non-HAP) emissions are a relevant component of cost-benefit analysis, they should not provide a disproportionate justification for setting the mercury and air toxics (MATS) standards in its § 112(n)(1)(A) "appropriate and necessary" determination. *See* 84 Fed. Reg. at 2,675. EPA's proposed approach is consistent with the Supreme Court's decision in *Michigan v. EPA*, 135 S. Ct. 2,699 (2015) with regard to cost-benefit analysis for EGUs under CAA § 112(n)(1)(A). The same approach should be applied to cost-benefit analysis in technology reviews under § 112(d)(6).

Under CAA § 112(d)(6), EPA must review standards promulgated under § 112 and revise the standards "as necessary (taking into account developments in practices, processes, and control technologies)" at least once every eight years. Just as EPA must consider the cost of compliance relative to the HAP benefits of regulation when determining whether regulation of EGUs is "appropriate and necessary" under § 112(n)(1)(A), EPA must assess HAP-specific costs and benefits in deciding whether to revise the existing emission standards as "necessary" under § 112(d)(6). *See* 84 Fed. Reg. at 2,681.

For much of the past decade, EPA's consideration of co-benefits has shifted from providing information and context to becoming the primary justification for new regulations. As a result, claimed health co-benefits have too frequently impeded EPA's meaningful evaluation of the rationality and necessity of the regulation by distorting the "gross disparity between monetized costs and HAP benefits." 84 Fed. Reg. at 2,677. In the MATS rule, benefits from HAP reduction were estimated to be $4 million to $6 million per year, but the "costs to power plants were … between 1,600 and 2,400 times as great as the quantifiable benefits from reduced emissions of hazardous air pollutants." *Michigan v. EPA*, 135 S. Ct. at 2,706. EPA appropriately acknowledges that 99.9 percent of the monetized benefits of MATS were purported coincidental reductions of criteria pollutants (primarily NO_x, SO_2, and $PM_{2.5}$) that are regulated separately under the national ambient air quality standards (NAAQS) program. *See* 84 Fed. Reg. at 2,676.

Within the context of periodic technology reviews under § 112(d)(6), EPA should ensure that the costs and benefits from HAP emission reductions drive the cost-benefit analysis and not give undue weight to potential air quality co-benefits from non-HAP emission reductions. To

the extent there are potential co-benefits of non-HAP emission reductions, an evaluation can provide information and context to EPA and the public. But non-HAP-related co-benefits should not be used disproportionately over HAP emission reductions to make a technology-based change to existing NESHAP.

2. EPA Should Change the Fish Consumption Rate in the Risk Assessment to be Consistent with the Consumption Rate Used in More Recent EPA Documents.

Fish consumption rate assumptions are a key factor when assessing both cancer and non-cancer hazards in RTR multi-pathway risk assessments. In the residual risk assessment report for the proposed MATS RTR ("proposed MATS RTR risk report") and at least one other RTR (*i.e.* the Surface Coatings NESHAP RTR, 84 Fed. Reg. 9,590 (Mar. 15, 2019)), EPA used flawed and outdated fish consumption rate values to conduct multi-pathway risk assessments. These unrealistic fish consumption rates led to overly-conservative, inaccurate risk findings.

Other studies that are more accurate and based on more recent data are available and support the use of lower fish ingestion rates in multi-pathway risk assessment for the MATS RTR and other RTRs. These comments provide a general summary of the flaws in the studies upon which the proposed MATS RTR risk report relied as well as suggested alternative studies that should be used instead. A more detailed review and discussion of these studies is also provided in a literature review submitted as an attachment to the American Iron and Steel Institute (AISI) comments ("Fish Ingestion Rate Summary for Use in Multi-pathway Risk Assessments") on this proposal. Based on the best alternative study, a more appropriate fish ingestion rate for use in the MATS RTR multi-pathway risk assessment would be **28.3 g/day** for adults and between **6.7 and 13.2 g/day** for children.

The proposed MATS RTR risk report uses fish ingestion rates from Burger 2002[1] for adults and EPA 2002[2] for children. A summary of the fish ingestion rates used in the proposed MATS RTR risk report are shown in Table 1 below. These ingestion rates are "as-prepared," and so account for preparation and cooking losses.

Table 1 – Proposed MATS RTR Risk Report Fish Ingestion Rates

	Child 1-2 yrs	Child 3-5 yrs	Child 6-11 yrs	Child 12-19 yrs	Adult 20-70 yrs
Fish Ingestion (g/day)	107.7	159.0	268.2	331.0	373.0

Burger 2002, on which EPA based its adult fish ingestion rate assumptions in the proposed MATS RTR risk report, surveyed "high end recreationalists" in South Carolina. The

[1] Burger J. 2002. *Daily Consumption of Wild Fish and Game: Exposures of High End Recreationalists.* International Journal of Environmental Health Research 12:4, 343-354.

[2] EPA. 2002. *Estimated Per Capita Fish Consumption in the United States.* Office of Water, Office of Science and Technology, Washington, DC EPA-821-C-02-003. August 2002. Note: the URL listed by EPA in the proposed MATS RTR risk report for this document does not work. An alternative URL was used to obtain this report. https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=901R0600.TXT

survey was conducted on 458 people during their attendance at a single hunting and fishing show in 1998 to determine the amount of raccoons, squirrels, quail, deer, and fish consumed over the previous month. The average wild-caught fish consumption rate in the study was **50.2 g/day**. EPA used the 99th percentile ingestion rate for women of **373 g/day** as representative for the proposed MATS RTR risk report. The sample size for this study was small and the survey did not differentiate between freshwater, estuarine, and marine fish. The study was based on data that are over 20 years old and are not representative of fish consumption elsewhere in the U.S.

The data cited in the EPA 2002 report, upon which EPA relied for child fish ingestion rate assumptions in the proposed MATS RTR risk report, did not differentiate between commercially obtained and locally caught fish and, therefore, overestimates exposure from consumption of locally caught fish. In addition, the data included adjusted fish ingestion rates to reflect consumers only (individuals who consumed fish at least once during the 2-day study period) and excluded non-consumer study respondents, despite relatively small sample sizes for the consumer-only data. For child ingestion rates, using the "consumers-only" fish ingestion rate in the EPA 2002 study based on 24-hour dietary recall results in an artificially high fish ingestion rate for chronic exposure. This is because if an individual consumed fish in the past 24 hours (and, therefore, is categorized as a "consumer"), it is then assumed that the individual consumes that amount of fish every day for the entire exposure period (350 days per year, the number of years varying by age group).

An additional concern regarding the EPA RTR fish consumption rates is the use of the 99th percentile fish ingestion rates for both screening analyses and refined site-specific analyses. EPA has established numerous precedents for applying the 95th percentile upper confidence limit of environmental data in assessing health risks. The use of the 95th percentile rather than a mean or median is a recognition of the many sources and degree of variability of environmental risk related parameters, and the desire to estimate "upper limit" risks that are less likely to be affected by extreme values or "outliers" that may be present in a data set. For further discussion of EPA's adoption of the 95th percentile to estimate "upper limit" risk in a wide array of programs, please see AISI comments on this rule.

A number of more recent, more rigorous, and more representative studies on fish consumption rates are available and should be used by EPA when developing fish consumption rate inputs to RTR multi-pathway risk assessments. Importantly, see April 4, 2019 Letter to Director John Tippets, Idaho Department of Environmental Quality, EPA Approval of Idaho's New and Revised Human Health Water Quality Criteria for Toxics and Other Water Quality Standards Provisions. Additional studies that derived more realistic and representative fish consumption rates include:

- EPA 2015 Response to Scientific Views from the Public on Draft Updated National Recommended Water Quality Criteria for the Protection of Human Health
- EPA 2014 Report on Estimated Fish Consumption Rates for the U.S.
- EPA 2013 Report on Fish Consumption in CT, FL, MN and ND
- Harvard 2017 National Survey on High-Frequency Fish Consumers Paper

Of the noted studies, the EPA 2014 report provides the most significant dataset and statistical analysis. Out of the 29,463 individuals surveyed across the U.S., 6,891 reported consuming fish. Fish consumption was categorized between freshwater/estuarine and marine fish, as well as categorized by trophic level. The methodology used in this report was designed to determine long-term average fish consumption rates and was split into two broad categories: a youth population under 21 years old and an adult population 21 years old and older. Within each table, more granular age group data were reported (1 to <3, 3 to <6, 6 to <11, 11 to <16, 16 to <18, 18 to <21, 21 to <35, 35 to <50, 50 to <65, and 65 years and older). This study followed a very similar methodology as the EPA 2002 report, only using more recent survey data from approximately10 years after the EPA 2002 study survey date and from a population of surveyed individuals that is approximately twice as large as the information in the EPA 2002 study. A side-by-side comparison of the 99th percentile fish ingestion rates broken out by age group shows that fish ingestion rates have appeared to decrease by a substantial amount (45%-65%) in more recent years. The newer study surveyed twice as many individuals as the older study, and both followed the same survey procedure.

For the purpose of conducting multi-pathway RTR analyses, fish consumption rates of **28.3 g/day** for adults and **6.7** to **13.2 g/day** for children, depending on the age group as shown in Table 2, would be appropriate. This is a thorough report with a relatively high number of respondents used for statistical analysis. This study also has the benefit of providing data for several child age groups that could be used to develop both adult and child fish ingestion rates. This survey also presents regional-specific data and separate data for freshwater and estuarine fish.

Table 2 - EPA 2014: 95th Percentile FW+Est. Fish Ingestion Rates, U.S., Raw, Edible Portion and "As-Prepared" Weights

	Child 1-2 yrs	Child 3-5 yrs	Child 6-11 yrs	Child 11-19 yrs	Adult 20-70 yrs
Raw, Edible Portion (g/day)	7.50	9.50	12.45	14.88	31.80
"As-Prepared" (g/day)	6.68	8.46	11.08	13.24	28.30

Correcting the inappropriate, unrepresentative, and unrealistic fish consumption rates used in the MATS RTR multi-pathway risk assessment is important not just for accurately evaluating risks associated with facilities covered under the MATS NESHAP, but for ensuring that the proper precedent is established for myriad subsequent NESHAP RTRs, many of which are currently underway. The two studies cited by EPA, Burger 2002 and EPA 2002, are out-of-date and unrepresentative. More recent, more representative, and more rigorous fish consumption studies are available and must be used in RTR multi-pathway risk assessments, as discussed above. In addition, the 95th percentile fish ingestion rate of the general population is more appropriate for risk analyses than the use of the 99th percentile rate. Based on this study, a fish consumption rate of **28.3 g/day** for adults and **6.7-13.2 g/day** for children.

* * *

Thank you for your consideration of these comments. Please do not hesitate to contact me at (202) 682-8319 if you have questions or need additional information.

Sincerely,

/s/
Matthew Todd
Chair, Residual Risk Coalition

EARTHJUSTICE

June 15, 2020

Andrew Wheeler
Office of the Administrator
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Room 3000
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Washington, DC 20460
Wheeler.andrew@Epa.gov

Re: Petition for Reconsideration of National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Subcategory of Certain Existing Electric Utility Steam Generating Units Firing Eastern Bituminous Coal Refuse for Emissions of Acid Gas Hazardous Air Pollutants; Final Rule, 85 Fed. Reg. 20,838 (Apr. 15, 2020), Docket No. EPA-HQ-OAR-2018-0794

BY E-MAIL AND CERTIFIED MAIL

Dear Administrator Wheeler:

EPA has issued a final rule titled National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Subcategory of Certain Existing Electric Utility Steam Generating Units Firing Eastern Bituminous Coal Refuse for Emissions of Acid Gas Hazardous Air Pollutants, 85 Fed. Reg. 20,838 (April 15, 2020). Environmental Integrity Project, 1000 Vermont Avenue, NW, Suite 1100, Washington, D.C. 20005, Citizens for Pennsylvania's Future, 610 North Third Street, Harrisburg, Pennsylvania 17101, and Sierra Club, 2101 Webster Street, Suite 1300, Oakland, California 94612, (415) 977-5500, petition for reconsideration of that rule, pursuant to 42 U.S.C. 7607(d)(7)(B).

I. BACKGROUND.

A. EPA'S CREATION OF A SEPARATE SUBCATEGORY FOR PLANTS ALLEGEDLY "DESIGNED TO BURN" EASTERN BITUMINOUS COAL WASTE (EBCR).

When EPA promulgated its § 112 emission standards for coal-fired power plants in 2012 ("MATS" rule), the agency rejected requests from industry groups that it set separate and less stringent standards for plants that burn coal refuse. *See* EPA-HQ-

OAR-2018-0794-1191, Comments of Environmental, Public Health, and Civil Rights Organizations ("Comments") at 86 (citing EPA-HQ-OAR-2009-0234-20126, Vol. I at 358-65, 586-87). In the proposed rule, however, EPA solicited comment on creating a separate "subcategory of existing EGUs that fire eastern bituminous coal refuse." 84 Fed. Reg. 2690, 2703 (Feb. 7, 2019).

EPA's stated rationale for considering the creation of such a category was not that the power plants burning eastern bituminous coal refuse ("EBCR") are different in any respect from plants burning other types of coal (or coal refuse). Rather, it was that EBCR itself is different than other types of coal refuse. *Id.* at 2701. EPA stated that EBCR has higher levels of chlorine and sulfur than other coals and coal refuse, and lower levels of free alkali, which can act as a natural sorbent for acid gases. *Id.* at 2701-02. EPA went on to state that that the Anthracite Region Independent Power Producers Association (ARIPPA) had argued that plants burning EBCR could not meet acid gas standards in the MATS rule with just their existing acid gas controls. *Id.* at 2702. EPA stated that "[a]vailable information suggests" that two other technologies—wet scrubbers and spray dryer absorbers—would be expensive, that their costs might be "excessive," and that (for reasons not discussed in the proposed rule) they "may be technically and practically infeasible for these units." *Id.* EPA stated that if plants install another available control technology, direct sorbent injection, they might have to install mercury controls as well. Lastly, EPA stated that some EBCR-burning plants' ability to install controls "may be constrained by space or other configurational limitations." EPA did not identify any such plants, let alone say whether any plants were actually unable to install controls.

Nowhere in the proposed rule did EPA claim that EBCR-burning plants are of a different class[], type[], or size[] of source—i.e., that EPA could meet the statutory preconditions for setting separate limits for these plants. 42 U.S.C. § 7412(d)(1). In particular, EPA did not claim or even suggest that EBCR-burning plants are designed differently than other power plants that burn coal refuse or other power plants that burn non-waste coal. In its final rule, however, EPA now claims that EBCR-burning plants "were designed to burn EBCR." 85 Fed. Reg. at 20,842. EPA now claims that these plants are, as a result, a different "type" of plant than other plants covered by the MATS rule. *Id.* at 20844-45. It also claims that, because they produce 150 megawatts or less, they are a different "size." *Id.*

B. EPA'S CREATION OF SEPARATE AND WEAKER EMISSION STANDARDS FOR PLANTS ALLEGEDLY "DESIGNED TO BURN" EBCR.

In EPA's proposal, the agency provided an analysis indicating that the MACT floor for sulfur dioxide (SO_2) was 1.0 lb/MMBtu (15 lb/MWh). 84 Fed. Reg. at 2670. That floor was based on the data collected by EPA in 2010, prior to its original promulgation of the standards. 85 Fed. Reg. at 20,845-46. EPA indicated that "a

beyond-the-floor SO_2 limit … would likely be in the range of 0.60-.070 lb/MMBtu," because this was "a limit that, on average, the currently operating [eastern bituminous coal refused]-fired EGUs have demonstrated an ability to achieve based on their monthly emissions data for January 2015 through June 2018." *Id.* The agency proposed a beyond-the-floor MACT SO_2 standard of 0.60 lb/MMBtu.

Commenters pointed out that the "likely" SO_2 limit satisfied neither the floor requirements in § 112(d)(3) nor the beyond-the-floor requirements in § 112(d)(2). First, EPA excluded much of the emissions data from the period of time after the units in question installed pollution controls. As a result, neither the data nor the floors reflected the actual performance of the relevant units in the new subcategory, as required by the § 112(d)(3) and binding D.C. Circuit precedent. Comments at 89-90. Further, the "likely" SO_2 limit did not reflect the maximum achievable degree of reduction for units in the category, as required by § 112(d)(2).

EPA's final rule reaches the same limit, but for new reasons on which it was impracticable to comment during the public comment period. 85 Fed. Reg. at 20,846. EPA now claims, without explanation, that including more emissions data from the time period after the units in question installed pollution controls "would not result in changes to average SO_2 lb/MMBtu emission rates for the currently operating [refuse]-fired EGUs nor to the SO_2 emission limit of 0.60 lb/MMBtu that, on average, those EGUs have achieved for that time period." 85 Fed. Reg. at 20,846.

II. Reasons for Reconsideration

A. Almost Every Unit in the Subcategory Has Been Meeting an Enforceable, More Stringent Emissions Limit.

Objection: On May 21, 2019, EPA issued four administrative compliance orders, governing the Grant Town, Colver, Cambria, and Ebensburg plants. *In re. American Bituminous Power Partners, L.P.* (EPA AED-CAA-113(a)-2019-0001) 5-6 (Ex. 1) (Grant Town Plant); *In re. Northern Star Generation LLC* (EPA AED-CAA-113(a)-2019-0002) (Ex. 2) (Cambria Plant); *In re. Inter-Power/AhlCon Partners* (EPA AED-CAA-113(a)-2019-0003) (Ex. 3) (Colver Plant); *In re. Ebensburg Power Co.* (EPA AED-CAA-113(a)-2019-0004) (Ex. 4) 5-6. Each of those orders establishes a sulfur-dioxide limit, monitored and reported pursuant to the governing requirements of the Mercury and Air Toxics Standards, 40 C.F.R. part 63, sub-part UUUUU ("MATS"). Two of the orders prescribe limits lower than the standard EPA has established as the "maximum achievable" reductions from these plants: Grant Town's order requires both units at the plant to meet a sulfur-dioxide limit of 0.40 lb/MMBtu, Ex. 1 at 5-6; and Colver's order requires its units to meet a sulfur-dioxide limit of 0.56 lb/MMBtu. (The remaining orders prescribe a 0.60 lb/MMBtu limit.)

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Those decrees, along with the facilities' compliance reporting, indicate that both Grant Town and Colver have been meeting lower enforceable sulfur-dioxide limits, under the MATS monitoring and reporting scheme, for nearly a full year. *See, e.g.,* American Bituminous Power Partners, L.P., Semiannual Compliance Report (1/1/2019-6/30/2019) (Ex. 5). Another plant within the sub-category—the Scrubgrass plant—has verified that it is capable of complying with, and has been complying with, MATS's original acid-gas limit. *See Response to Comments* ("Response") (Doc. No. EPA-HQ-OAR-2018-0794-4490) 7 (acknowledging that "units at two of the … plants in the subcategory have been able to meet the 2012 MATS standard for acid gas HAP"); Scrubgrass Generating Co. LP Unit 1 & 2 Semi-annual Compliance Report (Jan. 29, 2020) (Ex 6); Scrubgrass Generating Co. LP Unit 1 & 2 Semi-annual Compliance Report (Jul. 24, 2019) (Ex. 7) (verifying compliance with SO_2 standard of 0.02 lb/MMbtu) (same).

Five out of the six units within EPA's newly-defined subcategory have thus been meeting enforceable sulfur-dioxide limits, over a sustained period of time, that are more stringent than EPA's finalized standard for the subcategory. 85 Fed. Reg. at 20,841 (setting SO_2 limit of 0.60 lb/MMbtu). Despite that evidence of lower achieved, and achievable, emissions, EPA has set a standard that (according to EPA) ensures that the highest-polluting unit in the subcategory will "not have to significantly change [its] operations in order to comply with the final rule." Response 23. The agency has thereby violated the Act's requirements that it set standards that reflect the "maximum achievable degree of reductions in emissions," and that these limits be no more stringent than the emissions reductions actually achieved by the relevant best-performing sources, 42 U.S.C. § 7412(d)(2)-(3).

Basis for Reconsideration: The deadline for comments on EPA's proposed subcategory was April 17, 2019. The above-described consent decrees and compliance reports were made available after that date. Thus, it was impracticable during the public comment period to object that the consent decrees and compliance decrees show that EPA's SO_2 limit does not require the maximum achievable degree of reduction, as required by § 112(d)(2), or reflect the average emission level achieved by the relevant best performing units, as required by § 112(d)(3). *See* 42 U.S.C. § 7607(d)(7)(B). Also, the grounds for this objection arose after the period for public comment but within the period for judicial review within the meaning of 42 U.S.C. § 7607(d)(7)(B). These objections are directly relevant to the emissions-reductions achieved and achievable by sources in the subcategory, and therefore of central importance to the rule. *See id.*

B. EPA's Beyond-the-Floor Analysis Excludes Two Plants Operating During the Relevant Period.

Objection: EPA's final rule alters its beyond-the-floor analysis, to exclude data from four units—at the Cambria and Morgantown plants—that meet the sub-

category's requirements and were operating during the period EPA examined during its rule-making. EPA asserts that "the Cambria facility shut down in June 2019," while "EPA has ... learned that the Morgantown Energy facility will be transformed into a natural gas-fueled steam-only production facility," with closure of the waste-coal boilers and transformation to steam-only production "expected to be completed by early to mid-2020." 85 Fed. Reg. at 20,841. EPA has not indicated whether the Morgantown plant will cease operation prior to the effective date of the sub-category.[1] Notably, the Morgantown plant has been complying with the prior MATS' acid-gas standard since April 16, 2017.

Section 112(d)(2) provides that EPA's limits must require the "maximum" degree of reduction that is "achievable for new or existing sources in the category or subcategory." 42 U.S.C. § 7412(d)(2). Regardless of whether the Morgantown units will switch to using gas in the future, they are sources "in" EPA's new subcategory for EBCR and were such sources at the time EPA promulgated the standards. By excluding these units from its calculation of the maximum achievable degree of reduction, EPA contravenes § 112(d)(2).

In addition, EPA has not provided reasonable grounds for its decision to ignore data from the Morgantown units, when devising its beyond-the-floor standard. The agency has offered no reason why those units' emissions are not relevant to the statutory inquiry—the maximum achievable emissions reduction achievable by plants fitting within the subcategory to which the standard applies. 42 U.S.C. § 112(d)(2). EPA has not excluded the Morgantown (or Cambria) units data from its floor analysis, nor made any adjustment at all to its floor data to reflect later events, asserting that its standards should be based on "the best-performing EBCR-fired EGUs" at the time EPA collected its data. 85 Fed. Reg. at 20,846.[2] EPA offers no justification for its decision to treat the floor and beyond-the-floor datasets differently.

Furthermore, EPA justifies its decision to create the subcategory, in part, by claiming that "[a]bsent the new subcategory ... many affected EBCR-fired EGUs may choose to discontinue operations." *NESHAP for Coal- and Oil-Fired EGUs: Addendum to MACT Floor Analysis and Beyond the MACT Floor Analysis for Subcategory of Existing Eastern Bituminous Coal Refuse-Fired EGUs Under Consideration* (Mar. 2020) ("Addendum") (Doc. No. EPA-HQ-OAR-2018-0794-4488) 5. Its supporting analysis, however, excludes the plants that have chosen to

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[1] The Cambria Plant, according to its owner, has "rescinded its notice of deactivation," and describes the now-final subcategory as "a key to operating in the future." Comments of Northern Star on EPA's Proposal (Doc. No. EPA-HQ-OAR-2018-0794-1187) 14.

[2] The five units that EPA selected as the best-performers comprised the Cambria plant's two units, the Morgantown plant's two units, and the Piney Creek plant's one unit. EPA has excluded all of those from its beyond-the-floor analysis (the Piney Creek plant closed prior to EPA's publication of its proposed rule).

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discontinue operations even while exempted from the MATS's acid-gas limits. EPA cannot reasonably assess the effects of its subcategory on plant closures without providing some analysis of the closures that have already occurred.

Basis for Reconsideration: EPA's decision to omit the Cambria and Morgantown plants from its analysis occurred after the close of the comment period. The issue is of central relevance to EPA's rule, first, because EPA has premised the subcategory on its effect on plant closures (as noted above). *See* 42 U.S.C. § 7607(d)(7)(B). Second, EPA has newly asserted that "emissions data for the time period of July 2018 through March 2019" would not "result in a change to the beyond-the-floor emission limit." 85 Fed. Reg. at 20,846 n.25. That claim depends upon an analysis of emissions that excludes the Cambria and Morgantown plants. Addendum 4. It was impracticable to raise this objection during the public comment period. *See* 42 U.S.C. § 7607(d)(7)(B). Also, the grounds for this objection arose after the public comment period but during the period for judicial review within the meaning of 42 U.S.C. § 7607(d)(7)(B).

C. EPA's Beyond-the-Floor Analysis Unreasonably Equates Pre- and Post-Pollution Control Data.

Objection: The agency asserts in its final rule, for the first time, that "emissions data for the time period of July 2018 through March 2019" would not "result in a change to the beyond-the-floor emission limit." 85 Fed. Reg. at 20,846 n.25. That claim suffers from two flaws. First the date-range selected—ending in March 2019—does not accurately capture the ability of plants in the subcategory to reduce their emissions. The Grant Town plant, for example, asserted that it had acquired and installed pollution controls—grid nozzle replacements—and made other changes that would permit it to meet the MATS's original sulfur-dioxide limit by April 16. 2019. Letter from Don Drennen to Renu Chakrabarty dated Jan. 16, 2019 at 2-3 (Ex. 27 to Comments of Environmental, Public Health, and Civil Rights Organizations submitted on April 17, 2019). The other plants within the subcategory have likewise indicated that their plants were capable of reducing emissions to that level by April 2019. Comments 87 & Exs. 36-38 to Comments. By cutting off the data at March 2019, EPA has not fully addressed those plants' pollution-reduction capabilities. EPA states that these changes are "not economically feasible in the long term"; but it offers no analysis to support that assertion, especially for design changes that have already been made (such as those at Grant Town). 85 Fed. Reg. at 20,845. Indeed, such changes—which companies have already made and paid for—belie EPA's claims.

Second, even if that period contains some data representative of those plants' actual emissions-reduction capabilities, the agency's analysis fails to provide an estimate that reflects the plants' current capabilities. EPA examines the average emissions of the plants from January 2015 to March 2019. Addendum 4. It thereby

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dilutes the plants' current performance, by averaging it against several years of pre-control emissions. Grant Town Unit 1A's and 1B's average emissions, reported between July 2018 and March 2019, are 0.35 lb/MMBtu and 0.36 lb/MMBtu, respectively. Att. A to Addendum. By providing an average that includes the plant's much higher emissions in 2015 and 2016, EPA inflates each unit's "average" emissions to 0.41 lb/MMbtu. Addendum 4. Given that Grant Town modified its design to reduce the plant's acid gas emissions in 2019, the latter figure—which primarily reflects the plant's emissions prior to the installation of those pollution-controls—cannot be deemed representative of its "maximum achievable" reductions. Moreover, EPA provides no rational basis for including in its analysis data that it knows to be unrepresentative of what plants can achieve and are currently achieving.

Basis for Reconsideration: EPA first claimed that data through March 2019 would not change its beyond-the-floor limit, and provided the supporting Addendum and analysis, in its final rule. Consequently, the comments above could not be made during the comment period. 42 U.S.C. § 7607(d)(7)(B). Because these comments call into question EPA's satisfaction of section 112(d)'s core mandate—standards reflecting the maximum achievable reductions from sources within the subcategory—they are of central relevance to EPA's decision. *See id.*

D. EPA's Assertion That Its Subcategory is Justified Because the Identified Plants Are "Designed" to Burn Coal Refuse is Contradicted by the Record.

Objection: EPA's final rule asserts, for the first time, that the plants within its subcategory are "designed to burn" coal refuse, and that this supports its decision to exempt the sub-categorized plants from MATS's generally applicable sulfur dioxide limit. 85 Fed. Reg. at 20,845.

Nowhere in the final rule does EPA provide any basis for this assertion. EPA provides no evidence for the notion that these plants are "designed" differently than plants that burn other fuels. Nor does EPA even identify any "design[]" differences.

Indeed, EPA's preamble undercuts the notion that the units in the new subcategory are designed differently. It explains that "one facility" within its subcategory "has met the [original] limit" for sulfur dioxide "by co-firing lower sulfur coal." *Id.* Likewise, the agency's response to comments indicates that the Ebensburg Plant will be using "a combination of increased limestone and some level of low-sulfur run-of-mine fuel," again suggesting that the plant's design does not constrain its use of lower-sulfur fuels. Response 22. Comments from the Ebensburg Plant indicate that the plant is capable of "fuel switching to fire a lower sulfur content fuel blend" together "with something less than 100% coal waste," and confirms that "[u]tilization of lower sulfur fuels is an option" for the plant." Comment from Thomas Roberts, Plant Manager, Ebensburg Power Co. (Doc. No.

EPA-HQ-OAR-2018-0794-1125) 1-2. The response to comments further indicates that the Colver Plant "will seek lower-sulfur coal refuse to lower the sulfur in the fuel delivered to the boiler." Response 22. *See* Comments of Northern Star on EPA's Proposal (Doc. No. EPA-HQ-OAR-2018-0794-1187) 14. *See also* 85 Fed. Reg. at 20,843 (noting comments stating that plants "may have to consider switching from EBCR as the primary fuel to firing less EBCR along with a lower sulfur fuel").

