March 4, 2025

Air Operating Permit Program
Puget Sound Clean Air Agency
1904 Third Ave, Suite 105
Seattle, WA 98101

RE: Proposed Modification to the Title V Permit for Ash Grove Cement (Permit No. 11339) to Remove Limits on Burning of Tire Derived Fuels.

To the Air Operating Permit Program:

These comments are submitted on behalf of the Duwamish River Community Coalition and Earthjustice.

The Duwamish River Community Coalition ("DRCC") has long been a community steward for environmental justice in the Duwamish Valley, which is one of the most polluted areas in the entire Pacific Northwest following 100 years of industrial dumping of toxic waste and historic disinvestment in the community. DRCC has worked tirelessly alongside community groups and neighbors for more than 20 years to clean up the water, land, and air while fighting to eliminate ongoing industrial pollution that makes our communities among the least healthy in the County.

Earthjustice is a 501(c)(3) nonprofit environmental law organization that uses the power of law and the strength of partnership to protect people's health, to preserve magnificent places and wildlife, to advance clean energy, and to combat climate change. Earthjustice partners with thousands of groups, supporters, and citizens to take on the critical environmental issues of our time and bring about positive change.

Residents of the Duwamish Valley ("DV") neighborhoods – part of the 98108 zip code – face poorer air quality than the rest of Seattle because of higher traffic-related air pollution and industrial emissions[1,2,3] and are disproportionately exposed to air pollution compared to other

[1] Schulte, J. K. et al. Neighborhood-Scale Spatial Models of Diesel Exhaust Concentration Profile Using 1-Nitropyrene and Other Nitroarenes. Environ. Sci. Technol. 49, 13422–13430 (2015).

[2] Gilroy, M., Himes Strange, K. & Yost, M. Tacoma and Seattle Area Air Toxics Evaluation.https://pscleanair.gov/DocumentCenter/View/145/2010-Tacoma-and-Seattle-Area-Air-Toxics-Evaluation---Full-Report-PDF?bidId= (2010).

[3] Larson, T. et al. Ambient air quality measurements from a continuously moving mobile platform: Estimation of area-wide, fuel-based, mobile source emission factors using absolute principal component scores. Atmos. Environ. 152, 201–211 (2017).

communities in the City of Seattle. People who live in the DV have some of the most severe health inequities in the City of Seattle. Childhood asthma hospitalization rates are the highest in the City, heart disease death rates are 1.5 times higher than the rest of Seattle and King County, and life expectancy is 13 years shorter when compared to wealthier neighborhoods and eight years shorter when compared to the Seattle and King County average[4]. Our community also lives in close proximity to several contaminated waste sites, including the Duwamish River Superfund site, and suffers from air pollution caused by drayage trucks, industry, six Title V Air permits, traffic congestion, manufacturing facilities, and highways. Finally, DV residents have a mere 140 square feet of accessible green space per resident compared to 387 square feet per resident in Seattle. This is inequitable and significant because tree canopy is important in creating nature-based solutions to unhealthy air quality.

As one of 16 communities overburdened by air pollution in the state of Washington – as defined by the Department of Ecology ("Ecology") – and as a trusted voice of the community, we hold uniquely valuable insights on how to advance towards a more equitable future that supports community-driven change to current air quality conditions. Given that the Ash Grove Cement Company ("Ash Grove") is a major source of emissions, resides in the Duwamish Valley, and is in close proximity to community members and community spaces, we appreciate the opportunity to provide input on this permit modification and offer the following comments.

I. PSCAA's Title V Permit is based on old and outdated information and must be updated, revised, and posted again for public comment.

PSCAA's proposed Draft Permit is fundamentally flawed, and plainly illegal. PSCAA's decision to ignore updated federal regulations, and two decades of monitoring data and violations history for the facility demonstrates a fundamental lack of due diligence. This is highly concerning considering that Ash Grove is one of the largest polluters in the Seattle area, and pollution from this facility directly affects the health of the communities in Seattle.

As discussed further below, PSCAA's documentation in support of its proposed order relies on out-of-date information in support of its determination. PSCAA appears to have ignored federally regulatory developments that require stricter emission standards for cement kilns. The Notice of Construction Worksheet and the proposed Draft Permit include outdated and illegal emissions limits that allow Ash Grove to emit air pollution well in excess of federal law. It is also unclear whether either the Draft Permit or the Notice of Construction Worksheet include emissions limits and restrictions imposed on Ash Grove pursuant to a consent decree issued by the U.S. Environmental Protection Agency in 2015. **See Exhibit B**. The Statement of Basis also relies on old and outdated emissions data from the late 1990s and early 2000s, and only reviews violations data from that early period as well. The Statement of Basis does not review or consider the last two decades of emission data or the history of violations and non-compliance at the facility.

[4] Gould, L. & Cummings, B. Duwamish Valley Cumulative Health Impacts Analysis. https://www.duwamishcleanup.org/chia (2013).

PSCAA must revise Ash Grove's draft Title V permit to include all currently applicable federal emissions limits for cement kilns. PSCAA must revise its analysis to consider recent emissions and monitoring data, as well as the large number of air quality violations at the facility, and update conditions in the Ash Grove Permit to ensure consistency with federal law. Lastly, PSCAA should not modify any conditions limiting the use of tire-derived-fuel ("TDF") without first conducting performance source testing consistent with federal regulations to ensure that the facility will not exceed federal emission limits for criteria or hazardous air pollutants.

II. PSCAA's Title V Permit for the Ash Grove Cement facility is blatantly illegal and fails to control hazardous air pollutants as required by federal law.

The federal Clean Air Act regulates and controls the emissions of hazardous air pollutants from stationary sources pursuant to emissions limits set out in the National Emission Standards for Hazardous Air Pollutants ("NESHAP").[5] States must comply with these standards. According to Ecology regulations, permits "shall contain terms and conditions that assure compliance with all applicable requirements at the time of permit issuance[.]" WAC 173-401-600(1). NESHAP standards are "applicable requirements" that must be included in a permit. WAC 173-401-200(4) (describing "applicable requirements" as including hazardous air pollutant emission standards promulgated pursuant to Section 112 of the Clean Air Act).

A. Emission Standards are Out of Date:

Concerningly, the draft permit posted by PSCAA in the public notice fails to include the updated NESHAP standards for cement kilns to control pollution from Ash Grove Cement. To the contrary, the permit allows for emissions of hazardous and criteria air pollutants that greatly exceed federal limits. Below is a list of unlawful exceedances:

- **Particulates:** Pursuant to NESHAP, particulate matter pollution from existing kilns is limited to 0.07 lbs /ton clinker. 40 CFR § 63.1343, Table 1. However, the permit provides that "[k]iln exhaust shall not exceed 0.30 lb of particulate per ton of feed (dry basis), except during SSM periods[.]" Draft Permit No. 11339, at page 13, Condition EU 1.15 (hereinafter "Ash Grove Permit"). The Ash Grove permit allows the facility to emit toxic particulate matter emissions up to 4 times higher than federally allowed limits.

- **Dioxins/Furans:** For dioxins and furans, the NESHAP regulations limit dioxin and furan emissions to 0.20 ng/dscm. 40 CFR § 63.1343, Table 1. However, the Ash Grove Permit allows the company to emit up to and 0.40 ng/dscm, depending on the baghouse inlet temperature. This means the Ash Grove permit allows the facility to emit double the amount of dioxins and furans than allowed under federal law. Dioxins and furans are highly toxic and carcinogenic hazardous air pollutants.

[5] "Section 112 of the CAA includes provisions for the promulgation of NESHAP, or maximum achievable control technology (MACT) standards, as well as several related programs to enhance and support the NESHAP program." U.S. Envt'l Prot. Agency, "Overview by Section of CAA," https://www3.epa.gov/airtoxics/overview.html.

- **Total Hydrocarbons ("THC"):** THC is a proxy for limiting the emissions of hazardous organic pollutants. The NESHAP regulation for cement kilns requires that area sources limit THC emissions to 24 ppmvd, or 12 ppmvd for total hazardous organic pollutants. 40 CFR § 63.1343, Table 1. The Draft Ash Grove Permit does not contain any emission limits on either total hydrocarbons or total hazardous organic pollutants. The Notice of Construction Worksheet states there is an emission limit on THC or total organic pollutants. Ash Grove Cement Company NOC Worksheet No. 12003 at 8. However, this emission limit is not listed in the Draft Ash Grove Permit.

- **Mercury:** The NESHAP regulation for cement kilns requires that existing cement kilns limit mercury emissions to 55 lb/MM tons clinker. However, the Draft Ash Grove Permit does not contain any limits on mercury emissions. The Notice of Construction Worksheet also does not list mercury emission limits that are required by federal law. Ash Grove Cement Company NOC Worksheet No. 12003 at 8. Presumably this means that Ash Grove has been allowed to operate without any oversight from PSCAA limiting its emissions of mercury. Mercury is a powerful neurotoxin that is particularly dangerous for children, especially unborn children in utero.

- **Sulfur Dioxide:** It is also unclear whether the permit contains the correct emission limits for criteria pollutants. Importantly, for sulfur dioxide ("SO2") emissions, the permit lists standards that are different to both the standards in the 2015 consent decree between Ash Grove and the U.S. EPA, and the NOC Worksheet. The draft permit states that "SO2 emissions shall not exceed 176 tons per year including startup, shutdown and malfunction periods." Ash Grove Permit at Condition EU 1.11. The engineer's worksheet states that the emissions limit for sulfur is both 176 tons per year and "180 ppm @ 10% O2,1-hr average." Ash Grove Cement Company NOC Worksheet No. 12003 at 8. However, both these emission limits differ from the limit listed in the consent decree between Ash Grove and the U.S. EPA, which describes the limit on SO2 emissions as "0.4 lbs SO2/Ton of clinker" with a 30-day rolling average emission limit.[6] PSCAA agreed to the terms of the consent decree on February 7, 2013.[7] However, it is unclear from the engineer worksheet or the permit whether these standards from the consent decree were integrated into the permit–as they are not listed in either the permit or the engineer worksheet.

B. Monitoring Requirements Fail to Comply with Legal Requirements

The draft Ash Grove Permit also contains out-of-date standards for monitoring emissions data that conflict with federal law.

Clinker production: Several emission standards for hazardous and criteria pollutants are based on the amount of clinker produced at the facility. Under federal law, cement plants must monitor "hourly clinker production" using two methods described in the federal

[6] Exhibit B, U.S. Envt'l Prot. Agency v. Ash Grove Cement Company, Consent Decree, at 37 (2013), https://www.epa.gov/sites/default/files/documents/Ash Grove-cd.pdf.

[7] *Id*. at 104 (signed by Craig Kenworthy on behalf of PSCAA).

regulations. 40 CFR § 63.1350(d). PSCAA's draft permit, however, does not require hourly monitoring. Instead, it simply requires Ash Grove to report on the annual tonnage of clinker production. Ash Grove Permit at 36. The permit does require Ash Grove to record the daily kiln production rate, but it is unclear whether this production rate constitutes clinker production, and further PSCAA does not require compliance with federal standards for monitoring hourly clinker production. *Compare* Ash Grove Permit at 37, Condition 10, *with* 40 CFR § 63.1350(d)(1).

Dioxin & Furan monitoring: Federal regulations require continuous emissions monitoring for dioxins and furans for facilities with an emissions limit. 40 CFR § 63.1350(g). Cement plants with an existing kiln are subject to dioxin and furan emission limits, as explained above. Accordingly, Ash Grove should be subject to continuous emissions monitoring for dioxins and furans. However, the draft permit does not require continuous emissions monitoring for dioxins and furans. Instead, it simply requires Ash Grove to report on the temperature of the kiln. Ash Grove Permit at pages 16-17, Conditions EU 1.26 & 1.27.

Total Hydrocarbon (THC) or Total Organic Hazardous Air Pollutant (HAP) monitoring: NESHAP regulations require facilities subject to a THC emission limit to install, operate, and maintain continuous emission monitoring consistent with the methodology provided for in federal regulations. 40 CFR § 63.1350(j). Cement plants with an existing kiln are subject to THC emission limits, as explained above. Accordingly, Ash Grove should be subject to continuous emissions monitoring for either THC or Total Organic HAPs. However, the draft permit does not require continuous emissions monitoring for either THC or Total Organic HAPs, nor does it contain an emissions limit for THC or Total Organic HAPs.

Mercury: NESHAP regulations require facilities subject to a mercury emission limit to install, operate, and maintain continuous emission monitoring consistent with the methodology provided for in federal regulations. 40 CFR § 63.1350(k). Cement plants with an existing kiln are subject to THC emission limits, as explained above. Accordingly, Ash Grove should be subject to continuous emissions monitoring for mercury. However, the draft permit does not require continuous emissions monitoring for mercury, nor does it contain an emissions limit for mercury.

While PSCAA's draft permit clearly fails to include the above described federally required monitoring conditions, this list is not exhaustive. Given that PSCAA's proposed draft permit relies on out-of-date regulations, there may be other monitoring required by federal regulations at this facility. PSCAA must update the draft permit to maintain consistency with NESHAP's monitoring requirements as required by both federal and state law.

C. The Permit Contains Unlawful Defenses to Enforcement and Penalty.

Lastly, the permit also contains unlawful exemptions and defenses to enforcement. Specifically, the permit allows for an exemption from emission standards during startup, shutdown, and maintenance. The D.C. Circuit has held that the Clean Air Act prohibits such an exemption. The permit also illegally creates a defense to enforcement.

Start up, shutdown, and maintenance exemptions: The NESHAP regulations for cement kilns do not allow an exception to hazardous air pollutant emission limits during startup, shutdown, and maintenance. Indeed, the D.C. Circuit ruled that exemptions for startup, shutdown, and maintenance is unlawful and vacated these requirements from federal law. *Sierra Club v. U.S. Envt'l Prot. Agency*, 551 F.3d 1019 (D.C. Cir. 2008). Yet, PSCAA's draft permit includes an exemption from dioxin and furan limits during startup, shutdown and maintenance. Ash Grove Permit at Conditions EU 1.13 and 1.21. Further, the draft permit also allows for exemption of particulate emissions standards during startup and maintenance. Ash Grove Permit at Condition EU 1.15. These conditions are illegal because the Clean Air Act does not allow any exemptions from continuous compliance with Section 112 compliant standards. *Sierra Club v. U.S. Envt'l Prot. Agency*, 551 F.3d 1019, 1027-1028 (D.C. Cir. 2008) ("Congress has required that there must be continuous section 112-compliant standards. … the [startup shutdown and maintenance] exemption violates the [Clean Air Act's] requirement that some section 112 standards apply continuously."). For this same reason, Condition S in the draft permit which allows for exceedances of emissions limits without penalty during start up, shutdown, and scheduled maintenance, is similarly illegal. *See* Ash Grove Permit at 56.

Defense to enforcement: The draft permit contains an affirmative defense to penalties during an emergency which is illegal under federal law. The draft permit states that "an emergency … constitutes *an affirmative defense* to an action brought for noncompliance with a technology-based emission limitation[.]" Ash Grove Permit Condition R, at 56 (emphasis added). However, the D.C. Circuit has held that such an affirmative defense to enforcement is illegal. The D.C. Circuit has held that a permitting agency cannot create an affirmative defense to penalty enforcement for malfunctions of equipment because doing so violates the Clean Air Act. *See* Natural *Resources Defense Council v. E.P.A.*, 749 F.3d 1055 (2014) (invalidating EPA's regulation that provided an affirmative defense to enforcement when equipment malfunctions). The court held that Clean Air Act gives exclusive jurisdiction to courts to determine whether civil penalties are appropriate pursuant to Section 113(e) of the Act, and therefore "deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not for EPA." *Id*. at 1063. PSCAA must remove the affirmative defense to penalties and enforcement included in Condition R of its draft permit.

III. PSCAA failed to comply with SEPA when it issued the notice for public comment on the proposed modification of Ash Grove's Title V permit.

PSCAA claims that the proposed permit change will not have a significant impact on the environment, and as such issued a determination of non-significance. However, PSCAA has not made public its SEPA checklist explaining how it reached this determination. The public cannot comment on the proposed SEPA determination of non-significance without access to the document that describes the environmental analysis completed by PSCAA. Failure to provide the SEPA checklist which formed the basis of PSCAA's environmental analysis and determination of non-significance violates the public notice requirements of SEPA.[8] DRCC and Earthjustice request that PSCAA provide the public with the copy of the environmental analysis

[8] *See* SEPA Handbook at pages 25-28, https://ecology.wa.gov/getattachment/4c9fec2b-5e6f-44b5-bf13-b253e72a4ea1/2-2018-SEPA-Handbook-Update.pdf.

and supporting documents relied upon to issue the determination of non-significance for this permit, and provide the public with at least 20 days to comment and review on PSCAA's environmental analysis.