EPA's rule reflects that design flexibility, by defining units eligible for the subcategory as those burning "75 percent or more (by heat input) eastern bituminous coal refuse." 85 Fed. Reg. at 20,850. In explaining its selection of this threshold, the agency does not claim that it reflects any design-related constraints. (EPA notes only comments stating that "it is technically impossible for these facilities to operate on 100 percent" coal-refuse. Response 25). While EPA cites other—primarily economic—reasons why these plants would prefer to avoid substituting lower-sulfur fuels, those cost-related concerns are not *design* constraints sufficient to justify EPA's creation of a new subcategory. *See* 42 U.S.C. 7412(d)(2) (requiring EPA to consider "substitution of materials," as one of the "measures, processes, methods, systems, or techniques" available to secure the "maximum degree of reduction of emissions"). While the statute permits EPA to consider the cost-related concerns it cites within its beyond-the-floor analysis, it may not create a subcategory based upon the source's use of a particular high-HAP material, without demonstrating some technical, design-related basis that might preclude the source from using other materials. EPA has offered no such basis here. *See U.S. Sugar v. EPA,* 830 F.3d 579, 657 (D.C. Cir. 2016) (upholding fuel-based subcategory where "boilers vary in their designs depending on the type of fuel they burn" and these "design constraints also restrict a boiler's ability to switch fuels"). Furthermore, the above-described materials demonstrate that there are significant differences in HAP content, even within different sources of coal-refuse. EPA has not, however, assessed substitution of lower-HAP coals as a beyond-the-floor control option, even though plants within the subcategory utilize that method of pollution control, and the statute requires EPA to consider such methods.

Basis for Reconsideration: EPA only asserted that plants in the subcategory were "designed to burn" particular fuels in its final rule. The public could not, therefore, object to that rationale prior to the close of the comment period. *See* 42 U.S.C. § 7607(d)7)(B). And because this rationale upholds the central element of EPA's decision—to create the subcategory—it is of central importance to the rule. *See id.*

Sincerely,

/s/ James S. Pew
James S. Pew
Neil Gormley

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Exhibit 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: American Bituminous Power Partners, L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0001

ADMINISTRATIVE COMPLIANCE ORDER

A. PRELIMINARY STATEMENT

1. This Administrative Compliance Order ("Order") is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA" or "Agency") by Section 113(a) of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7413(a)(3) and (4).
2. On the EPA's behalf, Phillip A. Brooks, Division Director of the Air Enforcement Division, Office of Civil Enforcement, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, is delegated the authority to issue this Order under Section 113(a) of the Act.
3. Respondent is American Bituminous Power Partners, L.P. (hereinafter, "Respondent"), a corporation doing business in the state of West Virginia. Respondent is a "person" as defined in Section 302(e) of the Act, 42 U.S.C. § 7602(e). Respondent owns and/or operates Grant Town Power Plant (hereafter, the "Facility"), located in Marion County in the state of West Virginia. The Facility has two eastern bituminous coal refuse-fired electric utility steam generating units ("EGUs"), identified as Unit 1A and Unit 1B. Each unit has a nominal 40 megawatt ("MW") capacity.
4. Respondent signs this Order on consent.

B. STATUTORY AND REGULATORY BACKGROUND

5. Section 112 of the CAA, 42 U.S.C. § 7412, authorizes the Administrator of the EPA to regulate hazardous air pollutants ("HAPs") which may have an adverse effect on health or the environment.

6. Pursuant to Section 112 of the CAA, the EPA promulgated the National Emission Standards for Hazardous Air Pollutants for the Coal- and Oil-Fired EGU source category on February 16, 2012, under title 40, part 63, subpart UUUUU. 77 Fed. Reg. 9304. These standards are commonly known as the "Mercury and Air Toxics Standards." *Id.* (hereafter, "MATS"). The MATS adopted emission limits on mercury, acid gases and other toxic pollutants for affected coal and oil-fired EGUs. *Id.* The EPA promulgated a single acid gas emission standard for all coal-fired power plants, using hydrochloric acid ("HCl") as a surrogate for all acid gas HAP, and allowed an alternative emission standard for sulfur dioxide ("SO_2") as a surrogate for acid gas HAP. *Id.*

7. The final MATS rule was challenged by industry, states, environmental organizations and public health organizations in the U.S. Court of Appeals for the District of Columbia ("the Court"). 84 Fed Reg. 2670, 2673 (Feb. 7, 2019). The U.S. Supreme Court ruled on January 29, 2015, that, among other findings, the Agency was required to consider the cost of the MATS, and remanded the MATS to the Court. *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

8. On February 7, 2019, in response to the U.S. Supreme Court decision in *Michigan v. EPA*, and multiple intervening events, the EPA proposed to find that it is not "appropriate and necessary" to regulate HAP emissions from coal-and oil-fired EGUs under Section 112 of the CAA, but did not alter or eliminate the CAA section 112 emissions standards imposed by the MATS. 84 Fed Reg. at 2674-79.

9. Pursuant to 40 C.F.R. § 63.9981, the MATS applies to owners or operators of coal-fired EGUs or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042.

10. Pursuant to 40 C.F.R. § 63.2, "owner or operator" is defined as "any person who owns, leases, operates, controls, or supervises a stationary source."

11. Section 111(a)(3) of the Act, 42 U.S.C. § 7411(a)(3), and 40 C.F.R. § 63.2 defines a "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant."
12. Pursuant to 40 C.F.R. § 63.2, "affected source" is defined as "the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a Section 112(c) source category or subcategory for which a Section 112(d) standard or other relevant standard is established pursuant to Section 112 of the Act."
13. Pursuant to 40 C.F.R. § 63.9982, the affected source to which the provisions of the MATS, 40 C.F.R. Part 63, Subpart UUUUU, applies is the collection of all existing coal- or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042, within a subcategory, [and] … each new or reconstructed coal- or oil-fired EGU, as defined in 40 C.F.R. § 63.10042."
14. The MATS rule identifies emission standards for seven subcategories of existing and new EGUs, but there is no separate subcategory for existing EGUs that fire eastern bituminous coal refuse. 40 C.F.R. § 63.9990.
15. As the Agency has stated, all coal-refuse fuels are fired in fluidized bed combustors ("FBC"), which utilize limestone injection technology to minimize SO_2 emissions and increase heat transfer efficiency. 84 Fed Reg. at 2702. During the MATS rulemaking, the Agency received multiple comments stating that, for most eastern bituminous coal refuse-fired EGUs, limestone injection alone may be an inadequate and ineffective technology to meet MATS emission standards for HCl or SO_2. *Id.*
16. On February 7, 2019, for existing EGUs firing eastern bituminous coal refuse, the EPA solicited comments and information on the need for the establishment of a specific MATS subcategory for acid gas emission standards and on the nature, cost, feasibility, and effectiveness of emission control technologies. 84 Fed Reg. at 2700-03. The Agency also solicited comment on potential HCl and SO_2 emission standards for a new MATS subcategory of eastern bituminous coal refuse-

fired EGUs, including a Maximum Achievable Control Technology ("MACT") floor analysis and results. *Id.* The EPA is currently reviewing comments it has received.

17. The West Virginia Department of Environmental Protection (WVDEP) has informed the EPA that it supports the creation of a separate MATS subcategory and SO_2 emission standard (as a surrogate for acid gas HAP) for existing EGUs that fire eastern bituminous coal refuse.
18. Environmental groups located near abandoned mine lands have expressed support for burning coal refuse to generate electricity because the coal refuse-fired EGUs consume large quantities of waste coal refuse from outdoor sites that are exposed to ambient air and degrade the quality of local water bodies. Removal of the coal waste material allows for land reclamation where dangerous waste coal piles are located. Letter from Andy McAllister, Regional Coordinator, Western Pa. Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letter from Daniel McMullen, President Elect, Clearfield Creek Watershed Association, to Keith Rothfus, U.S. House of Representatives (March 15, 2016); Letter from Robert W. Piper, Jr., District Manager, Cambria County Conservation District, to Patrick J. Toomey, U.S. Senate (March 14, 2016).
19. The WVDEP has submitted comments to the West Virginia Public Service Commission (WVPSC) to emphasize the environmental benefits provided by the Facility, including the reclamation of approximately 1,327 acres of coal waste sites across West Virginia, and significant reductions in acid mine drainage associated with these sites. Letter from Austin Caperton, Secretary of WVDEP, to Michael A. Albert, Chairman of WVPSC (Sept. 5, 2017).
20. Environmental groups located near abandoned mine lands also support the use of coal refuse FBC residual ash, also known as fly ash, in mine reclamation activities, as the high-alkaline filler neutralizes the acidity of former waste coal sites. Letter from Robert E. Hughes, Executive Director, Eastern PA Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letters from Len Lichvar, Chairman, Stonycreek-Conemaugh River Improvement Project to Bob Casey, U.S. Senate, and Pat Toomey, U.S. Senate

(May 6, 2016); Letter from Janis Long, President, Blacklick Creek Watershed Association, Inc., to Whom It May Concern (Feb. 19, 2016). WVDEP has classified FBC residual ash from the Facility as a beneficial reuse product for mine reclamation. WV ADC §33-1-5.5.b.4.D.

21. As the Agency has stated, all coal refuse-fired EGUs are currently emitting mercury at levels below the MATS emission standards, and FBC units, including those that burn coal refuse, are among the best performers for mercury control. 84 Fed. Reg. at 2702.

22. Respondent has asserted that it is not feasible for the Facility to meet the current MATS emission standard for HCl (or its SO_2 acid gas HAP surrogate) when operating with the coal refuse it was designed to eliminate. A Facility shutdown would result in a loss of approximately 100 jobs at the Facility, and 70 jobs at companies that support the Facility.

C. FINDINGS

23. Respondent owns and/or operates two existing coal-fired EGUs, as defined in 40 C.F.R. § 63.10042, that fire eastern bituminous coal refuse.

24. Respondent's operation at the Facility is subject to the MATS.

25. On January 30, 2014, WVDEP granted the Facility a one-year compliance extension of the deadline for meeting the MATS HCl standard. On April 11, 2016, WVDEP granted the Facility an additional three-year extension of this deadline. The extension expired on April 16, 2019.

26. On April 19, May 6 and May 9, 2019, Respondent provided information to the EPA that serves as the basis for this Order.

27. The Facility is currently in noncompliance with the MATS emission standard for HCl because the Facility cannot meet the HCl emission standard, or the SO_2 acid gas HAP surrogate emission standard, while burning the coal refuse fuel for which the Facility was designed.

28. Respondent asserts that it cannot currently comply with the MATS emission standard for HCl at Units 1A and 1B of the Facility without halting operations and thereby potentially impacting coal refuse fuel use, coal refuse recovery operations from abandoned mine lands, and abandoned mine site remediation activities.

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29. Respondent asserts that the Facility is and has always been in compliance with MATS emission standards for mercury and filterable particulate matter since the MATS emission standards were promulgated.
30. Respondent asserts that the Facility is and has always been in compliance with MATS work practice standards for organic HAPS since the MATS emission standards were promulgated.
31. Respondent asserts that the Facility is in compliance with all other Clean Air Act requirements.
32. WVDEP has informed the EPA that it supports issuance of this Order.

D. ORDER

33. Respondent is ordered to take the actions described in this section of the Order.
34. By 11:59 pm on April 15, 2020, Respondent shall achieve full compliance with the MATS at Units 1A and 1B at the Facility.
35. From the effective date of this Order, pursuant to Paragraph 48, to April 15, 2020, Respondent shall operate Units 1A and 1B so that the emissions from the units do not exceed 0.41 pounds/MMBtu SO_2. Compliance with this limit shall be determined according to the requirements and procedures in 40 C.F.R. Part 63, Subpart UUUUU.
36. No less than 90 days prior to achieving full compliance with MATS at the Facility, Respondent shall provide a detailed written notice to the EPA regarding its plan for compliance with MATS, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.
37. Within 30 days of achieving full compliance with the MATS at the Facility, Respondent shall provide written notice to the EPA indicating that compliance has been achieved and the date by which it was achieved, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent

may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

38. Respondent acknowledges that the Act does not provide the EPA the authority to extend or re-issue this Order beyond the Termination Date set out in Paragraph 50 below.

E. OTHER TERMS AND CONDITIONS

39. Respondent admits the jurisdictional allegations contained in Sections A (Preliminary Statement) and B (Statutory and Regulatory Background) of this Order.

40. Respondent neither admits nor denies the findings in Section C (Findings) of this Order.

F. GENERAL PROVISIONS

41. Any violation of this Order may result in a civil administrative or judicial action for an injunction or civil penalties of up to $99,681 per day per violation, or both, as provided in Sections 113(b)(2) and 113(d)(1) of the Act, 42 U.S.C. §§ 7413(b)(2) and 7413(d)(1), as well as criminal sanctions as provided in Section 113(c) of the Act, 42 U.S.C. § 7413(c). The EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

42. Nothing in this Order shall relieve Respondent of the duty of achieving and maintaining compliance with all applicable provisions of the Act or other federal, state or local laws or statutes, nor shall it restrict the EPA's authority to seek compliance with any applicable laws or regulations, nor shall it be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

43. Nothing herein shall be construed to limit the power of the EPA to undertake any action against Respondent or any person in response to conditions that may present an imminent and substantial endangerment to the public health, welfare, or the environment.

44. The provisions of this Order shall apply to and be binding upon Respondent and its officers, directors, employees, agents, trustees, servants, authorized representatives, successors, and assigns. From the Effective Date of this Order until the Termination Date as set out in Paragraph 50 below, Respondent must give written notice and a copy of this Order to any successors in

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interest prior to any transfer of ownership or control of any portion of or interest in the Facility. Simultaneously with such notice, Respondent shall provide written notice of such transfer, assignment, or delegation to the EPA. In the event of any such transfer, assignment, or delegation, Respondent shall not be released from the obligations or liabilities of this Order unless the EPA has provided written approval of the release of said obligations or liabilities.

45. Unless this Order states otherwise, whenever, under the terms of this Order, written notice or other documentation is required to be given, it shall be directed to the individuals specified at the addresses below unless those individuals or their successors give notice of a change of address to the other party in writing:

Phillip A. Brooks
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Office of Enforcement and Compliance Assurance
US Environmental Protection Agency
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Donna Mastro
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Steve Friend
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All notices and submissions shall be considered effective upon receipt.

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46. To the extent this Order requires Respondent to submit any information to the EPA, Respondent may assert a business confidentiality claim covering part or all of that information, but only to the extent and only in the manner described in 40 C.F.R. Part 2, Subpart B. The EPA will disclose information submitted under a confidentiality claim only as provided in 40 C.F.R. Part 2, Subpart B. If Respondent does not assert a confidentiality claim, the EPA may make the submitted information available to the public without further notice to Respondent.

47. Each undersigned representative of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Order to execute and bind legally the Parties to this document.

G. EFFECTIVE DATE AND OPPORTUNITY FOR A CONFERENCE

48. Pursuant to Section 113(a)(4) of the Act, an Order does not take effect until the person to whom it has been issued has had an opportunity to confer with the EPA concerning the alleged violations. By signing this Order, Respondent acknowledges and agrees that it has been provided an opportunity to confer with the EPA prior to issuance of this Order. Accordingly, this Order will take effect immediately upon signature by the latter of Respondent or the EPA.

H. JUDICIAL REVIEW

49. Respondent waives any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondent may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1).

I. TERMINATION

50. This Order shall terminate on the earlier of the following (the "Termination Date") at which point Respondent shall operate in compliance with the Act:

    a. 11:59 pm April 15, 2020;

    b. The effective date of any determination by the EPA that Respondent has achieved compliance with all terms of this Order;

c. Immediately upon receipt by Respondent of notice from the EPA finding that an imminent and substantial endangerment to public health, welfare, or the environment has occurred; or

d. The effective date of an acid gas HCl emission standard, or SO_2 emission standard as a surrogate for an acid gas HCl emission standard, that the EPA promulgates and that is applicable to the Facility.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: American Bituminous Power Partners, L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0001

For United States Environmental Protection Agency, Air Enforcement Division, Office of Enforcement and Compliance Assurance:

5/21/2015
Date

[redacted]
Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: American Bituminous Power Partners, L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0001

For American Bituminous Power Partners, L.P.:

[redacted] May 21, 2019

Signature Date

Printed Name: Ken Niemann
Title: Executive Director, American Bituminous Power Partners, L.P.
Address: Grant Town Power Plant
228 ABPP Drive
P.O. Box 159
Grant Town, WV 26574

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CERTIFICATE OF SERVICE

I certify that the foregoing "Administrative Compliance Order" in the Matter of American Bituminous Power Partners, L.P., Order AED-CAA-113(a)-2019-0001, was filed and copies of the same were mailed to the parties as indicated below.

Certified Mail

Ken Niemann
Executive Director
American Bituminous Power Partners, L.P.
Grant Town Power Plant
228 ABPP Drive
PO Box 159
Grant Town, WV 26574

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
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Laura M. Crowder
Acting Director, Division of Air Quality
West Virginia Department of Environmental Protection
601 57th St SE
Charleston, WV 25304

5/24/19
Date

[redacted]
Tawanna Cathey

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Exhibit 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Northern Star Generation LLC, Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0002

ADMINISTRATIVE COMPLIANCE ORDER

A. PRELIMINARY STATEMENT

1. This Administrative Compliance Order ("Order") is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA" or "Agency") by Section 113(a) of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7413(a)(3) and (4).
2. On the EPA's behalf, Phillip A. Brooks, Division Director of the Air Enforcement Division, Office of Civil Enforcement, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, is delegated the authority to issue this Order under Section 113(a) of the Act.
3. Respondent is Northern Star Generation LLC (hereinafter, "Respondent"), a corporation doing business in the Commonwealth of Pennsylvania. Respondent is a "person" as defined in Section 302(e) of the Act, 42 U.S.C. § 7602(e). Respondent owns and/or operates Cambria CoGeneration Company (hereafter, the "Facility"), located in Cambria Township, Cambria County, in the Commonwealth of Pennsylvania. The Facility has two eastern bituminous coal refuse-fired electric utility steam generating units ("EGUs"), identified as Unit 1 and Unit 2. Each unit has a nominal 44 megawatt ("MW") capacity.
4. Respondent signs this Order on consent.

B. STATUTORY AND REGULATORY BACKGROUND

5. Section 112 of the CAA, 42 U.S.C. § 7412, authorizes the Administrator of the EPA to regulate hazardous air pollutants ("HAPs") which may have an adverse effect on health or the environment.

6. Pursuant to Section 112 of the CAA, the EPA promulgated the National Emission Standards for Hazardous Air Pollutants for the Coal- and Oil-Fired EGU source category on February 16, 2012, under title 40, part 63, subpart UUUUU. 77 Fed. Reg. 9304. These standards are commonly known as the "Mercury and Air Toxics Standards." *Id.* (hereafter, "MATS"). The MATS adopted emission limits on mercury, acid gases and other toxic pollutants for affected coal and oil-fired EGUs. *Id.* The EPA promulgated a single acid gas emission standard for all coal-fired power plants, using hydrochloric acid ("HCl") as a surrogate for all acid gas HAP, and allowed an alternative emission standard for sulfur dioxide ("SO_2") as a surrogate for acid gas HAP. *Id.*

7. The final MATS rule was challenged by industry, states, environmental organizations and public health organizations in the U.S. Court of Appeals for the District of Columbia ("the Court"). 84 Fed Reg. 2670, 2673 (Feb. 7, 2019). The U.S. Supreme Court ruled on January 29, 2015, that, among other findings, the Agency was required to consider the cost of the MATS, and remanded the MATS to the Court. *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

8. On February 7, 2019, in response to the U.S. Supreme Court decision in *Michigan v. EPA*, and multiple intervening events, the EPA proposed to find that it is not "appropriate and necessary" to regulate HAP emissions from coal-and oil-fired EGUs under Section 112 of the CAA, but did not alter or eliminate the CAA section 112 emissions standards imposed by the MATS. 84 Fed Reg. at 2674-79.

9. Pursuant to 40 C.F.R. § 63.9981, the MATS applies to owners or operators of coal-fired EGUs or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042.

10. Pursuant to 40 C.F.R. § 63.2, "owner or operator" is defined as "any person who owns, leases, operates, controls, or supervises a stationary source."

11. Section 111(a)(3) of the Act, 42 U.S.C. § 7411(a)(3), and 40 C.F.R. § 63.2 defines a "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant."
12. Pursuant to 40 C.F.R. § 63.2, "affected source" is defined as "the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a Section 112(c) source category or subcategory for which a Section 112(d) standard or other relevant standard is established pursuant to Section 112 of the Act."
13. Pursuant to 40 C.F.R. § 63.9982, the affected source to which the provisions of the MATS, 40 C.F.R. Part 63, Subpart UUUUU, applies is the collection of all existing coal- or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042, within a subcategory, [and] … each new or reconstructed coal- or oil-fired EGU, as defined in 40 C.F.R. § 63.10042."
14. The MATS rule identifies emission standards for seven subcategories of existing and new EGUs, but there is no separate subcategory for existing EGUs that fire eastern bituminous coal refuse. 40 C.F.R. § 63.9990.
15. As the Agency has stated, all coal-refuse fuels are fired in fluidized bed combustors ("FBC"), which utilize limestone injection technology to minimize SO_2 emissions and increase heat transfer efficiency. 84 Fed Reg. at 2702. During the MATS rulemaking, the Agency received multiple comments stating that, for most eastern bituminous coal refuse-fired EGUs, limestone injection alone may be an inadequate and ineffective technology to meet MATS emission standards for HCl or SO_2. *Id.*
16. On February 7, 2019, for existing EGUs firing eastern bituminous coal refuse, the EPA solicited comments and information on the need for the establishment of a specific MATS subcategory for acid gas emission standards and on the nature, cost, feasibility, and effectiveness of emission control technologies. 84 Fed Reg. at 2700-03. The Agency also solicited comment on potential HCl and SO_2 emission standards for a new MATS subcategory of eastern bituminous coal refuse-

fired EGUs, including a Maximum Achievable Control Technology ("MACT") floor analysis and results. *Id.* The EPA is currently reviewing comments it has received.

17. Due to the sulfur content of eastern bituminous coal refuse, the Pennsylvania Department of Environmental Protection (PADEP) has informed the EPA that it supports the EPA's February 7, 2019 proposal to create a separate MATS subcategory and the proposed acid gas HAP emission standards for existing eastern bituminous coal refuse-fired EGUs. Letter from Patrick McDonnell, Secretary, PADEP, to Andrew R. Wheeler, Administrator, EPA, regarding Docket No. EPA-HQ-OAR-2018-0794 (April 17, 2019).

18. Environmental groups located near abandoned mine lands have expressed support for burning coal refuse to generate electricity because the coal refuse-fired EGUs consume large quantities of waste coal refuse from outdoor sites that are exposed to ambient air and degrade the quality of local water bodies. Removal of the coal waste material allows for land reclamation where dangerous waste coal piles are located. Letter from John S. Dryzal, District Manager, Cambria County Conservation District, to the Pennsylvania Environmental Council (Jan. 17, 2019); Letter from Andy McAllister, Regional Coordinator, Western Pa. Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letter from Daniel McMullen, President Elect, Clearfield Creek Watershed Association, to Keith Rothfus, U.S. House of Representatives (March 15, 2016); Letter from Robert W. Piper, Jr., District Manager, Cambria County Conservation District, to Patrick J. Toomey, U.S. Senate (March 14, 2016).

19. PADEP has studied the reclamation of refuse piles through the use of coal refuse FBC ash, also known as fly ash, and concluded that the high-alkaline filler neutralizes the acidity of former waste coal sites in the Blacklick Creek Watershed, providing significant reductions in the acidity of acid mine drainage and reducing pollutant loading. Reclamation of Refuse Piles Using Fluidized Bed Combustion Ash on the Blacklick Creek Watershed, Pennsylvania, PADEP Cambria District Mining Office (2017).

20. Environmental groups located near abandoned mine lands also support the use of coal refuse FBC residual ash to reclaim mine sites. Letter from Robert E. Hughes, Executive Director, Eastern PA Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letters from Len Lichvar, Chairman, Stonycreek-Conemaugh River Improvement Project to Bob Casey, U.S. Senate, and Pat Toomey, U.S. Senate (May 6, 2016); Letter from Janis Long, President, Blacklick Creek Watershed Association, Inc., to Whom It May Concern (Feb. 19, 2016).
21. As the Agency has stated, all coal refuse-fired EGUs are currently emitting mercury at levels below the MATS emission standards, and FBC units, including those that burn coal refuse, are among the best performers for mercury control. 84 Fed. Reg. at 2702.
22. Respondent has asserted that it is not feasible for the Facility to meet the current MATS emission standard for HCl (or its SO_2 acid gas HAP surrogate) when operating with the coal refuse it was designed to eliminate. A Facility shutdown would result in a loss of approximately 43 jobs at the Facility, and 175 jobs at companies that support the Facility.

C. FINDINGS

23. Respondent owns and/or operates two existing coal-fired EGUs, as defined in 40 C.F.R. § 63.10042, that fire eastern bituminous coal refuse.
24. Respondent's operation at the Facility is subject to the MATS.
25. On April 25, 2014, PADEP granted the Facility a one-year compliance extension of the deadline for meeting the MATS HCl standard. On December 3, 2014, PADEP granted the Facility an additional three-year extension of this deadline. The extension expired on April 16, 2019.
26. On April 19, May 6, May 9, and May 20, 2019, Respondent provided information to the EPA that serves as the basis for this Order.
27. The Facility is currently in noncompliance with the MATS emission standard for HCl because the Facility cannot meet the HCl emission standard, or the SO_2 acid gas HAP surrogate emission standard, while burning the coal refuse fuel for which the Facility was designed.

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28. Respondent asserts that it cannot currently comply with the MATS emission standard for HCl at Units 1 and 2 of the Facility without halting operations and thereby potentially impacting coal refuse fuel use, coal refuse recovery operations from abandoned mine lands, and abandoned mine site remediation activities.
29. Respondent asserts that the Facility is and has always been in compliance with MATS emission standards for mercury and filterable particulate matter since the MATS emission standards were promulgated.
30. Respondent asserts that the Facility is and has always been in compliance with MATS work practice standards for organic HAPs since the MATS emission standards were promulgated.
31. PADEP issued a Notice of Violation to the Facility on April 12, 2018 for the failure to conduct a required stack test for condensable particulate matter at Units 1 and 2; the stack test was conducted between June 13 and June 15, 2018, and PADEP is currently evaluating the test results. Except for the latter Notice of Violation, Respondent asserts that the Facility is in compliance with all Clean Air Act requirements.
32. PADEP has informed the EPA that it supports issuance of this Order.

D. ORDER

33. Respondent is ordered to take the actions described in this section of the Order.
34. By 11:59 pm on April 15, 2020, Respondent shall achieve full compliance with the MATS at Units 1 and 2 at the Facility.
35. From the effective date of this Order, pursuant to Paragraph 48, to April 15, 2020, Respondent shall operate Units 1 and 2 so that the emissions from the units do not exceed 0.60 pounds/MMBtu SO_2. Compliance with this limit shall be determined according to the requirements and procedures in 40 C.F.R. Part 63, Subpart UUUUU.
36. No less than 90 days prior to achieving full compliance with MATS at the Facility, Respondent shall provide a detailed written notice to the EPA regarding its plan for compliance with MATS, provided, however, if the EPA promulgates a new standard applicable to the Facility that

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Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

37. Within 30 days of achieving full compliance with the MATS at the Facility, Respondent shall provide written notice to the EPA indicating that compliance has been achieved and the date by which it was achieved, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

38. Respondent acknowledges that the Act does not provide the EPA the authority to extend or re-issue this Order beyond the Termination Date set out in Paragraph 50 below.

E. OTHER TERMS AND CONDITIONS

39. Respondent admits the jurisdictional allegations contained in Sections A (Preliminary Statement) and B (Statutory and Regulatory Background) of this Order.

40. Respondent neither admits nor denies the findings in Section C (Findings) of this Order.

F. GENERAL PROVISIONS

41. Any violation of this Order may result in a civil administrative or judicial action for an injunction or civil penalties of up to $99,681 per day per violation, or both, as provided in Sections 113(b)(2) and 113(d)(1) of the Act, 42 U.S.C. §§ 7413(b)(2) and 7413(d)(1), as well as criminal sanctions as provided in Section 113(c) of the Act, 42 U.S.C. § 7413(c). The EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

42. Nothing in this Order shall relieve Respondent of the duty of achieving and maintaining compliance with all applicable provisions of the Act or other federal, state or local laws or statutes, nor shall it restrict the EPA's authority to seek compliance with any applicable laws or regulations, nor shall it be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

43. Nothing herein shall be construed to limit the power of the EPA to undertake any action against Respondent or any person in response to conditions that may present an imminent and substantial endangerment to the public health, welfare, or the environment.

44. The provisions of this Order shall apply to and be binding upon Respondent and its officers, directors, employees, agents, trustees, servants, authorized representatives, successors, and assigns. From the Effective Date of this Order until the Termination Date as set out in Paragraph 50 below, Respondent must give written notice and a copy of this Order to any successors in interest prior to any transfer of ownership or control of any portion of or interest in the Facility. Simultaneously with such notice, Respondent shall provide written notice of such transfer, assignment, or delegation to the EPA. In the event of any such transfer, assignment, or delegation, Respondent shall not be released from the obligations or liabilities of this Order unless the EPA has provided written approval of the release of said obligations or liabilities.

45. Unless this Order states otherwise, whenever, under the terms of this Order, written notice or other documentation is required to be given, it shall be directed to the individuals specified at the addresses below unless those individuals or their successors give notice of a change of address to the other party in writing:

Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
US Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)
brooks.phillip@epa.gov

Donna Mastro
Acting Deputy Regional Counsel for Enforcement
United State Environmental Protection Agency, Region III
Office of Regional Counsel, Air Branch (3RC00)
Philadelphia, PA 19103-2029
mastro.donna@epa.gov

John P. Malloy
Plant Manager

Northern Star Generation LLC
Cambria CoGeneration Company
243 Rubisch Road
Ebensburg, PA 15931
jmalloy@acpowercolver.com

Robin Chew, Asset Manager
Northern Star Generation LLC
Cambria Cogen Company
2929 Allen Parkway
Suite 3275
Houston, TX 77019
robin.chew@nsgen.com

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310
jeff.holmstead@bracewell.com

All notices and submissions shall be considered effective upon receipt.

46. To the extent this Order requires Respondent to submit any information to the EPA, Respondent may assert a business confidentiality claim covering part or all of that information, but only to the extent and only in the manner described in 40 C.F.R. Part 2, Subpart B. The EPA will disclose information submitted under a confidentiality claim only as provided in 40 C.F.R. Part 2, Subpart B. If Respondent does not assert a confidentiality claim, the EPA may make the submitted information available to the public without further notice to Respondent.

47. Each undersigned representative of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Order to execute and bind legally the Parties to this document.

G. EFFECTIVE DATE AND OPPORTUNITY FOR A CONFERENCE

48. Pursuant to Section 113(a)(4) of the Act, an Order does not take effect until the person to whom it has been issued has had an opportunity to confer with the EPA concerning the alleged violations. By signing this Order, Respondent acknowledges and agrees that it has been provided an opportunity to confer with the EPA prior to issuance of this Order. Accordingly, this Order will take effect immediately upon signature by the latter of Respondent or the EPA.

H. JUDICIAL REVIEW

49. Respondent waives any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondent may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1).

I. TERMINATION

50. This Order shall terminate on the earlier of the following (the "Termination Date") at which point Respondent shall operate in compliance with the Act:

    a. 11:59 pm April 15, 2020;

    b. The effective date of any determination by the EPA that Respondent has achieved compliance with all terms of this Order;

    c. Immediately upon receipt by Respondent of notice from the EPA finding that an imminent and substantial endangerment to public health, welfare, or the environment has occurred; or

    d. The effective date of an acid gas HCl emission standard, or SO_2 emission standard as a surrogate for an acid gas HCl emission standard, that the EPA promulgates and that is applicable to the Facility.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Northern Star Generation LLC, Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0002

For United States Environmental Protection Agency, Air Enforcement Division, Office of Enforcement and Compliance Assurance:

5/21/2019
Date

[redacted]
Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave. NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Northern Star Generation LLC, Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0002

For Northern Star Generation LLC:

[redacted]
Signature

5/21/2019
Date

Printed Name: Robin Chew
Title: Asset Manager, Northern Star Generation LLC
Address: Cambria CoGeneration Company
2929 Allen Parkway
Suite 3275
Houston, TX 77019

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CERTIFICATE OF SERVICE

I certify that the foregoing "Administrative Compliance Order" in the Matter of Northern Star Generation LLC, Order AED-CAA-113(a)-2019-0002, was filed and copies of the same were mailed to the parties as indicated below.

Certified Mail

Robin Chew, Asset Manager
Northern Star Generation LLC
Cambria CoGeneration Company
2929 Allen Parkway
Suite 3275
Houston, TX 77019

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310

Krishnan Ramamurthy
Director, Bureau of Air Quality
Pennsylvania Department of Environmental Protection
Commonwealth of Pennsylvania
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

5/21/19
Date

[redacted]
Tawanna Cathey

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Exhibit 3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Inter-Power/AhlCon Partners L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0003

ADMINISTRATIVE COMPLIANCE ORDER

A. PRELIMINARY STATEMENT

1. This Administrative Compliance Order ("Order") is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA" or "Agency") by Section 113(a) of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7413(a)(3) and (4).
2. On the EPA's behalf, Phillip A. Brooks, Division Director of the Air Enforcement Division, Office of Civil Enforcement, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, is delegated the authority to issue this Order under Section 113(a) of the Act.
3. Respondent is Inter-Power/AhlCon Partners L.P. (hereinafter, "Respondent"), a corporation doing business in the Commonwealth of Pennsylvania. Respondent is a "person" as defined in Section 302(e) of the Act, 42 U.S.C. § 7602(e). Respondent owns and/or operates Colver Power Project (hereafter, the "Facility"), located in Cambria and Barr Townships, Cambria County, in the Commonwealth of Pennsylvania. The Facility has one eastern bituminous coal refuse-fired electric utility steam generating unit ("EGU") with a nominal 110 megawatt ("MW") capacity.
4. Respondent signs this Order on consent.

B. STATUTORY AND REGULATORY BACKGROUND

5. Section 112 of the CAA, 42 U.S.C. § 7412, authorizes the Administrator of the EPA to regulate hazardous air pollutants ("HAPs") which may have an adverse effect on health or the environment.

6. Pursuant to Section 112 of the CAA, the EPA promulgated the National Emission Standards for Hazardous Air Pollutants for the Coal- and Oil-Fired EGU source category on February 16, 2012, under title 40, part 63, subpart UUUUU. 77 Fed. Reg. 9304. These standards are commonly known as the "Mercury and Air Toxics Standards." *Id.* (hereafter, "MATS"). The MATS adopted emission limits on mercury, acid gases and other toxic pollutants for affected coal and oil-fired EGUs. *Id.* The EPA promulgated a single acid gas emission standard for all coal-fired power plants, using hydrochloric acid ("HCl") as a surrogate for all acid gas HAP, and allowed an alternative emission standard for sulfur dioxide ("SO_2") as a surrogate for acid gas HAP. *Id.*

7. The final MATS rule was challenged by industry, states, environmental organizations and public health organizations in the U.S. Court of Appeals for the District of Columbia ("the Court"). 84 Fed Reg. 2670, 2673 (Feb. 7, 2019). The U.S. Supreme Court ruled on January 29, 2015, that, among other findings, the Agency was required to consider the cost of the MATS, and remanded the MATS to the Court. *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

8. On February 7, 2019, in response to the U.S. Supreme Court decision in *Michigan v. EPA*, and multiple intervening events, the EPA proposed to find that it is not "appropriate and necessary" to regulate HAP emissions from coal-and oil-fired EGUs under Section 112 of the CAA, but did not alter or eliminate the CAA section 112 emissions standards imposed by the MATS. 84 Fed Reg. at 2674-79.

9. Pursuant to 40 C.F.R. § 63.9981, the MATS applies to owners or operators of coal-fired EGUs or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042.

10. Pursuant to 40 C.F.R. § 63.2, "owner or operator" is defined as "any person who owns, leases, operates, controls, or supervises a stationary source."

11. Section 111(a)(3) of the Act, 42 U.S.C. § 7411(a)(3), and 40 C.F.R. § 63.2 defines a "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant."
12. Pursuant to 40 C.F.R. § 63.2, "affected source" is defined as "the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a Section 112(c) source category or subcategory for which a Section 112(d) standard or other relevant standard is established pursuant to Section 112 of the Act."
13. Pursuant to 40 C.F.R. § 63.9982, the affected source to which the provisions of the MATS, 40 C.F.R. Part 63, Subpart UUUUU, applies is the collection of all existing coal- or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042, within a subcategory, [and] … each new or reconstructed coal- or oil-fired EGU, as defined in 40 C.F.R. § 63.10042."
14. The MATS rule identifies emission standards for seven subcategories of existing and new EGUs, but there is no separate subcategory for existing EGUs that fire eastern bituminous coal refuse. 40 C.F.R. § 63.9990.
15. As the Agency has stated, all coal-refuse fuels are fired in fluidized bed combustors ("FBC"), which utilize limestone injection technology to minimize SO_2 emissions and increase heat transfer efficiency. 84 Fed Reg. at 2702. During the MATS rulemaking, the Agency received multiple comments stating that, for most eastern bituminous coal refuse-fired EGUs, limestone injection alone may be an inadequate and ineffective technology to meet MATS emission standards for HCl or SO_2. *Id.*
16. On February 7, 2019, for existing EGUs firing eastern bituminous coal refuse, the EPA solicited comments and information on the need for the establishment of a specific MATS subcategory for acid gas emission standards and on the nature, cost, feasibility, and effectiveness of emission control technologies. 84 Fed Reg. at 2700-03. The Agency also solicited comment on potential HCl and SO_2 emission standards for a new MATS subcategory of eastern bituminous coal refuse-

fired EGUs, including a Maximum Achievable Control Technology ("MACT") floor analysis and results. *Id.* The EPA is currently reviewing comments it has received.

17. Due to the sulfur content of eastern bituminous coal refuse, the Pennsylvania Department of Environmental Protection (PADEP) has informed the EPA that it supports the EPA's February 7, 2019 proposal to create a separate MATS subcategory and the proposed acid gas HAP emission standards for existing eastern bituminous coal refuse-fired EGUs. Letter from Patrick McDonnell, Secretary, PADEP, to Andrew R. Wheeler, Administrator, EPA, regarding Docket No. EPA-HQ-OAR-2018-0794 (April 17, 2019).

18. Environmental groups located near abandoned mine lands have expressed support for burning coal refuse to generate electricity because the coal refuse-fired EGUs consume large quantities of waste coal refuse from outdoor sites that are exposed to ambient air and degrade the quality of local water bodies. Removal of the coal waste material allows for land reclamation where dangerous waste coal piles are located. Letter from John S. Dryzal, District Manager, Cambria County Conservation District, to the Pennsylvania Environmental Council (Jan. 17, 2019); Letter from Andy McAllister, Regional Coordinator, Western Pa. Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letter from Daniel McMullen, President Elect, Clearfield Creek Watershed Association, to Keith Rothfus, U.S. House of Representatives (March 15, 2016); Letter from Robert W. Piper, Jr., District Manager, Cambria County Conservation District, to Patrick J. Toomey, U.S. Senate (March 14, 2016).

19. PADEP has studied the reclamation of refuse piles through the use of coal refuse FBC ash, also known as fly ash, and concluded that the high-alkaline filler neutralizes the acidity of former waste coal sites in the Blacklick Creek Watershed, providing significant reductions in the acidity of acid mine drainage and reducing pollutant loading. Reclamation of Refuse Piles Using Fluidized Bed Combustion Ash on the Blacklick Creek Watershed, Pennsylvania, PADEP Cambria District Mining Office (2017).

20. Environmental groups located near abandoned mine lands also support the use of coal refuse FBC residual ash to reclaim mine sites. Letter from Robert E. Hughes, Executive Director, Eastern PA Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letters from Len Lichvar, Chairman, Stonycreek-Conemaugh River Improvement Project to Bob Casey, U.S. Senate, and Pat Toomey, U.S. Senate (May 6, 2016); Letter from Janis Long, President, Blacklick Creek Watershed Association, Inc., to Whom It May Concern (Feb. 19, 2016).
21. As the Agency has stated, all coal refuse-fired EGUs are currently emitting mercury at levels below the MATS emission standards, and FBC units, including those that burn coal refuse, are among the best performers for mercury control. 84 Fed. Reg. at 2702.
22. Respondent has asserted that it is not feasible for the Facility to meet the current MATS emission standard for HCl (or its SO_2 acid gas HAP surrogate) when operating with the coal refuse it was designed to eliminate. A Facility shutdown would result in a loss of approximately 50 jobs at the Facility, and 200 jobs at companies that support the Facility.

C. FINDINGS

23. Respondent owns and/or operates one existing coal-fired EGU, as defined in 40 C.F.R. § 63.10042, that fires eastern bituminous coal refuse.
24. Respondent's operation at the Facility is subject to the MATS.
25. On April 25, 2014, PADEP granted the Facility a one-year compliance extension of the deadline for meeting the MATS HCl standard. On December 3, 2014, PADEP granted the Facility an additional three-year extension of this deadline. The extension expired on April 16, 2019.
26. On April 19, May 6, May 9, and May 20, 2019, Respondent provided information to the EPA that serves as the basis for this Order.
27. The Facility is currently in noncompliance with the MATS emission standard for HCl because the Facility cannot meet the HCl emission standard, or the SO_2 acid gas HAP surrogate emission standard, while burning the coal refuse fuel for which the Facility was designed.

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28. Respondent asserts that it cannot currently comply with the MATS emission standard for HCl at the Facility without halting operations and thereby potentially impacting coal refuse fuel use, coal refuse recovery operations from abandoned mine lands, and abandoned mine site remediation activities.
29. Since 2013, PADEP has identified four data availability and/or emission violations through the continuous emission monitoring system ("CEMS") at the Facility, and initiated two formal enforcement actions for CEMS noncompliances. Except for the CEMS noncompliances, Respondent asserts that the Facility is and has always been in compliance with MATS emission standards for mercury and filterable particulate matter since the MATS emission standards were promulgated.
30. Respondent asserts that the Facility is and has always been in compliance with MATS work practice standards for organic HAPs since the MATS emission standards were promulgated.
31. Respondent asserts that the Facility is in compliance with all other Clean Air Act requirements.
32. PADEP has informed the EPA that it supports issuance of this Order.

D. ORDER

33. Respondent is ordered to take the actions described in this section of the Order.
34. By 11:59 pm on April 15, 2020, Respondent shall achieve full compliance with the MATS at the Facility.
35. From the effective date of this Order, pursuant to Paragraph 48, to April 15, 2020, Respondent shall operate so that the emissions from the Facility do not exceed 0.56 pounds/MMBtu SO_2. Compliance with this limit shall be determined according to the requirements and procedures in 40 C.F.R. Part 63, Subpart UUUUU.
36. No less than 90 days prior to achieving full compliance with MATS at the Facility, Respondent shall provide a detailed written notice to the EPA regarding its plan for compliance with MATS, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the

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notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

37. Within 30 days of achieving full compliance with the MATS at the Facility, Respondent shall provide written notice to the EPA indicating that compliance has been achieved and the date by which it was achieved, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

38. Respondent acknowledges that the Act does not provide the EPA the authority to extend or re-issue this Order beyond the Termination Date set out in Paragraph 50 below.

E. OTHER TERMS AND CONDITIONS

39. Respondent admits the jurisdictional allegations contained in Sections A (Preliminary Statement) and B (Statutory and Regulatory Background) of this Order.

40. Respondent neither admits nor denies the findings in Section C (Findings) of this Order.

F. GENERAL PROVISIONS

41. Any violation of this Order may result in a civil administrative or judicial action for an injunction or civil penalties of up to $99,681 per day per violation, or both, as provided in Sections 113(b)(2) and 113(d)(1) of the Act, 42 U.S.C. §§ 7413(b)(2) and 7413(d)(1), as well as criminal sanctions as provided in Section 113(c) of the Act, 42 U.S.C. § 7413(c). The EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

42. Nothing in this Order shall relieve Respondent of the duty of achieving and maintaining compliance with all applicable provisions of the Act or other federal, state or local laws or statutes, nor shall it restrict the EPA's authority to seek compliance with any applicable laws or regulations, nor shall it be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

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43. Nothing herein shall be construed to limit the power of the EPA to undertake any action against Respondent or any person in response to conditions that may present an imminent and substantial endangerment to the public health, welfare, or the environment.

44. The provisions of this Order shall apply to and be binding upon Respondent and its officers, directors, employees, agents, trustees, servants, authorized representatives, successors, and assigns. From the Effective Date of this Order until the Termination Date as set out in Paragraph 50 below, Respondent must give written notice and a copy of this Order to any successors in interest prior to any transfer of ownership or control of any portion of or interest in the Facility. Simultaneously with such notice, Respondent shall provide written notice of such transfer, assignment, or delegation to the EPA. In the event of any such transfer, assignment, or delegation, Respondent shall not be released from the obligations or liabilities of this Order unless the EPA has provided written approval of the release of said obligations or liabilities.

45. Unless this Order states otherwise, whenever, under the terms of this Order, written notice or other documentation is required to be given, it shall be directed to the individuals specified at the addresses below unless those individuals or their successors give notice of a change of address to the other party in writing:

Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
US Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)
brooks.phillip@epa.gov

Donna Mastro
Acting Deputy Regional Counsel for Enforcement
United State Environmental Protection Agency, Region III
Office of Regional Counsel, Air Branch (3RC00)
Philadelphia, PA 19103-2029
mastro.donna@epa.gov

John P. Malloy
Plant Manager

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Inter-Power/AhlCon Partners L.P.
Colver Power Project
141 Interpower Drive
Colver, PA 15927
jmalloy@acpowercolver.com

Jeffery Moore, General Manager
Inter-Power/AhlCon L.P.
Colver Power Project
Northern Star Generation LLC
2929 Allen Parkway
Suite 3275
Houston, TX 77019
Jeffery.moore@nsgen.com

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310
jeff.holmstead@bracewell.com

All notices and submissions shall be considered effective upon receipt.

46. To the extent this Order requires Respondent to submit any information to the EPA, Respondent may assert a business confidentiality claim covering part or all of that information, but only to the extent and only in the manner described in 40 C.F.R. Part 2, Subpart B. The EPA will disclose information submitted under a confidentiality claim only as provided in 40 C.F.R. Part 2, Subpart B. If Respondent does not assert a confidentiality claim, the EPA may make the submitted information available to the public without further notice to Respondent.

47. Each undersigned representative of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Order to execute and bind legally the Parties to this document.

G. EFFECTIVE DATE AND OPPORTUNITY FOR A CONFERENCE

48. Pursuant to Section 113(a)(4) of the Act, an Order does not take effect until the person to whom it has been issued has had an opportunity to confer with the EPA concerning the alleged violations. By signing this Order, Respondent acknowledges and agrees that it has been provided an opportunity to confer with the EPA prior to issuance of this Order. Accordingly, this Order will take effect immediately upon signature by the latter of Respondent or the EPA.

H. JUDICIAL REVIEW

49. Respondent waives any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondent may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1).

I. TERMINATION

50. This Order shall terminate on the earlier of the following (the "Termination Date") at which point Respondent shall operate in compliance with the Act:

    a. 11:59 pm April 15, 2020;

    b. The effective date of any determination by the EPA that Respondent has achieved compliance with all terms of this Order;

    c. Immediately upon receipt by Respondent of notice from the EPA finding that an imminent and substantial endangerment to public health, welfare, or the environment has occurred; or

    d. The effective date of an acid gas HCl emission standard, or SO_2 emission standard as a surrogate for an acid gas HCl emission standard, that the EPA promulgates and that is applicable to the Facility.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Inter-Power/AhlCon Partners L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0003

For United States Environmental Protection Agency, Air Enforcement Division, Office of Enforcement and Compliance Assurance:

5/21/2019
Date

[redacted]
Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Inter-Power/AhlCon Partners L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0003

For Inter-Power/AhlCon Partners L.P.:

[redacted]
Signature

May 21st, 2019
Date

Printed Name: Jeffrey Moore
Title: Asset Manager, Inter-Power/AhlCon L.P.
Address: Colver Power Project
2929 Allen Parkway
Suite 3275
Houston, TX 77019

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CERTIFICATE OF SERVICE

I certify that the foregoing "Administrative Compliance Order" in the Matter of Inter-Power/AhlCon Partners L.P., Order AED-CAA-113(a)-2019-0003, was filed and copies of the same were mailed to the parties as indicated below.

Certified Mail

Jeffrey Moore
Asset Manager,
Inter-Power/AhlCon L.P.
Colver Power Project
2929 Allen Parkway
Suite 3275
Houston, TX 77019

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310

Krishnan Ramamurthy
Director, Bureau of Air Quality
Pennsylvania Department of Environmental Protection
Commonwealth of Pennsylvania
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

5/21/2019
Date

[redacted]
Tawanna Cathey

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Exhibit 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Ebensburg Power Company, Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0004

ADMINISTRATIVE COMPLIANCE ORDER

A. PRELIMINARY STATEMENT

1. This Administrative Compliance Order ("Order") is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA" or "Agency") by Section 113(a) of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7413(a)(3) and (4).
2. On the EPA's behalf, Phillip A. Brooks, Division Director of the Air Enforcement Division, Office of Civil Enforcement, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, is delegated the authority to issue this Order under Section 113(a) of the Act.
3. Respondent is Ebensburg Power Company (hereinafter, "Respondent"), a corporation doing business in the Commonwealth of Pennsylvania. Respondent is a "person" as defined in Section 302(e) of the Act, 42 U.S.C. § 7602(e). Respondent owns and/or operates Ebensburg Power (hereafter, the "Facility"), located in Cambria County in the Commonwealth of Pennsylvania. The Facility has one eastern bituminous coal refuse-fired electric utility steam generating unit ("EGU") with a nominal 50 megawatt ("MW") capacity.
4. Respondent signs this Order on consent.

B. STATUTORY AND REGULATORY BACKGROUND

5. Section 112 of the CAA, 42 U.S.C. § 7412, authorizes the Administrator of the EPA to regulate hazardous air pollutants ("HAPs") which may have an adverse effect on health or the environment.

6. Pursuant to Section 112 of the CAA, the EPA promulgated the National Emission Standards for Hazardous Air Pollutants for the Coal- and Oil-Fired EGU source category on February 16, 2012, under title 40, part 63, subpart UUUUU. 77 Fed. Reg. 9304. These standards are commonly known as the "Mercury and Air Toxics Standards." *Id.* (hereafter, "MATS"). The MATS adopted emission limits on mercury, acid gases and other toxic pollutants for affected coal and oil-fired EGUs. *Id.* The EPA promulgated a single acid gas emission standard for all coal-fired power plants, using hydrochloric acid ("HCl") as a surrogate for all acid gas HAP, and allowed an alternative emission standard for sulfur dioxide ("SO_2") as a surrogate for acid gas HAP. *Id.*

7. The final MATS rule was challenged by industry, states, environmental organizations and public health organizations in the U.S. Court of Appeals for the District of Columbia ("the Court"). 84 Fed Reg. 2670, 2673 (Feb. 7, 2019). The U.S. Supreme Court ruled on January 29, 2015, that, among other findings, the Agency was required to consider the cost of the MATS, and remanded the MATS to the Court. *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

8. On February 7, 2019, in response to the U.S. Supreme Court decision in *Michigan v. EPA*, and multiple intervening events, the EPA proposed to find that it is not "appropriate and necessary" to regulate HAP emissions from coal-and oil-fired EGUs under Section 112 of the CAA, but did not alter or eliminate the CAA section 112 emissions standards imposed by the MATS. 84 Fed Reg. at 2674-79.

9. Pursuant to 40 C.F.R. § 63.9981, the MATS applies to owners or operators of coal-fired EGUs or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042.

10. Pursuant to 40 C.F.R. § 63.2, "owner or operator" is defined as "any person who owns, leases, operates, controls, or supervises a stationary source."

11. Section 111(a)(3) of the Act, 42 U.S.C. § 7411(a)(3), and 40 C.F.R. § 63.2 defines a "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant."
12. Pursuant to 40 C.F.R. § 63.2, "affected source" is defined as "the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a Section 112(c) source category or subcategory for which a Section 112(d) standard or other relevant standard is established pursuant to Section 112 of the Act."
13. Pursuant to 40 C.F.R. § 63.9982, the affected source to which the provisions of the MATS, 40 C.F.R. Part 63, Subpart UUUUU, applies is the collection of all existing coal- or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042, within a subcategory, [and] … each new or reconstructed coal- or oil-fired EGU, as defined in 40 C.F.R. § 63.10042."
14. The MATS rule identifies emission standards for seven subcategories of existing and new EGUs, but there is no separate subcategory for existing EGUs that fire eastern bituminous coal refuse. 40 C.F.R. § 63.9990.
15. As the Agency has stated, all coal-refuse fuels are fired in fluidized bed combustors ("FBC"), which utilize limestone injection technology to minimize SO_2 emissions and increase heat transfer efficiency. 84 Fed Reg. at 2702. During the MATS rulemaking, the Agency received multiple comments stating that, for most eastern bituminous coal refuse-fired EGUs, limestone injection alone may be an inadequate and ineffective technology to meet MATS emission standards for HCl or SO_2. *Id.*
16. On February 7, 2019, for existing EGUs firing eastern bituminous coal refuse, the EPA solicited comments and information on the need for the establishment of a specific MATS subcategory for acid gas emission standards and on the nature, cost, feasibility, and effectiveness of emission control technologies. 84 Fed Reg. at 2700-03. The Agency also solicited comment on potential HCl and SO_2 emission standards for a new MATS subcategory of eastern bituminous coal refuse-

fired EGUs, including a Maximum Achievable Control Technology ("MACT") floor analysis and results. *Id.* The EPA is currently reviewing comments it has received.

17. Due to the sulfur content of eastern bituminous coal refuse, the Pennsylvania Department of Environmental Protection (PADEP) has informed the EPA that it supports the EPA's February 7, 2019 proposal to create a separate MATS subcategory and the proposed acid gas HAP emission standards for existing eastern bituminous coal refuse-fired EGUs. Letter from Patrick McDonnell, Secretary, PADEP, to Andrew R. Wheeler, Administrator, EPA, regarding Docket No. EPA-HQ-OAR-2018-0794 (April 17, 2019).

18. Environmental groups located near abandoned mine lands have expressed support for burning coal refuse to generate electricity because the coal refuse-fired EGUs consume large quantities of waste coal refuse from outdoor sites that are exposed to ambient air and degrade the quality of local water bodies. Removal of the coal waste material allows for land reclamation where dangerous waste coal piles are located. Letter from John S. Dryzal, District Manager, Cambria County Conservation District, to the Pennsylvania Environmental Council (Jan. 17, 2019); Letter from Andy McAllister, Regional Coordinator, Western Pa. Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letter from Daniel McMullen, President Elect, Clearfield Creek Watershed Association, to Keith Rothfus, U.S. House of Representatives (March 15, 2016); Letter from Robert W. Piper, Jr., District Manager, Cambria County Conservation District, to Patrick J. Toomey, U.S. Senate (March 14, 2016).

19. PADEP has studied the reclamation of refuse piles through the use of coal refuse FBC ash, also known as fly ash, and concluded that the high-alkaline filler neutralizes the acidity of former waste coal sites in the Blacklick Creek Watershed, providing significant reductions in the acidity of acid mine drainage and reducing pollutant loading. Reclamation of Refuse Piles Using Fluidized Bed Combustion Ash on the Blacklick Creek Watershed, Pennsylvania, PADEP Cambria District Mining Office (2017).

20. Environmental groups located near abandoned mine lands also support the use of coal refuse FBC residual ash to reclaim mine sites. Letter from Robert E. Hughes, Executive Director, Eastern PA Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letters from Len Lichvar, Chairman, Stonycreek-Conemaugh River Improvement Project to Bob Casey, U.S. Senate, and Pat Toomey, U.S. Senate (May 6, 2016); Letter from Janis Long, President, Blacklick Creek Watershed Association, Inc., to Whom It May Concern (Feb. 19, 2016).
21. As the Agency has stated, all coal refuse-fired EGUs are currently emitting mercury at levels below the MATS emission standards, and FBC units, including those that burn coal refuse, are among the best performers for mercury control. 84 Fed. Reg. at 2702.
22. Respondent has asserted that it is not feasible for the Facility to meet the current MATS emission standard for HCl (or its SO_2 acid gas HAP surrogate) when operating with the coal refuse it was designed to eliminate. A Facility shutdown would result in a loss of approximately 40 jobs at the Facility, and three jobs at companies that support the Facility.

C. FINDINGS

23. Respondent owns and/or operates one existing coal-fired EGU, as defined in 40 C.F.R. § 63.10042, that fires eastern bituminous coal refuse.
24. Respondent's operation at the Facility is subject to the MATS.
25. On May 16, 2014, PADEP granted the Facility a one-year compliance extension of the deadline for meeting the MATS HCl standard. On December 17, 2014, PADEP granted the Facility an additional three-year extension of this deadline. The extension expired on April 16, 2019.
26. On April 19, May 6, May 9, and May 20, 2019, Respondent provided information to the EPA that serves as the basis for this Order.
27. The Facility is currently in noncompliance with the MATS emission standard for HCl because the Facility cannot meet the HCl emission standard, or the SO_2 acid gas HAP surrogate emission standard, while burning the coal refuse fuel for which the Facility was designed.

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28. Respondent asserts that it cannot currently comply with the MATS emission standard for HCl at the Facility without halting operations and thereby potentially impacting coal refuse fuel use, coal refuse recovery operations from abandoned mine lands, and abandoned mine site remediation activities.
29. Respondent asserts that, during its ownership of the Facility, the Facility is and has always been in compliance with MATS emission standards for mercury and filterable particulate matter since the MATS emission standards were promulgated.
30. Respondent asserts that, during its ownership of the Facility, the Facility is and has always been in compliance with MATS work practice standards for organic HAPs since the MATS emission standards were promulgated.
31. Respondent asserts that the Facility is in compliance with all other Clean Air Act requirements.
32. PADEP has informed the EPA that it supports issuance of this Order.

D. ORDER

33. Respondent is ordered to take the actions described in this section of the Order.
34. By 11:59 pm on April 15, 2020, Respondent shall achieve full compliance with the MATS at the Facility.
35. From the effective date of this Order, pursuant to Paragraph 48, to April 15, 2020, Respondent shall operate so that the emissions from the Facility do not exceed 0.60 pounds/MMBtu SO_2. Compliance with this limit shall be determined according to the requirements and procedures in 40 C.F.R. Part 63, Subpart UUUUU.
36. No less than 90 days prior to achieving full compliance with MATS at the Facility, Respondent shall provide a detailed written notice to the EPA regarding its plan for compliance with MATS, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

37. Within 30 days of achieving full compliance with the MATS at the Facility, Respondent shall provide written notice to the EPA indicating that compliance has been achieved and the date by which it was achieved, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

38. Respondent acknowledges that the Act does not provide the EPA the authority to extend or re-issue this Order beyond the Termination Date set out in Paragraph 50 below.