Further, as discussed in this comment, the proposed permit modification will likely have a significant impact on the environment. First, PSCAA's proposed permit would allow Ash Grove Cement to operate in excess of federal pollution limits for hazardous air contaminants, and possibly SO2. Operating a facility in excess of federal limits on hazardous air pollution would have a potentially significant impact on the environment, and specifically on the public health of nearby residents who are forced to breathe in hazardous pollutants. Further, burning more TDF at Ash Grove could result in an increase in SO2 pollution, and possibly increased NOx pollution, at the very least. Given that the Duwamish Valley has been designated as an overburdened community–increasing smog forming and hazardous air pollution in this community would have deleterious impact on air quality in the Duwamish Valley and on the health of the community. This is a potentially significant impact on the environment, on environmental justice, and on public health. PSCAA cannot issue a determination of non-significance, if evidence shows that a potentially significant effect on the environment may occur from the proposed project.

Nor can PSCAA tie to an old determination of non-significance with this permit modification, without demonstrating that prior environmental analysis considered the modification proposed in this permit. Under a phased review, an agency must describe the "scope and level of detail of environmental review," when conducting a phased review. WAC 197-11-060(5)(a). Should it decide to rely on a previously issued determination of non-significance, PSCAA must demonstrate that it considered the possibility of modifying Ash Grove's Title V permit to allow it to rely on an unspecified percentage of TDF for fuel–potentially to 100% of the facility's power needs. PSCAA has not made such a demonstration, and as such cannot rely on any previously issued determination of non-significance in support of its proposed permit.

IV. PSCAA must require performance testing for any proposal to alter fuel types at the Ash Grove Facility.

First, PSCAA's permit is illegal because it fails to integrate air quality controls at the time of permit issuance. In its proposed permit modification, PSCAA is authorizing Ash Grove to regulate its own volume of tire-derived-fuel ("TDF") through testing and monitoring that the company will conduct after permit issuance. This is illegal. A permit must contain all standards to ensure compliance with air quality standards. WAC 173-401-600 ("Each permit shall contain terms and conditions that assure compliance with all applicable requirements at the time of permit issuance."). PSCAA cannot delay setting a standard for fuel composition until after the permit is issued. In its proposed order of approval, PSCAA provides that "Ash Grove shall … contain the method for complying with condition 3, the replacement fuel composition ..., and the maximum rate of whole tires that will be used. The rate established in this submitted plan will become the new allowable maximum TDF firing percentage to replace the previously established 30% by weight, daily average, limit authorized by NOC 5755." In other words, PSCAA is asking Ash Grove to conduct its own monitoring and testing, and based on that monitoring, come

up with a new permit limit on TDF firing. This condition violates WAC 173-401-600, which requires PSCAA to impose pollution limits at the time of permit issuance.

Second, PSCAA has not required Ash Grove to conduct any performance testing to determine whether changing the fuel used to power the kiln would result in an increase of emissions. PSCAA must conduct source testing to ensure compliance with current Clean Air Act requirements. WAC 173-400-105(4) ("to demonstrate compliance, the permitting authority may conduct or require that the owner or operator of a source conduct a test using approved test methods[.]"). PSCAA cannot remove a condition that limits the use of tire-derived fuel without conducting any testing to ensure that cement kilns at Ash Grove Cement will not increase emissions of hazardous and criteria pollutants.

Only after evaluating the data from this source testing, should PSCAA consider whether to modify permit conditions. Further, PSCAA itself should perform the source testing, not leave this testing to the regulated entity—Ash Grove Cement. All data from a source test should be made public as part of the record of decision for the proposed permit modification.

V. Modifying fuel type is a major change to the facility that requires new source review.

The Clean Air Act's new source review provisions apply to any existing Portland cement plants that operate a "kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems[.]" 40 CFR § 60.60. If that facility seeks to modify its operations, then new source review applies. *Id*. Modification of the fuel type used at the Ash Grove facility is potentially a major modification, because it would likely substantially increase the emission of criteria pollutants and hazardous pollutants emitted at the facility, as discussed further below. This is especially the case here, where we do not know what the ultimate fuel composition will be, and it could be 100% reliance on TDF based on Ash Grove's application.

PSCAA cannot allow Ash Grove to change the fuel mix at its facility without first conducting performance testing, and analyzing based on historic emissions data and scientific analysis of TDF fuel composition how changing the fuel mix to increase reliance on TDF would affect emissions at the facility. The record before PSCAA in this proceeding fails to meet this requirement for several reasons: first, the one-time test conducted by Ash Grove does not meet the requirements of performance testing (*see more below*). Second, the record does not contain any data showing what the exact fuel mix burned at the facility will be–rather PSCAA has allowed Ash Grove to come up with a new fuel mix some time after permit issuance. Third, preliminary scientific data shows that burning more TDF in the fuel mix will likely substantially increase sulfur dioxide and nitrogen oxide emissions, because TDF contains three times more sulfur, and eight times more nitrogen than coal. If Ash Grove exclusively relies on TDF as its fuel source, as it indicated it seeks to do in its permit application, this facility could potentially see a three-times increase in SO_X emissions and eight-times increase in NO_X emissions. These potentially substantial increases in emissions demonstrate that changing the fuel mix likely requires new source review because it will likely result in substantially higher emissions of criteria air pollutants. Lastly, documentation from the EPA finds that cement plants should not use more than 20% TDF to power their operations because they lack the equipment to properly

contain pollutant emissions. See **Exhibit A**. Without changing pollution control equipment, allowing Ash Grove to burn 100% TDF to power its kiln would likely result in substantial and harmful air quality emissions–requiring new source review.

VI. Removing the 30% limit on burning Tire-Derived Fuel (TDF) could increase emissions and put communities at risk.

In March 1995, the Puget Sound Clean Air Agency ("PSCAA") issued a Determination of Nonsignificance and operations began at Ash Grove. Ash Grove currently holds a Title V Air Operating Permit ("AOP 11339") from PSCAA that was issued in May 2004.

Ash Grove utilizes whole tires, referred to as tire-derived fuel ("TDF"), as a fuel source in their feed system, currently limited to 30% daily consumption by weight of fuel input. TDF is used as a supplemental fuel at Ash Grove, acting as an alternative to fossil fuels like natural gas, coal, and used oil[9]. In 1995, Ash Grove originally requested a 30% limit on TDF usage to be classified as a "cofired combustor" and remain exempt from federal New Source Performance Standards ("NSPS"). (*Under NSPS, the definition of a "cofired combustor" applies to units combusting materials defined to be "solid wastes" as a fuel up to 30% or less by weight of the fuel combusted*[10]). However, federal regulations were redefined by the Environmental Protection Agency ("EPA"), and the definition of "solid waste" no longer includes TDF[11]. Based on this arbitrary definition change – wholly unrelated to air pollution regulation – PSCAA has approved the removal of the 30% limit, "...while still requiring TDF usage to be tracked and required pollutants to be monitored."[12]

Removing the 30% limit on TDF could increase emissions and put community members at risk, especially those nearest to the facility like South Park and Georgetown, and parts of the Industrial District and Beacon Hill:

A. Ash Grove's arguments related to hourly TDF burning limits are incorrect and circular.

[9] The rate of "substitution" has not been made public. The community at large has no knowledge on the rate at which TDF is used, other than the 30% limit on daily consumption.

[10] See Title 40 CFR § 60.51a

[11] Title 40 CFR § 241.4 "(a) The following non-hazardous secondary materials are not solid wastes when used as a fuel in a combustion unit: (1) Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires."

[12] See *Public Notice, Puget Sound Clean Air Agency: Draft Notice of Construction Order of Approval and Air Operating Permit Modification*. 9 Dec 2024 https://pscleanair.gov/CivicAlerts.aspx?AID=168

In the Detailed Project Description attached to the Notice of Construction Application for Order of Approval 12003 (hereinafter "No. 12003")[13] from Ash Grove to PSCAA, it was argued that the NOC and permit modification is not considered a "modification"[14]. Ash Grove argues that, because they are permitted to inject up to 100% tires into the kiln in any hour as long as the ***daily*** average remains less than 30% by weight, "[the] removal of the TDF limit will [...] not affect the potential hourly emissions from the kiln, and no further evaluation on hourly basis is needed"[15]. Based on this argument, Ash Grove concluded that there was no need for a NSR because removing the TDF limit would not affect potential hourly emissions from the kiln.

This argument is circular and wrong. Ash Grove cannot operate its facility in a manner that would violate state or federal law restricting the emission of criteria and hazardous air pollutants. Ash Grove has not conducted any performance testing to document that burning TDF in excess of the 30% limit will not violate air quality standards. Further, the permit places a restriction on the amount of TDF burned over the course of a 24 hour period, meaning once Ash Grove meets that limit it cannot burn any more tires. The fact that Ash Grove *may* choose to comply with this requirement by burning more tires during part of the day is not justification in and of itself for removing the permit condition.

Further, Ash Grove does not report their *hourly* consumption of TDF, only deviations if they exceed the *daily* limitations of their Fuel Monitoring Plan (i.e., *they only have to report to PSCAA if they exceed a 30% daily limit*)[16]. 1) the fact that Ash Grove *can* burn 100% tires for an hour within 24 hours doesn't mean that they *should* burn tires 100% of the time all of those 24 hours if doing so would violate permit requirements and 2) without conducting performance testing PSCAA and the public have no way of knowing if increased TDF usage would increase emissions in excess of federal limits on air pollution.[17] Thus, accepting this argument and the subsequent explanations that emissions would not increase (*see more below*), is unsupported and improper.

Further, in the NOC Worksheet[18], it is written: **"**Kiln cannot be 100% operated on TDF." (p. 7). This indicates that PSCAA understands that the kiln cannot be operated on 100% TDF, however, PSCAA has given carte blanche to Ash Grove to determine what amount of tires it will

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[13] See https://www.pscleanair.gov/DocumentCenter/View/5731/12003-app

[14] See WAC 173-400-030 (51) "*any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification.*"

[15] Notice of Construction Application for Order of Approval 12003. https://www.pscleanair.gov/DocumentCenter /View/5731/12003-app

[16] *Air Operating Permit; Permit No. 11339*. Puget Sound Clean Air Agency. May 15, 2009. https://pscleanair.gov/DocumentCenter/View/214/Air-Operating-Permit-PDF?bidId=

[17] Additionally, as noted in section IV of this comment letter – given that the Duwamish Valley has been designated as one of 16 communities highly overburdened by air pollution by ECY – any increase in emissions is unacceptable.

[18] https://pscleanair.gov/DocumentCenter/View/5732/12003-wks

burn at its facility without requiring any testing to ensure compliance with the Clean Air Act requirements. This is illegal.

B. PSCAA's reliance on a one-time study using unknown data and questionable methodology fails to meet the requirements of performance testing, and cannot be relied upon to modify the Ash Grove Permit.

PSCAA has issued an approval of this NOC and Permit Modification without any evidence that emissions would not increase. PSCAA and Ash Grove did not conduct any quality emissions testing. It is very possible that a New Source Review ("NSR") is needed.

Changing the type of fuel used to power Ash Grove's cement Kiln is a material change to the operations at the facility that could significantly impact emissions at the site. PSCAA cannot remove the restriction on burning TDF, without conducting performance testing to ensure the facility will comply with federal pollution control requirements for cement kilns.

However, neither PSCAA nor Ash Grove have conducted any performance testing to ensure that increasing TDF in the fuel mix will not increase pollutant emissions. Instead, PSCAA relies on a questionable one-time test conducted by Ash Grove, that fails to meet the rigorous requirements for performance testing under federal law. In the NOC Worksheet[19] Ash Grove provided a brief chart of a "short study" demonstrating emissions when using TDF in proportions at "26 TDF weight %" and "37 TDF weight %". (It is important to note that in this study, the public does not know how much TDF is actually used ***hourly***. Ash Grove writes, "[we] did a short study increasing [our] hourly average while maintaining [our] daily average below 30%."[20] This short study of questionable methodology, and undisclosed data fails to meet the requirements of performance testing.

Nor would this paltry study withstand scientific scrutiny given its lack of controls and transparency. The purported study includes only one trial on one day. The trial was conducted with "37% TDF", which is not much higher than the current 30% limit or the contrasting "26% TDF" (% used in the short study, unclear what these % mean). Second, because the details of this short study were not made publicly available, we do not know what other fuels were used in tandem with the "increased" TDF usage, nor what fuels were burned in tandem with the "normal average". Given that coal, natural gas, and oil/used oil emit *different amounts of pollution*, this information is critical to the short study. Third, there is no information about whether this one-time test can be extrapolated to allow for an undisclosed amount of TDF burning. Ash Grove has not disclosed what % of TDF they intend to burn, and PSCAA has not placed any controls or limits on that burning. Finally, this one-time test result excludes ***several*** important pollutants, including PM (PM HAPs/TAPs), dioxins, furans, VOCs, THC, HCI, Hg, CO, CO_2 and OHAPs/ HAPs/ TAPs.

[19] https://pscleanair.gov/DocumentCenter/View/5732/12003-wks

[20] See page 7: https://pscleanair.gov/DocumentCenter/View/5732/12003-wks

C. The chemical composition of TDF indicates that pollution will likely increase as a result of PSCAA's proposed modification to the permit.

The chemical makeup of TDF includes at least three times more sulfur, and almost eight times as much nitrogen as coal. Accordingly, injecting more TDF into the kiln would likely result in increased emissions of SO_2 and NO_X.

Increased reliance on TDF will likely increase sulfur emissions at the facility. In its application, Ash Grove stated that burning TDF would not change sulfur emissions because "the sulfur content of tires is expected to have a comparable or lower sulfur content than the other fuels expected to be replaced by TDF usage." (p. 4)[21] However, Ash Grove failed to provide any scientific data or studies demonstrating this assumption is true. To the contrary, scientific data shows that TDF will have much higher sulfur content than other fuels, including coal.

In Pennsylvania, an electric generating facility, Panther Creek Power Operating LLC, applied for an Air Quality Plan Approval Permit to combust shredded tires/TDF (*15% by weight, addition*), in addition to oil, natural gas, and coal in electricity production[22]. In this application, it is stated that substantially more sulfur would be introduced as a result of the 15% addition of TDF. Above (from p. 22 of the application) note the higher levels of sulfur in TDF compared to the other fuels, including coal/culm. This data shows that sulfur content is more than 4 times higher than coal.

Section B - Combustion Unit Information (Continued)

3. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number 2	1440 GPH @ 60°F	110 X 10^3 Gal	0.04% by wt	0.001	19450Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Gas (other)	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Coal Culm		490,600	0.41%	47%	5200-6000 btu
Other* TDF		78,000 Tons	2%	5%	15,000 BTU/lb

A copy of the comments submitted by advocates is included as Exhibit B, and discusses this table in greater detail.

[21] See https://pscleanair.gov/DocumentCenter/View/5731/12003-app

[22] See *Air Quality Plan Approval Application.* June 2023. https://files.dep.state.pa.us/RegionalResources/NERO/NEROPortalFiles/CommunityInformation/Panther_Creek/Panther%20Creek%20TDF%20Plan%20Approval%20Application13-00003B.pdf

Similarly, in a 2005 analysis of TDF and its use in clinker burning, a comparative typical analysis of fuels was demonstrated.[23] Below the higher levels shown of volatiles (***coal 36.8% vs. TDF 72%***), carbon (coal 80.4% vs. TDF 84%), hydrogen (coal 4.6% vs. TDF 5%), sulfur (***coal 0.7% vs. TDF 2%***), and nitrogen (***coal 0.3% vs. TDF 1.75%***) between coal and TDF.

Table 1
Comparative typical analysis of fuels

Analysis	Pet-coke	Coal	TDF
Volatile (%)	13.0	36.8	72
Ash (%)	7.1	14	7
Carbon (%)	82.6	80.6	84
Hydrogen (%)	3.4	4.6	5
Sulfur (%)	4.9	0.7	2
Nitrogen (%)	1.75	0.3	1.75
Lower heating value (kJ/kg)	32,480	27,430	31,400

This table demonstrates that TDF has almost three times the amount of sulfur content as coal, and eight times the nitrogen content of coal. These high concentrations of nitrogen and sulfur could result in much higher emissions of SOx and NOx during burning. Burning an unspecified, increased amount of TDF (potentially greater than 30%, up to 100%) at 72% volatiles content, 2% sulfur content, and 1.75% nitrogen content could increase VOCs, SO_2, and NO_X emissions.[24] Additionally, Ash Grove currently does not have any permit limits for VOCs. Burning a fuel with a larger concentration of these chemicals may require adding a permit limit for VOCs. Without conducting performance testing, there is no way to know whether Ash Grove will comply with existing federal limits on pollutant emissions if it is burning unspecified amounts of TDF in excess of the 30% permit limit.

Ash Grove's application also fails to address how emissions of hazardous air pollutants/toxic air pollutants would change as a result of increased usage and burning of TDF (potentially < 30%, up to 100%). Evidence suggests that burning TDF can emit pollutants like polynuclear aromatic hydrocarbons (PAHs), dioxins, furans, hydrogen chloride, benzene, polychlorinated biphenyls (PCBs), and metals like arsenic, cadmium, nickel, zinc, benzene

[23] Pipilikaki, P., Katsioti, M., Papageorgiou, D., Fragoulis, D., & Chaniotakis, E. (2005). Use of tire derived fuel in clinker burning. *Cement and Concrete Composites*, *27*(7-8), 843-847.

[24] VOC's: "...Ash Grove supports the conclusion that emissions ofVOC, THC/OHAP, and organic TAP will not increase due to increase in TDF usage in the kiln." (No. 12003, p. 5).

NO_X: "...fuel S02 emissions [are] not expected to change because the sulfur content of tires is expected to have a comparable or lower sulfur content than the other fuels expected to be replaced by TDF usage" (No 12003, p. 4).

SO_2: "...SO_2 emissions will not change as a result of this request." (No. 12003, p 4).

mercury, chromium, and vanadium[25] [26]. The application alleges that "[emissions] of PM and particulate HAP & TAP are controlled by the kiln baghouse, and the increase in TDF usage will not increase the flow rate of exhaust gas through the baghouse or the capture efficiency of the filter media" (No. 12003, pg. 5). However, given the absence of performance testing for emissions of particulate matter, hazardous air pollutants, or organic hazardous air pollutants, **burning an unspecified, increased amount of TDF (potentially <30%, up to 100%) could impact emissions. This problem is compounded by the lack of monitoring data for the facility, which violates federal law.**

Further, PSCAA's draft permit itself requires performance testing before Ash Grove makes any changes to operations that could affect the emission of dioxins and furans. Specifically, the draft permit requires Ash Grove to "conduct a dioxin/furan performance test whenever Ash Grove plans to undertake a change in operations that may adversely affect compliance with the D/F emission standards[.]" Ash Grove Permit at Condition 1.32, Page 20. Contrary to the requirements of its own permit, however, PSCAA has not required Ash Grove to conduct any performance testing prior to changing its fuel type.

Given the absence of any evidence that emissions would not increase, PSCAA should not have approved the permit modification and NOC. PSCAA and Ash Grove did not conduct any quality emissions testing. It is very possible that a New Source Review ("NSR") is needed.

VII. Ash Grove has not proven itself to be a trustworthy neighbor to the Duwamish Valley community.

Over the past 10 years, Ash Grove has not proven themselves to be a good neighbor to the Duwamish Valley community. In 2013, Ash Grove constructed or made major modifications to its plants and caused the increase in emissions of NO_X and SO_2[27]. In the Consent Decree, Ash Grove paid $2.5 million to the EPA, Department of Justice, and the other state agencies who signed the Decree and $30 million in investments in pollution control technology at its nine cement manufacturing plants to resolve alleged violations of the Clean Air Act[28].

Further, over the past 10 years, since 2013, Ash Grove has violated their permit 58 times (see Exhibit D). Of those 58 violations, 17 represent potentially health-harming violations:

- December 2013 - Emission of dioxin/furan emissions greater than 0.20 ng/dscm @ 7% when the baghouse temp is > 400 degrees F (3-006281)

[25] U.S. Envt'l Prot. Agency. *Air emissions from scrap tire combustion.* October 1997. EPA-600/R-97-115

[26] Jones, F., Bankiewicz, D., & Hupa, M. (January 2014). Occurrence and sources of zinc in fuels. *Elsevier, 27* (2005), 843–847. https://doi.org/10.1016/j.fuel.2013.10.005

[27] https://www.epa.gov/enforcement/ash-grove-cement-corporation#:~:text=or%20acid%20rain.-,Civil%20Penalty,st ate%20agencies%20signing%20the%20Decree.

[28] https://www.epa.gov/sites/default/files/documents/Ash Grove-cd.pdf

- December 2013 through May 2014 - Emission of dioxin/furan emissions greater than 0.20 ng/dscm @ 7% when the baghouse temp is > 400 degrees F (3-006270)
- June 2016 - Failure to meet EU 1.2 (Ash grove shall not cause or allow the emission of any air contaminant from the kiln stack during any hour that contains any consecutive 6-minute period averaging greater than 20% opacity)
- Sept 2015 - Failure to maintain kiln exhaust @ 10% opacity or less
- Sept 2015 - Failure to operate and maintain equipment in good working order (Baghouse range failure Acceptable operating range on FIS)
- September 10 - 20, 2016 - Ash Grove failed to continuously monitor for mercury using a CEMS
- November 2016 - Failure to include the major source analysis in their Notifications of Compliance Status report for mercury and THC
- June 2017 - Ash Grove reported a 6% opacity (1-hr average) from the kiln stack - AOP requires kiln stack emissions not exceed 5%
- November 2017 - Failure to control CO emissions from the exhaust stack at or below 538 lbs./hour on an eight-hour average; & Failure to control CO emissions at or below 1049 ppm at 10% O2 for an 8-hour average
- December 2017 - Failure to control CO emissions from the exhaust stack at or below 538 lbs./hour on an eight-hour average; & Failure to control CO emissions at or below 1049 ppm at 10% O2 for an 8-hour average
- June 2018 - Failure to maintain NOx emissions from the baghouse at or below 650 corrected to 10% O2 on a 24-hour rolling average
- January 2019 - Ash grove allowed the emissions of air contaminant from the kiln stack during an hour that was greater than 5% opacity of a one hour average (**spiked to 35% in that hour)**
- June 2019 - Failure to prevent the emission of fugitive dust without using reasonable precautions; & failure to operate and maintain equipment in good working order
- January 2020 - Failure to maintain CO emissions from the baghouse at or below 1,049 lb/hr at 10% O2 for an 8-hour average
- June 2020 - Failure to maintain CO emissions from the baghouse at or below 538 lbs/hr for an 8-hr average
- September 2023 - Failure to maintain CO emissions from the baghouse at or below 1045 ppm at 10% O2 for an 8-hr average
- September 2024 - Failure to maintain CO emissions from the baghouse at or below 1045 ppm at 10% O2 for an 8-hr average

Given this history, it is clear why so many community members were outraged to learn about the draft order of approval for the NOC and permit modification. The community does not feel comfortable removing protective limitations on dangerous fuel at a distrusted industrial operation. The lack of transparency and quality emissions testing done prior to the draft order of approval compounds this distrust and unease.

VIII. Removing the 30% limit on burning TDF adds to the cumulative pollution and health burdens that the Duwamish Valley already faces.

As described in VI., removing the 30% limit on TDF could increase criteria air pollutants, and hazardous air pollutants/toxic air pollutants which is an unacceptable outcome in the Duwamish Valley– a community already highly impacted and overburdened by air pollution. As one of the six polluting industries that holds a Title V Air Operating Permit in the Duwamish Valley, modifications like this can have severe impacts for the health and wellbeing of community members and the environment, especially given the lack of up-to-date information and data on TDF and the rarity of its use[29].

As stated previously, residents of South Park and Georgetown face poorer air quality than the rest of Seattle because of higher traffic-related air pollution and industrial emissions[30,31,32] and are disproportionately exposed to air pollution compared to other communities in the City of Seattle. The community also lives in close proximity to hazardous waste treatment storage and disposal facilities, is home to the City's toxic stormwater runoff, is near several contaminated waste sites, including the Duwamish River Superfund site and Harbor Island Superfund site. They also suffer from air pollution caused by drayage trucks, industry, traffic congestion/idling, manufacturing facilities, three heavy-traffic highways, and two international airports. These cumulative environmental and air quality burdens have led to stark health disparities between the DV and other wealthier areas of King County, including lower life expectancies; higher rates of childhood asthma, respiratory illness, low birth weight, and cancer; and higher heart disease death rates. Additionally, in the Duwamish Valley, 56% of the community identifies as a person of color (83rd percentile in the state) and 39% are classified as low income (81st percentile in the state)[33].

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[29] In WA state, Ash Grove is the only industry authorized to burn tires (https://apps.ecology.wa.gov/publications/documents/1207019.pdf). In California, only twelve industries are authorized to burn tires (https://ww2.arb.ca.gov/sites/default/files/2023-01/2022_tire_burning_report_for_2020_data.pdf).

[30] Schulte, J. K. et al. Neighborhood-Scale Spatial Models of Diesel Exhaust Concentration Profile Using 1-Nitropyrene and Other Nitroarenes. Environ. Sci. Technol. 49, 13422–13430 (2015).

[31] Gilroy, M., Himes Strange, K. & Yost, M. Tacoma and Seattle Area Air Toxics Evaluation.https://pscleanair.gov/DocumentCenter/View/145/2010-Tacoma-and-Seattle-Area-Air-Toxics-Evaluation---Full-Report-PDF?bidId= (2010).

[32] Larson, T. et al. Ambient air quality measurements from a continuously moving mobile platform: Estimation of area-wide, fuel-based, mobile source emission factors using absolute principal component scores. Atmos. Environ. 152, 201–211 (2017).

[33] *See archived Duwamish Valley EPA EJScreen data*: https://static1.squarespace.com/static/5d744c68218c867c14aa5531/t/67c60fccdbe0761d155bd186/1741033422254/EJScreen+Community+Report+-+Duwamish+Valley.pdf

Given the existing disproportionate health and air pollution burdens that our community faces, **any potential increases in emissions are concerning to the community**. The draft order of approval[34] (conditions 5 and 6) does not address potential increases in emissions that may fall below maximum emissions limits. As currently written, these conditions do not envision that source testing can show an increase in pollutants – that are below permit limits – but that could be concerning to DRCC and residents.

Therefore, DRCC and Earthjustice request the following:

a. Update the operating permit to ensure compliance federal law (see I. - IV.)
b. Conduct performance testing at the Ash Grove Facility
c. Conduct new source review for Ash Grove's proposed modification to the facility to increase burning of TDF.
d. Reissue a revised permit for public comment that complies with federal law, and properly considers performance testing data and new source review requirements prior to modifying the operating permit.
e. Condition 6 should be updated to include **all relevant emissions** including, but not limited to, PM (PM HAPs/TAPs), VOCs, THC, HCI, Hg, CO, CO_2 and OHAPs/ HAPs/ TAPs

As an overburdened community highly impacted by air pollution, these conditions are **critical** to achieving health outcomes for all, regardless of race or income.

IX. The public process for this Permit Modification and NOC was *inaccessible, and unequitable.*

The Agency did not conduct an accessible, equitable, or fair public process to alert the community of this significant permit modification.

a. The Agency only posted the permit modification to a sub-page of the Agency's website, necessitating interested parties to navigate through three landing pages to see the notice.
b. The original comment period was open from December 10, 2024 to January 9, 2025, during several culturally significant holidays including Hanukkah, Kwanzaa, Christmas Eve, Christmas Day, New Years Eve and New Years day. Only after significant public interest and a request by DRCC did the agency extend the comment period from February 14, 2025 and then to March 4, 2025.
c. The Agency did not utilize existing participatory processes to alert the public of this notice. They did not alert the public via the Agency's monthly Advisory Council with community representatives in attendance. The Agency also did not alert the public via existing community-led meetings, forums, or news outlets like the South Park Neighborhood Association, the Georgetown Community Council, the DRCC monthly newsletter, the Georgetown Gazette (online or print), etc.

[34] *See* https://pscleanair.gov/DocumentCenter/View/5733/12003-doa

d. The Agency did not post a notice to any news outlets during the original comment period. Only after significant public interest did the Agency post a notice to the Daily Journal of Commerce and the Seattle Times on January 28, 2025.

As a local neighbor wrote to the Agency on this permit modification, "It is imperative that we only take greater strides to clean the air and nourish our ecosystem. Our health can afford no steps back."

We implore the Agency to heed the voices of those who would be directly impacted by this permit modification and **PSCAA should not modify any conditions limiting the use of tire-derived-fuel ("TDF") without first conducting performance source testing consistent with federal regulations to ensure that the facility will not exceed federal emission limits for criteria or hazardous air pollutants.**

We appreciate this opportunity to provide comments. Please do not hesitate to contact us if you have any questions.



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EXHIBIT A

United States
Environmental Protection
Agency

Office of Research
and Development
Washington, DC 20460

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AIR EMISSIONS FROM SCRAP TIRE COMBUSTION

Prepared for:

Office of Air Quality Planning and Standards
and
U.S. - Mexico Border Information Center on Air Pollution
Centro Información sobre Contaminación de Aire

C I C A



FOREWORD

The U.S. Environmental Protection Agency is charged by Congress with protecting the Nation's land, air, and water resources. Under a mandate of national environmental laws, the Agency strives to formulate and implement actions leading to a compatible balance between human activities and the ability of natural systems to support and nurture life. To meet this mandate, EPA's research program is providing data and technical support for solving environmental problems today and building a science knowledge base necessary to manage our ecological resources wisely, understand how pollutants affect our health, and prevent or reduce environmental risks in the future.

The National Risk Management Research Laboratory is the Agency's center for investigation of technological and management approaches for reducing risks from threats to human health and the environment. The focus of the Laboratory's research program is on methods for the prevention and control of pollution to air, land, water, and subsurface resources; protection of water quality in public water systems; remediation of contaminated sites and groundwater; and prevention and control of indoor air pollution. The goal of this research effort is to catalyze development and implementation of innovative, cost-effective environmental technologies; develop scientific and engineering information needed by EPA to support regulatory and policy decisions; and provide technical support and information transfer to ensure effective implementation of environmental regulations and strategies.

This publication has been produced as part of the Laboratory's strategic long-term research plan. It is published and made available by EPA's Office of Research and Development to assist the user community and to link researchers with their clients.

E. Timothy Oppelt, Director
National Risk Management Research Laboratory

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AIR EMISSIONS FROM SCRAP TIRE COMBUSTION

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ABSTRACT

Two to three billion (2-3 $x10^9$) scrap tires are in landfills and stockpiles across the United States, and approximately one scrap tire per person is generated every year. Scrap tires represent both a disposal problem and a resource opportunity (e.g., as a fuel and in other applications). Of the many potential negative environmental and health impacts normally associated with scrap tire piles, the present study focuses on (1) examining air emissions related to open tire fires and their potential health impacts, and (2) reporting on emissions data from well designed combustors that have used tires as a fuel.

Air emissions from two types of scrap tire combustion are addressed: uncontrolled and controlled. Uncontrolled sources are open tire fires, which produce many unhealthful products of incomplete combustion and release them directly into the atmosphere. Controlled combustion sources (combustors) include boilers and kilns specifically designed for efficient combustion of solid fuel.

Very little data exist for devices that are not well-designed and use scrap tires for fuel. These sources include fireplaces, wood stoves, small kilns, small incinerators, or any device with poor combustion characteristics. Air emissions from these types of devices are likely between that of open burning and a combustor. However, there is serious concern that the emissions are much more similar to those of an open tire fire than a combustor.

Open tire fires are discussed. Data from a laboratory test program on uncontrolled burning of tire pieces and ambient monitoring at open tire fires are presented and the emissions are characterized. Mutagenic emission data from open burning of scrap tires are compared to mutagenic data for other fuels from both controlled and uncontrolled combustion.

A list of 34 target compounds representing the highest potential for health impacts from open tire fires is presented. The list can be used to design an air monitoring plan in order to evaluate the potential for health risks in future events.

Methods for preventing and managing tire fires are reviewed. Recommendations are presented for storage site design, civilian evacuation, and fire suppression tactics.

Air emissions data from the use of tires as fuel are discussed. The results of a laboratory test program on controlled burning of tire-derived fuel (TDF) in a Rotary Kiln Incinerator Simulator (RKIS) are presented. Based on the results of the RKIS test program, it was concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different than from other conventional fossil fuels, as long as combustion occurs in a well-designed, well-operated, and well-maintained combustion device.

Source test data from 22 industrial facilities that have used TDF are presented: 3 kilns (2 cement and 1 lime) and 19 boilers (utility, pulp and paper, and general industrial applications). In general, the results indicate that properly designed existing solid fuel combustors can supplement their normal fuels (coal, wood, and various combinations of coal, wood, oil, coke, and sludge) with 10 to 20% TDF and still satisfy environmental compliance emissions limits. Furthermore, results from a dedicated tires-to-energy (100% TDF) facility indicate that it is possible to have emissions much lower than produced by existing solid-fuel-fired boilers (on a heat input basis), when properly designed and the facility is controlled.