E. OTHER TERMS AND CONDITIONS

39. Respondent admits the jurisdictional allegations contained in Sections A (Preliminary Statement) and B (Statutory and Regulatory Background) of this Order.

40. Respondent neither admits nor denies the findings in Section C (Findings) of this Order.

F. GENERAL PROVISIONS

41. Any violation of this Order may result in a civil administrative or judicial action for an injunction or civil penalties of up to $99,681 per day per violation, or both, as provided in Sections 113(b)(2) and 113(d)(1) of the Act, 42 U.S.C. §§ 7413(b)(2) and 7413(d)(1), as well as criminal sanctions as provided in Section 113(c) of the Act, 42 U.S.C. § 7413(c). The EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

42. Nothing in this Order shall relieve Respondent of the duty of achieving and maintaining compliance with all applicable provisions of the Act or other federal, state or local laws or statutes, nor shall it restrict the EPA's authority to seek compliance with any applicable laws or regulations, nor shall it be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

43. Nothing herein shall be construed to limit the power of the EPA to undertake any action against Respondent or any person in response to conditions that may present an imminent and substantial endangerment to the public health, welfare, or the environment.

44. The provisions of this Order shall apply to and be binding upon Respondent and its officers, directors, employees, agents, trustees, servants, authorized representatives, successors, and assigns. From the Effective Date of this Order until the Termination Date as set out in Paragraph 50 below, Respondent must give written notice and a copy of this Order to any successors in interest prior to any transfer of ownership or control of any portion of or interest in the Facility. Simultaneously with such notice, Respondent shall provide written notice of such transfer, assignment, or delegation to the EPA. In the event of any such transfer, assignment, or delegation, Respondent shall not be released from the obligations or liabilities of this Order unless the EPA has provided written approval of the release of said obligations or liabilities.

45. Unless this Order states otherwise, whenever, under the terms of this Order, written notice or other documentation is required to be given, it shall be directed to the individuals specified at the addresses below unless those individuals or their successors give notice of a change of address to the other party in writing:

Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
US Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)
brooks.phillip@epa.gov

Donna Mastro
Acting Deputy Regional Counsel for Enforcement
United State Environmental Protection Agency, Region III
Office of Regional Counsel, Air Branch (3RC00)
Philadelphia, PA 19103-2029
mastro.donna@epa.gov

Jim Panaro
Executive Vice President
Ebensburg Power Company
2840 New Germany Road
Ebensburg, PA 15931-3505
jim.panaro@resfuel.com

Jeff Holmstead

Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310
jeff.holmstead@bracewell.com

All notices and submissions shall be considered effective upon receipt.

46. To the extent this Order requires Respondent to submit any information to the EPA, Respondent may assert a business confidentiality claim covering part or all of that information, but only to the extent and only in the manner described in 40 C.F.R. Part 2, Subpart B. The EPA will disclose information submitted under a confidentiality claim only as provided in 40 C.F.R. Part 2, Subpart B. If Respondent does not assert a confidentiality claim, the EPA may make the submitted information available to the public without further notice to Respondent.

47. Each undersigned representative of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Order to execute and bind legally the Parties to this document.

G. EFFECTIVE DATE AND OPPORTUNITY FOR A CONFERENCE

48. Pursuant to Section 113(a)(4) of the Act, an Order does not take effect until the person to whom it has been issued has had an opportunity to confer with the EPA concerning the alleged violations. By signing this Order, Respondent acknowledges and agrees that it has been provided an opportunity to confer with the EPA prior to issuance of this Order. Accordingly, this Order will take effect immediately upon signature by the latter of Respondent or the EPA.

H. JUDICIAL REVIEW

49. Respondent waives any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondent may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1).

I. TERMINATION

50. This Order shall terminate on the earlier of the following (the "Termination Date") at which point Respondent shall operate in compliance with the Act:

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a. 11:59 pm April 15, 2020;

b. The effective date of any determination by the EPA that Respondent has achieved compliance with all terms of this Order;

c. Immediately upon receipt by Respondent of notice from the EPA finding that an imminent and substantial endangerment to public health, welfare, or the environment has occurred; or

d. The effective date of an acid gas HCl emission standard, or SO_2 emission standard as a surrogate for an acid gas HCl emission standard, that the EPA promulgates and that is applicable to the Facility.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Ebensburg Power Company, Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0004

For United States Environmental Protection Agency, Air Enforcement Division, Office of Enforcement and Compliance Assurance:

5/21/2015
Date

[redacted]
Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: Ebensburg Power Company, Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0004

For Ebensburg Power Company:

[redacted]

Signature

5/21/19

Date

Printed Name: Jim Panaro
Title: Executive Vice President, Ebensburg Power Company
Address: 2840 New Germany Road
P.O. Box 845
Ebensburg, PA 15931

ED_004818_00012437-00013

CERTIFICATE OF SERVICE

I certify that the foregoing "Administrative Compliance Order" in the Matter of Ebensburg Power Company, Order AED-CAA-113(a)-2019-0004, was filed and copies of the same were mailed to the parties as indicated below.

Certified Mail

Jim Panaro
Executive Vice President
Ebensburg Power Company
2840 New Germany Road
Ebensburg, PA 15931-3505

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310

Krishnan Ramamurthy
Director, Bureau of Air Quality
Pennsylvania Department of Environmental Protection
Commonwealth of Pennsylvania
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

[redacted]

5/21/19
Date

Tawanna Cathey

ED_004818_00012437-00014

Exhibit 5

American Bituminous Power Partners, L.P.
Grant Town Power Plant
PO Box 159
228 ABPP Drive
Grant Town, WV 26574

SEMIANNUAL COMPLIANCE REPORT

1/1/2019 - 6/30/2019

National Emission Standards for Hazardous Air Pollutants (NESHAP): Coal- and Oil- Fired Electric Utility Steam Generating Units (EGUs), also known as Mercury and Air Toxic Standards (MATS).

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Attachments

A. USEPA Administrative Compliance Order on Consent (AED-CAA-113(a)-2019-0001) for Acid Gas HAP Requirements (through 4/15/2020)
   Relative Accuracy Test Audit Report for AmBit Continuous Emissions Monitoring System
B. Filterable Particulate Matter Performance Test Summary Reports
C. Mercury Performance Test Summary Report

Summary Report - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance

Company Name:

American Bituminous Power Partners, L.P. (AmBit) Grant Town Power Plant (Facility ID 10151)

Address:

228 ABPP Drive
Grant Town, WV 26574

Hazardous Pollutant Monitoring, Emission Limits and Parameters:

Per 40 CFR Part 63, Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants (NESHAP): Coal- and Oil- Fired Electric Utility Steam Generating Units (EGUs), also known as Mercury and Air Toxic Standards (MATS) Ambit is subject to the emissions limits for Existing EGUs, Coal fired unit not low rank virgin coal, as outlined in Table 2 to Subpart UUUUU of 40 CFR Part 63.

Please see Permissible Emissions Limits & Effective Dates table below for specific pollutant limitations and effective dates.

Table 1: Permissible Emissions Limits & Effective Dates

Pollutant:	**Filterable Particulate Matter**	**Hydrogen Chloride or Sulfur Dioxide Surrogate**	**Mercury**
Permissible Limit:	3.0E-2 lb/MMBtu	0.41 lb/MMBtu (SO2)	1.2E0 lb/Tbtu
Effective Date:	4/15/2016	5/21/2019	4/15/2016

Monitoring Equipment:

AmBit utilizes performance stack testing for Filterable Particulate Matter (quarterly) and Mercury (LEE-Annual). AmBit continuously monitors SO2 emissions using a continuous emissions monitoring system (CEMS) in accordance with 40 CFR Part 75 and 40 CFR Part 63. Please see individual pollutant section and attachments for specific monitoring and testing equipment and company information.

Brief Description of Process Units:

AmBit is an 80 MW CFB fired, small independent power generation facility located in Grant Town, WV. It consists of 2 waste coal fired, Pyropower/Foster Wheeler CFB boilers headered to a single GEC Asltom turbine Generator Set. Emissions for both boilers are directed through a single, common stack.

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Source Operating Time:

4263.42 hours

Emissions Summary:

Please see individual pollutant sections and attachments for specific performance testing emissions. No excess emissions to report.

Name, Title and Signature of Responsible Official :

Don Drennen, Compliance Specialist

Date of Report:

July 26, 2019

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Operations Compliance

Fuels:

Please see fuel data tables below.

Table 2: Fuel and Emissions Controls Descriptions

Requirement	Comment
Description of the add-on controls used on the source	The facility possesses a selective non-catalytic reduction (SNCR) system as well as fabric filter media (pulse jet baghouse).
Description of the fuel(s) burned	Bituminous coal refuse (Gob) and natural gas.
Whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under 40 CFR 241.3	No
Justification for the selection of fuel(s) burned during the performance tests	Fuels used were consistent with normal operating procedure for all compliance and performance testing.

Table 3: Fuel Use

Gob	Natural Gas
January: 49,605 tons	January: 497 mcf
February: 39,881 tons	February: 7,031 mcf
March: 52,163 tons	March: 1,984 mcf
April: 42,905 tons	April: 4,380 mcf
May: 52,467 tons	May: 3,263 mcf
June: 48,748 tons	June: 2,185 mcf
6 Month Total: 285,769 tons	6 Month Total: 19,340 mcf

Boiler Tuneup:

AmBit is also subject to the Work Practice Standards for Existing EGUs, as outlined in Table 3 to Subpart UUUUU of 40 CFR Part 63: to conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, as specified in Section 63.10021(e).AmBit conducts boiler maintenance and optimization, including scheduled outages for inspection and maintenance activities, on a regular and continual basis. Additionally, Valmet, Inc. regularly conducts boiler inspection and optimization on the control systems and boilers. The most recently completed inspection and tune-up report, conducted February 25-26, 2019, is available upon request.

Startup/Shutdown and Emergency Bypass:

No emergency bypass activities conducted and no startup/shutdown exemptions are being claimed.

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Emissions Compliance

Acid Gas Hazardous Air Pollutant:

AmBit is currently operating under USEPA Administrative Compliance Order on Consent (AED-CAA-113(a)-2019-0001) for Acid Gas HAP Requirements delaying full compliance with the Acid Gas Hazardous Air Pollutant emission standards and setting a temporary limit of 0.41 lb/mmBtu (aligning with current Title V emissions limits) through April 15, 2020.

AmBit continuously monitors Sulfur Dioxide emissions using a continuous emissions monitoring system (CEMS) in accordance with 40 CFR Part 75 and 40 CFR Part 63. The CEMS consists of a thermoscientific SO2 analyzer (model 43i) and utilizes a Data Acquisition System (Stackvision) developed by Environmental Systems Corporation (ESC). The CEMS undergoes regular quality assurance and quality control testing and demonstrations (RATAs, linearities) as defined in 40 CFR Parts 60, 63 and 75 that are reported through the Emissions Collection and Monitoring Plan System (ECMPS) reporting software system.

No emissions were in excess of the temporary limit of 0.41 lb/mmBtu during the effective reporting period, as defined in the Administrative Compliance Order on Consent. SO2 emissions data is reported through the Emissions Collection and Monitoring Plan System (ECMPS) electronic reporting system, in addition to written emissions compliance reports submitted to state and federal agencies.

Please refer to Attachment A for the administrative consent order terms and conditions.

Non-Hg Hazardous Air Pollutant Metals:

AmBit is demonstrating compliance through quarterly Filterable Particulate Matter emissions performance testing.

There were two (2) quarterly performance tests conducted during this reporting period. The tests results averaged **0.012 lbs/MMBtu** and **0.007 lbs/MMBtu**, respectively, below the permissible limit of 0.03 lbs/MMBtu.

Ongoing emissions testing and notifications shall be completed, as required.

Please refer to Attachment B for the associated emissions testing reports, prepared by Air Dynamics Testing. Summary reports only, for the full reports (including appendices), please see separate quarterly submittal(s), or, can be provided upon request.

Mercury:

AmBit is demonstrating compliance through annual Mercury performance emissions testing, to demonstrate low emitting EGU (LEE) status.

The average emission of total vapor phase mercury for the 2018 LEE testing was **0.74 lb/TBtu** with potential annual mass emissions of **6.56 lb/yr**, below the allowable limit of 1.2 lb/TBtu and 29 lb/yr potential mass emissions.

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2019 LEE annual performance testing is currently being conducted.

Ongoing emissions testing and notifications shall be completed, as required.

Please refer to Attachment C for the associated emissions testing report, prepared by Clean Air Engineering. Summary report only, for the full report (including appendices), please see separate LEE submittal(s), or, can be provided upon request.

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Compliance Certification

"This EGU complies with the requirements in §63.10021(a) to demonstrate continuous compliance and no secondary materials that are solid waste were combusted in any affected unit. Based upon information and belief formed after a reasonable inquiry, I, as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge."

Responsible Official: Don Drennen, Compliance Specialist

Signed: _____

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ATTACHMENT A:

USEPA Administrative Compliance Order on Consent (AED-CAA-113(a)-2019-0001) for Acid Gas HAP Requirements

ED_004818_00012438-00010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: American Bituminous Power Partners, L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0001

ADMINISTRATIVE COMPLIANCE ORDER

A. PRELIMINARY STATEMENT

1. This Administrative Compliance Order ("Order") is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA" or "Agency") by Section 113(a) of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7413(a)(3) and (4).
2. On the EPA's behalf, Phillip A. Brooks, Division Director of the Air Enforcement Division, Office of Civil Enforcement, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, is delegated the authority to issue this Order under Section 113(a) of the Act.
3. Respondent is American Bituminous Power Partners, L.P. (hereinafter, "Respondent"), a corporation doing business in the state of West Virginia. Respondent is a "person" as defined in Section 302(e) of the Act, 42 U.S.C. § 7602(e). Respondent owns and/or operates Grant Town Power Plant (hereafter, the "Facility"), located in Marion County in the state of West Virginia. The Facility has two eastern bituminous coal refuse-fired electric utility steam generating units ("EGUs"), identified as Unit 1A and Unit 1B. Each unit has a nominal 40 megawatt ("MW") capacity.
4. Respondent signs this Order on consent.

B. STATUTORY AND REGULATORY BACKGROUND

5. Section 112 of the CAA, 42 U.S.C. § 7412, authorizes the Administrator of the EPA to regulate hazardous air pollutants ("HAPs") which may have an adverse effect on health or the environment.

6. Pursuant to Section 112 of the CAA, the EPA promulgated the National Emission Standards for Hazardous Air Pollutants for the Coal- and Oil-Fired EGU source category on February 16, 2012, under title 40, part 63, subpart UUUUU. 77 Fed. Reg. 9304. These standards are commonly known as the "Mercury and Air Toxics Standards." *Id.* (hereafter, "MATS"). The MATS adopted emission limits on mercury, acid gases and other toxic pollutants for affected coal and oil-fired EGUs. *Id.* The EPA promulgated a single acid gas emission standard for all coal-fired power plants, using hydrochloric acid ("HCl") as a surrogate for all acid gas HAP, and allowed an alternative emission standard for sulfur dioxide ("SO_2") as a surrogate for acid gas HAP. *Id.*

7. The final MATS rule was challenged by industry, states, environmental organizations and public health organizations in the U.S. Court of Appeals for the District of Columbia ("the Court"). 84 Fed Reg. 2670, 2673 (Feb. 7, 2019). The U.S. Supreme Court ruled on January 29, 2015, that, among other findings, the Agency was required to consider the cost of the MATS, and remanded the MATS to the Court. *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

8. On February 7, 2019, in response to the U.S. Supreme Court decision in *Michigan v. EPA*, and multiple intervening events, the EPA proposed to find that it is not "appropriate and necessary" to regulate HAP emissions from coal-and oil-fired EGUs under Section 112 of the CAA, but did not alter or eliminate the CAA section 112 emissions standards imposed by the MATS. 84 Fed Reg. at 2674-79.

9. Pursuant to 40 C.F.R. § 63.9981, the MATS applies to owners or operators of coal-fired EGUs or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042.

10. Pursuant to 40 C.F.R. § 63.2, "owner or operator" is defined as "any person who owns, leases, operates, controls, or supervises a stationary source."

11. Section 111(a)(3) of the Act, 42 U.S.C. § 7411(a)(3), and 40 C.F.R. § 63.2 defines a "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant."
12. Pursuant to 40 C.F.R. § 63.2, "affected source" is defined as "the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a Section 112(c) source category or subcategory for which a Section 112(d) standard or other relevant standard is established pursuant to Section 112 of the Act."
13. Pursuant to 40 C.F.R. § 63.9982, the affected source to which the provisions of the MATS, 40 C.F.R. Part 63, Subpart UUUUU, applies is the collection of all existing coal- or oil-fired EGUs, as defined in 40 C.F.R. § 63.10042, within a subcategory, [and] … each new or reconstructed coal- or oil-fired EGU, as defined in 40 C.F.R. § 63.10042."
14. The MATS rule identifies emission standards for seven subcategories of existing and new EGUs, but there is no separate subcategory for existing EGUs that fire eastern bituminous coal refuse. 40 C.F.R. § 63.9990.
15. As the Agency has stated, all coal-refuse fuels are fired in fluidized bed combustors ("FBC"), which utilize limestone injection technology to minimize SO_2 emissions and increase heat transfer efficiency. 84 Fed Reg. at 2702. During the MATS rulemaking, the Agency received multiple comments stating that, for most eastern bituminous coal refuse-fired EGUs, limestone injection alone may be an inadequate and ineffective technology to meet MATS emission standards for HCl or SO_2. *Id.*
16. On February 7, 2019, for existing EGUs firing eastern bituminous coal refuse, the EPA solicited comments and information on the need for the establishment of a specific MATS subcategory for acid gas emission standards and on the nature, cost, feasibility, and effectiveness of emission control technologies. 84 Fed Reg. at 2700-03. The Agency also solicited comment on potential HCl and SO_2 emission standards for a new MATS subcategory of eastern bituminous coal refuse-

fired EGUs, including a Maximum Achievable Control Technology ("MACT") floor analysis and results. *Id.* The EPA is currently reviewing comments it has received.

17. The West Virginia Department of Environmental Protection (WVDEP) has informed the EPA that it supports the creation of a separate MATS subcategory and SO_2 emission standard (as a surrogate for acid gas HAP) for existing EGUs that fire eastern bituminous coal refuse.
18. Environmental groups located near abandoned mine lands have expressed support for burning coal refuse to generate electricity because the coal refuse-fired EGUs consume large quantities of waste coal refuse from outdoor sites that are exposed to ambient air and degrade the quality of local water bodies. Removal of the coal waste material allows for land reclamation where dangerous waste coal piles are located. Letter from Andy McAllister, Regional Coordinator, Western Pa. Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letter from Daniel McMullen, President Elect, Clearfield Creek Watershed Association, to Keith Rothfus, U.S. House of Representatives (March 15, 2016); Letter from Robert W. Piper, Jr., District Manager, Cambria County Conservation District, to Patrick J. Toomey, U.S. Senate (March 14, 2016).
19. The WVDEP has submitted comments to the West Virginia Public Service Commission (WVPSC) to emphasize the environmental benefits provided by the Facility, including the reclamation of approximately 1,327 acres of coal waste sites across West Virginia, and significant reductions in acid mine drainage associated with these sites. Letter from Austin Caperton, Secretary of WVDEP, to Michael A. Albert, Chairman of WVPSC (Sept. 5, 2017).
20. Environmental groups located near abandoned mine lands also support the use of coal refuse FBC residual ash, also known as fly ash, in mine reclamation activities, as the high-alkaline filler neutralizes the acidity of former waste coal sites. Letter from Robert E. Hughes, Executive Director, Eastern PA Coalition for Abandoned Mine Reclamation, to Keith Rothfus, U.S. House of Representatives (Sept. 11, 2017); Letters from Len Lichvar, Chairman, Stonycreek-Conemaugh River Improvement Project to Bob Casey, U.S. Senate, and Pat Toomey, U.S. Senate

(May 6, 2016); Letter from Janis Long, President, Blacklick Creek Watershed Association, Inc., to Whom It May Concern (Feb. 19, 2016). WVDEP has classified FBC residual ash from the Facility as a beneficial reuse product for mine reclamation. WV ADC §33-1-5.5.b.4.D.

21. As the Agency has stated, all coal refuse-fired EGUs are currently emitting mercury at levels below the MATS emission standards, and FBC units, including those that burn coal refuse, are among the best performers for mercury control. 84 Fed. Reg. at 2702.

22. Respondent has asserted that it is not feasible for the Facility to meet the current MATS emission standard for HCl (or its SO_2 acid gas HAP surrogate) when operating with the coal refuse it was designed to eliminate. A Facility shutdown would result in a loss of approximately 100 jobs at the Facility, and 70 jobs at companies that support the Facility.

C. FINDINGS

23. Respondent owns and/or operates two existing coal-fired EGUs, as defined in 40 C.F.R. § 63.10042, that fire eastern bituminous coal refuse.

24. Respondent's operation at the Facility is subject to the MATS.

25. On January 30, 2014, WVDEP granted the Facility a one-year compliance extension of the deadline for meeting the MATS HCl standard. On April 11, 2016, WVDEP granted the Facility an additional three-year extension of this deadline. The extension expired on April 16, 2019.

26. On April 19, May 6 and May 9, 2019, Respondent provided information to the EPA that serves as the basis for this Order.

27. The Facility is currently in noncompliance with the MATS emission standard for HCl because the Facility cannot meet the HCl emission standard, or the SO_2 acid gas HAP surrogate emission standard, while burning the coal refuse fuel for which the Facility was designed.

28. Respondent asserts that it cannot currently comply with the MATS emission standard for HCl at Units 1A and 1B of the Facility without halting operations and thereby potentially impacting coal refuse fuel use, coal refuse recovery operations from abandoned mine lands, and abandoned mine site remediation activities.

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29. Respondent asserts that the Facility is and has always been in compliance with MATS emission standards for mercury and filterable particulate matter since the MATS emission standards were promulgated.
30. Respondent asserts that the Facility is and has always been in compliance with MATS work practice standards for organic HAPS since the MATS emission standards were promulgated.
31. Respondent asserts that the Facility is in compliance with all other Clean Air Act requirements.
32. WVDEP has informed the EPA that it supports issuance of this Order.

D. ORDER

33. Respondent is ordered to take the actions described in this section of the Order.
34. By 11:59 pm on April 15, 2020, Respondent shall achieve full compliance with the MATS at Units 1A and 1B at the Facility.
35. From the effective date of this Order, pursuant to Paragraph 48, to April 15, 2020, Respondent shall operate Units 1A and 1B so that the emissions from the units do not exceed 0.41 pounds/MMBtu SO_2. Compliance with this limit shall be determined according to the requirements and procedures in 40 C.F.R. Part 63, Subpart UUUUU.
36. No less than 90 days prior to achieving full compliance with MATS at the Facility, Respondent shall provide a detailed written notice to the EPA regarding its plan for compliance with MATS, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.
37. Within 30 days of achieving full compliance with the MATS at the Facility, Respondent shall provide written notice to the EPA indicating that compliance has been achieved and the date by which it was achieved, provided, however, if the EPA promulgates a new standard applicable to the Facility that Respondent is able to meet upon the effective date of such standard, Respondent

may satisfy the notice requirement in this Paragraph by providing notice of this fact within 30 days of the effective date, pursuant to the process specified in Paragraph 45 of this Order.

38. Respondent acknowledges that the Act does not provide the EPA the authority to extend or re-issue this Order beyond the Termination Date set out in Paragraph 50 below.

E. OTHER TERMS AND CONDITIONS

39. Respondent admits the jurisdictional allegations contained in Sections A (Preliminary Statement) and B (Statutory and Regulatory Background) of this Order.

40. Respondent neither admits nor denies the findings in Section C (Findings) of this Order.

F. GENERAL PROVISIONS

41. Any violation of this Order may result in a civil administrative or judicial action for an injunction or civil penalties of up to $99,681 per day per violation, or both, as provided in Sections 113(b)(2) and 113(d)(1) of the Act, 42 U.S.C. §§ 7413(b)(2) and 7413(d)(1), as well as criminal sanctions as provided in Section 113(c) of the Act, 42 U.S.C. § 7413(c). The EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

42. Nothing in this Order shall relieve Respondent of the duty of achieving and maintaining compliance with all applicable provisions of the Act or other federal, state or local laws or statutes, nor shall it restrict the EPA's authority to seek compliance with any applicable laws or regulations, nor shall it be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

43. Nothing herein shall be construed to limit the power of the EPA to undertake any action against Respondent or any person in response to conditions that may present an imminent and substantial endangerment to the public health, welfare, or the environment.

44. The provisions of this Order shall apply to and be binding upon Respondent and its officers, directors, employees, agents, trustees, servants, authorized representatives, successors, and assigns. From the Effective Date of this Order until the Termination Date as set out in Paragraph 50 below, Respondent must give written notice and a copy of this Order to any successors in

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interest prior to any transfer of ownership or control of any portion of or interest in the Facility. Simultaneously with such notice, Respondent shall provide written notice of such transfer, assignment, or delegation to the EPA. In the event of any such transfer, assignment, or delegation, Respondent shall not be released from the obligations or liabilities of this Order unless the EPA has provided written approval of the release of said obligations or liabilities.

45. Unless this Order states otherwise, whenever, under the terms of this Order, written notice or other documentation is required to be given, it shall be directed to the individuals specified at the addresses below unless those individuals or their successors give notice of a change of address to the other party in writing:

Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
US Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)
brooks.phillip@epa.gov

Donna Mastro
Acting Deputy Regional Counsel for Enforcement
United State Environmental Protection Agency, Region III
Office of Regional Counsel, Air Branch (3RC00)
Philadelphia, PA 19103-2029
mastro.donna@epa.gov

Steve Friend
Plant Manager
American Bituminous Power Partners, LP
Grant Town Power Plant
228 ABPP Drive
P.O. Box 159
Grant Town, WV 26574
sfriend@ambitwv.com

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310
jeff.holmstead@bracewell.com

All notices and submissions shall be considered effective upon receipt.

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46. To the extent this Order requires Respondent to submit any information to the EPA, Respondent may assert a business confidentiality claim covering part or all of that information, but only to the extent and only in the manner described in 40 C.F.R. Part 2, Subpart B. The EPA will disclose information submitted under a confidentiality claim only as provided in 40 C.F.R. Part 2, Subpart B. If Respondent does not assert a confidentiality claim, the EPA may make the submitted information available to the public without further notice to Respondent.

47. Each undersigned representative of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Order to execute and bind legally the Parties to this document.

G. EFFECTIVE DATE AND OPPORTUNITY FOR A CONFERENCE

48. Pursuant to Section 113(a)(4) of the Act, an Order does not take effect until the person to whom it has been issued has had an opportunity to confer with the EPA concerning the alleged violations. By signing this Order, Respondent acknowledges and agrees that it has been provided an opportunity to confer with the EPA prior to issuance of this Order. Accordingly, this Order will take effect immediately upon signature by the latter of Respondent or the EPA.

H. JUDICIAL REVIEW

49. Respondent waives any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondent may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1).

I. TERMINATION

50. This Order shall terminate on the earlier of the following (the "Termination Date") at which point Respondent shall operate in compliance with the Act:

    a. 11:59 pm April 15, 2020;

    b. The effective date of any determination by the EPA that Respondent has achieved compliance with all terms of this Order;

c. Immediately upon receipt by Respondent of notice from the EPA finding that an imminent and substantial endangerment to public health, welfare, or the environment has occurred; or

d. The effective date of an acid gas HCl emission standard, or SO_2 emission standard as a surrogate for an acid gas HCl emission standard, that the EPA promulgates and that is applicable to the Facility.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: American Bituminous Power Partners, L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0001

For United States Environmental Protection Agency, Air Enforcement Division, Office of Enforcement and Compliance Assurance:

5/21/2015
Date

Phillip A. Brooks
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Mail Code 2242A, Room 1119
1200 Pennsylvania Ave, NW
Washington, DC 20460 mail or 20004 courier (note Room 1119 on courier packages)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR ENFORCEMENT DIVISION, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
BEFORE THE ADMINISTRATOR

In the Matter of: American Bituminous Power Partners, L.P., Respondent.	Administrative Compliance Order on Consent AED-CAA-113(a)-2019-0001

For American Bituminous Power Partners, L.P.:

Kenneth Niemann
Signature

May 21, 2019
Date

Printed Name: Ken Niemann
Title: Executive Director, American Bituminous Power Partners, L.P.
Address: Grant Town Power Plant
228 ABPP Drive
P.O. Box 159
Grant Town, WV 26574

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CERTIFICATE OF SERVICE

I certify that the foregoing "Administrative Compliance Order" in the Matter of American Bituminous Power Partners, L.P., Order AED-CAA-113(a)-2019-0001, was filed and copies of the same were mailed to the parties as indicated below.

Certified Mail

Ken Niemann
Executive Director
American Bituminous Power Partners, L.P.
Grant Town Power Plant
228 ABPP Drive
PO Box 159
Grant Town, WV 26574

Jeff Holmstead
Bracewell LLP
2001 M Street NW, Suite 900
Washington D.C. 20036-3310

Laura M. Crowder
Acting Director, Division of Air Quality
West Virginia Department of Environmental Protection
601 57th St SE
Charleston, WV 25304

_____ _____
Date Tawanna Cathey

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ATTACHMENT B:

Filterable Particulate Matter Performance Test Summary Reports (1Q2019 & 2Q2019)

ED_004818_00012438-00024

NESHAP Subpart UUUUU Compliance Test Report on Quarterly Particulate Matter Testing on Boilers 1A and 1B at Grant Town Power Station in Grant Town, West Virginia

Prepared By:
Air Dynamics Testing
Project # 246.19

Indiana Office:
698 Tower Rd Suite 200
Plainfield, IN, 46168
(855) 839-TEST

Alabama Office:
18 Yorkshire Park
Leeds, AL, 35094
(855) 839-TEST

Test Date: February 5th, 2019

Prepared For:

American Bituminous Power (AMBIT)
P.O Box 129
Grant Town, WV 26574

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EXECUTIVE SUMMARY

Air Dynamics Testing, LLC. (Air Dynamics) was contracted by American Bituminous Power (AMBIT) to sample air emissions at the Grant Town Power Station in Grant Town, West Virginia on February 5th, 2019. The boilers 1A and 1B were tested to evaluate emissions of particulate matter and demonstrate compliance with 40 CFR 63, Subpart UUUUU National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units. The testing program was performed consistent with US EPA Methods 1-5. The test results are summarized below in Table ES-1.

Table ES-1. Emissions Results Summary

Location	Test Parameter	Result	Permit Limit
Boiler 1A & 1B	Filterable Particulate Matter	14.5 lbs/hr	33.1 lbs/hr*^
		0.012 lb/MMBtu	0.03 lb/MMBtu*^

*Title V Permit Section 4.1.3(a)
^Subpart UUUUU NESHAP Coal Fired Electric Utility

1.0 INTRODUCTION

Air Dynamics Testing, LLC. (Air Dynamics) has prepared this source test report on behalf of American Bituminous Power (AMBIT). Air Dynamics conducted source emissions testing on February 5th at the facility in Grant Town, WV in fulfillment of the submitted test plan for Boilers 1A and 1B to demonstrate compliance with 40 CFR 63, Subpart UUUUU National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units and AMBIT's Title V Permit No. R30-04900026-2014 issued by the West Virginia Department of Environmental Protection Office of Air Quality (WVDEP).

Table 1-1 below presents the emission unit(s) and parameters that were tested. The test was conducted in accordance with approved Environmental Protection Agency (EPA) Registered Test Methods and the accepted WVDEP Compliance Test Protocol Form included in the Appendix of this document.

Table 1-1. Emissions Sampling Summary

TEST LOCATION	PARAMETER	TEST METHOD	# OF TEST RUNS	SAMPLE DURATION (MIN)	ANALYTICAL APPROACH
BOILERS 1A AND 1B	EXHAUST FLOW	USEPA METHOD 1,2	3	60	PITOT TUBE
	EXHAUST TEMP	USEPA METHOD 1,2	3	60	THERMOCOUPLE
	O2/CO2	USEPA METHOD 3A	3	60	NDIR/PARAMAGNETIC
	MOISTURE	USEPA METHOD 4	3	60	GRAVIMETRIC
	FILTERABLE PM	USEPA METHOD 5	3	60	GRAVIMETRIC

Table 1-2. Project Personnel

Firm	Contact	Title	Phone No.
Air Dynamics	Dave Williams	V.P. Operations/Senior PM	855.839.8378
Air Dynamics	Noah Dicen	Field Technician	855.839.8378
Air Dynamics	Marcus Allen	Field Technician	855.839.8378
AMBIT	Don Drennen	EHS Regulatory Affairs Manager	304.278.6103

2.0 FACILITY DESCRIPTION AND SOURCE INFORMATION

2.1 Facility and Process Description

Grant Town Power Station, located in Grant Town, West Virginia, is a coal fired power plant. An aerial view of the facility is included below in Figure 2-1.

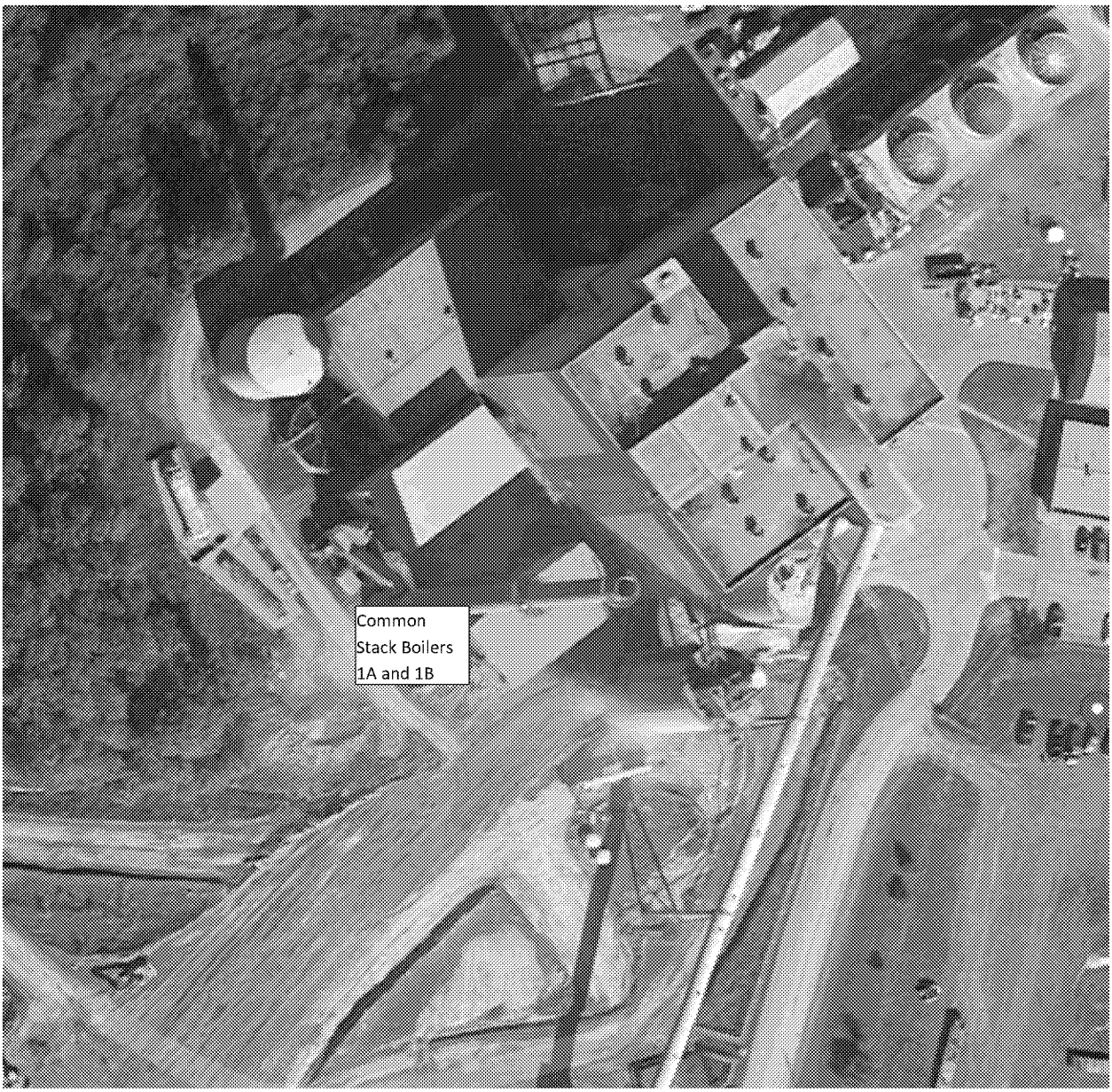

Figure 2-1. Aerial View of Facility

The source tested consists of:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
		Boilers			
1S	1E	Boiler #1A: Ahlstrom Pyropower Coal Refuse-Fired Circulating Fluidized Bed Combustion Unit	1992	551.9 MMBTU/hr	Baghouse 1C
2S	1E	Boiler #1B: Ahlstrom Pyropower Coal Refuse-Fired Circulating Fluidized Bed Combustion Unit	1992	551.9 MMBTU/hr	Baghouse 2C

3.0 SUMMARY OF EVENTS AND RESULTS

3.1 Site Test Plan

Air Dynamics arrived on the morning of February 5th, 2019 for setup. On February 5th, 2019 Air Dynamics performed three test runs for MATS compliance quarterly particulate matter testing.

3.2 Deviation from Test Plan

There were no deviations from the submitted test protocol to report. WVDEP choose not to observe the test.

3.3 Boilers 1A and 1B Quarterly PM Results

Air Dynamics conducted emissions sampling for Particulate utilizing the aforementioned US EPA registered methods from 9:55 a.m. to 2:06 p.m. on February 5th, 2019. Table 3-1 displays detailed results of the test program.

Table 3-1. Results - Particulate Matter

Stack Gas Characteristics	Run 1 (9:55 – 11:02)	Run 2 (11:20 – 12:23)	Run 3 (12:55 – 14:06)	Average
Filterable (gr/dscf)	0.004715	0.005927	0.005233	0.005292
Filterable (lbs/hr)	12.86	16.46	14.19	14.50
Filterable (lb/MMBtu)	0.011	0.014	0.012	0.012
O_2 Concentration (%)	8.2	8.2	8.2	8.2
CO_2 Concentration (%)	7.2	7.2	7.2	7.2
Actual Cubic Feet / Minute	572,301	579,803	577,659	576,588
Dry Standard Cubic Feet / Minute	318,136	323,996	316,434	319,522
Avg. Stack Temp. (deg. F)	367.5	376.3	377.9	373.9
Stack Gas Velocity (feet/sec)	90.25	91.44	91.10	90.93
%Isokinetics (Vn/Vs)	99.4	98.8	100.7	99.6
% Moisture of Stack Gas	7.67	6.20	7.88	7.25
Sample Volume (cubic feet)	61.023	61.968	61.641	61.604

4.0 METHODOLOGY

The sampling procedures used by Air Dynamics were performed according to Title 40 CFR Part 60 Appendix A and are as follows:

Table 4-1. Sampling Procedures

Method	Description
US EPA Method 1	Determination of Velocity Traverses for Stationary Sources
US EPA Method 2	Determination of Stack Gas Velocity and Volumetric Flow Rate
US EPA Method 3	Gas Analysis for the Determination of Molecular Weight
US EPA Method 4	Determination of Moisture Content in Stack Gas
US EPA Method 5	Determination of Particulate Matter Emissions

4.1 Sample Point Determination-EPA Method 1

Sampling point locations were determined according to EPA Reference Method 1.

Table 4-2. Sampling Points

Locations	Dimensions	Ports	Points Per Port	Total Points
Boilers 1A &1 B Particulate Traverse	139.2" ID	4	6	24

** Exact measurement points and distances to disturbances are listed in Appendix B - Field Data.

4.2 Velocity and Volumetric Flow Rate – EPA Method 2

EPA Method 2 was used to determine the gas velocity and flow rate at the stack. Each set of velocity determinations included the measurement of gas velocity pressure and gas temperature at each of the Method 1 determined traverse points. The velocity pressures were measured with a Type S pitot tube. Gas temperature measurements were made with a Type K thermocouple and digital pyrometer.

4.3 Gas Composition and Molecular Weight – EPA Method 3

The oxygen and carbon dioxide concentrations were determined in accordance with EPA Method 3 using a Fyrite analyzer. The remaining stack gas constituent was assumed to be nitrogen for the stack gas molecular weight determination.

4.4 Moisture Content – EPA Method 4

The flue gas moisture content at the testing locations was determined in accordance with EPA Method 4. The gas moisture was determined by quantitatively measuring condensed moisture in the chilled impingers and silica absorption. The amount of moisture condensed was determined

gravimetrically. A dry gas meter was used to measure the volume of gas sampled. Moisture content is used to determine stack gas velocity.

4.5 Determination of Filterable PM– EPA Method 5

Particulate matter (PM) was withdrawn isokinetically from the source and collected on a glass fiber filter maintained at a temperature of 120 ± 14°C (248 ± 25°F) or such other temperature as specified by an applicable subpart of the standards or approved by the Administrator for a particular application. The PM mass, which includes any material that condenses at or above the filtration temperature, was determined gravimetrically after the removal of uncombined water. A diagram of the Method 5 train is shown below in Figure 4-1.

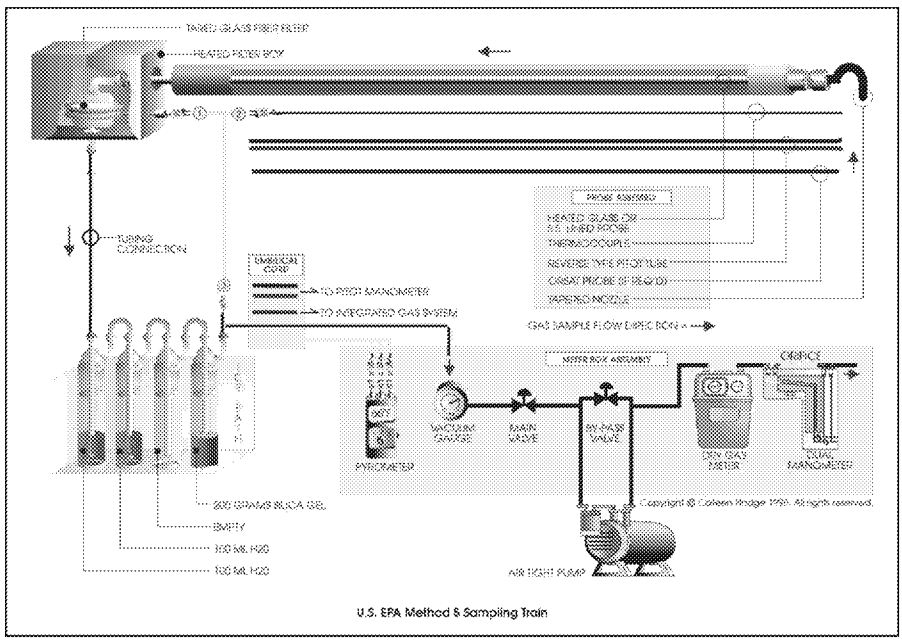

Figure 4-1. Method 5 Sampling Train

5.0 AIR DYNAMICS QUALITY ASSURANCE AND QUALITY CONTROL

5.1 Sampling Protocol

Air Dynamics Testing (Air Dynamics) is organized to facilitate sample management, analytical performance management, and data management. Personnel are assigned specific tasks to ensure implementation of the quality assurance/quality control (QA/QC) program. The Senior Project Manager in charge of air emission measurement projects reports directly to the Director of Air Analysis Services and are the QA officers responsible for program effectiveness and compliance.

The analysts perform the data reduction, analyses, and initial data review. Each analyst must check and initial their work, making certain that it is complete, determining that any instrumentation utilized has been properly calibrated, and ensuring that the analysis has been performed within the QA/QC limits.

The Senior Project Manager evaluates and verifies the data submitted by the analysts, verifies that the data and documentation are complete, confirms that all analysis has been performed within QA criteria specific to each method, checks calculations, assembles and signs the data package, and reviews the final report.

5.2 Equipment Maintenance and Calibration

The Field Supervisor and Field Technicians are in charge of routine maintenance and calibration of all source-testing equipment. Relevant calibration information is included in the Appendices of this report.

5.2.1 Equipment Maintenance

All major pieces of equipment have maintenance logs where all maintenance activities are recorded and documented. Table 5-1 shows routine maintenance that is performed on Air Dynamics source testing equipment.

Table 5-1. Test Equipment - Routine Maintenance Schedule

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	• Absence of leaks • Ability to draw vacuum within equipment specifications	Every 500 hours of operation or 6-months, whichever is less	• Visual inspection • Lubrication
Flow Meters	• Free mechanical movement • Absence of malfunction • Calibration within tolerance	Every 500 hours of operation or 6-months whichever is less	• Visual inspection • Clean • Calibrate
Electronic Instrumentation	• Absence of malfunction • Proper response to calibration gases and signals	As recommended by manufacturer or when required due to unacceptable limits	• Clean • Replace parts as necessary • Other recommended manufacturer service
Mobile Laboratory Sampling System	• Absence of leaks. • Sample lines clean and free of debris • Proper input flow rates to analyzers	At least once per month or sooner depending on nature of use.	• Change filters • Change gas dryer • Leak check • Check for contamination
Sample Lines	• Absence of soot and particulate buildup • Adequate sample flow	At least once per month or sooner depending on nature of use.	• Flush with solvents and water • Heat and purge line with nitrogen

5.2.2 Equipment Calibration

Current calibration information on equipment used during testing is included in the Appendices of this report.

The S-Type pitot tubes are calibrated initially upon purchase and then semiannually. Visual measurements are taken prior to each use to insure accidental damage has not occurred. Measurements are performed using a micrometer and protractor.

Each temperature sensor is marked and identified. This is done by marking each thermocouple end connector with a number. The sensor is calibrated as a unit with the control box potentiometer and associated lead wire as an identified unit. Calibrations are performed initially and annually at three set-points over the range of expected temperatures for that particular thermocouple. A reference output-voltage/thermocouple calibrator is used as a temperature reference source for the multi-point calibrations.

The field barometer is adjusted initially and semiannually to within 0.1" Hg of the actual atmospheric pressure at the Air Dynamics laboratory facility in Indianapolis, Indiana. All dry gas field meters are calibrated before initial use. Once the meter is placed in operation, its calibration is checked after each test series or bimonthly, whichever is less. Dry gas meters are calibrated against a NIST reference meter or orifice.

The dry gas meter orifice is calibrated before its initial use and then annually. This calibration is performed during the calibration of the dry gas test meter. The unit is checked in the field after every series of tests using a field gas-meter check procedure.

Analytical balances are internally calibrated prior to use following the manufacturer's instructions. The balances are further checked using Class S-1 analytical weights prior to daily usage. Field top loading balances are checked with a field analytical weight prior to usage.

6.0 AIR DYNAMICS DATA REDUCTION VALIDATION AND REPORTING

The data presented in final reports are reviewed three times. First, the analyst reviews and certifies that the raw data complies with technical controls, documentation requirements, and standard group procedures. Second, the Senior Project Manager reviews and certifies that data packages comply to specifications for sample holding conditions, chain of custody, data documentation, and the final report is free of transcription errors. Third, a QA review is performed by additional senior personnel. This review thoroughly examines the entire completed data report. Once the review process is completed, the report is approved by Air Dynamics senior personnel and issued. All raw laboratory data and final reports are stored for a minimum of 5 years.

7.0 LIMITATIONS AND SIGNATURES

Air Dynamics Testing, LLC. (Air Dynamic's) services, data, opinions, and recommendations described in this report are for Client's sole and exclusive use, and the unauthorized use of or reliance on the data, opinions, or recommendations expressed herein by parties other than Air Dynamics's Client is prohibited without Air Dynamics's express written consent. The services described herein are limited to the specific project, property, and dates of Air Dynamics's work. No part of Air Dynamics's report shall be relied upon by any party to represent conditions at other times or properties. Air Dynamics will accept no responsibility for damages suffered by third parties as a result of reliance upon the data, opinions, or recommendations in this report.

Air Dynamics's services are subject to all limitations, qualifications, and indemnifications enumerated in the terms and conditions or contract governing the work. Air Dynamics's findings, interpretations, opinions, and recommendations are probabilities based on Air Dynamics's professional judgment of site conditions as discernible from the limited, and often indirect, information provided by others, information available to us at the time we performed our work, or information observed or developed by Air Dynamics using the methods specified in the scope of work. Air Dynamics does not warrant the accuracy, completeness, or validity of information and independent opinions, conclusions, and recommendations provided or developed by others, nor does Air Dynamics assume any responsibility for documenting or reporting conditions detectable with methods or techniques not specified in the scope of work. Maps and drawings in this report are included only to aid the reader and should not be considered surveys or engineering studies. The test event described in this report was also conducted within the context of agency rules, regulations, action levels, and enforcement policies in effect at the time Air Dynamics performed its work. Later changes in agency rules, regulations, action levels, or policies may result in different conclusions than those expressed in this report.

Air Dynamics has striven to perform the services in a manner consistent with that level of care and skill ordinarily exercised by other environmental consultants practicing in the same locality and under similar conditions existing at the time we performed our services. **No other warranty is either expressed or implied in this report or any other document generated in the course of performing Air Dynamics's services.**

Sincerely,
Air Dynamics Testing, LLC.

Mike Dicen

Mike Dicen, President
Technical Reviewer

Dave Williams

Dave Williams, QEP QSTI
Senior Project Manager/V.P Operation

APPENDICES

Appendix A: .....Sample Calculations
Appendix B: .....Field Data Spreadsheets
Appendix C: ..... Laboratory Data
Appendix D: .....Calibration Data
Appendix E: .....Submitted Protocol
Appendix F: ..... Production Data

NESHAP Subpart UUUUU Compliance Test Report on Quarterly Particulate Matter Testing on Boilers 1A and 1B at Grant Town Power Station in Grant Town, West Virginia

Prepared By:
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Test Date: May 6th, 2019

Prepared For:

American Bituminous Power (AMBIT)
P.O Box 129
Grant Town, WV 26574

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EXECUTIVE SUMMARY

Air Dynamics Testing, LLC. (Air Dynamics) was contracted by American Bituminous Power (AMBIT) to sample air emissions at the Grant Town Power Station in Grant Town, West Virginia on May 6th, 2019. The boilers 1A and 1B were tested to evaluate emissions of particulate matter and demonstrate compliance with 40 CFR 63, Subpart UUUUU National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units. The testing program was performed consistent with US EPA Methods 1-5. The test results are summarized below in Table ES-1.

Table ES-1. Emissions Results Summary

Location	Test Parameter	Result	Permit Limit
Boiler 1A & 1B	Filterable Particulate Matter	7.45 lbs/hr	33.1 lbs/hr*^
		0.007 lb/MMBtu	0.03 lb/MMBtu*^

*Title V Permit Section 4.1.3(a)
^Subpart UUUUU NESHAP Coal Fired Electric Utility

1.0 INTRODUCTION

Air Dynamics Testing, LLC. (Air Dynamics) has prepared this source test report on behalf of American Bituminous Power (AMBIT). Air Dynamics conducted source emissions testing on May 6th at the facility in Grant Town, WV in fulfillment of the submitted test plan for Boilers 1A and 1B to demonstrate compliance with 40 CFR 63, Subpart UUUUU National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units and AMBIT's Title V Permit No. R30-04900026-2014 issued by the West Virginia Department of Environmental Protection Office of Air Quality (WVDEP).

Table 1-1 below presents the emission unit(s) and parameters that were tested. The test was conducted in accordance with approved Environmental Protection Agency (EPA) Registered Test Methods and the accepted WVDEP Compliance Test Protocol Form included in the Appendix of this document.

Table 1-1. Emissions Sampling Summary

TEST LOCATION	PARAMETER	TEST METHOD	# OF TEST RUNS	SAMPLE DURATION (MIN)	ANALYTICAL APPROACH
BOILERS 1A AND 1B	EXHAUST FLOW	USEPA METHOD 1,2	3	120	PITOT TUBE
	EXHAUST TEMP	USEPA METHOD 1,2	3	120	THERMOCOUPLE
	O2/CO2	USEPA METHOD 3A	3	120	NDIR/PARAMAGNETIC
	MOISTURE	USEPA METHOD 4	3	120	GRAVIMETRIC
	FILTERABLE PM	USEPA METHOD 5	3	120	GRAVIMETRIC

Table 1-2. Project Personnel

Firm	Contact	Title	Phone No.
Air Dynamics	Dave Williams	V.P. Operations/Senior PM	855.839.8378
Air Dynamics	Marcus Allen	Field Technician	855.839.8378
Air Dynamics	Mark Weintraut	Field Technician	855.839.8378
AMBIT	Don Drennen	EHS Regulatory Affairs Manager	304.278.6103

2.0 FACILITY DESCRIPTION AND SOURCE INFORMATION

2.1 Facility and Process Description

Grant Town Power Station, located in Grant Town, West Virginia, is a coal fired power plant. An aerial view of the facility is included below in Figure 2-1.

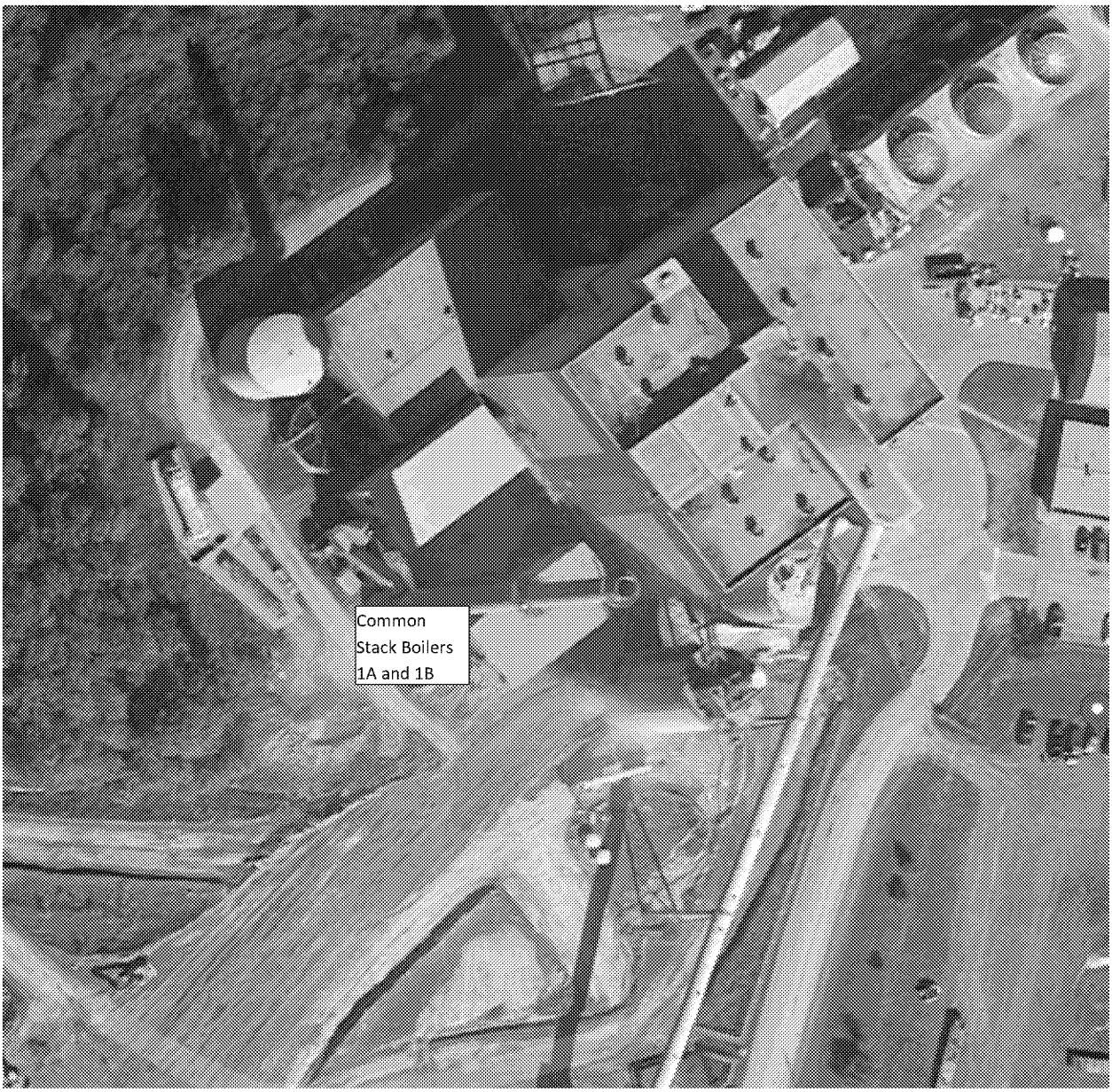

Figure 2-1. Aerial View of Facility

The source tested consists of:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
		Boilers			
1S	1E	Boiler #1A: Ahlstrom Pyropower Coal Refuse-Fired Circulating Fluidized Bed Combustion Unit	1992	551.9 MMBTU/hr	Baghouse 1C
2S	1E	Boiler #1B: Ahlstrom Pyropower Coal Refuse-Fired Circulating Fluidized Bed Combustion Unit	1992	551.9 MMBTU/hr	Baghouse 2C

3.0 SUMMARY OF EVENTS AND RESULTS

3.1 Site Test Plan

Air Dynamics arrived on the morning of May 6th, 2019 for setup. On May 6th, 2019 Air Dynamics performed three test runs for MATS compliance quarterly particulate matter testing.

3.2 Deviation from Test Plan

There were no deviations from the submitted test protocol to report. WVDEP choose not to observe the test.

3.3 Boilers 1A and 1B Quarterly PM Results

Air Dynamics conducted emissions sampling for Particulate utilizing the aforementioned US EPA registered methods from 12:50 p.m. to 8:00 p.m. on May 6th, 2019. Table 3-1 displays detailed results of the test program.

Table 3-1. Results - Particulate Matter

Stack Gas Characteristics	Run 1 (12:50 – 15:00)	Run 2 (15:20 – 17:23)	Run 3 (17:50 – 20:00)	Average
Filterable (gr/dscf)	0.00334	0.00234	0.00252	0.00273
Filterable (lbs/hr)	9.09	6.45	6.81	7.45
Filterable (lb/MMBtu)	0.008	0.006	0.006	0.007
O_2 Concentration (%)	9.0	9.0	9.0	9.0
CO_2 Concentration (%)	12.0	12.0	12.0	12.0
Actual Cubic Feet / Minute	564,547	576,803	569,051	570,134
Dry Standard Cubic Feet / Minute	317,470	321,202	315,415	318,029
Avg. Stack Temp. (deg. F)	367.5	377.5	377.9	374.3
Stack Gas Velocity (feet/sec)	89.0	91.0	89.7	89.9
%Isokinetics (Vn/Vs)	99.7	103.0	103.0	101.9
% Moisture of Stack Gas	6.60	6.39	6.79	6.59
Sample Volume (cubic feet)	69.312	72.428	71.120	70.953

4.0 METHODOLOGY

The sampling procedures used by Air Dynamics were performed according to Title 40 CFR Part 60 Appendix A and are as follows:

Table 4-1. Sampling Procedures

Method	Description
US EPA Method 1	Determination of Velocity Traverses for Stationary Sources
US EPA Method 2	Determination of Stack Gas Velocity and Volumetric Flow Rate
US EPA Method 3	Gas Analysis for the Determination of Molecular Weight
US EPA Method 4	Determination of Moisture Content in Stack Gas
US EPA Method 5	Determination of Particulate Matter Emissions

4.1 Sample Point Determination-EPA Method 1

Sampling point locations were determined according to EPA Reference Method 1.