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ABBREVIATIONS AND ACRONYMS

ATSDR	Agency for Toxic Substances and Disease Registry
AWMA	Air and Waste Management Association
BaP	benzo(a)pyrene
BTU	British thermal unit
CTPV	coal tar pitch volatiles
EPA	U.S. Environmental Protection Agency
ERT	EPA's Emergency Response Team
ESP	electrostatic precipitator
GC/MS	gas chromatography/mass spectroscopy
HAP	hazardous air pollutant
HPLC	high-pressure liquid chromatography
IAFC	International Association of Fire Chiefs
IDLH	Immediately Dangerous to Life and Health
NAAQS	National Ambient Air Quality Standard
NIOSH	National Institute for Occupational Safety and Health
NSP	Northern States Power
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCDD	polychlorinated p-dibenzodioxins
PCDF	polychlorinated dibenzofurans
PIC	product of incomplete combustion
PM	particulate matter
PM_{10}	particulate matter less than 10 µm in aerodynamic diameter
PNA	polynuclear aromatic hydrocarbon
RfC	inhalation reference concentration
RKIS	rotary kiln incinerator simulator
STMC	Scrap Tire Management Council
TDF	tire-derived fuel
TLV	threshold limit value
TPCHD	Tacoma-Pierce County Health Department
TSP	total suspended particulate
TWA	time-weighted average
UPA	United Power Association
VOC	volatile organic compound
VOST	Volatile Organic Sampling Train
WDNR	Wisconsin Department of Natural Resources
WP&L	Wisconsin Power and Light

EXECUTIVE SUMMARY

Two to three billion (2-3 x10^9) scrap tires are in landfills and stockpiles across the United States, and approximately one scrap tire per person is generated every year. Scrap tires represent both a disposal problem and a resource opportunity (e.g., as a fuel and in other applications). Of the many potential negative environmental and health impacts normally associated with scrap tire piles, the present study focuses on (1) examining air emissions related to open tire fires and their potential health impacts, and (2) reporting on emissions data from well designed combustors that have used tires as a fuel.

Air emissions from two types of scrap tire combustion are addressed: uncontrolled and controlled. Uncontrolled sources are open tire fires, which produce many unhealthful products of incomplete combustion and release them directly into the atmosphere. Controlled combustion sources (combustors) are, for example, boilers and kilns specifically designed for efficient combustion of solid fuel. Combustor emissions are much lower and more often than not, these sources also have appropriate add-on air pollution control equipment for the control of particulate emissions.

Very little data exist for devices that are not well-designed and use scrap tires for fuel. These sources include fireplaces, wood stoves, small kilns, small incinerators, or any device with poor combustion characteristics. Air emissions from these types of devices are likely between that of open burning and a combustor. There is serious concern that emissions would be more like those of an open tire fire than a well-designed combustor; however, emissions testing would have to be conducted to confirm this.

Open Tire Fires

Air emissions from open tire fires have been shown to be more toxic (e.g., mutagenic) than those of a combustor, regardless of the fuel. Open tire fire emissions include "criteria" pollutants, such as particulates, carbon monoxide (CO), sulfur oxides (SO_x), oxides of nitrogen (NO_x), and volatile organic compounds (VOCs). They also include "non-criteria" hazardous air pollutants (HAPs), such as polynuclear aromatic hydrocarbons (PAHs), dioxins, furans, hydrogen chloride, benzene, polychlorinated biphenyls (PCBs); and metals such as arsenic, cadmium, nickel, zinc, mercury, chromium, and vanadium. Both criteria and HAP emissions from an open tire fire can represent significant acute (short-term) and chronic (long-term) health hazards to firefighters and nearby residents. Depending on the length and degree of exposure, these health effects could include irritation of the skin, eyes, and mucous membranes, respiratory effects, central nervous system depression, and cancer. Firefighters and others working near a large tire fire should be equipped with respirators and dermal protection. Unprotected exposure to the visible smoke plume should be avoided.

Data from a laboratory test program on uncontrolled burning of tire pieces and ambient monitoring at open tire fires are presented and the emissions are characterized. Mutagenic emission data from open burning of scrap tires are compared to other types of fuel combustion. Open tire fire emissions are estimated to be 16 times more mutagenic than

residential wood combustion in a fireplace, and 13,000 times more mutagenic than coal-fired utility emissions with good combustion efficiency and add-on controls.

A list of 34 target compounds representing the highest potential for inhalation health impacts from open tire fires was developed by analyzing laboratory test data and open tire fire data collected at nine tire fires. The list can be used to design an air monitoring plan in order to evaluate the potential for health risks in future events.

Methods for preventing and managing tire fires are presented. Recommendations are presented for storage site design, civilian evacuation, and fire suppression tactics. For example, tire piles should not exceed 6 m (20 ft) in height; maximum outside dimensions should be limited to 76 m (250 ft) by 6 m (20 ft). Interior fire breaks should be at least 18 m (60 ft) wide. Civilians should be evacuated when they may be subject to exposure by the smoke plume. Fire suppression tactics are site and incident-specific and firefighters should have specialized training to deal effectively with them.

Other Impacts from Open Tire Burning

The scope of this report is limited to airborne emissions. However, significant amounts of liquids and solids containing dangerous chemicals can be generated by melting tires. These products can pollute soil, surface water, and ground water and care must be taken to properly manage these impacts as well.

Controlled Combustion

The results of a laboratory test program on controlled burning of tire-derived fuel (TDF) in a Rotary Kiln Incinerator Simulator (RKIS) are presented. In all, 30 test conditions were run, with the TDF feed rate varying from 0 to 21.4% of heat input. The test conditions were achieved by varying kiln firing rate, combustion air flow rate, and tire feed rate. The majority of the tests were conducted with a steady-state feed of TDF. However, variations in the mode of TDF feeding were simulated in two tests to evaluate the impact of transient operation on air emissions.

Based on the results of the RKIS test program, it can be concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different than from other conventional fossil fuels, as long as combustion occurs in a well-designed, well-operated and well-maintained combustion device. However, as with most solid fuel combustors, an appropriate particulate control device would likely be needed in order to obtain an operating permit in most jurisdictions in the United States.

Test data, from 22 industrial facilities that have used TDF are presented: 3 kilns (2 cement and 1 lime) and 19 boilers (utility, pulp and paper, and general industrial applications). All sources had some type of particulate control. In general, the results indicate that properly designed existing solid fuel combustors can supplement their normal fuels, which typically consist of coal, wood, coke and various combinations thereof, with 10 to 20% TDF and still satisfy environmental compliance emissions limits. Furthermore, results from a dedicated tires-to-energy (100% TDF) facility indicate that it is possible to have

emissions much lower than produced by existing solid-fuel-fired boilers (on a heat input basis) with a specially designed combustor and add-on controls.

Depending on the design of the combustion device, some tire processing is usually necessary before it is ready to be used as a fuel. Processing includes dewiring and shredding and/or other sizing techniques. Some specially designed boilers and cement kilns have had their feed systems designed to accept whole tires.

TDF has been used successfully in properly designed combustors with good combustion control and appropriate add-on controls, particularly particulate controls, such as electrostatic precipitators or fabric filters. The resultant air emissions can usually satisfy environmental compliance limits even with TDF representing up to 10 to 20% of the fuel requirements. Twenty percent supplemental TDF is perceived as an upper limit in most existing boilers because of boiler limitations on fuel or performance. However, dedicated tire-to-energy facilities specifically designed to burn TDF as their only fuel have been demonstrated to achieve emission rates much lower than most solid fuel combustors.

Conclusion

Air emissions have been documented from open burning of scrap tires and from TDF in well-designed combustors. Laboratory and field studies have confirmed that open burning produces toxic gases that can represent significant acute and chronic health hazards. However, field studies have also confirmed that TDF can be used successfully as a 10 - 20% supplementary fuel in properly designed solid-fuel combustors with good combustion control and add-on particulate controls, such as electrostatic precipitators or fabric filters. Furthermore, a dedicated tire-to-energy facility specifically designed to burn TDF as its only fuel has been demonstrated to achieve emission rates much lower than most solid fuel combustors.

No field data were available for well-designed combustors with no add-on particulate controls. Laboratory testing of an RKIS indicated that efficient combustion of supplementary TDF can destroy many volatile and semi-volatile air contaminants. However, it is not likely that a solid fuel combustor without add-on particulate controls could satisfy air emission regulatory requirements in the U.S.

No data were available for poorly designed or primitive combustion devices with no add-on controls. Air emissions from these types of devices would depend on design, fuel type, method of feeding, and other parameters. There is serious concern that emissions would be more like those of an open tire fire than a well-designed combustor. Stack emissions test data would need to be collected and analyzed to confirm this.

1.0 INTRODUCTION

The purpose of this study is to summarize available information on air emissions and potential health impacts from scrap tire combustion. The study addresses uncontrolled burning, such as from tire fires, and controlled burning, where processed tires, or tire-derived fuel (TDF) are used as a fuel supplement in a combustion device such as a boiler or kiln. Controlled burning implies that the system is adequately designed to effect efficient combustion and may have other add-on air pollution controls, most likely for particulate control.

Air emissions from open burning of tires include "criteria" pollutants, such as particulates, carbon monoxide (CO), sulfur oxides (SO_x), oxides of nitrogen (NO_x), and volatile organic compounds (VOCs). They also include "non-criteria" hazardous air pollutants (HAPs), such as polynuclear aromatic hydrocarbons (PAHs), dioxins, furans, hydrogen chloride, benzene, polychlorinated biphenyls (PCBs); and metals such as arsenic, cadmium, nickel, zinc, mercury, chromium, and vanadium. In open fire situations, these emissions can represent significant acute (short term) and chronic (long-term) health hazards to firefighters and nearby residents. These health effects include irritation of the skin, eyes, and mucous membranes, central nervous system depression, respiratory effects, and cancer.

TDF has been used successfully in properly designed combustors with good combustion control and appropriate add-on controls, particularly particulate controls, such as electrostatic precipitators (ESPs) or fabric filters. Air emissions characteristic of TDF combustion are typical of most solid fuels, such as coal and wood. The resultant air emissions can usually satisfy environmental compliance limits even with TDF representing up to 10 to 20% of the fuel requirements. Twenty percent supplemental TDF is perceived as an upper limit in most existing boilers because of boiler limitations on fuel or performance (Clark et al., 1991). However, dedicated tire-to-energy facilities specifically designed to burn TDF as their only fuel have been demonstrated to achieve emission rates much less than most solid fuel combustors.

2.0 EMISSIONS FROM OPEN TIRE FIRES

Airborne missions from open tire fires have long been suspected of representing a serious impact to health and the environment. However, due to the lack of sufficient data, it was uncertain as to exactly what was being emitted, how much was being emitted, and how dangerous these emissions were, especially to sensitive individuals (e.g., children and the elderly). In recent years, a number of laboratory and field test programs have been conducted to identify and quantify these emissions. This section summarizes the results of a number of key studies in this area and briefly discusses certain aspects of preventing and managing tire fires.

2.1 LABORATORY EMISSIONS TESTING

A controlled simulation test program designed to identify and quantify organic and inorganic emission products during the simulated open combustion of scrap tires was conducted by EPA (Ryan, 1989) and further documented in an Air and Waste Management Association Paper [(AWMA) Lemieux and Ryan, 1993]. This important study is summarized in detail below.

Small quantities of 4.5 to 9 kilograms {kg [10 to 20 pounds (lb)]} of scrap tire material were burned under two controlled conditions in a 2.4 x 2.4 x 2.4 m [8 x 8 x 8 foot (ft)] ventilated, instrumented burn hut. Two sizes of tire material were burned: "chunk," about 1/6 to 1/4 of an entire tire and "shred", where the tire pieces were 5 x 5 centimeters {cm [2 x 2 inches (in)]}. EPA's Hazardous Air Pollutants Mobile Laboratory was used to monitor fixed combustion gases. Organics were collected using the volatile organic sampling train and a semi-volatile collection system using XAD-2 resin and particulate filters. Particulate was also collected to assess airborne metals and to measure the amount of particulate less than 10 microns (µm) in aerodynamic diameter (PM_{10}). The organic constituents were analyzed using gas chromatography/mass spectroscopy (GC/MS), gas chromatography/flame ionization detection, and high pressure liquid chromatography (HPLC).

The results of the test program are presented in Tables 1 through 4. Table 1 presents an averaging of the three sets of volatile organic sampling train (VOST) samples taken at each run condition, each taken at different periods during the burn. Benzene is emitted in large quantities under both conditions. The majority of the volatile organic emissions are aliphatic-, olefinic-, or acetylenic-substituted aromatics. Cyclic alkanes, alkenes, and dienes were also present. Butadiene, a major constituent of the tire fabrication process was also present. The estimated emissions were calculated assuming that dilution air was added at a constant volume flow and the amount of air entering equaled the amount exiting the burn hut. A well-mixed condition is also assumed (i.e., the sample collected at the duct is representative of the gas mixture in the hut).

Semi-volatile organic emissions data are presented in Table 2. Substituted mono-

TABLE 1. OPEN BURNING EMISSIONS: VOLATILE ORGANICS[a,b] (LABORATORY SIMULATION)

Compound	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
Benzaldehyde	0.260	299.2	0.5984	0.215	330	0.660
Benzene	1.910	2,156.3	4.3126	1.40	2,205	4.410
Benzodiazine	0.017	13.7	0.0274	0.014	17.4	0.0348
Benzofuran	0.049	25.1	0.0502	ND	ND	ND
Benzothiophene	0.014	26.3	0.0526	0.011	14.7	0.0294
1,3-Butadiene	0.152	308.4	0.6168	0.096	160	0.320
Cyclopentadiene	0.081	48.6	0.0972	ND	ND	ND
Dihydroindene	0.013	40.6	0.0812	0.021	42.8	0.0856
Dimethyl benzene	0.413	779.7	1.559	0.629	1,078	2.156
Dimethyl hexadiene	0.008	28.3	0.0566	0.049	90.9	0.182
Dimethyl methyl propyl benzene	ND	ND	ND	0.008	14.9	0.298
Dimethyl dihydroindene	0.007	22.0	0.0440	0.008	17.7	0.0354
Ethenyl benzene	0.678	941.8	1.88	0.395	611.4	1.223
Ethenyl cyclohexane	0.006	26.2	0.0524	0.060	107.6	0.2152
Ethenyl dimethyl benzene	0.014	7.2	0.014	0.014	23.7	0.0474
Ethenyl methyl benzene	0.016	14.1	0.0282	0.014	19.5	0.0390
Ethenyl dimethyl cyclohexane	ND	ND	ND	0.193	350.4	0.7008
Ethenyl methyl benzene	0.129	221.6	0.4432	0.028	40.9	0.0818
Ethyl benzene	0.182	460.8	0.9216	0.164	295.1	0.5902
Ethyl methyl benzene	0.120	334.5	0.6690	0.262	475.8	0.9516
Ethynyl benzene	0.322	190.0	0.3800	0.110	131.5	0.2630
Ethynyl methyl benzene	0.562	530.6	1.061	0.226	258.7	0.5174
Heptadiene	0.009	25.4	0.051	0.028	51.4	0.103

(Continued)

TABLE 1. OPEN BURNING EMISSIONS: VOLATILE ORGANICS[a,b] (LABORATORY SIMULATION) (Cont.)

Compound	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
Isocyanobenzene	0.341	348	0.696	0.191	290	0.580
Limonene	0.011	27.5	0.055	0.513	893	1.79
Methyl benzene	0.976	1,606	3.21	0.714	1,129	2.26
Methyl cyclohexane	0.005	21.1	0.420	0.023	40.1	0.080
Methyl hexadiene	0.021	71.3	0.143	0.068	127	0.254
Methyl indene	0.138	316	0.632	0.087	140	0.280
Methyl naphthalene	0.287	312	0.624	0.135	197	0.394
Methyl thiophene	0.006	5.5	0.011	0.007	12.6	0.025
Methyl ethenyl benzene	0.027	55.7	0.111	0.045	76.6	0.153
Methyl methylethenyl benzene	0.046	98.0	0.196	0.373	683	1.37
Methyl methylethyl benzene	0.041	111	0.222	0.165	283	0.566
Methyl methylethyl cyclohexane	ND	ND	ND	0.086	170	0.340
Methyl propyl benzene	ND	ND	ND	0.020	41.6	0.083
Methylene indene	0.038	48.5	0.097	0.022	34.4	0.069
Methylethyl benzene	0.045	135	0.270	0.092	169	0.338
Naphthalene	1.29	1,130	2.26	0.607	824	1.65
Pentadiene	0.077	164	0.388	0.680	1,163	2.33
Phenol	0.002	0.5	0.001	0.016	14.3	0.029
Propyl benzene	0.026	72.4	0.145	0.046	84.2	0.168
Tetramethyl benzene	ND	ND	ND	0.130	256	0.512
Thiophene	0.023	54.6	0.109	0.021	27.9	0.056
Trichlorofluoromethane	0.158	57.6	0.115	ND	ND	ND
Trimethyl benzene	0.022	46.9	0.0938	0.042	74.9	0.150
TOTALS	**8.53**	**11,182**	**22.364**	**8.03**	**13,068**	**26.136**

[a] Concentrations determined using system responses to toluene.
[b] These data are averaged over six sets of VOST tubes taken over 2 days.
ND = None detected.

TABLE 2. OPEN BURNING EMISSIONS: SEMI-VOLATILE ORGANICS (LABORATORY SIMULATION)

Compound	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
1-Methyl naphthalene	0.292	330.7	0.6614	0.133	227.6	0.4552
1,1' Biphenyl,methyl	0.013	11.1	0.0222	ND	ND	ND
1H fluorene	0.187	210.3	0.4206	0.183	308.4	0.6168
2-Methyl naphthalene	0.314	350.7	0.7014	0.255	429.2	0.8584
Acenaphthylene	0.580	633.8	1.267	0.318	531.1	1.062
Benzaldehyde	0.218	244.1	0.4482	0.180	333.9	0.6678
Benzisothiazole	ND	ND	ND	0.094	173.9	0.3478
Benz(b)thiophene	0.050	44.2	0.0884	ND	ND	ND
Biphenyl	0.186	209.5	0.4190	0.193	330.1	0.6602
Cyanobenzene	0.199	223.7	0.4474	0.300	516.8	1.034
Dimethyl benzene	0.254	305.0	0.6100	0.544	935.1	1.870
Dimethyl-naphthalene	0.034	41.1	0.082	0.096	178.1	0.3562
Ethyl benzene	0.181	205.2	0.4104	0.197	337.6	0.6752
Ethyl dimethyl benzene	ND	ND	ND	0.158	272.4	0.5448
Ethynyl benzene	0.254	275.8	0.5516	0.112	187.4	0.3748
Hexahydro-azepinone	0.062	75.1	0.150	0.445	748.5	1.497
Indene	0.462	503.4	1.007	0.201	339.2	0.6784
Isocyano- naphthalene	0.011	9.4	0.019	ND	ND	ND
Limonene	0.047	56.1	0.112	1.361	2,345.5	4.6910
Methyl benzaldehyde	ND	ND	ND	0.047	86.6	0.173
Methyl benzene	1.105	1,212.2	2.4244	0.816	1,390.1	2.7802
Methyl indene	0.093	111.8	0.02360	0.234	400.7	0.8014

(Continued)

TABLE 2. OPEN BURNING EMISSIONS: SEMI-VOLATILE ORGANICS (LABORATORY SIMULATION) (Cont.)

Compound	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
Methyl methylethyl benzene	0.107	127.9	0.2558	0.821	1,426.1	2.8522
Methylethyl benzene	0.040	48.3	0.0966	0.133	229.1	0.4582
Naphthalene	1.578	1,697.9	3.3958	0.671	1,130.7	2.2614
Phenanthrene	0.173	183.7	0.3674	0.119	187.0	0.3740
Phenol	0.330	365.9	0.7318	0.412	700.2	1.400
Propenyl naphthalene	0.027	23.5	0.0470	ND	ND	ND
Propenyl methyl benzene	ND	ND	ND	0.282	523.6	1.047
Propyl benzene	ND	ND	ND	0.127	219.6	0.4392
Styrene	0.605	659.9	1.320	0.380	645.5	1.291
Tetramethyl benzene	ND	ND	ND	0.049	91.9	0.184
Trimethyl benzene	ND	209.4	0.4188	0.446	751.4	1.502
Trimethyl naphthalene	ND	ND	ND	0.185	315.8	0.6316
TOTALS	**7.593**	**8,369.7**	**16.739**	**9.492**	**16,293.1**	**32.5862**

ND - None detected.

TABLE 3. OPEN BURNING: TOTAL ORGANICS EMISSION SUMMARY (LABORATORY SIMULATION)

Organic Component	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
Volatile	8.53	11,182	22.364	8.03	13,068	26.136
Semi-Volatile	3,514.6	9,792.0	19.584	8,473.0	31,686.0	63.3720
Particulate	4,048.0	11,223.5	22.4470	4,151.9	14,888.0	29.7760
TOTALS	**7,571.1**	**32,197.5**	**64.3950**	**12,632.93**	**59,642.0**	**119.284**

TABLE 4. OPEN BURNING: PAH EMISSIONS (LABORATORY SIMULATION)

Compound	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
Naphthalene	0.786	815.9	1.632	0.289	486.0	0.9720
Acenaphthylene	0.802	861.3	1.722	0.334	561.8	1.124
Acenaphthene	0.282	290.3	0.5806	1.404	2,445.7	4.8914
Fluorene	0.243	260.5	0.5210	0.112	186.8	0.3736
Phenanthrene	0.225	237.5	0.4750	0.149	252.5	0.5050
Anthracene	0.053	56.3	0.113	0.029	49.6	0.099
Fluoranthene	0.324	338.7	0.6774	0.273	458.0	0.9160
Pyrene	0.030	33.8	0.0676	0.090	151.7	0.3034
Benz(a)anthracene	0.076	82.2	0.164	0.062	102.4	0.2048
Chrysene	0.068	70.8	0.142	0.056	91.6	0.183
Benzo(b)fluoranthene	0.064	69.4	0.139	0.053	88.4	0.177
Benzo(k)fluoranthene	0.069	74.3	0.149	0.059	99.4	0.199
Benzo(a)pyrene	0.08	84.8	0.170	0.068	113.9	0.2278
Dibenz(a,h)anthracene	0.001	1.1	0.0022	ND	ND	ND
Benzo(g,h,i)perylene	0.060	66.0	0.132	0.095	159.4	0.3188
Indeno(1,2,3-cd)pyrene	0.049	51.6	0.103	0.051	85.5	0.171
TOTALS	**3.212**	**3,394.5**	**6.7890**	**3.124**	**5,332.7**	**10.665**

and polyaromatics were also the predominant products of incomplete combustion (PICs). The data represent an average of three samples taken over the entire course of the day's run. The organic emissions summary is presented in Table 3.

PAH emissions data are presented in Table 4. The 16-PAHs include several compounds known to be carcinogenic. In particular, the presence and magnitude of benzo(a)pyrene (BaP) is of major concern. BaP is often a highly-scrutinized compound during evaluations of combustion processes, due to its high cancer potency.

Particulate was collected using three separate systems, a semi-volatile organic system, airborne metals particulate collection, and a medium volume ambient PM_{10} sampler located inside the burn hut [operated at 0.11 cubic meters per minute (m^3/min) or 4 cubic feet per minute (ft^3/min)]. The particulate emissions data generated from the use of these three systems are presented in Table 5. The authors found that the particulate emissions rate decreases with decreasing burn rate, and that nearly 100 g of particulate is emitted for every kilogram of tire combusted.

A separate particulate collection system was used to analyze 17 metals found in combusted-tire ash residues. The results of the metals analysis are presented in Table 6. The only significant metals emissions compared to blank samples were lead and zinc emissions. The authors concluded that both average gaseous concentration and estimated emissions of zinc increase with increasing burn rates.

2.2 MUTAGENICITY OF TIRE FIRE EMISSIONS

In a follow-up study to the 1989 Ryan report, Lemieux and DeMarini (1992) analyzed the air emissions data collected in the laboratory study to evaluate potential health impacts. An experimental technique called bioassay-directed fractionation combined with additional GC/MS analyses was used to evaluate quantity and potency of airborne mutagens from the PICs emitted during open tire burning. The method of bioassay-directed fractionation uses mutagenic assays of chemical fractions of complex mixtures such as PICs to identify chemical classes and species responsible for mutagenic activity. It was concluded that: "The mutagenic emission factor for open tire burning is the greatest of any other combustion emission studied previously. For example, it is 3-4 orders of magnitude greater than the mutagenic emission factors for the combustion of oil, coal, or wood in utility boilers" (Lemieux and DeMarini, 1992). A mutagen is defined as a substance that causes mutations. A mutation is a change in the genetic material in a body cell. These mutations can lead to birth defects, miscarriages, or cancer (ATSDR, 1990). Mutagens are of concern because "the induction of genetic damage may cause an increased incidence of genetic disease in future generations and contribute to somatic cell diseases, including cancer, in the present generation" (Amdur, 1991).

Mutagenic emission factors are compared in the bar chart presented as Figure 1 for various combustion processes [units: revertants per kilogram (revertants/kg) of fuel. A revertant is represented by a bacterial colony that forms after the organic effluent from a tire burn is mixed with a specific bacteriological strain. The number of colonies are

TABLE 5. OPEN BURNING: PARTICULATE EMISSIONS (LABORATORY SIMULATION)

Sample	Chunk				Shred			
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Extractable Organic (%)	Exhaust Conc. (mg/m^3)	Estimated Emissions		Extractable Organic (%)
		mg/kg	lb/ton			mg/kg	lb/ton	
Organic Particulate Filter	93	97,100	1,940	10.6	43.75	73,400	147	19.65
Metal Particulate Filter	111.55	105,000	210	N/A	37.9	64,500	129	N/A
PM_{10} Filter [a]	444.14	113,500	227.0	N/A	92.85	149,000	298	N/A

N/A = not analyzed.

[a] The PM_{10} sampling filter became heavily loaded during the initial part of each run. The results are biased high due to higher burning rates that occurred during this portion of the run.

TABLE 6. OPEN BURNING: METALS EMISSIONS (LABORATORY SIMULATION)

Metals	Chunk			Shred		
	Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)		Exhaust Conc. (mg/m^3)	Emission Factor (mass/mass tire)	
		mg/kg	lb/ton		mg/kg	lb/ton
Aluminum	ND	ND	ND	ND	ND	ND
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	ND	ND	ND
Barium	ND	ND	ND	ND	ND	ND
Calcium	0.0079	8.54	0.0171	0.0028	4.80	0.00960
Chromium	ND	ND	ND	ND	ND	ND
Copper	ND	ND	ND	ND	ND	ND
Iron	ND	ND	ND	ND	ND	ND
Lead	0.0004	0.47	0.0094	0.0001	0.10	0.00020
Magnesium	0.0012	1.26	0.00252	0.0005	0.75	0.0015
Nickel	ND	ND	ND	ND	ND	ND
Selenium	ND	ND	ND	ND	ND	ND
Sodium	0.0084	9.51	0.0190	0.0035	5.80	0.0116
Titanium	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	ND	ND	ND	ND
Zinc	0.0409	31.17	0.06234	0.0146	24.35	0.04870

ND = Not detected.

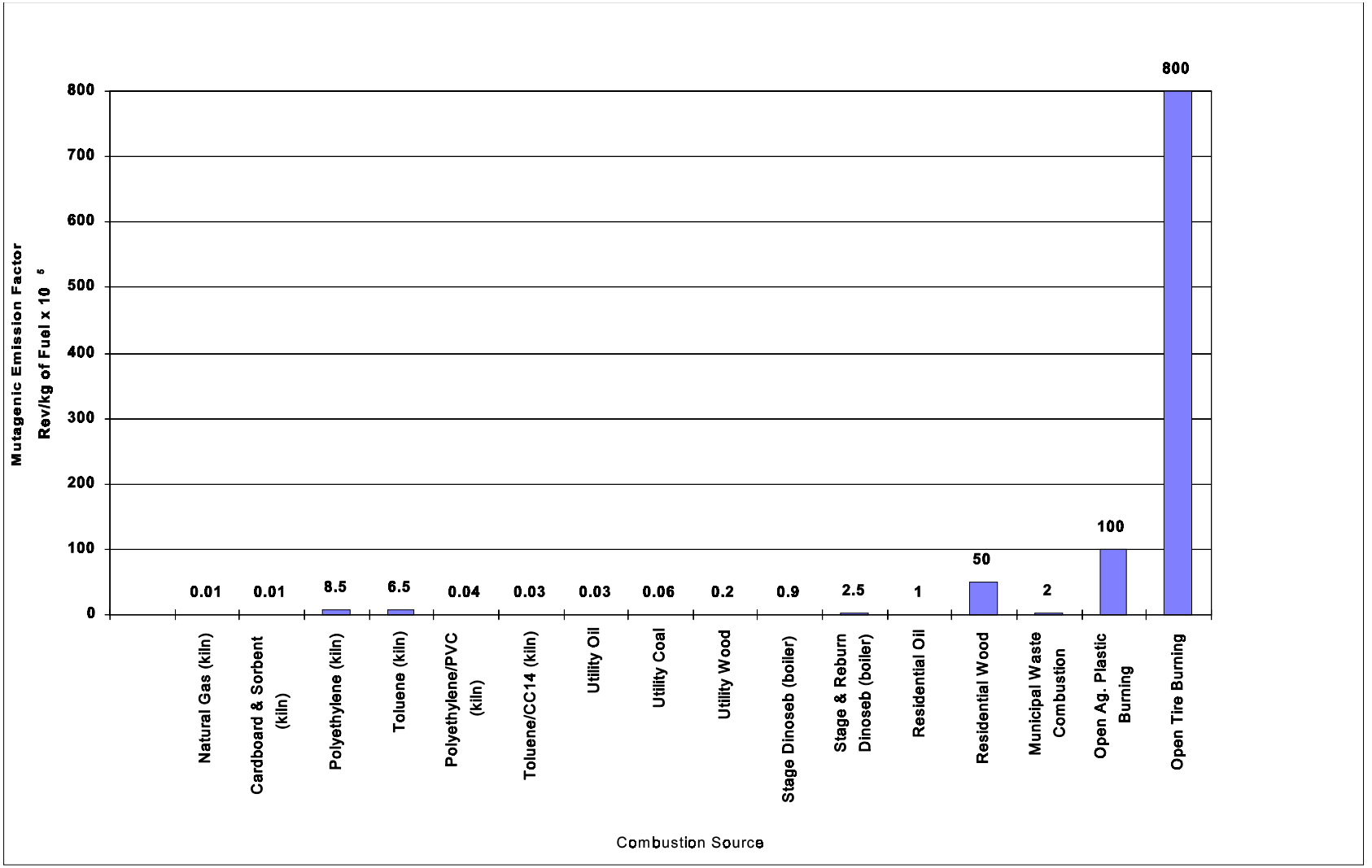


FIGURE 1. MUTAGENIC EMISSION FACTORS FOR VARIOUS COMBUSTION PROCESSES

counted to determine the number of revertants per mass of organics. The authors concluded that open burning of tires, wood, and plastic results in exceptionally high mutagenic emission factors and that "open burning, regardless of the feed stock or fuel, results in greater mutagenic emission factors than does controlled combustion provided by various types of incinerators or boilers" (Lemieux and DeMarini, 1992).

The authors found similar mutagenic emission factors of semi-volatile organics produced by the large (chunk) and small (shred) tire pieces. They also found that the mutagenic emission factors for the particulate organics were much greater than those for organics.

The report's final conclusion serves as a potentially serious warning: "Considering the (a) relatively high mutagenic potency of the particulate organics, (b) high mutagenic emission factors, and (c) presence of many mutagens/carcinogens, especially PAHs, in the effluent from the open burning of tires, such burns pose a genuine environmental and health hazard" (Lemieux and DeMarini, 1992).

2.3 FIELD SAMPLING - AIR MONITORING DATA NEAR TIRE FIRES

Field sampling data from uncontrolled open tire fires is lacking. This is a result of the inherent difficulties encountered in obtaining the data due to safety concerns and the variable nature of the event (e.g., fire size and duration, meteorological conditions, terrain effects, combustion conditions and fire-fighting activities). Furthermore, the primary concern on the part of officials in charge is to provide for the safety and welfare of those who may be affected by the heat and smoke from the fire.

TRC Environmental Corporation collected, evaluated, and documented air monitoring data from 22 actual tire fire emergencies for the EPA (TRC, 1993). The concentration data that was collected were intended primarily for use by public officials to determine evacuation areas. Seventeen analytes common to tire fire incidents were analyzed, all VOCs.

The ambient concentration data were extremely scattered. This is not unexpected, given the difficulties in obtaining reliable field data during an open tire fire. The summary data are presented in two groups, concentrations measured within 305 m (1000 feet) of the fire and concentrations measured beyond 305 m (1000 feet). Summary statistics are presented in Tables 7 and 8. Of the 17 analytes studied, benzene, toluene, and styrene had the highest overall concentrations. The report acknowledges that particulate matter containing PAHs and heavy metals are known tire fire emissions, however because of the lack of PM monitoring data, these compounds were not addressed. Therefore, the available data are not fully representative of the potential health risks from exposure to open tire fire emissions.