Table 4-2. Sampling Points

Locations	Dimensions	Ports	Points Per Port	Total Points
Boilers 1A &1 B Particulate Traverse	139.2" ID	4	6	24

** Exact measurement points and distances to disturbances are listed in Appendix B - Field Data.

4.2 Velocity and Volumetric Flow Rate – EPA Method 2

EPA Method 2 was used to determine the gas velocity and flow rate at the stack. Each set of velocity determinations included the measurement of gas velocity pressure and gas temperature at each of the Method 1 determined traverse points. The velocity pressures were measured with a Type S pitot tube. Gas temperature measurements were made with a Type K thermocouple and digital pyrometer.

4.3 Gas Composition and Molecular Weight – EPA Method 3

The oxygen and carbon dioxide concentrations were determined in accordance with EPA Method 3 using a Fyrite analyzer. The remaining stack gas constituent was assumed to be nitrogen for the stack gas molecular weight determination.

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The flue gas moisture content at the testing locations was determined in accordance with EPA Method 4. The gas moisture was determined by quantitatively measuring condensed moisture in the chilled impingers and silica absorption. The amount of moisture condensed was determined

gravimetrically. A dry gas meter was used to measure the volume of gas sampled. Moisture content is used to determine stack gas velocity.

4.5 Determination of Filterable PM– EPA Method 5

Particulate matter (PM) was withdrawn isokinetically from the source and collected on a glass fiber filter maintained at a temperature of 120 ± 14°C (248 ± 25°F) or such other temperature as specified by an applicable subpart of the standards or approved by the Administrator for a particular application. The PM mass, which includes any material that condenses at or above the filtration temperature, was determined gravimetrically after the removal of uncombined water. A diagram of the Method 5 train is shown below in Figure 4-1.

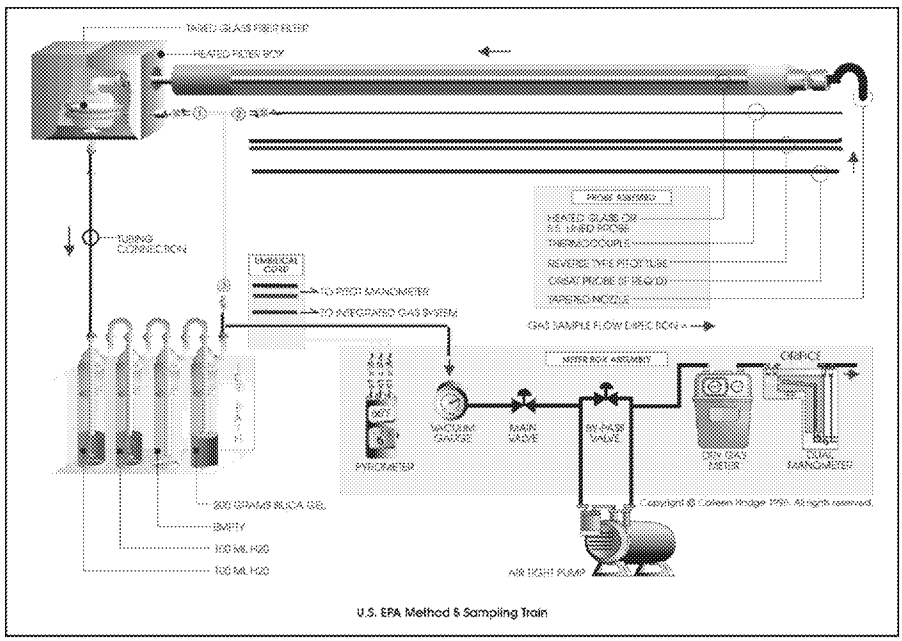

Figure 4-1. Method 5 Sampling Train

5.0 AIR DYNAMICS QUALITY ASSURANCE AND QUALITY CONTROL

5.1 Sampling Protocol

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The Field Supervisor and Field Technicians are in charge of routine maintenance and calibration of all source-testing equipment. Relevant calibration information is included in the Appendices of this report.

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All major pieces of equipment have maintenance logs where all maintenance activities are recorded and documented. Table 5-1 shows routine maintenance that is performed on Air Dynamics source testing equipment.

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Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	• Absence of leaks • Ability to draw vacuum within equipment specifications	Every 500 hours of operation or 6-months, whichever is less	• Visual inspection • Lubrication
Flow Meters	• Free mechanical movement • Absence of malfunction • Calibration within tolerance	Every 500 hours of operation or 6-months whichever is less	• Visual inspection • Clean • Calibrate
Electronic Instrumentation	• Absence of malfunction • Proper response to calibration gases and signals	As recommended by manufacturer or when required due to unacceptable limits	• Clean • Replace parts as necessary • Other recommended manufacturer service
Mobile Laboratory Sampling System	• Absence of leaks. • Sample lines clean and free of debris • Proper input flow rates to analyzers	At least once per month or sooner depending on nature of use.	• Change filters • Change gas dryer • Leak check • Check for contamination
Sample Lines	• Absence of soot and particulate buildup • Adequate sample flow	At least once per month or sooner depending on nature of use.	• Flush with solvents and water • Heat and purge line with nitrogen

5.2.2 Equipment Calibration

Current calibration information on equipment used during testing is included in the Appendices of this report.

The S-Type pitot tubes are calibrated initially upon purchase and then semiannually. Visual measurements are taken prior to each use to insure accidental damage has not occurred. Measurements are performed using a micrometer and protractor.

Each temperature sensor is marked and identified. This is done by marking each thermocouple end connector with a number. The sensor is calibrated as a unit with the control box potentiometer and associated lead wire as an identified unit. Calibrations are performed initially and annually at three set-points over the range of expected temperatures for that particular thermocouple. A reference output-voltage/thermocouple calibrator is used as a temperature reference source for the multi-point calibrations.

The field barometer is adjusted initially and semiannually to within 0.1" Hg of the actual atmospheric pressure at the Air Dynamics laboratory facility in Indianapolis, Indiana. All dry gas field meters are calibrated before initial use. Once the meter is placed in operation, its calibration is checked after each test series or bimonthly, whichever is less. Dry gas meters are calibrated against a NIST reference meter or orifice.

The dry gas meter orifice is calibrated before its initial use and then annually. This calibration is performed during the calibration of the dry gas test meter. The unit is checked in the field after every series of tests using a field gas-meter check procedure.

Analytical balances are internally calibrated prior to use following the manufacturer's instructions. The balances are further checked using Class S-1 analytical weights prior to daily usage. Field top loading balances are checked with a field analytical weight prior to usage.

6.0 AIR DYNAMICS DATA REDUCTION VALIDATION AND REPORTING

The data presented in final reports are reviewed three times. First, the analyst reviews and certifies that the raw data complies with technical controls, documentation requirements, and standard group procedures. Second, the Senior Project Manager reviews and certifies that data packages comply to specifications for sample holding conditions, chain of custody, data documentation, and the final report is free of transcription errors. Third, a QA review is performed by additional senior personnel. This review thoroughly examines the entire completed data report. Once the review process is completed, the report is approved by Air Dynamics senior personnel and issued. All raw laboratory data and final reports are stored for a minimum of 5 years.

7.0 LIMITATIONS AND SIGNATURES

Air Dynamics Testing, LLC. (Air Dynamic's) services, data, opinions, and recommendations described in this report are for Client's sole and exclusive use, and the unauthorized use of or reliance on the data, opinions, or recommendations expressed herein by parties other than Air Dynamics's Client is prohibited without Air Dynamics's express written consent. The services described herein are limited to the specific project, property, and dates of Air Dynamics's work. No part of Air Dynamics's report shall be relied upon by any party to represent conditions at other times or properties. Air Dynamics will accept no responsibility for damages suffered by third parties as a result of reliance upon the data, opinions, or recommendations in this report.

Air Dynamics's services are subject to all limitations, qualifications, and indemnifications enumerated in the terms and conditions or contract governing the work. Air Dynamics's findings, interpretations, opinions, and recommendations are probabilities based on Air Dynamics's professional judgment of site conditions as discernible from the limited, and often indirect, information provided by others, information available to us at the time we performed our work, or information observed or developed by Air Dynamics using the methods specified in the scope of work. Air Dynamics does not warrant the accuracy, completeness, or validity of information and independent opinions, conclusions, and recommendations provided or developed by others, nor does Air Dynamics assume any responsibility for documenting or reporting conditions detectable with methods or techniques not specified in the scope of work. Maps and drawings in this report are included only to aid the reader and should not be considered surveys or engineering studies. The test event described in this report was also conducted within the context of agency rules, regulations, action levels, and enforcement policies in effect at the time Air Dynamics performed its work. Later changes in agency rules, regulations, action levels, or policies may result in different conclusions than those expressed in this report.

Air Dynamics has striven to perform the services in a manner consistent with that level of care and skill ordinarily exercised by other environmental consultants practicing in the same locality and under similar conditions existing at the time we performed our services. **No other warranty is either expressed or implied in this report or any other document generated in the course of performing Air Dynamics's services.**

Sincerely,
Air Dynamics Testing, LLC.

Mike Dicen

Mike Dicen, President
Technical Reviewer

Dave Williams

Dave Williams, MSE, MBA, QEP, QSTI
Senior Project Manager/V.P Operation

APPENDICES

Appendix A: .....Sample Calculations
Appendix B: .....Field Data Spreadsheets
Appendix C: ..... Laboratory Data
Appendix D: .....Calibration Data
Appendix E: .....Submitted Protocol
Appendix F: ..... Production Data

ATTACHMENT C:

Mercury
Performance Test Summary Report
(2018-LEE)

ED_004818_00012438-00057

CleanAir

CleanAir Engineering
110 Technology Drive
Pittsburgh, PA 15275
800-632-1619
cleanair.com

REPORT ON 40 CFR 63 SUBPART UUUUU LOW EMITTING EGU MERCURY TEST

Boiler 1A and 1B Common Stack

American Bituminous Power Partners, L.P.
Grant Town Power Plant
228 Abpp Drive
Grant Town, WV 26574
Client Reference No. 20181094

CleanAir Project No. 13528
A2LA ISO 17025 Certificate No. 4342.01
A2LA / STAC Certificate No. 4342.02
Revision 0, Final Report
August 30, 2018

13528 Ambit Lee Test Report wLogo 2018.docx
83018 030200 13528

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COMMITMENT TO QUALITY

To the best of our knowledge, the data presented in this report are accurate, complete, error free and representative of the actual emissions during the test program. Clean Air Engineering operates in conformance with the requirements of ASTM D7036-04 Standard Practice for Competence of Air Emission Testing Bodies.

August 30, 2018

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I hereby certify that the information contained within each appendix section of the final test report have been reviewed and, to the best of my ability, verified as accurate.

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REPORT REVISION HISTORY

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ACRONYMS & ABBREVIATIONS

AAS (atomic absorption spectrometry)
acfm (actual cubic feet per minute)
ACI (activated carbon injection)
ADL (above detection limit)
AIG (ammonia injection grid)
APC (air pollution control)
AQCS (air quality control system(s))
ASME (American Society of Mechanical Engineers)
ASTM (American Society for Testing and Materials)
BDL (below detection limit)
Btu (British thermal units)
CAM (compliance assurance monitoring)
CARB (California Air Resources Board)
CCM (Controlled Condensation Method)
CE (capture efficiency)
°C (degrees Celsius)
CEMS (continuous emissions monitoring system(s))
CFB (circulating fluidized bed)
CFR (Code of Federal Regulations)
cm (centimeter(s))
COMS (continuous opacity monitoring system(s))
CT (combustion turbine)
CTI (Cooling Technology Institute)
CTM (Conditional Test Method)
CVAAS (cold vapor atomic absorption spectroscopy)
CVAFS (cold vapor atomic fluorescence spectrometry)
DI H_2O (de-ionized water)
%dv (percent, dry volume)
DLL (detection level limited)
DE (destruction efficiency)
DCI (dry carbon injection)
DGM (dry gas meter)
dscf (dry standard cubic feet)
dscfm (dry standard cubic feet per minute)
dscm (dry standard cubic meter)
ESP (electrostatic precipitator)
FAMS (flue gas adsorbent mercury speciation)
°F (degrees Fahrenheit)
FB (field blank)
FCC (fluidized catalytic cracking)
FCCU (fluidized catalytic cracking unit)
FEGT (furnace exit gas temperatures)
FF (fabric filter)
FGD (flue gas desulfurization)
FIA (flame ionization analyzer)
FID (flame ionization detector)
FPD (flame photometric detection)
FRB (field reagent blank)
FSTM (flue gas sorbent total mercury)
ft (feet or foot)
ft^2 (square feet)
ft^3 (cubic feet)
ft/sec (feet per second)
FTIR (Fourier Transform Infrared Spectroscopy)
FTRB (field train reagent blank)
g (gram(s))
GC (gas chromatography)
GFAAS (graphite furnace atomic absorption spectroscopy)
GFC (gas filter correlation)
gr/dscf (grains per dry standard cubic feet)
> (greater than)/ ≥ (greater than or equal to)
g/s (grams per second)
H_2O (water)
HAP(s) (hazardous air pollutant(s))
HI (heat input)
hr (hour(s))
HR GC/MS (high-resolution gas chromatography and mass spectrometry)
HRVOC (highly reactive volatile organic compounds)
HSRG(s) (heat recovery steam generator(s))
HVT (high velocity thermocouple)
IC (ion chromatography)
IC/PCR (ion chromatography with post column reactor)
ICP/MS (inductively coupled argon plasma mass spectroscopy)
ID (induced draft)
in. (inch(es))
in. H_2O (inches water)
in. Hg (inches mercury)
IPA (isopropyl alcohol)
ISE (ion-specific electrode)
kg (kilogram(s))
kg/hr (kilogram(s) per hour)
< (less than)/ ≤ (less than or equal to)
L (liter(s))
lb (pound(s))
lb/hr (pound per hour)
lb/MMBtu (pound per million British thermal units)
lb/TBtu (pound per trillion British thermal units)
lb/lb-mole (pound per pound mole)
LR GC/MS (low-resolution gas chromatography and mass spectrometry)
m (meter)
m^3 (cubic meter)
MACT (maximum achievable control technology)
MASS® (Multi-Point Automated Sampling System)
MATS (Mercury and Air Toxics Standards)
MDL (method detection limit)
µg (microgram(s))
min. (minute(s))
mg (milligram(s))
ml (milliliter(s))
MMBtu (million British thermal units)
MW (megawatt(s))
NCASI (National Council for Air and Stream Improvement)
ND (non-detect)
NDIR (non-dispersive infrared)
NDO (natural draft opening)
NESHAP (National Emission Standards for Hazardous Air Pollutants)
ng (nanogram(s))
Nm^3 (Normal cubic meter)
% (percent)
PEMS (predictive emissions monitoring systems)
PFGC (pneumatic focusing gas chromatography)
pg (picogram(s))
PJFF (pulse jet fabric filter)
ppb (parts per billion)
PPE (personal protective equipment)
ppm (parts per million)
ppmdv (parts per million, dry volume)
ppmwv (parts per million, wet volume)
PSD (particle size distribution)
psi (pound(s) per square inch)
PTE (permanent total enclosure)
PTFE (polytetrafluoroethylene)
QA/QC (quality assurance/quality control)
QI (qualified individual)
QSTI (qualified source testing individual)
QSTO (qualified source testing observer)
RA (relative accuracy)
RATA (relative accuracy test audit)
RB (reagent blank)
RE (removal or reduction efficiency)
RM (reference method)
scf (standard cubic feet)
scfm (standard cubic feet per minute)
SCR (selective catalytic reduction)
SDA (spray dryer absorber)
SNCR (selective non-catalytic reduction)
STD (standard)
STMS (sorbent trap monitoring system)
TBtu (trillion British thermal units)
TEOM (Tapered Element Oscillating Microbalance)
TEQ (toxic equivalency quotient)
ton/hr (ton per hour)
ton/yr (ton per year)
TSS (third stage separator)
USEPA or EPA (United States Environmental Protection Agency)
UVA (ultraviolet absorption)
WFGD (wet flue gas desulfurization)
%wv (percent, wet volume)

1. PROJECT OVERVIEW

Test Program Summary

American Bituminous Power Partners, L.P. contracted Clean Air Engineering (CleanAir) to perform mercury (Hg) testing at the Grant Town Power Plant located in Grant Town, West Virginia for determination of low emitting EGU (LEE) status for Hg under Title 40 of the Code of Federal Regulations Part 63 (40 CFR 63) Subpart UUUUU (§63.10005).

All testing was conducted in accordance with the regulations set-forth by the United States Environmental Protection Agency (USEPA) and the West Virginia Department of Environmental Protection (DEP).

Test Program Parameters

CleanAir performed a 30-boiler operating day performance test for the determination of total vapor phase mercury (Hg) emissions from the Units 1A & 1B Common Stack CS1 location at the Grant Town Power Plant from June 25, 2016 to July 30, 2018. Testing was performed using EPA Reference Method 30B (RM 30B) in accordance with Subpart UUUUU, Section 63.1005(h)(3) and Table 2. RM 30B procedures are published in 40 CFR 60, Appendix A.

The following process monitoring parameters were used to determine mass emissions rates in units of pounds per year (lb/yr) and pounds per trillion British thermal units (lb/TBtu).

- carbon dioxide (CO_2)
- stack volumetric flow rate (scfh) – unbiased
- fuel composition

The default moisture value listed in 40 CFR 75, Section 75.11 for bituminous coal (6%) was used as the flue gas moisture content (% H_2O) in the emissions calculations.

Table 1-1:
Summary of Test Results – Common Stack

Source Constituent	Sampling Method	Average Emission	Emission Limit [1,2]
Common Stack CS1			
Hg (ug/dscm)	EPA M30B	0.74	NA
Hg (lb/TBtu)	EPA M30B	0.74	1.2
Hg (lb/yr, F_c-Based)	EPA M30B	6.56	29.0

[1] lb/TBtu limit obtained from 40 CFR 63, Subpart UUUUU, Table 2 080718 151909
[2] lb/year limit obtained from 40 CFR 63, Subpart UUUUU, Paragragh §63.10005(h)(1)(ii)(B)

Test Program Details

Parameters

CleanAir performed a 30-boiler operating day performance test for the determination of total vapor phase mercury (Hg) emissions from the common stack location at the Grant Town Power Plant. Testing was performed using EPA Reference Method 30B (RM 30B) in accordance with Subpart UUUUU, Section 63.10005(h)(3) and Table 2. RM 30B procedures are published in 40 CFR 60, Appendix A.

The reference method testing will include the following emissions measurements:

- total vapor phase mercury (Hg)

In addition to reference method testing, the following process monitoring parameters was used to determine mass emissions rates in units of lb/year and pounds per trillion British thermal units (lb/TBtu).

- carbon dioxide (CO2)
- stack volumetric flow rate (scfh) – unbiased
- fuel composition
- gross power output (MW)

Flue gas moisture content (% H_2O) was used in emissions calculations. These values were determined through use of the default moisture value listed in 40 CFR 75, Section 75.11 for bituminous coal (6%) or determined directly through the procedures of EPA ALT-091 and EPA Method 4.

The average concentrations of each pair of associated traps was reported in units of micrograms per dry standard cubic meter (µg/dscm). The arithmetic average of all sampling periods was used to determine the average mercury concentration for the 30-day performance test. The 30-day average mercury concentration was used along with average process parameters to determine emissions results.

Schedule

Testing was performed at the Common Stack from June 25, 2017 through July 30, 2017. The on-site schedule followed during the test program is outlined in Table 1-2.

Table 1-2:
Common Stack – Schedule of Activities and Sorbent Trap Log

	RM 30B			
Run	**Date/Time Start**	**Date/Time End**	**Trap C**	**Trap D**
1	06/25/2018 14:26	06/28/2018 11:38	OLC026881	OL465464
2*	06/28/2018 12:05	07/02/2018 12:01	OLC026887	OL465374
3	07/02/2018 12:16	07/05/2018 12:08	OLC029900	OL426428
4	07/05/2018 12:32	07/09/2018 12:16	OLC026884	OL426371
5	07/09/2018 12:42	07/12/2018 12:00	OLC026886	OL465385
6	07/12/2018 12:17	07/18/2018 12:00	OL465430	OL465471
7	07/18/2018 12:15	07/23/2018 12:03	OL465432	OL465445
8	07/23/2018 12:26	07/26/2018 11:35	OLC032919	OL465439
9	07/26/2018 11:50	07/31/2018 11:40	OL465427	OL465468

Notes:
* Indicates the sample run is invalid and not considered in average emission results.

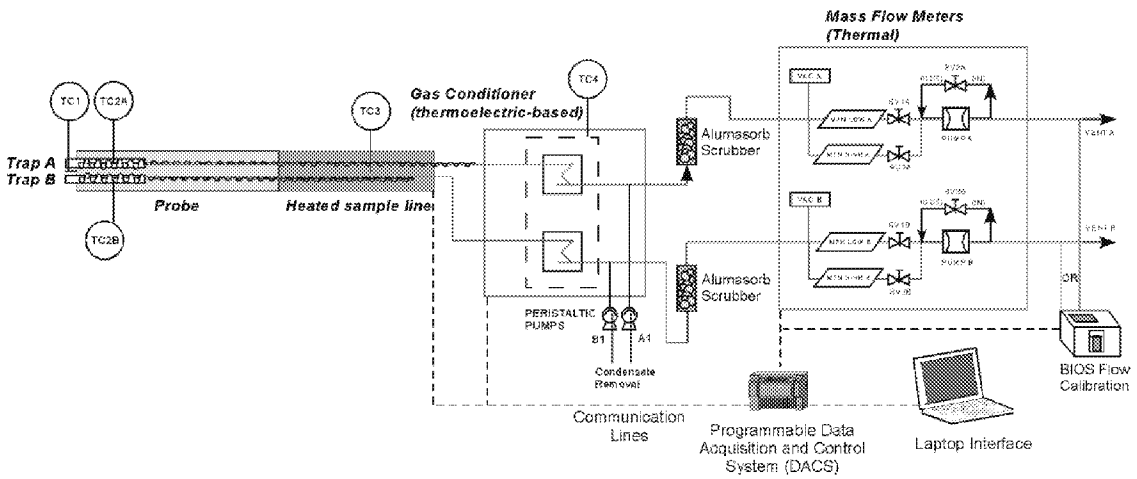
Discussion

Program Design

Utilizing EPA Method 30B, CleanAir conducted a performance test for the determination of Hg emissions from the Units 1A & 1B Common Stack CS1 location of the Grant Town Power Plant. The test program included seven sampling periods and a total of thirty boiler operating days. Sampling was performed at a constant sampling rate using an automated sampling system. **Error! Reference source not found.** shows a schematic of the reference method sampling apparatus

CleanAir performed all sorbent trap analyses off-site using an Ohio Lumex model RA-915+ analyzer with RP-M324 detector, which utilizes thermal desorption with Zeeman atomic absorption spectrometry.

Figure 1-1:
RM Sampling System (EPA Method 30B)



Sorbent traps were analyzed using thermal desorption via the Ohio Lumex RA915 mercury sorbent trap analyzer by Clean Air Engineering's Laboratory Services, located in Palatine, IL. The laboratory analysis of all sorbent traps is included in Appendix E.

Field Recovery Test

Runs one through five were done using a spiked trap to be used as the field recovery test. The average spike recovery for the field recovery test was 105.1%. All runs met the acceptance criteria in EPA Method 30B. Table 1-3 shows the QA/QC results for each test run.

Table 1-3:
Common Stack – Summary of QA/QC Results – RM30B

			QA/QC and Performance											
			%Breakthrough			%Spike Recovery		Spike Recovery Study - Volume %		Spike Recovery Study - Volume (dscm)		Pre-Test Leak Check	Post-Test Leak Check
Run No.	Start Date/Time (EST)	Valid?[1]	Trap A	Trap B	Paired Trap Agreement	Trap A	Trap B	Trap A	Trap B	Trap A	Trap B	Trap A Trap B	Trap A Trap B
1	06/25/2018 14:26	*PASS*	0.1%	0.0%	5.128 (%)	110.0% *	n/a	n/a	2.6%	0.830194	0.830194	PASS	PASS
2	06/28/2018 12:05	*NO*	0.1%	0.4%	0.048 (µg/dscm)	102.3%	n/a	n/a	43.6%	0.480479	0.480478	PASS	PASS
3	07/02/2018 12:16	*PASS*	0.0%	0.0%	0.005 (µg/dscm)	100.4% *	n/a	n/a	-1.2%	0.862224	0.862223	PASS	PASS
4	07/05/2018 12:32	*PASS*	0.1%	0.0%	0.082 (µg/dscm)	106.9% *	n/a	n/a	-1.1%	0.861578	0.861578	PASS	PASS
5	07/09/2018 12:42	*PASS*	0.1%	0.0%	0.002 (µg/dscm)	100.0% *	n/a	n/a	-0.4%	0.855577	0.855576	PASS	PASS
6	07/12/2018 12:17	*PASS*	0.0%	0.0%	0.004 (µg/dscm)	n/a	n/a	-1.4%	-1.4%	0.863981	0.86398	PASS	PASS
7	07/18/2018 12:15	*PASS*	0.0%	0.2%	0.012 (µg/dscm)	n/a	n/a	-1.2%	-1.2%	0.862553	0.862552	PASS	PASS
8	07/23/2018 12:26	*PASS*	0.2%	0.2%	0.013 (µg/dscm)	n/a	n/a	-0.1%	-0.1%	0.853588	0.853587	PASS	PASS
9	07/26/2018 11:50	*PASS*	0.2%	0.0%	0.021 (µg/dscm)	n/a	n/a	-1.4%	-1.4%	0.863982	0.863982	PASS	PASS
						104.3%				0.85239			
						PASS							

[1] "*PASS*" indicates the sample run is valid and all required QA/QC specifications were met.
Run 2 did not have the required volume due to a power loss during the run.

End of Section

2. RESULTS

This section summarizes the test program results. Additional results are available in the report appendices, specifically Appendix C Parameters.

Table 2-1:
Common Stack – Mercury Results

Run No.	Start Date/Time	End Time	Run Time (hr)	Hg Conc. (µg/dscm)			Avg. Stack Flow (scfh)	Avg. Gross Load (MW)	Coal%	NG%	Moisture	Hg Conc. (lb/GWh)	%CO2	CO_2-based F-factor (scf/MMBtu)	Hg Conc. (lb/TBtu)	Emissions (lb/yr)
1	6/25/2018 14:26	6/28/2018 11:38	69.20	1.189	2	71	1.69E+07	90.91	100.0%	0.0%	8.0%	1.27E-02	11.4	1800	1.17E+00	10.64
2	6/28/2018 12:05	7/2/2018 12:01	95.93	-	71	168	1.70E+07	91.05	100.0%	0.0%	8.0%	-	11.5	1800	-	-
3	7/2/2018 12:16	7/5/2018 12:08	71.87	0.822	168	240	1.69E+07	90.10	93.3%	6.7%	8.0%	8.83E-03	11.0	1749	8.14E-01	7.40
4	7/5/2018 12:32	7/9/2018 12:16	95.73	0.862	240	336	1.66E+07	91.17	90.3%	9.7%	8.0%	9.01E-03	10.7	1727	8.65E-01	7.55
5	7/9/2018 12:42	7/12/2018 12:00	71.30	0.567	336	408	1.87E+07	91.45	89.9%	10.1%	8.0%	6.65E-03	10.7	1724	5.71E-01	5.57
6	7/12/2018 12:17	7/18/2018 12:00	143.72	0.515	408	504	1.44E+07	91.16	90.1%	9.9%	8.0%	4.68E-03	10.6	1725	5.22E-01	3.92
7	7/18/2018 12:15	7/23/2018 12:03	119.80	0.520	552	672	1.46E+07	89.90	89.5%	10.5%	8.0%	4.86E-03	10.5	1720	5.30E-01	4.07
8	7/23/2018 12:26	7/26/2018 11:35	71.15	0.695	674	745	1.84E+07	91.22	90.0%	10.0%	8.0%	8.04E-03	10.7	1724	7.01E-01	6.74
9	7/26/2018 11:50	7/31/2018 11:40	119.83	0.759	747	843	1.87E+07	91.01	90.1%	9.9%	8.0%	8.94E-03	10.8	1725	7.56E-01	7.49
			Average	0.741			1.67E+07	9.08E+01	91.3%	8.7%	8.0%	***7.83E-03***	10.8	1734	***7.44E-01***	***6.56***
			Limit												***1.20***	***29.00***

Note: Run 2 is void due to not having the required sample volume because of power loss during the run.