TABLE 7. OPEN BURNING: AMBIENT CONCENTRATIONS ≤305 m (1000 FT) DOWNWIND

Analyte	n[1]	No. Fires where meas. taken	Concentrations (µg/m³)					
			Median	90% LCL[2]	90% UCL[2]	a[3]	90th Pcnt[4]	Max
Benzene	101	21	121	33	525	17	6,375	79,693
Toluene	94	21	220	38	527	16	3,766	206,753
Styrene	86	14	85	20	174	15	2,320	2,705
Xylenes[5]	41	9	17	ND	607	11	1,424	3,809
m,p-Xylene	30	6	76	1	282	9	912	999
o-Xylene	49	10	35	1	109	12	336	564
Methylene chloride	39	10	8	ND	89	10	565	836
Chloroform	33	9	42	ND	197	9	533	1,085
Ethyl benzene	57	12	49	ND	204	12	502	1,477
Trichloroethene[5]	45	11	ND	ND	41	11	425	881
1,1,2-Trichloroethane	33	7	ND	ND	82	9	316	542
1,1,1-Trichloroethane	43	12	ND	ND	10	11	39	817
1,1-Dichloroethane	26	10	ND	ND	ND	8	16	42
Chlorobenzene	33	11	ND	ND	ND	9	2	11
Trichloroethane[5]	17	7	ND	ND	1	7	1	1
Carbon tetrachloride	31	10	ND	ND	ND	9	ND	44
Tetrachloroethene	28	9	ND	ND	ND	9	ND	ND

[1] n = number of measurements
[2] The 90 percent confidence limits lower and upper as determined for the median.
[3] Where a is the number of data values from the median to the upper and to the lower 90 percent confidence limits.
[4] The analytes in this table are arranged in order of 90th percentile (except for the o-xylene isomer).
[5] Contains mixed isomers.
ND = Not detected.

TABLE 8. OPEN BURNING: AMBIENT CONCENTRATIONS >305 m (1000 FT) DOWNWIND

Analyte	n[1]	No. Fires where meas. taken	Concentrations (µg/m³)					
			Median	90% LCL[2]	90% UCL[2]	a[3]	90th Pcnt[4]	Max
Styrene	45	5	1	ND	16	11	554	2,705
Ethyl benzene	18	5	3	ND	172	7	172	1,390
Toluene	45	10	5	1	37	11	156	634
Benzene	47	10	4	ND	29	11	67	524
Xylene[5]	20	4	ND	ND	ND	7	4	20
m,p-Xylene	28	3	2	1	9	9	14	999
o-Xylene	38	6	1	1	5	10	13	521
Chlorobenzene	29	5	1	ND	1	9	1	1
1,1,1-Trichloroethane	30	5	1	ND	1	9	1	7
Trichloroethane[5]	34	4	1	ND	1	10	1	3
Carbon tetrachloride	8	4	ND	ND	ND	4	ND	ND
Trichloroethene[5]	6	4	ND	ND	18	3	ND	18
1,1-Dichloroethane	7	3	ND	ND	ND	3	ND	ND
1,1,2-Trichloroethane	6	2	ND	ND	ND	3	ND	ND
Chloroform	3	3	ND	ND	ND	1	ND	ND
Methylene chloride	14	3	ND	ND	ND	6	ND	660
Tetrachloroethene	8	4	ND	ND	ND	4	ND	ND

[1] n = number of measurements

[2] The 90 percent confidence limits lower and upper as determined for the median.

[3] Where a is the number of data values from the median to the upper and to the lower 90 percent confidence limits.

[4] The analytes in this table are arranged in order of 90th percentile (except for the o-xylene isomer).

[5] Contains mixed isomers.

ND = Not detected.

2.4 CASE STUDIES

2.4.1 Rhinehart Tire Fire - Winchester, VA

A fire of unknown origin began on October 31, 1983 in a dump in Winchester, Virginia. This event became known as the Rhinehart Tire Fire. The dump contained approximately 5 million scrap tires over a 1.6-hectare [ha (4-acre)] site. A black smoke plume rose to 910 m (3000 ft) and extended some 48 - 80 kilometers [km (30 - 50 miles)]. On November 2, 1983, EPA requested immediate technical assistance from the National Institute for Occupational Safety and Health (NIOSH) to evaluate site safety and worker exposure to potentially hazardous emissions from the tire fire.

NIOSH industrial hygienists collected air samples on November 4 and 9, 1983 (NIOSH, 1984). Because of varying meteorological conditions, it was not possible to collect air samples near the burning tires without being in the smoke plume. Analysis of the air samples taken in the plume indicated potentially hazardous levels of CO and PAHs. CO concentrations varied in the 50 to 100 parts per million (ppm) range. The NIOSH-recommended worker exposure limit, or Threshold Limit Value (TLV), for CO is 35 ppm [40 milligrams per cubic meter (mg/m^3)] over a 10-hour time-weighted average (TWA). The TLV refers to airborne concentrations that a healthy adult worker may be repeatedly exposed to for up to 10 hours per day, five days per week, without adverse health effects. TLVs are guidelines and not strict standards for determining safe or unsafe conditions for occupational exposures. The NIOSH TLV is not applicable to sensitive receptors such as children and the elderly, who may suffer health effects at lower levels.

Several PAH compounds were detected. Plume concentrations of PAHs are presented in Table 9 (NIOSH, 1984). The concentrations are averaged over approximately 405 minutes. No details are available concerning meteorological data and only a non-scaled sketch was presented in the report describing the monitoring location with respect to the fire area. Personal samples were also collected with personal portable sampling pumps attached to the clothing of line workers, equipment operators, and other personnel at the site. However, due to problems with the sampling and analysis, the authors concluded that the personal sampling results represented inaccurate (low) estimates of exposure. Therefore, personal sampling results are not reported here.

The concentrations of lead, iron, and zinc in the plume were 11 $\mu g/m^3$, 14 $\mu g/m^3$, and 122 $\mu g/m^3$, respectively. All other metals were present at less than 2 $\mu g/m^3$. Metals were sampled at a stationary location in the plume. The sampling method employed included the use of a low-volume sampling pump (flow rate of 1.0 liter per minute) and a cellulose ester membrane filter. The analytical method was low temperature ashing nitric acid digestion followed by inductively coupled argon plasmography, atomic emission spectroscopy (although no specific method was cited, the procedures are consistent with NIOSH Method 7300).

Analysis of the tire residue showed it to be extremely complex, containing thousands of individual compounds. The air space in a vial above a sample of the residue

TABLE 9. PAH PLUME CONCENTRATIONS - RHINEHART TIRE FIRE

PAH	Concentration (µg/m³)*	Limit of Detection(µg)
Naphthalene	461	5
Acenaphthylene	ND	7
Acenaphthene	9	1
Fluorene	26	0.5
Phenanthrene	54	0.2
Anthracene	35	0.3
Fluoranthene	16	0.005
Pyrene	11	0.1
Benz(a)anthracene	6	0.005
Chrysene	18	0.10
Benzo(b)fluoranthene	1	0.003
Benzo(k)fluoranthene	1	0.005
Benzo(a)pyrene	3	0.005
Dibenz(a,h)anthracene	ND	0.05
Benzo(g,h,i)perylene	ND	0.05
Indenopyrene	3	0.02
TOTAL PAHs	**644**	**--**

*Sample duration = 405 min.
ND - Not detected
Sampling Method: Zefluor filter + ORBD 43 sorbent; flow rate 1.0 LPM.
Analytical Method: HPLC with UV detection.

was analyzed using GC/MS. Low concentrations of toluene, benzene, xylenes, and limonene were detected. More extensive GC/MS analysis also showed alkanes, substituted benzenes, substituted hydrazines, ketones, halogenated hydrocarbons, substituted phenols, nitriles, benzoic acids, and substituted benzene amines. Several PAHs were also detected including anthracene, pyrene, naphthalene, and fluoranthene. An Ames test for mutagenicity of the tire residue showed positive mutagenic activity.

2.4.2 Somerset, Wisconsin Tire Fire

Stofferahn and Simon (1987) present an overview of events surrounding a tire fire that began on October 13, 1986 near Somerset, Wisconsin. Approximately six million tires were consumed out of an estimated eight to nine million scrap tire stockpile. The stockpile occupied about 6 hectare (15 acres) on a 10 hectare (25 acres) property. The smoke plume was visible for "several miles downwind." An intense fire raged for three days, after which it subsided and the threat of the fire spreading off-site was eliminated. The fire burned itself out after a period of approximately two weeks.

A trailer park was approximately 0.8 km (one-half mile) north of the yard fence line. At the initial stage of the incident, a thick black smoke plume entered the park. Officials in charge decided to evacuate the trailer park, since the nature of potential health threats resulting from exposure to such a plume were not known. The evacuation remained in effect for one day, after which shifting wind patterns eliminated the heavy exposures that occurred on the first day.

Recommendations to the general public were broadcast via local radio stations:

- Those experiencing discomfort from the smoke should evacuate the area impacted by the plume or stay indoors in a sealed residence; and
- Outdoor items with which people might come into contact on a routine basis (e.g., autos, laundry, outdoor furniture) or that would be ingested (e.g., garden vegetables) should be washed thoroughly.

Air monitoring conducted by the US EPA Emergency Response Team (ERT) indicated a concentration of total suspended particulate (TSP) exceeding the 260 $\mu g/m^3$ primary National Ambient Air Quality Standard (NAAQS) in effect at that time. The ERT also concluded that the smoke became visible at about 250 $\mu g/m^3$ TSP. The rough correlation to the primary standard resulted in the recommendation to response personnel to don respiratory protection or to avoid areas where the smoke plume was visible. No details on the method of sampling or analysis were given.

Air samples collected by the Wisconsin Department of Natural Resources (WDNR) were analyzed for concentrations of total coal tar pitch volatiles (CTPV). At times, these concentrations exceeded the threshold limit value time-weighted average (TLV-TWA) of 0.2 mg/m^3.

The authors compared the air concentration levels measured by the ERT and WDNR at the Somerset site with concentrations reported at two other major tire fires, the

Everest, Washington fire (September 25 - October 10, 1984) and the Rhinehart tire fire, Winchester, Virginia, 1984 (presented above). These results are presented in Table 10. For reference, the TLV-TWA and Immediately Dangerous to Life and Health (IDLH) values are also presented. IDLH concentrations represent the maximum concentration from which, in the event of a failure of a worker's respirator device, the worker could escape within 30 minutes without experiencing any escape-impairing (e.g., severe eye irritation) or irreversible health effects.

The authors conclude that "although no consistency with respect to sampling/monitoring methodologies or approach may be assumed among these three incidents, the data do not suggest that severe, acute health threats . . . were present at any of the three incidents." However, the authors also note that, as the mixture of carbon black and PAHs is considered carcinogenic, the smoke plume or its residues may present a chronic health threat.

2.5 PREVENTING AND MANAGING TIRE FIRES

The Scrap Tire Management Council [(Council, or STMC) Washington D.C.] is an independent advocacy organization created by the North American tire industry. The Council's goal is to create sufficient market capacity to consume all scrap tires generated annually. The Council provides assistance in developing and promoting the utilization of scrap tires as a valuable resource.

The Council offers a seminar (there is a fee for expenses and contribution to STMC Education and Research) on the prevention and management of scrap tire fires. At the seminar, the Council uses a document, which it developed in concert with the International Association of Fire Chiefs (IAFC), called *Guidelines for the Prevention and Management of Scrap Tire Fires* [(Guidelines) IAFC and STMC, 1992]. STMC also offers the document for sale. The seminar and guidelines were developed with the contribution of over a dozen experienced fire chiefs and emergency response personnel.

Preventing and managing tire fires is a complex subject and many site-specific issues must be considered. Only a few of these issues are reviewed here in the following subsections.

2.5.1 Storage Site Design

The Guidelines recommend the following storage site design requirements:

- tire piles be limited to 6 m (20 ft) in height with maximum outside dimensions of 76 m (250 ft) by 6 m (20 ft);
- the edges of the pile should be at least 15 m (50 ft) from the perimeter fence and this area should be free of debris or vegetation;
- interior fire breaks should be at least 18 m (60 ft) wide;
- the area extending 60 m (200 ft) from the outside perimeter of the piles should be devoid of any vegetation;

TABLE 10. COMPARISON OF DETECTED CONTAMINANTS TO ESTABLISHED TLV AND IDLH LIMITS (mg/m^3)

Compound	TLV-TWA	IDLH	Wisconsin		Washington	Virginia
			ERT	DNR		
Sulfur dioxide	5	--	--	--	--	--
Carbon monoxide	55	--	--	--	--	--
Zinc	--	--	--	0.013	--	0.122
Lead	0.15	--	--	--	--	0.011
Iron	--	--	--	--	--	0.014
Cadmium	--	40	--	--	--	--
Chromium	--	--	--	--	--	--
Copper	--	--	--	--	--	--
Benzene	30	--	0.22	--	9.68-10.6	--
Toluene	375	--	0.140	--	0.03-6.70	--
Styrene	215	--	0.043	--	0.04-3.41	--
Xylenes	435	--	0.072	--	total styrene/ toluene	--
Ethyl benzene	435	--	0.047	--	--	--
Ethyl toluene	--	--	0.011	--	--	--
Methyl chloride	(350)	--	0.003	--	--	--
1,1,1-Trichloroethene	1,900		0.024	--	--	--
Acetone	1,780	--	--	--	0.55-0.57	--
Heptane	1,600	--	--	--	<0.02	--
Hexane	180	--	--	--	0.18-0.21	--
Hexene	--	--	--	--	<0.02	--
Naphthalene	50	--	--	--	0.82-1.32	0.461
Pentane	1,800	--	--	--	0.61-0.66	--
Ibiophene	--	--	--	--	0.25-0.30	--
Benzo(a)pyrene	--	--	--	0.013	--	0.003

(Continued)

TABLE 10. COMPARISON OF DETECTED CONTAMINANTS TO ESTABLISHED TLV AND IDLH LIMITS (mg/m³) (Cont.)

Compound	TLV-TWA	IDLH	Wisconsin		Washington	Virginia
			ERT	DNR		
Pyrene	--	--	--	--	--	0.011
Chrysene	--	--	--	0.446	--	0.018
Flourene	--	--	--	--	--	0.026
Anthracene	--	--	--	--	--	0.033
Phenanthrene	--	--	--	--	--	0.054
Perylene	--	--	--	2.623	--	--
Coal tar pitch volatiles	0.2	400	--	4.218	--	--

-- = not measured.
+ = detected, value not reported.
( ) = estimated values in 1987.

- buildings, vehicles, etc. should also be at least 60 m (200 ft) from the piles;
- the site should be flat, with a concrete or hard clay surface and should be designed to capture and contain water run-off;
- scrap tire storage should not be on wetlands, floodplains, ravines, canyons, or on any steeply-graded surfaces;
- Any open-air burning should be at least 305 m (1000 ft) from the tire pile;
- heat generating devices (e.g., welders) should not be within 60 m (200 ft) of the pile; and
- lightning rods should be installed, but away from the tire piles.

2.5.2 Civilian Evacuation

Evacuation of civilians should be considered as the highest priority by the incident commander. The Guidelines suggest that areas subject to evacuation be anticipated during a pre-fire planning process (all scrap tire and rubber products storage facilities should be considered high-risk storage sites and be pre-planned accordingly). The Guidelines recommend that "any areas exposed to the smoke plume, or subject to such exposure from shifting winds, should be evacuated as a precaution."

Staging locations, transportation time, and equipment requirements must be carefully planned. Evacuees should not be allowed to return to the vicinity until appropriate environmental monitoring has been conducted and the area is deemed safe and habitable.

2.5.3 Fire Suppression Tactics

For a variety of reasons, conventional fire suppression tactics are only partially effective in controlling scrap tire fires. The unique shape of tires makes it extremely difficult to reach all burning surfaces and allows air to be trapped to continue support of combustion throughout the pile. The intense heat generated by burning tires further adds to the difficulty.

The Guidelines recommend that the major objective in addressing a tire fire is to separate the unburned tires (fuel) from the burning fuel. The burning fuel should be allowed to burn as freely as possible. Heavy equipment (i.e., front-end loaders, track excavators, mid-size bulldozers, etc.) are necessary for this type of work. Burning sections of rubber can be removed from the pile, isolated and extinguished using hand lines set on fog pattern (i.e., a wide disperse spray), or if a water reservoir is available, submerged.

Direct water application is not always effective, given the intense heat and burning characteristics of rubber. However, if a decision is made to use conventional techniques, constant pressure fog nozzles are more effective than solid streams.

In many cases, fire control has only been achieved by smothering the burning portions of the pile with dirt or fill material. However, even in this state, fires can continue to smolder deep in the base of the pile for weeks. Thus, continued observation and environmental monitoring is necessary.

It may be necessary to create fire breaks and/or access routes into the pile. These should be at least 18 m (60 ft) wide or wider if high winds are a factor. Also, as the piles tend to be unstable, sturdy platforms should be provided to fire fighters who are operating atop the pile. Wooden pallets work well for this purpose.

The summaries of several Guidelines issues presented above only address a small portion of the issues and problems of preventing and fighting a tire fire. To effectively protect public health, safety, and property, a fire-fighting management team trained to deal with tire fires should be in charge of planning and execution of such an event.

2.6 TIRE FIRE "TARGET" COMPOUNDS

Recognizing the dangers to health and environment associated with tire fires, the Tacoma-Pierce County Health Department (TPCHD) conducted a study on hazardous airborne chemical compounds. TPCHD published a report that identified, through a series of screening steps, a subset of 34 target compounds (weighted based on toxicity and expected ambient air concentrations) that should be considered for air monitoring during a tire fire (Adolfson Associates, 1994).

There is a potential for a wide range of health effects from exposure to the hydrocarbons, metals, and inorganic gases and vapors identified. The health effects include irritation of the skin, eyes, and mucous membranes, central nervous system depression, respiratory effects, and cancer.

In developing the target list, the authors gathered air monitoring data collected by EPA at nine tire fire locations (Wisconsin, Washington, Virginia, Arkansas, Colorado, North Carolina, New York, Pennsylvania, and Utah), as well as the data from the test burn discussed earlier in this report (Ryan, 1989; Lemieux and DeMarini, 1992). Compounds identified as either a suspected or confirmed human carcinogen were automatically listed as target compounds, regardless of recorded air concentration or emission level. As a group, PAHs in low concentration were not singled out, and CTPV was used to represent the PAH class of compounds. Individual PAHs with a concentration high enough to qualify as a target compound (see below) were listed separately, however.

The compounds were also evaluated based on whether their maximum measured airborne concentration exceeded 33% of the TLV for that compound. If so, the compound was considered a target compound. Thirty-three percent of the TLV was used, to approximate an equivalent worker inhalation dosage, because exposure to a tire fire could occur 24-hours per day, as opposed to the 8-hours that the TLV is based upon.

The last evaluation criteria the authors applied was to compare the ratio of detected value to the subchronic and chronic inhalation reference concentrations (RfC). The RfC is an estimate of the exposure concentration that would not result in appreciable risk of adverse health effects. Compounds were ordered by decreasing ratios (e.g., of detected concentration to subchronic RfC). Target compounds were determined by selecting the top 25% of compounds from each data set.

If a compound had not already been targeted according to the methods outlined above, further review was conducted. The decision process included evaluating other aspects of the compound's toxicology and potential concentrations. If information was lacking, the compound was not included as a target compound.

A list of all EPA field-monitored compounds considered and their maximum reported values is presented in Table 11. Data from the controlled test program for the "chunk" configuration (considered most representative of actual tire fire emissions by Adolfson in their evaluation) were presented in Tables 1 through 6 above and are not repeated in Table 11 (Ryan, 1989). In some cases, where data are available for the same compound, the laboratory test data may be higher than the EPA field data. The authors used the highest concentration of the two data sets in selecting the target compounds.

Some further clarification of the Adolfson Associates reference is necessary. The text of the report refers to 38 target compounds, however, only 37 were presented. Furthermore, concentration data for "chloride" and "fluoride" were presented. These are omitted in this report because these values represent the total concentration of each respective ion and not specific toxic compounds. Adolfson Associates assumed data for zinc was zinc chromate, a carcinogen, and reported it as a target compound. However, this was not substantiated based on a review of the tire fire data, which simply reported "zinc." Therefore zinc, which is not a carcinogen, was also eliminated from the Adolfson target list. The net result is that only 34 compounds are target compounds, using the Adolfson screening method.

The 34 target compounds and their criteria for selection are presented in Table 12. The carcinogenic target compounds and their maximum reported concentration are presented in Table 13 (the source of the data, i.e., "Field" for EPA field data, or "Lab" for controlled test data is indicated). Compounds that had reported concentrations exceeding 33% of their TLV are presented in Table 14. Compounds that had reported concentrations exceeding their subchronic and/or chronic reference concentrations are presented in Table 15.

The compilation of data reported in Tables 11 and 13 includes field monitoring data that is often hastily collected and is influenced by changing fire conditions, meteorological variations, and other factors. The quality of this data is questionable, and no detailed analyses of individual monitoring data were performed as part of this study. However, the data are useful in identifying those compounds that are clearly present during a tire fire.

It is recommended that ambient monitoring of air contaminants be conducted during the initial approach and over the course of the fire. This monitoring data will assist policy managers and fire management personnel in making decisions on the level of protective equipment to be worn and evacuation of civilians. Direct-reading instruments are recommended for the initial response to the fire. This type of equipment can be useful in providing immediate data on IDLH conditions, toxic levels of airborne contaminants, and flammable atmospheres. This data will allow the emergency response team to size up the situation and begin making informed decisions. For more complete information on the

TABLE 11. MAXIMUM CONCENTRATIONS FROM EPA DATASETS (mg/m³)

Compound	Concentration	Compound	Concentration
Acetone	0.3700	Iron	0.0140
Anthracene	0.0330	Lead	0.0110
Benz(a)anthracene	0.0018	Methyl ethyl ketone	0.5800
Benzene	10.59	Methylene chloride	2.1000
Benzo(a)pyrene	0.0130	3-Methylstyrene	0.0960
Benzylchloride	0.0190	4-Methylstyrene	0.0500
Bromochloromethane	1.1360	Methylstyrene, alpha-	0.0500
4-tert-Butyl toluene	0.1310	Naphthalene	1.3200
Carbon monoxide	114.00	n-Nitrate	220.00
Carbon tetrachloride	0.0500	Nitric acid	0.2550
Chloroform	2.0580	N-octane	0.0850
Chrysene	0.4460	Orthophosphate	280.00
Coal tar pitch volatiles	4.2180	Pentane	0.6600
Cumene	0.0940	N-pentane	0.2960
Cyclohexane	0.0630	Phenanthrene	0.0340
1,2-Dichlorobenzene	0.0696	Phosphoric acid	0.2650
1,4-Dichlorobenzene	0.1187	Pyrene	0.0001
1,2-Dichloropropane	0.0350	Pyrylene	2.6230
Ethyl benzene	0.1554	Styrene	5.4100
Ethyl toluene	0.0540	Sulfate	230.00
Ethylene dichloride	0.3230	Sulfur dioxide	2.7000
Ethyltoluene, meta	0.5800	Sulfuric acid	0.7900
Fluoranthene	0.0040	Thiophene	0.3000
Fluorene	0.0260	Toluene	6.7000

(Continued)

TABLE 11. MAXIMUM CONCENTRATIONS FROM EPA DATASETS (mg/m^3) (Cont.)

Compound	Concentration	Compound	Concentration
Heptane	0.0200	1,1,1-Trichloroethane	0.0760
n-Heptane	0.0830	1,1,2-Trichloroethane	0.0030
Hexachloroethane	0.2980	Trichloroethylene	1.5600
Hexane	0.2100	Trichlorofluoromethane	0.0510
n-Hexane	0.1580	m,p-Xylene	131.00
Hexene	0.0200	m-Xylene	0.8400
Hydrobromic acid	0.2550	o-Xylene	1,564.00
Hydrochloric acid	4.0000	Zinc	0.0130
Hydrofluoric acid	0.2700		

Note: Above data was taken directly from reference; no adjustment was made to significant digits.

TABLE 12. TARGET COMPOUNDS BY CRITERIA

Target Compound	Criteria			
	CA	TLV	Subchronic RfC	Chronic RfC
Acenaphthene	X			
Acenaphthylene	X			
Arsenic	X			
Barium				X
Benz(a)anthracene	X			
Benzene	X			
Benzo(a)pyrene	X			
Benzo(b)fluoranthene	X			
Benzylchloride	X			
Butadiene	X			
Carbon monoxide		X		
Carbon tetrachloride	X			
Chloroform	X			
Chromium	X			
Chrysene	X			
Coal tar pitch volatiles	X	X		
Cumene			X	X
1,2-Dichloropropane	X		X	X
Dibenz(a,h)anthracene	X			
Ethylene dichloride	X			
Hexachloroethane	X			
Hexane			X	X
Lead	X			
Methylene chloride	X			
Nickel	X			
Phenol	X			
Styrene	X			X
Sulfur dioxide		X		
Sulfuric acid		X		X
Toluene			X	X
1,1,2-Trichloroethane	X			
Trichloroethylene	X			
Vanadium		X		
o-Xylene		X		

CA = Suspected or Confirmed Human Carcinogen.
TLV = Reported Value is 33% of Threshold Limit Value.
RfC = Inhalation Reference Concentration.

TABLE 13. MAXIMUM REPORTED CARCINOGENS CONCENTRATIONS

Compound	Concentration (mg/m^3)	Data Source
Acenaphthene	1.027	Lab
Acenapthylene	0.897	Lab
Arsenic	0.0002	Lab
Benz(a)anthracene	0.226	Lab
Benzene	10.59	Field
Benzene	3.872	Lab
Benzo(a)pyrene	0.481	Lab
Benzo(a)pyrene	0.013	Field
Benzo(b)fluoranthene	0.344	Lab
Benzyl chloride	0.019	Field
Butadiene	0.314	Lab
Carbon tetrachloride	0.052	Field
Chloroform	2.058	Field
Chromium (Assumed to be all Cr VI^{+})	0.012	Lab
Chrysene	0.446	Field
Chrysene	0.368	Lab
Coal tar pitch volatiles	4.218	Field
Dibenz(a,h)anthracene	0.007	Lab
1,2-Dichloropropane	0.035	Field
Ethylene dichloride	0.323	Field
Hexachloroethane	0.298	Field
Lead (inorganic dust)	0.0007	Lab
Lead (inorganic dust)	0.011	Field
Methylene chloride	0.210	Field
Nickel	0.007	Lab
Phenol	0.473	Lab
Styrene	5.41	Field
Styrene	0.795	Lab
1,1,2-Trichloroethane	0.003	Field
Trichloroethylene	1.6	Field

TABLE 14. COMPOUNDS WITH MAXIMUM REPORTED CONCENTRATIONS EXCEEDING 33% OF THEIR TLVs

Compound	Concentration mg/m³	TLV mg/m³	% TLV
Carbon monoxide	116.0000	29	400.00
Coal tar pitch volatiles	4.2180	0.2	2,109
Sulfur dioxide	2.7500	5	52.00
Sulfuric acid	0.7900	1	79.00
Vanadium (as pentoxide)	0.0175	0.05	35.00

TABLE 15. COMPOUNDS WITH MAXIMUM REPORTED CONCENTRATIONS EXCEEDING A SUBCHRONIC OR CHRONIC RFC (mg/m ³)

Compound	Concentration	Subchronic RfC	Chronic RfC
Barium	0.0035	0.005	0.0005
Cumene	0.094	0.09	0.009
1,2-Dichloropropane	0.035	0.013	0.004
Hexane	0.21	0.2	0.2
Styrene	5.41	none	1
Toluene	6.7	2	0.4

type and concentration of specific air contaminants over the course of the fire, the data obtained with direct-reading instruments must be supplemented by collecting and analyzing air samples.

A tire fire can smolder for months. The smoldering phase can produce excessive emissions due to the fact that it is not a hot burning phase and does not result in complete combustion. Therefore, air sampling should continue, and data reviewed, during the smoldering phase as well to ensure that appropriate health and safety decisions can be made.

Developing an air monitoring plan and/or recommending air sampling equipment and methods are beyond the scope of this document, however Adolfson et al., (1994) present a detailed discussion of this topic.

3.0 TIRES AS FUEL

Tire-derived fuel (TDF) has been successfully utilized as a source of energy in cement and lime manufacturing, steam generation for electricity, and other industrial processes. Results of source test reports have been collected and are summarized by source type. Typical sources that have been successful in integrating TDF with other fuels are:

- Cement Kilns;
- Pulp and Paper Mills;
- Utilities (including dedicated Tire-to-Energy facilities); and
- General Industrial Boilers.

TDF has long been recognized as a potential fuel. It compares favorably to coal, as presented in Table 16. It has a higher heating value than coal, and less moisture content. TDF contains more carbon, about as much sulfur as medium-sulfur coal, but much less fuel-bound nitrogen.

Whether burning TDF in a new facility or as a modification to an existing facility, several issues must be considered. One consideration is the need convert scrap tires into a useable fuel. This requires a system to dewire, and shred, or otherwise size the tires so they can accommodated by a combustor. In addition to aiding in feeding, the sized fuel generally allows for more efficient combustion. However, some large combustor configurations, such as cement kilns, wet-bottom boilers, and stoker-grate boilers can be modified to accept whole tires. Modifications to hardware, combustion practices and/or other operating practices may also be necessary in order to burn TDF. These modifications are case-specific, and must be addressed by engineering staff when considering using TDF.

3.1 Laboratory Simulation of TDF Emissions

Pilot-scale emissions testing of TDF was conducted in a 73 kW (250,000 BTU/hr) rotary kiln incinerator simulator (RKIS) in EPA's Environmental Research Center in Research Triangle Park, NC (Lemieux, 1994). This size simulator has been established as exhibiting the salient features of full-scale units with ratings 20 to 40 times larger.

The test program was undertaken to provide assistance to state and local pollution agencies in establishing permitting guidelines and evaluating permit applications for facilities seeking to supplement its fuel with tires or TDF. A list of analytes would defer some of the expenses of stack sampling.

The purposes of the test program were to (1) generate a profile of target analytes for guidance in preparing a full-scale stack sampling program and (2) provide insight into the technical issues related to controlled combustion of scrap tires. Because of the differences in scaling, such as gas-phase mixing phenomena and other equipment-specific factors, Lemieux specifically states that emission factors from the RKIS cannot be directly

TABLE 16. COMPARATIVE FUEL ANALYSIS BY WEIGHT (JONES, 1990)

Fuel	Composition (percent)							Heating Value	
	Carbon	Hydrogen	Oxygen	Nitrogen	Sulfur	Ash	Moisture	kJ/kg	Btu/lb
TDF	83.87	7.09	2.17	0.24	1.23	4.78	0.62	36,023	15,500
Coal	73.92	4.85	6.41	1.76	1.59	6.23	5.24	31,017	13,346

extrapolated to full-scale units. Furthermore, there are significant differences between kilns and other combustion devices, such as boilers, and the study does not address these issues. Nevertheless, the simulator is useful in examining the fundamental phenomena of TDF combustion and to gain an understanding of the qualitative trends that would be found in a full-scale rotary kiln.

The TDF tested was wire-free crumb rubber sized to <0.64 cm (<1/4 in.). It was combusted at several combinations of feed rate, temperature, and kiln oxygen concentration. The TDF was combusted with natural gas as the primary fuel. Samples were taken to examine volatile and semi-volatile organics, PCDD/PCDF, and metal aerosols. Data were collected to determine the effects of feed rates, type of feeding, i.e., continuous versus batch, and combustion controls on emissions. The data were taken in the exhaust stream prior to any add-on air pollution control devices.

The study addressed two issues: (1) the influence of the mode of tire feeding, for example, whole tires versus shredded tires, on the PICs, and (2) the potential for air toxic emissions not normally found when burning conventional fuels.

The TDF material used in the test program was analyzed and the proximate and ultimate analyses and metals analysis results are presented in Table 17. TDF contains significant amounts of zinc, since zinc is used extensively in the tire manufacturing process.

In all, thirty test conditions were run, with the TDF feed rate varying from 0% to 21.4% of heat input. The test conditions were achieved by varying kiln firing rate, combustion air flow rate, and tire feed rate. The majority of the tests were conducted with a steady-state feed of TDF. Variations in the mode of TDF feeding were evaluated in two tests. In one test, the kiln air flow rate was ramped up and down every 10 minutes ("ramp") to change the kiln oxygen concentration to simulate transient operation. In the other, TDF was introduced in 300 g batches spaced ten minutes apart ("batch") to simulate transient operation, such as feeding whole tires at periodic intervals.

VOCs were collected by a Volatile Organic Sampling Train (VOST) and analyzed with a gas chromatograph/mass spectrometer (GC/MS). The majority of the VOCs were very near to or below the detection limits of the equipment. Estimated emissions of VOCs for five representative test runs are presented in Table 18.

PAHs were analyzed with a Continuous Emission Monitor (CEM) PAH analyzer. PAH emissions were fairly insensitive to temperature and oxygen for the range of conditions studied, however, increasing TDF feed rates tended to increase PAH emissions for all oxygen levels. Overall, it was observed that supplementing natural gas with TDF tended to increase PAH emissions, but not dramatically, provided that steady-state operation is maintained.