Table 2-2:
Common Stack – RM 30B Mercury Results, Run 1

Trap I.D.		OLC026881	OL465464	
Start Date/Time		06/25/18 14:26	06/25/18 14:26	
Stop Date/Time		06/28/18 11:38	06/28/18 11:38	
Total sampling time (hours)		69.19	69.19	
Gas Parameters				
T_s	Sample temperature (°F)		401.6	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.83019	0.83019	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	96.50	6.20	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	2,068.50	936.20	
M2	Mass of mercury spiked to first section (ng)	1,000.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	1,068.50	936.20	
Ms	Mass of mercury in second section (ng)	1.40	0.00	
M_T	Total mass of mercury collected (ng)	1,069.90	936.20	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	16.40	16.10	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	8.00	7.50	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.1%	0.0%	*PASS*
%R	Percent spike recovery (%)[4]	113.2%	*n/a*	
RD[5]	Paired sorbent trap agreement (%)		6.665	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	1.289	1.128	**1.208**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 8 8 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

Table 2-3:
Common Stack – RM 30B Mercury Results, Run 3

Trap I.D.		OLC029900	OL426428	
Start Date/Time		07/02/18 12:16	07/02/18 12:16	
Stop Date/Time		07/05/18 12:08	07/05/18 12:08	
Total sampling time (hours)		71.85	71.85	
Gas Parameters				
T_s	Sample temperature (°F)		386.9	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.86222	0.86222	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	111.60	7.00	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	1,710.30	706.10	
M2	Mass of mercury spiked to first section (ng)	1,000.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	710.30	706.10	
Ms	Mass of mercury in second section (ng)	0.50	0.10	
M_T	Total mass of mercury collected (ng)	710.80	706.20	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	16.40	16.20	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	1.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	10.20	13.20	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.0%	0.0%	*PASS*
%R	Percent spike recovery (%)[4]	100.4%	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.005	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.824	0.819	**0.822**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 8 8 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

Table 2-4:
Common Stack – RM 30B Mercury Results, Run 4

Trap I.D.		OLC026884	OL426371	
Start Date/Time		07/05/18 12:32	07/05/18 12:32	
Stop Date/Time		07/09/18 12:16	07/09/18 12:16	
Total sampling time (hours)		95.73	95.73	
Gas Parameters				
T_s	Sample temperature (°F)		381.7	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.86158	0.86158	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	115.40	6.90	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	1,776.00	707.10	
M2	Mass of mercury spiked to first section (ng)	1,000.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	776.00	707.10	
Ms	Mass of mercury in second section (ng)	2.10	0.00	
M_T	Total mass of mercury collected (ng)	778.10	707.10	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	16.40	16.30	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	11.90	7.50	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.1%	0.0%	*PASS*
%R	Percent spike recovery (%)[4]	106.9%	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.082	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.903	0.821	**0.862**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 6 6 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

Table 2-5:
Common Stack – RM 30B Mercury Results, Run 5

Trap I.D.		OLC026886	OL465385	
Start Date/Time		07/09/18 12:42	07/09/18 12:42	
Stop Date/Time		07/12/18 12:00	07/12/18 12:00	
Total sampling time (hours)		71.30	71.30	
Gas Parameters				
T_s	Sample temperature (°F)		381.3	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.85558	0.85558	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	99.80	2.00	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	1,484.00	483.90	
M2	Mass of mercury spiked to first section (ng)	1,000.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	484.00	483.90	
Ms	Mass of mercury in second section (ng)	1.80	0.20	
M_T	Total mass of mercury collected (ng)	485.80	484.10	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	17.30	22.80	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	7.30	7.60	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.1%	0.0%	*PASS*
%R	Percent spike recovery (%)[4]	100.0%	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.002	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.568	0.566	**0.567**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 8 8 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

Table 2-6:
Common Stack – RM 30B Mercury Results, Run 6

Trap I.D.		OL465430	OL465471	
Start Date/Time		07/12/18 12:17	07/12/18 12:17	
Stop Date/Time		07/18/18 12:00	07/18/18 12:00	
Total sampling time (hours)		96.00	96.00	
Gas Parameters				
T_s	Sample temperature (°F)		379.8	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.86398	0.86398	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	114.10	1.20	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	446.70	443.30	
M2	Mass of mercury spiked to first section (ng)	0.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	446.70	443.30	
Ms	Mass of mercury in second section (ng)	0.00	0.10	
M_T	Total mass of mercury collected (ng)	446.70	443.40	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	18.00	16.40	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	7.80	6.90	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.0%	0.0%	*PASS*
%R	Percent spike recovery (%)[4]	*n/a*	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.004	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.517	0.513	**0.515**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 6 6 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

Table 2-7:
Common Stack – RM 30B Mercury Results, Run 7

Trap I.D.		OL465432	OL465445	
Start Date/Time		07/18/18 12:15	07/18/18 12:15	
Stop Date/Time		07/23/18 12:03	07/23/18 12:03	
Total sampling time (hours)		119.80	119.80	
Gas Parameters				
T_s	Sample temperature (°F)		376.0	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.86255	0.86255	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	108.10	1.00	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	443.40	453.30	
M2	Mass of mercury spiked to first section (ng)	0.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	443.40	453.30	
Ms	Mass of mercury in second section (ng)	0.10	0.70	
M_T	Total mass of mercury collected (ng)	443.50	454.00	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	16.60	16.80	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	7.50	7.30	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.0%	0.2%	*PASS*
%R	Percent spike recovery (%)[4]	*n/a*	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.012	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.514	0.526	**0.520**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 5 5 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

Table 2-8:
Common Stack – RM 30B Mercury Results, Run 8

Trap I.D.		OLC032919	OL465439	
Start Date/Time		07/23/18 12:26	07/23/18 12:26	
Stop Date/Time[6]		07/26/18 11:35	07/26/18 11:35	
Total sampling time (hours)		71.13	71.13	
Gas Parameters				
T_s	Sample temperature (°F)		378.8	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.85359	0.85359	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	106.60	1.70	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	586.40	597.10	
M2	Mass of mercury spiked to first section (ng)	0.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	586.40	597.10	
Ms	Mass of mercury in second section (ng)	1.20	1.30	
M_T	Total mass of mercury collected (ng)	587.60	598.40	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	17.80	16.70	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	7.20	6.90	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	1.30	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.2%	0.2%	*PASS*
%R	Percent spike recovery (%)[4]	*n/a*	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.013	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.688	0.701	**0.695**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 8 8 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

[6] STMS sampling w as stopped at 14:19.

Table 2-9:
Common Stack – RM 30B Mercury Results, Run 9

Trap I.D.		OL465427	OL465468	
Start Date/Time		07/26/18 11:50	07/26/18 11:50	
Stop Date/Time		07/31/18 11:40	07/31/18 11:40	
Total sampling time (hours)		96.00	96.00	
Gas Parameters				
T_s	Sample temperature (°F)		382.4	
Trap Parameters				
$V_{m(std)}$	Volume metered, standard conditions (dscm)	0.86398	0.86398	
VAC_{max}	Maximum vacuum of sample path (in. Hg)	103.30	1.20	
Laboratory Parameters[6]				
M1	Mass of mercury in first section (ng)	570.30	589.40	
M2	Mass of mercury spiked to first section (ng)	0.00	0.00	
M3	Mass of mercury in first section minus spike (ng)	570.30	589.40	
Ms	Mass of mercury in second section (ng)	1.30	0.00	
M_T	Total mass of mercury collected (ng)	571.60	589.40	
Sampling and Analytical QA/QC				
VAC_{Pre}	Pre-test leak check vacuum (in. Hg)	16.20	16.10	
LR_{Pre}	Pre-test leak rate (cc/min)[1]	0.00	0.00	*PASS*
VAC_{Post}	Post-test leak check vacuum (in. Hg)	7.90	6.80	
LR_{Post}	Post-test leak rate (cc/min)[2]	0.00	0.00	*PASS*
%B	Percent sorbent breakthrough (%)[3]	0.2%	0.0%	*PASS*
%R	Percent spike recovery (%)[4]	*n/a*	*n/a*	
RD[5]	Paired sorbent trap agreement (µg/dscm)		0.021	*PASS*
Mercury Emissions				**Average**
C_{HGdry}	Mercury concentration (µg/dscm)	0.662	0.682	**0.672**

Notes:

[1] Pre-test leak rate must be ≤ 4% of target sampling rate. 6 6 cc/min

[2] Post-test leak rate must be ≤ 4% of average sampling rate. 0 0 cc/min

[3] Maximum sorbent breakthrough criteria: ≤ 10% of section 1 Hg mass for Hg concentrations > 1 µg/dscm; ≤ 20% of section 1 Hg mass for Hg concentrations ≤ 1 µg/dscm and > 0.5 µg/dscm; ≤ 50% of section 1 Hg mass for Hg concentrations ≤ 0.5 µg/dscm and > 0.1 µg/dscm; no breakthrough criteria for Hg concentrations below 0.1 µg/dscm. Reference EPA 30B, Table 9-1.

[4] Spike Recovery criteria: Average of 3 or more runs, 85% - 115%

[5] Maximum %RD criteria: ≤ 10% RD for Hg concentrations > 1 µg/dscm; ≤ 20% RD or ≤ 0.2 µg/dscm absolute difference for Hg concentrations ≤ 1 µg/dscm.

End of Section

3. DESCRIPTION OF INSTALLATION

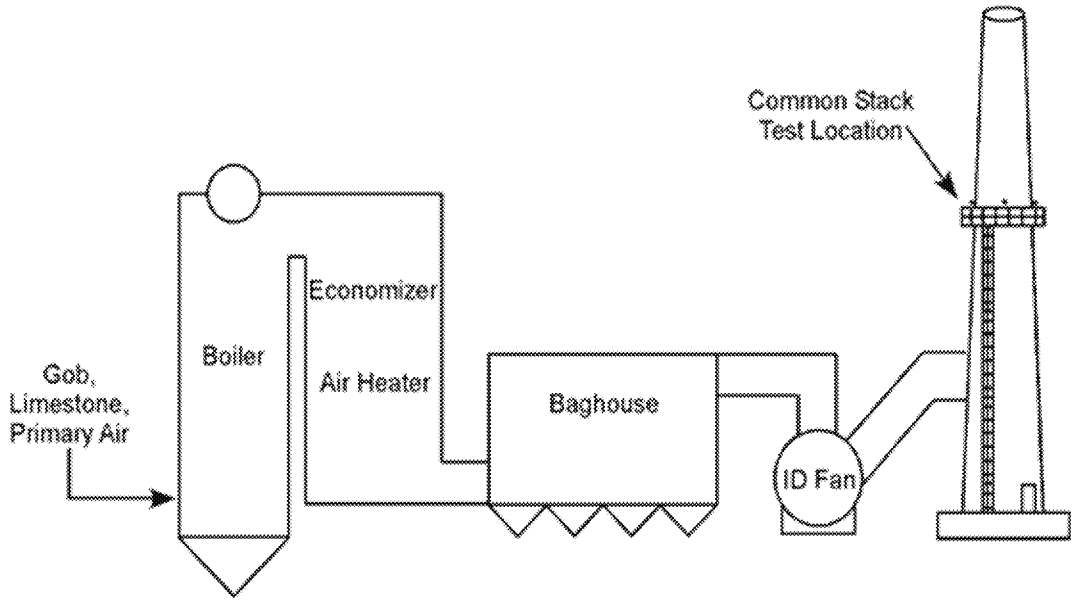
Process Description

The Grant Town Power Plant owned by American Bituminous Power Partners, L.P. (AMBIT) burns waste bituminous coal (gob) to produce steam for a nominal 80 MW GEC Alsthon Turbine/generator. To generate the steam, the plant uses two Pyropower Circulating Fluidized Bed (CFBs) Boilers (1A & 1B) each rated at 400,000 lbs-of-steam/hr and 551.9 MMBtu/hr.

The plant utilizes direct feed of limestone with the fuel into the boilers and low temperature, air-rich combustion for nitrogen oxides and sulfur dioxide control. Additional emissions are controlled through a negative pressure baghouse capable of reducing particulate emissions by over 99.5%.

The testing was performed at the Boilers 1A & 1B Common Stack CS1 test platform. A schematic of the process indicating sampling locations is shown in Figure 3-2.

Figure 3-1:
Process Schematic



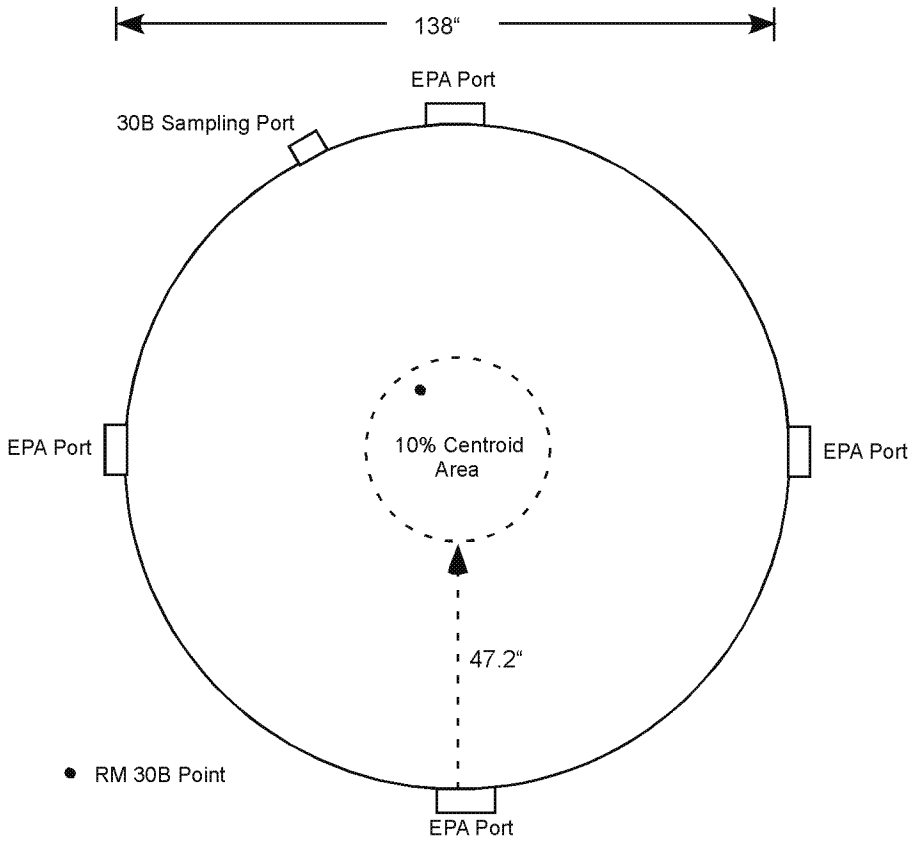
Test Locations

Sampling point locations for the reference method tests were determined according to 40 CFR 63, Subpart UUUUU, Section 63.10005 (h)(3). A single point within the central 10% area of the stack was used for sampling. Table 3-1 outlines the sampling point configurations. Table 3-1 illustrates the sampling points and orientation of sampling ports for the source tested in the program.

Table 3-1:
Sampling Points

Source Constituent	Method	Run No.	Ports	Points per Port	Minutes per Point	Total Minutes	Diagram
Common Stack Vapor-phase Hg	USEPA RM 30B	1-9	1	1	Total time time		Figure 3-2

Figure 3-2:
Common Stack Sampling Point Determination (EPA Method 1)



EPA Method 30B Sampling Point	Port to Point Distance (in.)
1	60

EPA Method 1

Duct diameters upstream from flow disturbance (A):	10.1	Limit: 0.5
Duct diameters downstream from flow disturbance (B):	14.0	Limit: 2.0

End of Section

4. METHODOLOGY

Clean Air Engineering followed procedures as detailed in 40 CFR 60, Appendix A USEPA Methods 1, 4, 19, 30B and ALT-091 as well as procedures outlined in 40 CFR 75, Appendix A and 40 CFR 63.10005 for LEE performance testing. The following table summarizes the methods and their respective sources.

Table 4-1:
Summary of Sampling Procedures

Title 40 CFR Part 60 Appendix A	
Method 1	"Sample and Velocity Traverses for Stationary Sources"
Method 4	"Determination of Moisture Content in Stack Gases"
Method 19	"Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates"
Method 30B	"Determination of Total Vapor Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps"
Title 40 CFR Part 75	
75.11 (b)(1)	"Special Provisions for monitoring SO2 emissions (SO2 and flow monitors)"
Title 40 CFR 63, Subpart UUUUU, "National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units"	
§63.10005	

These methods appear in detail in Title 40, Parts 60, 75 and 63 of the Code of Federal

Regulations (CFR). They are also available on the World Wide Web at:

- www.epa.gov/sites/production/files/2016-06/documents/meth30b.pdf
- ecfr.gpoaccess.gov

Diagrams of the sampling apparatus and major specifications of the sampling, recovery and analytical procedures are summarized for each method in Appendix A.

CleanAir followed specific quality assurance and quality control (QA/QC) procedures as outlined in the individual methods and as prescribed in CleanAir's internal Quality Manual. Results of all QA/QC activities performed by CleanAir is summarized in this final test report.

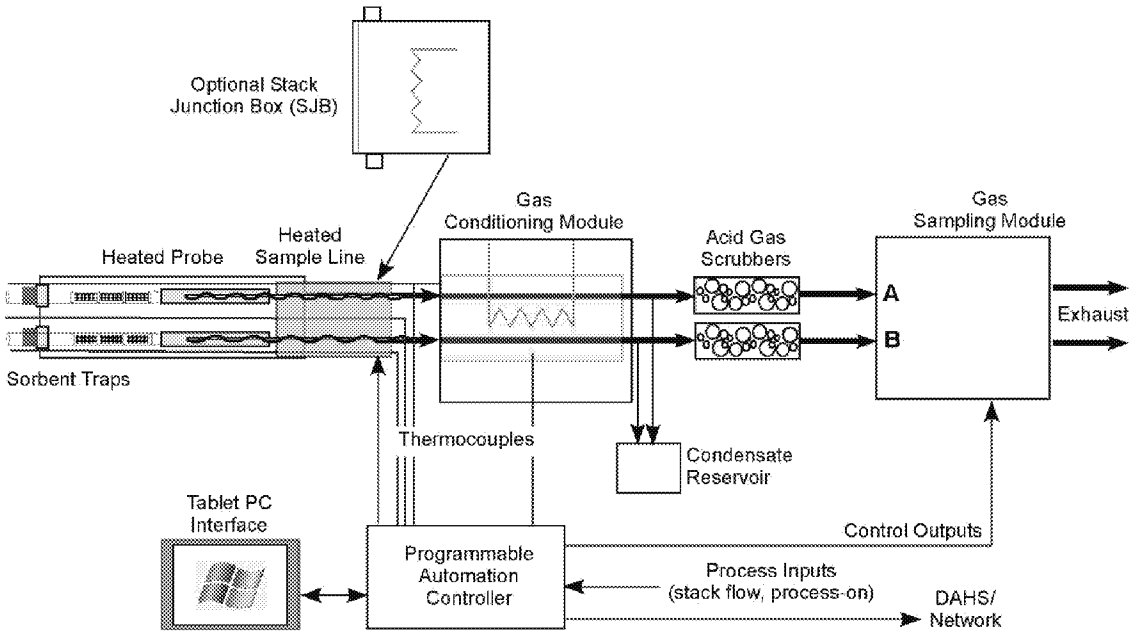
Table 4-2:
Summary of Reference Method Operational Details

Method	40 CFR Part 60, Appendix A, Method 30B
Analyte Measured by Reference Method	Total vapor-phase mercury (Hg^0 + Hg^{+2})
Number of Valid RM Runs	8
Length of RM Runs	3-4 days
Reference Method Traverse Points	single point located within the 10% centroidal area of the stack
Reference Method Time per Point	3-4 days
Reference Method Sampling Rate	150-200 milliliters per minute (nominal)
Number of RM Samples per Run	Two (paired, co-located samples), identified as samples A and B
Sorbent Trap Manufacturer	Ohio Lumex
Number of Sections in Sorbent Trap	2 (3 if acid gas scrubber section is used)
Sorbent Material	Iodinated, activated charcoal, petroleum based
Sorbent Quantity	500 mg per section (approximate)
Sorbent Trap Tube Material	Glass
Spiked Section in Sorbent Trap	First section of traps
Spike Level	1000 ng Run # - 1, 3, 4, 5
Probe Liner Material	PTFE
Sample Line Material	PTFE
Probe Temperature Control	PID
Sample Line Temperature Control	PID
Gas Dryer Device	Peltier cooler
Temperature of Gas Dryer Device	~37ºF
Source of Moisture Measurement	40 CFR §75.11 default moisture (6%) or Alt-091
Analytical Method	Thermal Desorption / Zeeman atomic absorption spectrometry using high frequency modulation of light polarization
Analytical Instrument	Ohio Lumex RA-915+ with RP-M324 detector
Minimum Analytical Detection Limit	0.50 ng (nominal)
Calibration Range	5 – 10000 ng
Method Validation Range (Based on Bias Tests)	10 – 10000 ng

Reference Method Operation

Figure 4-1 shows a schematic of the reference method sampling apparatus.

Figure 4-1:
RM Sampling System (USEPA Method 30B)



QA/QC Determinations (RM 30B)

RM 30B includes specific QA/QC criteria that must be met in order to generate valid results. The criteria include spike recovery, sorbent trap breakthrough and paired trap agreement. QA/QC criteria was evaluated as specified in each applicable method with the following clarifications.

- RM 30B Section 2 results that are below the analytical MDL was considered 0 for breakthrough determinations.
- A spike recovery study was completed using a minimum of three RA runs. A pre-test spike level of 1000 ng was used for the RM traps.

End of Section

5. APPENDIX

Appendix A: Test Method Specifications

Appendix B: Sample Calculations

Appendix C: Parameters

Appendix D: QA/QC Data

Appendix E: Field Data Printouts

Appendix F: Laboratory Data

Appendix G: Plant Data

Appendix H: CleanAir Resumes and Certifications

Exhibit 6

Scrubgrass Generating Company L.P.

2151 Lisbon Road
Kennerdell, PA
16374

814.385.6661

Fed Ex Tracking ID#

Janurary 29, 2020

Mr. Eric Gustafson
Commonwealth of Pennsylvania
Department of Environmental Protection
Bureau of Air Quality
230 Chestnut Street
Meadville, PA 16335

Subject: **Scrubgrass Generating Company LP Unit 1 & 2**
Title V Permit Number 61-00181
2019 Mercury and Air Toxics Standards (MATS)
Semi-Annual Compliance Report
July 1, 2019 -December 31, 2019.

Please find attached a copy of Scrubgrass Generating Company's 2019 Mercury and Air Toxics Standards (MATS) Semi-Annual Compliance Report. This report covers the period between July 1, 2019 and December 31, 2019 in accordance with 40 CFR 63.100031(b)(1).

If you have any questions concerning the report, please contact me at.

Sincerely,

David Gates
Environmental Manager

Cc EPA Region 3 by way of ECMPS

PART I - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU, Table 8 Item a - 40CFR63.10031(c)(1) - (c)(8)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting perio 7/1/2019 12/31/2019
4. Process Unit(s) Description: 031 & 032 (Unit 1 & Unit 2)

Section A

1. CMS Summary Report Information required by 40CFR63.10031(c)(1) - provided in Part II of the Semi Annual Compliance Report

2. Fuel Use Information required by 40CFR63.10031(c)(2)

Fuel Type/ Description	Fuel Use During Reporting Period (by month)				Non-Waste Fuel Information (EPA determination or basis for determining that fuel is not a waste)
	Month	Year	Amount	Units	
Coal Refuse	Janurary	2019	51197	Tons	NA
Coal Refuse	February	2019	34726	Tons	NA
Coal Refuse	March	2019	43322	Tons	NA
Coal Refuse	April	2019	44897	Tons	NA
Coal Refuse	May	2019	47571	Tons	NA
Coal Refuse	June	2019	29601	Tons	NA
Coal Refuse	July	2019	49987	Tons	NA
Coal Refuse	August	2019	28140	Tons	NA
Coal Refuse	September	2019	4058	Tons	NA
Coal Refuse	October	2019	10459	Tons	NA
Coal Refuse	November	2019	14571	Tons	NA
Coal Refuse	December	2019	0	Tons	NA
#2 fuel Oil (ignition fuel only)	Janurary	2019	3848	gallons	NA
#2 fuel Oil (ignition fuel only)	February	2019	20832	gallons	N/A
#2 fuel Oil (ignition fuel only)	March	2019	26722	gallons	N/A
#2 fuel Oil (ignition fuel only)	April	2019	13775	gallons	NA
#2 fuel Oil (ignition fuel only)	May	2019	27303	gallons	NA
#2 fuel Oil (ignition fuel only)	June	2019	42126	gallons	NA
#2 fuel Oil (ignition fuel only)	July	2019	11258	gallons	NA
#2 fuel Oil (ignition fuel only)	August	2019	19504	gallons	NA
#2 fuel Oil (ignition fuel only)	September	2019	27000	gallons	NA
#2 fuel Oil (ignition fuel only)	October	2019	11234	gallons	NA
#2 fuel Oil (ignition fuel only)	November	2019	12930	gallons	NA
#2 fuel Oil (ignition fuel only)	December	2019	0	gallons	NA

3. Indication of a new fuel burned required by 40CFR63.10031(c)(3)

Was a new type of fuel burned during reporting period?		If yes, list the date of the performance test where that fuel was in use in the box below:
☐ Yes	☑ No	NA

4. Tune-up and Burner Inspection Information required by 40CFR63.10031(c)(4)

Date of most recent tuneup (MM/DD/YYYY) - *the date when the combustion adjustments and CO/NOx/O2 before/after concentration measurements were made.*	
Date of most recent burner inspection (if applicable). Provide date if burner inspection delayed and not performed with tuneup (MM/DD/YYYY):	CFB's do not have burners. Boilers were inspected 8/28/2019.

5. Startup and Shutdown Information required by 40CFR63.10031(c)(5) - Startup Definition 1

Based on the *April 6, 2016 final* MATS rule revisions, there are no *additional* reporting requirements applicable to units relying on startup definition one. The facility kept records of the date(s) and duration of each MATS Startup and Shutdown event during the reporting period, as required by 40CFR63.10032(f)(1), and can provide these records upon request.

6. Emergency bypass information from EGUs with LEE status required by 40CFR63.10031(c)(6)

If the EGU does not have a bypass stack or has a bypass stack but is not applying for LEE status, check the "Not Applicable" box below. If the EGU has a bypass stack and is applying for LEE status, provide the information specified in 40CFR63.10000(c)(1)(i)(C)(2) below.

☑ Not Applicable

7. Ongoing Tests Documentation required by 40CFR63.10031(c)(7)

Attach a summary of the results of all subsequent annual tests performed in the EGU and, if applicable, the operating limits reestablished during the tests. In addition, if the facility is conducting tests once every 3 years to maintain LEE status, attach the following information: the date of each LEE stack test conducted during the previous 3 years, a comparison of the emission level achieved during each LEE test to the 50% emission level threshold, and a statement as to whether there have been any operational changes since the last LEE test that could have increased emissions from the EGU.

8. Certification required by 40CFR63.10031(c)(8)

Responsible Official Certification: *Except for the deviations reported in other sections of this report, I certify that the EGU has met all applicable emission limits and work practice standards.*

Richard Shaffer	General Manager
Name	Title
Signature	1/27/2020 Date

ED_004818_00012439-00003

PART I - SEMI ANNUAL COMPLIANCE REPORT
40CFR63, Subpart UUUUU, Table 8 Item a - 40CFR63.10031(c)(7)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting date 7/1/2019 12/31/2019
4. Process Unit(s) Description: 031 (Unit #1)

Section A

7. Ongoing Tests Documentation required by 40CFR63.10031(c)(7)

Attach a summary of the results of all subsequent annual tests performed in the EGU and, if applicable, the operating limits reestablished during the tests. In addition, if the facility is conducting tests once every 3 years to maintain LEE status, attach the following information: the date of each LEE stack test conducted during the previous 3 years, a comparison of the emission level achieved during each LEE test to the 50% emission level threshold, and a statement as to whether there have been any operational changes since the last LEE test that could have increased emissions from the EGU.

Type of Test (Hg or FPM)	Test information				Percent of limit	Meets LEE Requirements
	Start date	Result	Units	Limit		
Hg	5/2/2016	0.0181	lb/Tbtu	1.200	1.51%	Yes
Hg	5/19/2017	0.0297	lb/Tbtu	1.200	2.48%	Yes
Hg	6/11/2018	0.0303	lb/Tbtu	1.200	2.53%	Yes
Hg	6/17/2019	0.0484	lb/Tbtu	1.200	4.03%	Yes
FPM	6/24/2016	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	9/12/2016	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	12/9/2016	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	2/8/2017	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	4/17/2017	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	8/11/2017	0.006	lb/MMBtu	0.03	20.00%	Yes
FPM	12/22/2017	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	3/8/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	6/28/2018	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	9/6/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	12/31/2018	0.009	lb/MMBtu	0.03	30.0%	Yes
FPM	3/22/2019	0.006	lb/MMBtu	0.03	20.0%	Yes
FPM	5/20/2019	0.01	lb/MMBtu	0.03	33.3%	Yes

No operational changes have been made to the EGU that could have increased its PM emissions since the first PM LEE test was conducted.

ED_004818_00012439-00004

PART I - SEMI ANNUAL COMPLIANCE REPORT
40CFR63, Subpart UUUUU, Table 8 Item a - 40CFR63.10031(c)(7)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting peric 7/1/2019 12/31/2019
4. Process Unit(s) Description: 032 (Unit #2)

Section A

7. Ongoing Tests Documentation required by 40CFR63.10031(c)(7)

Attach a summary of the results of all subsequent annual tests performed in the EGU and, if applicable, the operating limits reestablished during the tests. In addition, if the facility is conducting tests once every 3 years to maintain LEE status, attach the following information: the date of each LEE stack test conducted during the previous 3 years, a comparison of the emission level achieved during each LEE test to the 50% emission level threshold, and a statement as to whether there have been any operational changes since the last LEE test that could have increased emissions from the EGU.

Type of Test (Hq or FPM)	Test information				Percent of limit	Meets LEE Requirements
	Start date	Result	Units	Limit		
Hg	6/13/2016	0.035	lb/Tbtu	1.200	2.92%	Yes
Hg	7/18/2017	0.0327	lb/Tbtu	1.200	2.73%	Yes
Hg	7/13/2018	0.0336	lb/Tbtu	1.200	2.80%	Yes
Hg	8/1/2019	Ongoing	lb/Tbtu	1.200	Not completed yet.	
FPM	6/24/2016	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	9/12/2016	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	12/9/2016	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	2/8/2017	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	4/17/2017	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	8/11/2017	0.006	lb/MMBtu	0.03	20.00%	Yes
FPM	12/22/2017	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	3/8/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	6/28/2018	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	9/6/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	12/31/2018	0.009	lb/MMBtu	0.03	30.00%	Yes
FPM	3/22/2019	0.006	lb/MMBtu	0.03	20.00%	Yes
FPM	5/20/2019	0.01	lb/MMBtu	0.03	33.33%	Yes

No operational changes have been made to the EGU that could have increased its PM emissions since the first PM LEE test was conducted.

ED_004818_00012439-00005

PART I - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU, Table 8 Items b,c - 40CFR63.10031(c)(9), (e) and (g)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting pe 7/1/2019 12/31/2019
4. Process Unit(s) Description: 031 & 032 (Unit 1 & Unit 2)

Section B

1. Attestation Section - only check the boxes for the categories that had "NO" deviations during the reporting period. Complete Section C for the categories with deviations.

Check box if there were no deviations from an emission limitation during this reporting period:	☑
Check box if there were no deviations of the work practice standards during this reporting period:	☑
Check box if no CMS out of control periods have occurred during this reporting period:	☐
Check box if there were no deviations of the reporting or recordkeeping requirements during this reporting period:	☑

Section C

2. Deviation and/or Malfunction Details

a. Excess Emission and CMS Out of Control Period Information required by Table 8 Item c - provided in Part II of the Semi- Annual Compliance Report

b. Monitoring[1], Reporting, Recordkeeping Work Practice Standards and Stack Test Deviations Information required by Table 8 Item c *and 40CFR63.10031(c)(9)*

Deviation #	Deviation Description	Deviation Event				Cause
		Begin Date	Begin Time	End Date	End Time	
None						

Note 1: For CEMS, the monitor out of control/downtime periods would already be reported in Part II. This section then would address any other periods where the CMS was not collecting data at times that the EGU was operating. For example, when a single Hg sorbent trap monitoring system was not turned on and collecting data during periods of unit startup/shutdown. See 40 CFR 63.10020

c. Malfunction Information required by 40CFR63.10031(g) - only complete if the malfunction was the cause of an excess emission reported in Part II

Malfunction #	Malfunction Description	Duration	Corrective Action
None			

PART II - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU - *Table 8 Item a - 40CFR63.10031(c)(1),* 40CFR63.10 (e)(3)(vi)

GASEOUS AND OPACITY EXCESS EMISSION AND CONTINUOUS MONITORING SYSTEM PERFORMANCE and SUMMARY REPORT

Section A: General Facility/Process Unit Information

1. Company: Scrubgrass Generating CO LP
2. Address: 2151 Lisbon Road Kennerdell, Pa 16374
3. Reporting period dates: 07/01/2019 to 12/31/2019
4. Process Unit(s) Description: Circulating Fluidized bed combustors
5. Monitored Pollutant: SO2 (HCl surrogate) Source 031 Unit 1
6. Emission Limitation (value/units): 0.2 lbs/Mmbtu
7. Monitor Manufacturer and Model No.: Thermo Environmental Instruments 43C
8. Date of Latest CMS Certification or Audit: 11/12/2019
9. Total Source Operating Time (hours): 1349

Section B: Attestation Section - only complete if there were no periods of excess emissions or CMS downtime during the reporting period (40CFR63.10(e)(3)(v)) - skip other sections if both questions below are checked.

Check box if no excess emissions or exceedances have occurred; or ☑

Check box if the SO2 CMS has not been inoperative, out of control, repaired, or adjusted ☐

Section C: Excess Emission and CMS Performance Summary Information

Emission data summary	Hours	CMS performance summary	Hours
1. Duration of excess emissions in reporting period due to:	0	1. CEMS downtime in reporting period due to:	
a. Startup/shutdown, if applicable (see Note 1)	NA	a. Monitor equipment malfunctions	
b. Control equipment problems		b. Non-Monitor equipment malfunctions	8.0
c. Process problems		c. Calibration/QA	2.0
d. Other known causes		d. Other known causes	
e. Unknown causes		e. Unknown causes	
2. Total duration of excess emissions	0.0	2. Total CEMS Downtime	10.0
3. Total duration of excess emissions (as % total source operating time) (see Note 2)	NA	3. Total CEMS Downtime (as % total source operating time)	0.7

Note 1 - Does not apply to facilities monitoring HCl with SO2 CEMS because the 30-boiler operating day rolling average excludes startup and shutdown data.

Note 2 - The Utility MATS rule does not provide guidance or define the methodology for this calculation given that the emission standard is based on a 30-boiler operating day rolling average.

For MATS, describe any changes in CEMS listed above (includes pollutant and diluent CEMS) since last reporting period:

Responsible Official Certification: I certify that the information contained in this report is true, accurate, and complete.

Richard Shaffer	General Manager
Name	Title
Richard Shaffer	1/27/2020
Signature	Date

PART II - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU - *Table 8 Item a - 40CFR63.10031(c)(1),* 40CFR63.10 (e)(3)(vi)

GASEOUS AND OPACITY EXCESS EMISSION AND CONTINUOUS MONITORING SYSTEM PERFORMANCE and SUMMARY REPORT

Section A: General Facility/Process Unit Information

1. Company: Scrubgrass Generating CO LP
2. Address: 2151 Lisbon Road Kennerdell, Pa 16374
3. Reporting period dates: 07/01/2019 to 12/31/2019
4. Process Unit(s) Description: Circulating Fluidized bed combustors
5. Monitored Pollutant: SO2 (HCl surrogate) Source 032 Unit 2
6. Emission Limitation (value/units): 0.2 lbs/Mmbtu
7. Monitor Manufacturer and Model No.: Thermo Environmental Instruments 43C
8. Date of Latest CMS Certification or Audit: 11/17/2019
9. Total Source Operating Time (hours): 1569

Section B: Attestation Section - only complete if there were no periods of excess emissions or CMS downtime during the reporting period (40CFR63.10(e)(3)(v)) - skip other sections if both questions below are checked.

Check box if no excess emissions or exceedances have occurred; or ☑

Check box if the SO2 CMS has not been inoperative, out of control, repaired, or adjusted ☐

Section C: Excess Emission and CMS Performance Summary Information

Emission data summary	Hours	CMS performance summary	Hours
1. Duration of excess emissions in reporting period due to:	0	1. CEMS downtime in reporting period due to:	
a. Startup/shutdown, if applicable (see Note 1)	NA	a. Monitor equipment malfunctions	
b. Control equipment problems		b. Non-Monitor equipment malfunctions	8.0
c. Process problems		c. Calibration/QA	2.0
d. Other known causes		d. Other known causes	8.0
e. Unknown causes		e. Unknown causes	
2. Total duration of excess emissions	0.0	2. Total CEMS Downtime	18.0
3. Total duration of excess emissions (as % total source operating time) (see Note 2)	NA	3. Total CEMS Downtime (as % total source operating time)	1.1

Note 1 - Does not apply to facilities monitoring HCl with SO2 CEMS because the 30-boiler operating day rolling average excludes startup and shutdown
Note 2 - The Utility MATS rule does not provide guidance or define the methodology for this calculation given that the emission standard is based on a
For MATS, describe any changes in CEMS listed above (includes pollutant and diluent CEMS) since last reporting period:

Responsible Official Certification: I certify that the information contained in this report is true, accurate, and complete.

Richard Shaffer	General Manager
Name	Title
Richard Shaffer	1/27/2020
Signature	Date

Exhibit 7

Scrubgrass Generating Company L.P.

2151 Lisbon Road
Kennerdell, PA
16374

814.385.6661

Fed Ex Tracking ID#

July 24, 2019

Mr. Eric Gustafson
Commonwealth of Pennsylvania
Department of Environmental Protection
Bureau of Air Quality
230 Chestnut Street
Meadville, PA 16335

Subject: **Scrubgrass Generating Company LP Unit 1 & 2**
Title V Permit Number 61-00181
2019 Mercury and Air Toxics Standards (MATS)
Semi-Annual Compliance Report
Janurary 1, 2019 -June 30, 2019.

Please find attached a copy of Scrubgrass Generating Company's 2019 Mercury and Air Toxics Standards (MATS) Semi-Annual Compliance Report. This report covers the period between Janurary 1, 2019 and June 30, 2019 in accordance with 40 CFR 63.100031(b)(1).

If you have any questions concerning the report, please contact me at.

Sincerely,

David Gates
Environmental Manager

Cc EPA Region 3 by way of ECMPS

PART I - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU, Table 8 Item a - 40CFR63.10031(c)(1) - (c)(8)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting peri: 1/1/2019 6/30/2019
4. Process Unit(s) Description: 031 & 032 (Unit 1 & Unit 2)

Section A

1. CMS Summary Report Information required by 40CFR63.10031(c)(1) - provided in Part II of the Semi Annual Compliance Report

2. Fuel Use Information required by 40CFR63.10031(c)(2)

Fuel Type/ Description	Fuel Use During Reporting Period (by month)				Non-Waste Fuel Information (EPA determination or basis for determining that fuel is not a waste)
	Month	Year	Amount	Units	
Coal Refuse	Janurary	2019	51197	Tons	NA
Coal Refuse	February	2019	34726	Tons	NA
Coal Refuse	March	2019	43322	Tons	NA
Coal Refuse	April	2019	44897	Tons	NA
Coal Refuse	May	2019	47571	Tons	NA
Coal Refuse	June	2019	29601	Tons	NA
Coal Refuse	July	2019		Tons	NA
Coal Refuse	August	2019		Tons	NA
Coal Refuse	September	2019		Tons	NA
Coal Refuse	October	2019		Tons	NA
Coal Refuse	November	2019		Tons	NA
Coal Refuse	December	2019		Tons	NA
#2 fuel Oil (ignition fuel only)	Janurary	2019	3848	gallons	NA
#2 fuel Oil (ignition fuel only)	February	2019	20832	gallons	N/A
#2 fuel Oil (ignition fuel only)	March	2019	26722	gallons	N/A
#2 fuel Oil (ignition fuel only)	April	2019	13775	gallons	NA
#2 fuel Oil (ignition fuel only)	May	2019	27303	gallons	NA
#2 fuel Oil (ignition fuel only)	June	2019	42126	gallons	NA
#2 fuel Oil (ignition fuel only)	July	2019		gallons	NA
#2 fuel Oil (ignition fuel only)	August	2019		gallons	NA
#2 fuel Oil (ignition fuel only)	September	2019		gallons	NA
#2 fuel Oil (ignition fuel only)	October	2019		gallons	NA
#2 fuel Oil (ignition fuel only)	November	2019		gallons	NA
#2 fuel Oil (ignition fuel only)	December	2019		gallons	NA

3. Indication of a new fuel burned required by 40CFR63.10031(c)(3)

Was a new type of fuel burned during reporting period?		If yes, list the date of the performance test where that fuel was in use in the box below:
☐ Yes	☑ No	NA

4. Tune-up and Burner Inspection Information required by 40CFR63.10031(c)(4)

Date of most recent tuneup (MM/DD/YYYY) - *the date when the combustion adjustments and CO/NOx/O2 before/after concentration measurements were made.*	10/15/2016
Date of most recent burner inspection (if applicable). Provide date if burner inspection delayed and not performed with tuneup (MM/DD/YYYY):	CFB's do not have burners. Boilers were inspected 10/03/2016.

5. Startup and Shutdown Information required by 40CFR63.10031(c)(5) - Startup Definition 1

Based on the *April 6, 2016 final* MATS rule revisions, there are no *additional* reporting requirements applicable to units relying on startup definition one. The facility kept records of the date(s) and duration of each MATS Startup and Shutdown event during the reporting period, as required by 40CFR63.10032(f)(1), and can provide these records upon request.

6. Emergency bypass information from EGUs with LEE status required by 40CFR63.10031(c)(6)

If the EGU does not have a bypass stack or has a bypass stack but is not applying for LEE status, check the "Not Applicable" box below. If the EGU has a bypass stack and is applying for LEE status, provide the information specified in 40CFR63.10000(c)(1)(i)(C)(2) below.

☑ Not Applicable

7. Ongoing Tests Documentation required by 40CFR63.10031(c)(7)

Attach a summary of the results of all subsequent annual tests performed in the EGU and, if applicable, the operating limits reestablished during the tests. In addition, if the facility is conducting tests once every 3 years to maintain LEE status, attach the following information: the date of each LEE stack test conducted during the previous 3 years, a comparison of the emission level achieved during each LEE test to the 50% emission level threshold, and a statement as to whether there have been any operational changes since the last LEE test that could have increased emissions from the EGU.

8. Certification required by 40CFR63.10031(c)(8)

Responsible Official Certification: *Except for the deviations reported in other sections of this report, I certify that the EGU has met all applicable emission limits and work practice standards.*

Richard Shaffer — General Manager

Name — Title

Signature — 7/23/2019 Date

PART I - SEMI ANNUAL COMPLIANCE REPORT
40CFR63, Subpart UUUUU, Table 8 Item a - 40CFR63.10031(c)(7)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting date 1/1/2019 6/30/2019
4. Process Unit(s) Description: 031 (Unit #1)

Section A

7. Ongoing Tests Documentation required by 40CFR63.10031(c)(7)

Attach a summary of the results of all subsequent annual tests performed in the EGU and, if applicable, the operating limits reestablished during the tests. In addition, if the facility is conducting tests once every 3 years to maintain LEE status, attach the following information: the date of each LEE stack test conducted during the previous 3 years, a comparison of the emission level achieved during each LEE test to the 50% emission level threshold, and a statement as to whether there have been any operational changes since the last LEE test that could have increased emissions from the EGU.

Type of Test (Hg or FPM)	Test information				Percent of limit	Meets LEE Requirements
	Start date	Result	Units	Limit		
Hg	5/2/2016	0.0181	lb/Tbtu	1.200	1.51%	Yes
Hg	5/19/2017	0.0297	lb/Tbtu	1.200	2.48%	Yes
Hg	6/11/2018	0.0303	lb/Tbtu	1.200	2.53%	Yes
Hg			lb/Tbtu	1.200		
FPM	6/24/2016	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	9/12/2016	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	12/9/2016	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	2/8/2017	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	4/17/2017	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	8/11/2017	0.006	lb/MMBtu	0.03	20.00%	Yes
FPM	12/22/2017	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	3/8/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	6/28/2018	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	9/6/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	12/31/2018	0.009	lb/MMBtu	0.03	30.0%	Yes
FPM	3/22/2019	0.006	lb/MMBtu	0.03	20.0%	Yes
FPM	5/20/2019	0.01	lb/MMBtu	0.03	33.3%	Yes

No operational changes have been made to the EGU that could have increased its PM emissions since the first PM LEE test was conducted.

ED_004818_00012440-00004

PART I - SEMI ANNUAL COMPLIANCE REPORT
40CFR63, Subpart UUUUU, Table 8 Item a - 40CFR63.10031(c)(7)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting peric 1/1/2019 6/30/2019
4. Process Unit(s) Description: 032 (Unit #2)

Section A

7. Ongoing Tests Documentation required by 40CFR63.10031(c)(7)

Attach a summary of the results of all subsequent annual tests performed in the EGU and, if applicable, the operating limits reestablished during the tests. In addition, if the facility is conducting tests once every 3 years to maintain LEE status, attach the following information: the date of each LEE stack test conducted during the previous 3 years, a comparison of the emission level achieved during each LEE test to the 50% emission level threshold, and a statement as to whether there have been any operational changes since the last LEE test that could have increased emissions from the EGU.

Type of Test (Hg or FPM)	Test information				Percent of limit	Meets LEE Requirements
	Start date	Result	Units	Limit		
Hg	6/13/2016	0.035	lb/Tbtu	1.200	2.92%	Yes
Hg	7/18/2017	0.0327	lb/Tbtu	1.200	2.73%	Yes
Hg	7/13/2018	0.0336	lb/Tbtu	1.200	2.80%	Yes
Hg			lb/Tbtu	1.200		
FPM	6/24/2016	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	9/12/2016	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	12/9/2016	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	2/8/2017	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	4/17/2017	0.004	lb/MMBtu	0.03	13.33%	Yes
FPM	8/11/2017	0.006	lb/MMBtu	0.03	20.00%	Yes
FPM	12/22/2017	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	3/8/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	6/28/2018	0.008	lb/MMBtu	0.03	26.67%	Yes
FPM	9/6/2018	0.005	lb/MMBtu	0.03	16.67%	Yes
FPM	12/31/2018	0.009	lb/MMBtu	0.03	30.00%	Yes
FPM	3/22/2019	0.006	lb/MMBtu	0.03	20.00%	Yes
FPM	5/20/2019	0.01	lb/MMBtu	0.03	33.33%	Yes

No operational changes have been made to the EGU that could have increased its PM emissions since the first PM LEE test was conducted.

ED_004818_00012440-00005

PART I - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU, Table 8 Items b,*c* - 40CFR63.10031*(c)(9)*, (e) and (g)

1. Company: Scrubgrass Generating Station, L.P.
2. Address: 2151 Lisbon Rd. Kennerdell PA 16374
3. Reporting pe 1/1/2019 6/30/2019
4. Process Unit(s) Description: 031 & 032 (Unit 1 & Unit 2)

Section B

1. Attestation Section - only check the boxes for the categories that had "NO" deviations during the reporting period. Complete Section C for the categories with deviations.

Check box if there were no deviations from an emission limitation during this reporting period:	☑
Check box if there were no deviations of the work practice standards during this reporting period:	☑
Check box if no CMS out of control periods have occurred during this reporting period:	☐
Check box if there were no deviations of the reporting or recordkeeping requirements during this reporting period:	☑

Section C

2. Deviation and/or Malfunction Details

a. Excess Emission and CMS Out of Control Period Information required by Table 8 Item c - provided in Part II of the Semi- Annual Compliance Report

b. Monitoring[1], Reporting, Recordkeeping Work Practice Standards and Stack Test Deviations Information required by Table 8 Item c *and 40CFR63.10031(c)(9)*

Deviation #	Deviation Description	Deviation Event				Cause
		Begin Date	Begin Time	End Date	End Time	
None						

Note 1: For CEMS, the monitor out of control/downtime periods would already be reported in Part II. This section then would address any other periods where the CMS was not collecting data at times that the EGU was operating. For example, when a single Hg sorbent trap monitoring system was not turned on and collecting data during periods of unit startup/shutdown. See 40 CFR 63.10020

c. Malfunction Information required by 40CFR63.10031(g) - only complete if the malfunction was the cause of an excess emission reported in Part II

Malfunction #	Malfunction Description	Duration	Corrective Action
None			

PART II - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU - *Table 8 Item a - 40CFR63.10031(c)(1),* 40CFR63.10 (e)(3)(vi)

GASEOUS AND OPACITY EXCESS EMISSION AND CONTINUOUS MONITORING SYSTEM PERFORMANCE and SUMMARY REPORT

Section A: General Facility/Process Unit Information

1. Company: Scrubgrass Generating CO LP
2. Address: 2151 Lisbon Road Kennerdell, Pa 16374
3. Reporting period dates: 01/01/2019 to 06/30/2019
4. Process Unit(s) Description: Circulating Fluidized bed combustors
5. Monitored Pollutant: SO2 (HCl surrogate) Source 031 Unit 1
6. Emission Limitation (value/units): 0.2 lbs/Mmbtu
7. Monitor Manufacturer and Model No.: Thermo Environmental Instruments 43C
8. Date of Latest CMS Certification or Audit: 6/19/2019
9. Total Source Operating Time (hours): 3809

Section B: Attestation Section - only complete if there were no periods of excess emissions or CMS downtime during the reporting period (40CFR63.10(e)(3)(v)) - skip other sections if both questions below are checked.

Check box if no excess emissions or exceedances have occurred; or ☑

Check box if the SO2 CMS has not been inoperative, out of control, repaired, or adjusted ☐

Section C: Excess Emission and CMS Performance Summary Information

Emission data summary	Hours	CMS performance summary	Hours
1. Duration of excess emissions in reporting period due to:	0	1. CEMS downtime in reporting period due to:	
a. Startup/shutdown, if applicable (see Note 1)	NA	a. Monitor equipment malfunctions	7.0
b. Control equipment problems		b. Non-Monitor equipment malfunctions	1.0
c. Process problems		c. Calibration/QA	10.0
d. Other known causes		d. Other known causes	6.0
e. Unknown causes		e. Unknown causes	
2. Total duration of excess emissions	0.0	2. Total CEMS Downtime	24.0
3. Total duration of excess emissions (as % total source operating time) (see Note 2)	NA	3. Total CEMS Downtime (as % total source operating time)	0.6

Note 1 - Does not apply to facilities monitoring HCl with SO2 CEMS because the 30-boiler operating day rolling average excludes startup and shutdown data.

Note 2 - The Utility MATS rule does not provide guidance or define the methodology for this calculation given that the emission standard is based on a 30-boiler operating day rolling average.

For MATS, describe any changes in CEMS listed above (includes pollutant and diluent CEMS) since last reporting period:

6/19/2019 Changed SO2 analyzer span from 0-500ppm to 0-300ppm in accordance with CFR 40 part 75 annual span and range analysis.

Responsible Official Certification: I certify that the information contained in this report is true, accurate, and complete.

Richard Shaffer — Name

General Manager — Title

Signature

7/23/2019 — Date

PART II - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU, Table 8 Item c - 40CFR63.10031(d)

GASEOUS AND OPACITY EXCESS EMISSION AND CONTINUOUS MONITORING SYSTEM PERFORMANCE and SUMMARY REPORT

Section D: Additional information required by 40CFR63.10(e)(3)(v) and 40CFR63.10(c)(5)-(13)

1. Excess Emission Details - SO2 as a surrogate for HCl

Please provide the following information for each excess emission[1] of the 30 day rolling average that occurred during the reporting period:

Date/time		SO2 Emission (lb/MMBtu)	Duration (hours)	Cause	Corrective Action/Preventative Measure
Begin	End				

Note 1: Emissions measured with CEMS systems during startup/shutdown periods are excluded from the 30-boiler operating day rolling averages.

2. CMS Downtime/Out of Control Period Details[2-6] - SO2 as a surrogate for HCl

Please provide the following information for each period during which the continuous monitoring system was inoperative, excluding the periods of daily calibration checks (low-level and high-level calibrations):

Date/time		Type of CMS [1]	Duration (hours)	Cause	Corrective Action/Preventative Measure
Begin	End				
1/14/2019	1/14/2019	dilution extractive	3	analyzer pump failed	replaced pump and recalibrated
4/29/2019	4/29/2019	dilution extractive	2	Analyzer pump failed	Repaired pump
6/19/2019	6/19/2019	dilution extractive	2	Changed span of SO2 analyzer in accordence with part 75 regulations	Completed change due to part 75 annual span change analysis
		PROCESS OP TIME:	3809.0		
		TOTAL DOWNTIME:	7.0		

Note 1: Please enter the type of CMS with downtime: SO2 analyzer, diluent analyzer, flow monitor and/or moisture, as applicable.
Note 2: Periods when the Part 75 SO2 analyzer goes over range (i.e., full scale exceedances) are also considered downtime for MATS compliance purposes.

Note 3: The SO2 analyzer is out of control if--
- The calibration error exceeds 5.0 percent of the span value or exceeds the alternate specification of 5.0 ppm difference (for span values ≤ 50 ppm) or 10 ppm difference (for span values > 50 ppm, but ≤ 200 ppm), per Section 2.1.4 of Appendix B, 40 CFR 75
- The analyzer fails a performance test audit (e.g., relative accuracy test audit or linearity test audit)

Note 4: The diluent (CO2/O2) analyzer is out of control if--
- The calibration error exceeds 1.0 percent CO2 or O2 difference per Section 2.1.4 of Appendix B, 40 CFR 75
- The analyzer fails a performance test audit (e.g., relative accuracy test audit or linearity test audit)

Note 5: The out-of-control period begins when the performance check (e.g., calibration error) indicates an exceedance of the performance requirements and ends at the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.

Note 6: During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under the MATS rule.

PART II - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU - *Table 8 Item a - 40CFR63.10031(c)(1),* 40CFR63.10 (e)(3)(vi)

GASEOUS AND OPACITY EXCESS EMISSION AND CONTINUOUS MONITORING SYSTEM PERFORMANCE and SUMMARY REPORT

Section A: General Facility/Process Unit Information

1. Company: Scrubgrass Generating CO LP
2. Address: 2151 Lisbon Road Kennerdell, Pa 16374
3. Reporting period dates: 01/01/2019 to 6/30/2019
4. Process Unit(s) Description: Circulating Fluidized bed combustors
5. Monitored Pollutant: SO2 (HCl surrogate) Source 032 Unit 2
6. Emission Limitation (value/units): 0.2 lbs/Mmbtu
7. Monitor Manufacturer and Model No.: Thermo Environmental Instruments 43C
8. Date of Latest CMS Certification or Audit: 6/28/2019
9. Total Source Operating Time (hours): 3104

Section B: Attestation Section - only complete if there were no periods of excess emissions or CMS downtime during the reporting period (40CFR63.10(e)(3)(v)) - skip other sections if both questions below are checked.

Check box if no excess emissions or exceedances have occurred; or ☑

Check box if the SO2 CMS has not been inoperative, out of control, repaired, or adjusted ☐

Section C: Excess Emission and CMS Performance Summary Information

Emission data summary	Hours	CMS performance summary	Hours
1. Duration of excess emissions in reporting period due to:	0	1. CEMS downtime in reporting period due to:	
a. Startup/shutdown, if applicable (see Note 1)	NA	a. Monitor equipment malfunctions	8.0
b. Control equipment problems		b. Non-Monitor equipment malfunctions	
c. Process problems		c. Calibration/QA	19.0
d. Other known causes		d. Other known causes	15.0
e. Unknown causes		e. Unknown causes	
2. Total duration of excess emissions	0.0	2. Total CEMS Downtime	42.0
3. Total duration of excess emissions (as % total source operating time) (see Note 2)	NA	3. Total CEMS Downtime (as % total source operating time)	1.4

Note 1 - Does not apply to facilities monitoring HCl with SO2 CEMS because the 30-boiler operating day rolling average excludes startup and shutdown

Note 2 - The Utility MATS rule does not provide guidance or define the methodology for this calculation given that the emission standard is based on a

For MATS, describe any changes in CEMS listed above (includes pollutant and diluent CEMS) since last reporting period:

6/19/2019 Changed SO2 analyzer span from 0-500ppm to 0-300ppm in accordance with CFR 40 part 75 annual span and range analysis

Responsible Official Certification: I certify that the information contained in this report is true, accurate, and complete.

Richard Shaffer	General Manager
Name	Title
Richard J Shaffer	7/23/2019
Signature	Date

PART II - SEMI ANNUAL COMPLIANCE REPORT

40CFR63, Subpart UUUUU, Table 8 Item c - 40CFR63.10031(d)

GASEOUS AND OPACITY EXCESS EMISSION AND CONTINUOUS MONITORING SYSTEM PERFORMANCE and SUMMARY REPORT

Section D: Additional information required by 40CFR63.10(e)(3)(v) and 40CFR63.10(c)(5)-(13)

1. Excess Emission Details - SO2 as a surrogate for HCl

Please provide the following information for each excess emission[1] of the 30 day rolling average that occurred during the reporting period:

Date/time		SO2 Emission (lb/MMBtu)	Duration (hours)	Cause	Corrective Action/Preventative Measure
Begin	End				

Note 1: Emissions measured with CEMS systems during startup/shutdown periods are excluded from the 30-boiler operating day rolling

2. CMS Downtime/Out of Control Period Details[2-6] - SO2 as a surrogate for HCl

Please provide the following information for each period during which the continuous monitoring system was inoperative, excluding the periods of daily calibration checks (low-level and high-level calibrations):

Date/time		Type of CMS [1]	Duration (hours)	Cause	Corrective Action/Preventative Measure
Begin	End				
2/25/2019	2/25/2019	dilution extractive	4	CO2 analyzer pump not working	rebuilt pump
4/2/2019	4/2/2019	dilution extractive	3	SO2 analyzer pump not working	rebuilt pump
4/3/2019	4/3/2019	dilution extractive	1	SO2 analyzer pump not working	Changed faulty diaphram
PROCESS OP TIME:			3420.0		
TOTAL DOWNTIME:			8.0		

Note 1: Please enter the type of CMS with downtime: SO2 analyzer, diluent analyzer, flow monitor and/or moisture, as applicable.
Note 2: Periods when the Part 75 SO2 analyzer goes over range (i.e., full scale exceedances) are also considered downtime for MATS
Note 3: The SO2 analyzer is out of control if--
Note 4: The diluent (CO2/O2) analyzer is out of control if--
Note 5: The out-of-control period begins when the performance check (e.g., calibration error) indicates an exceedance of the performance availability requirement established under the MATS rule.