Semi-volatile organic compounds (SVOC) and bulk particulate were collected by isokinetic sampling protocols with a Modified Method 5 (MM5) train. Data from the analyses did not indicate that SVOC were present in detectable concentrations. Lemieux

TABLE 17. PROXIMATE AND ULTIMATE ANALYSIS OF RKIS TEST TDF

Proximate Analysis	
Moisture	0.84%
Volatile Matter	65.52%%
Ash	7.20%
Fixed Carbon	26.44%
Ultimate Analysis	
Moisture	0.84%
Carbon	76.02%
Hydrogen	7.23%
Kjeldahl Nitrogen l Nitrogen Nitro	0.34%
Sulfur	1.75%
Total Halogens (calculated as chlorine)	0.31%
Ash	7.20%
Metals	
Cadmium	<5 ppm
Chromium	<5 ppm
Iron	295 ppm
Lead	51 ppm
Zinc	2.14%
Heating Value	37,177 kJ/kg

TABLE 18. ESTIMATED EMISSIONS OF VOCS - RKIS TEST RESULTS (BASE FUEL - NATURAL GAS)

Compound	0% TDF (Natural Gas Only)		7% TDF (steady-state)		17% TDF (steady-state)		19% TDF (ramp)		15% TDF (batch)	
	ng/J	lb/MMBtu	ng/J	lb/MMBtu	ng/J	lb/MMBtu	ng/J	lb/MMBtu	ng/J	lb/MMBtu
1,1,1 Trichloroethane	2.24E-04	5.21E-07	3.75E-04	8.72E-07	4.41E-04	1.03E-06	2.24E-04	5.21E-07	2.17E-04	5.05E-07
2-Methyl propene	9.60E-04	2.23E-06	2.30E-03	5.35E-06	1.94E-03	4.51E-06	7.37E-04	1.71E-06	2.33E-04	5.42E-07
2-Methyl-2-propanol benzene	2.13E-04	4.95E-07	2.15E-04	5.00E-07	1.81E-03	4.21E-06	2.24E-04	5.21E-07	2.33E-04	5.42E-07
Benzene	6.71E-04	1.56E-06	1.25E-04	2.91E-07	1.25E-04	2.91E-07	7.36E-03	1.71E-05	2.19E-02	5.09E-05
Bromomethane	2.00E-04	4.65E-07	2.15E-04	5.00E-07	2.58E-04	6.00E-07	1.22E-03	2.84E-06	3.82E-04	8.88E-07
Carbon disulfide	2.13E-04	4.95E-07	3.43E-04	7.98E-07	2.30E-04	5.35E-07	2.24E-04	5.21E-07	9.43E-04	2.19E-06
Chlorobenzene	2.13E-04	4.95E-07	2.15E-04	5.00E-07	2.30E-04	5.35E-07	2.24E-04	5.21E-07	2.20E-04	5.12E-07
Chloromethane	2.40E-04	5.58E-07	7.15E-04	1.66E-06	3.90E-03	9.07E-06	2.38E-02	5.53E-05	5.16E-02	1.20E-4
Ethylbenzene	2.13E-04	4.95E-07	2.15E-04	5.00E-07	2.70E-04	6.28E-07	2.24E-04	5.21E-07	4.96E-04	1.15E-06
Heptane	2.13E-04	4.95E-07	2.83E-04	6.58E-07	2.48E-04	5.77E-07	2.24E-04	5.21E-07	2.33E-04	5.42E-07
Hexane	2.01E-04	4.67E-07	2.45E-04	5.70E-07	2.45E-04	5.70E-07	2.24E-04	5.21E-07	2.36E-04	5.49E-07
Iodomethane	2.13E-04	4.95E-07	2.15E-04	5.00E-07	2.30E-04	5.35E-07	2.35E-04	5.47E-07	2.33E-04	5.42E-07
m,p-Xylene	6.21E-04	1.56E-06	4.17E-04	9.70E-07	1.06E-03	2.47E-06	2.64E-04	6.14E-07	1.78E-03	4.14E-06
Nonane	2.77E-04	6.44E-07	7.29E-04	1.70E-06	4.25E-04	9.88E-07	2.24E-04	5.21E-07	2.71E-04	6.30E-07
o-Xylene	1.85E-04	4.30E-07	2.15E-04	5.00E-07	3.18E-04	7.40E-07	2.24E-04	5.21E-07	5.24E-04	1.22E-06
Styrene	2.63E-04	6.12E-07	7.85E-04	1.83E-06	7.16E-04	1.67E-06	7.03E-04	1.63E-06	7.80E-04	1.81E-06
Toluene	3.97E-04	9.23E-07	5.02E-04	1.17E-06	4.64E-04	1.08E-06	3.48E-04	8.09E-07	1.29E-03	3.00E-06

(1994) concludes that when TDF is combusted in a well-designed and well-operated facility, emissions of SVOCs are not significantly different from natural gas.

PCDD and PCDF were collected during two test conditions: 0% TDF and 17% TDF (steady-state). No PCDD/PCDF were detected in either test.

Metal aerosol samples were collected during two test conditions; 0% TDF and 17% TDF (steady-state). Estimated metals emissions from these tests are presented in Table 19. The TDF-only column is a linear extrapolation and was calculated by dividing the values in the TDF+natural gas column by 17% (0.17). Elevated emissions of arsenic, lead, and zinc were found in the stack gas. Zinc was present in significant concentrations.

Total particulate matter (PM) measurements were made from the MM5 and MultiMetals trains. The PM results are presented in Table 20. The PM emissions represent uncontrolled emissions, such as found prior to any installed PM control device. As expected, the PM emissions during TDF combustion are higher than those from natural gas combustion alone.

The PM results from the batch feed run are significantly higher than for any of the others. This may suggest that burning TDF in batches, which roughly approximates feeding of whole tires, has the potential to form significant transient emissions. This phenomenon could be exacerbated in a system that exhibits significant vertical gas-phase stratification, or operates at low excess air levels, such as cement kilns. However, Lemieux (1994) believes that the size of the facility will serve to mitigate the intensity of transient emissions resulting from batch charging of tires of TDF, because for an extremely large facility, a constant stream of whole tires may roughly approximate steady-state operation. Even so, Lemieux (1994) cautions that the potential for generation of large transients should not be ignored, especially in smaller facilities.

Based on this test program, it is concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different than from other conventional fossil fuels, as long as combustion occurs in a well-designed, well-operated and well-maintained combustion device. If unacceptable particulate loading occurs as a result of zinc emissions, an appropriate particulate control device would need to be installed.

3.2 Source Test Data - Utility and Industrial Facilities

Source test data from a variety of source types have been collected and are presented in Table 21 and Appendix Tables A-1 through A-22. Test data of criteria pollutant emissions from seven utility boilers are summarized in Table 21. In general, particulates and NO_x decreased as the percent TDF increased. Emissions of SO_x did not follow a pattern. There are insufficient data on CO emissions from utilities to draw a conclusion.

Data summaries from field source tests are presented in the Appendix. Beginning with Table A-1, each table is divided into two parts. Part "a" presents a summary of

TABLE 19. ESTIMATED EMISSIONS OF METALS - RKIS TEST RESULTS (BASE FUEL - NATURAL GAS)

Metal	0% TDF (Natural Gas Only)		17% TDF (steady-state)		TDF Only (estimated)	
	ng/J	lb/MMBTU	ng/J	lb/MMBTU	ng/J	lb/MMBTU
Antimony	7.72E-05	1.80E-07	9.05E-04	2.10E-06	5.32E-03	1.24E-05
Arsenic	4.80E-04	1.12E-06	1.59E-02	3.70E-05	9.35E-02	2.17E-04
Beryllium	nd	nd	2.14E-05	4.98E-08	1.26E-04	2.93E-07
Cadmium	1.76E-04	4.09E-07	4.54E-04	1.06E-06	2.67E-03	6.21E-06
Chromium	2.78E-04	6.46E-07	1.66E-03	3.86E-06	9.76E-03	2.27E-05
Lead	3.45E-03	8.02E-06	2.83E-02	6.58E-05	1.66E-01	3.86E-4
Manganese	1.21E-03	2.81E-06	2.48E-03	5.77E-06	1.46E-02	3.40E-05
Nickel	3.00E-04	6.98E-07	1.50E-03	3.29E-06	8.82E-03	2.05E-05
Selenium	3.56E-04	8.28E-07	1.93E-03	4.49E-06	1.14E-02	2.65E-05
Zinc	1.23E-01	2.86E-04	15.21	3.54E-02	89.47	2.08E-01

TABLE 20. PARTICULATE MATTER (PM) LOADING - RKIS TEST PROGRAM

% TDF	Feed Type	Particulate Loading (mg/Nm^3)[1]
0.00	Steady-state	4.14
0.00	Steady-state	17.37
14.97	Batch	285.46
15.50	Steady-state	95.28
16.95	Steady-state	43.67
17.14	Steady-state	137.24
17.30	Steady-state	101.01
19.18	Ramp	132.95

[1] Nm^3 is a normal cubic meter of gas at 0° C and 1 atmosphere pressure.

TABLE 21. CRITERIA POLLUTANT EMISSIONS AT UTILITIES USING TDF

Power Plant	Particulates (Total)		Sulfur Oxides		Nitrogen Oxides		Carbon Monoxide	
	g/MJ	lb/MMBTU	g/MJ	lb/MMBTU	g/MJ	lb/MMBTU	g/MJ	lb/MMBTU
Facility A								
100% Tires	9.5×10^{-7}	2.2×10^{-6}	6.0×10^{-6}	1.4×10^{-5}	4.2×10^{-5}	9.8×10^{-5}	3.1×10^{-5}	7.2×10^{-5}
Facility B								
0% TDF	0.090	0.21	0.606	1.41	0.34	0.78	NT	NT
5% TDF	0.0064	0.015	0.774	1.80	0.25	0.58	NT	NT
10% TDF	0.004	0.009	0.658	1.53	0.13	0.30	NT	NT
Facility C								
0% TDF	0.22	0.52	0.490	1.14	0.34	0.79	0.654	1.52
7% TDF	0.060	0.14	0.37	0.87	0.39	0.91	3.12	7.26
Facility D								
0% TDF	0.027	0.063	2.28	5.30	0.258	0.601	NT	NT
5% TDF	0.0308	0.0717	2.46	5.73	0.219	0.510	NT	NT
10% TDF	0.0242	0.0564	2.46	5.71	0.188	0.436	NT	NT
15% TDF	0.0350	0.0815	2.35	5.47	0.190	0.443	NT	NT
20% TDF	0.0195	0.0453	2.30	5.34	0.166	0.387	NT	NT
Facility E								
0% TDF	0.036	0.083	0.0090	0.021	0.082	0.19	NT	NT
7% TDF	0.133	0.310	0.032	0.074	0.0537	0.125	NT	NT
Facility F								
2% TDF	0.073	0.17	2.49	5.78	NT	NT	NT	NT

NT = Not tested or data not available.

Note: Above data taken directly from reference; no adjustment was made to significant digits.

information on the facility, source type, baseline fuels, air pollution controls, test conditions, test methods, and fuel handling/feed data, as available. Part "b" of the table presents the source test data.

Individual power plant test data are presented in Tables A-1 through A-8. Table A-1 presents emissions data from utility "A", the only dedicated tires-to-energy facility examined in this report. Data for utilities B through H are given in Tables A-2 through A-8, respectively. All plants are coal-fired, except for plant E, which burns wood, plant G, which burns coal and wood, and plant H, which burns coal and/or petroleum coke.

Data from two cement kilns and one lime kiln are presented in Tables A-9 through A-11. Cement kilns burn a variety of fuels. Facility I burns natural gas and coal, while facility J burns a mixture of coal and coke. Facility K, a lime kiln, burns natural gas. The combination of long residence time and high temperatures make cement kilns an ideal environment for TDF. Emissions are not adversely affected compared to baseline fuels and often represent an improvement (Clark, et al., 1991).

Emissions data from pulp and paper mills are presented in Tables A-12 through A-17 for facilities L through Q, respectively. Pulp and paper mills burn various mixtures of wood, coal, oil, and sludge from onsite wastewater treatment facilities. For the pulp and paper boilers reported here, particulate, zinc, and SO_x emissions tended to increase with percent TDF added. Emissions of PAHs from facility M decreased, while those from facility L varied. Zinc is used in the tire manufacturing process, and is expected to increase with increasing TDF supplementation. Furthermore, zinc oxide has a small particle size and may not be controlled efficiently by venturi scrubbers.

Emissions from general industrial boiler applications are presented in Tables A-18 through A-22 for facilities R through V, respectively. These facilities are coal-fired, except for facility V which burns wood. They cover cogeneration and process heat for manufacturing and food processing.

The data presented in the appendix tables are taken from many data sources and are presented in various formats. Some source data are expressed in an emission factor format, i.e., mass of pollutant per unit of heat input [e.g., grams per megajoule (g/MJ) or pounds per million British Thermal Units (lb/MMBTU)]. The emission factor format is the most useful, because these results can be compared to a similar combustion/control system. However, these data should not be considered as recognized emission factors, because they have not undergone all the rigors of quality assurance and statistical analysis that are necessary before EPA will consider them valid emission factors.

Because many of the source tests were conducted in response to an environmental compliance requirement, they are reported in the source test as an emission limit on a mass per unit time basis (e.g., kg/hr or lb/hr). This type of data is less useful for comparison between facilities. In these cases, often the best information that can be inferred is how the TDF emission rate compares with the baseline (no TDF) emission rate for any given pollutant.

In the summary, or "a" section of the tables, the "Test Methods" entry may indicate "Unknown." While the details may be unavailable, all facilities with the reference "Clark, et al., (1991)," refer to the EPA report *Burning Tires for Fuel and Tire Pyrolysis: Air Implications*, and have had their methods procedures evaluated and accepted as creditable by EPA as a condition of being included in that report.

It is extremely difficult to establish a universal emission factor, or even a range of emission factors as a function of TDF added, because of the limited amount of emissions data when compared to all the other variables influencing the emission rate of any pollutant, such as:

- Baseline fuel type and variability, such as sulfur, nitrogen, ash, metals, chlorine, moisture content, etc. Furthermore, many sources were tested with multiple fuels (e.g., coal and wood), making it even more difficult to identify the impact of TDF.

- Air pollution control device efficiency varies with the type of fuel. For example, the efficiency of a venturi scrubber typically falls when handling the smaller particulate common to TDF. Fabric filters and electrostatic precipitators (ESPs) are preferable for particulate control for TDF exhaust streams.

- Combustor design. There are several boiler design types; suspension (fluidized bed and cyclone types) and grate firing (traveling, reciprocating, and chain stokers; stokers may be either spreader, underfeed, or overfeed). TDF combustion efficiency varies for each design type. For example, TDF is typically difficult to burn in suspension (e.g., in fluidized bed and cyclone-type boilers), because of its size and weight. However, this problem may be remedied with further research and development. To date, the spreader stoker is the most successful and widely used boiler configuration with TDF. However, with consistent and well-controlled processing of TDF (i.e., sizing and de-wiring), most well-maintained solid fuel combustors can successfully accommodate TDF as a supplemental fuel.

- The amount and type of processing/sizing that is used to convert a scrap tire to TDF. Size of TDF (whole tires, chunk, shredded, or crumb rubber) and type (wire-included or de-wired) influences the rate and type of air emissions.

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Table A-1a. Facility A - Dedicated Tires-to-Energy Power Plant

Source Description

Facility Name, Location:	Modesto Energy Company Westley, CA
Facility Type:	Utility - Dedicated Tires-to-Energy
Source Type:	Two Boilers (designed for 100% TDF).
Test Dates:	December 4-5, 1987, January 9 - 12, 1988, October 9-11, 1990
Other fuel(s):	None
Air pollution control device(s) used:	NO_x: Selective non-catalytic reduction (ammonia injection). PM: Fabric filter with Gore-Tex® bags. SO_x: Wet scrubber with lime injection.
Test Conditions:	100% TDF
Test Methods:	CARB Methods 5, 8, 100, 421, Method 5 (metals), Modified Method 5 (Semi-VOST), Modified Method 6 (NH_3)
Fuel Handling/Feeding:	Whole tires up to 4 feet in diameter, 350 to 400 tires per hour feed rate (assuming 20 lb/tire; approximately 7,000 to 8,000 lbs/hr), total energy feed rate 190 MMBtu.
Testing Company:	Radian (1988), The Almega Corp. (1990)
Environmental Agency:	Stanislaus County APCD (now San Joaquin Valley Unified APCD)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates	X		
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-1b. Facility A - Dedicated Tires-to-Energy Power Plant

Pollutant	Limit		1988		October 9-11, 1990[a]		October 9-11, 1990[a]	
	kg/day	lb/day	kg/day	lb/day	kg/day	lb/day	g/MJ	lb/MMBtu
Criteria								
CO	157.4	346.4	112.6	247.8	141.6	311.5	3.1×10^{-5}	7.2×10^{-5}
NO_x	227.2	500.0	174.7	384.3	193.0	424.6	4.2×10^{-5}	9.8×10^{-5}
PM	51.36	113.0	14.2	31.2	42.32	93.12	9.4×10^{-6}	2.2×10^{-5}
SO_x	113.6	250.0	57.7	127	28.1[b]	61.9[b]	6.0×10^{-6}[(b)]	1.4×10^{-5}[(b)]
HC	67.44	148.4	0.294	0.646	NT	NT	NT	NT
Metals								
Lead	N/A	N/A	0.012	0.026	0.003[c]	0.006[c]	5.5×10^{-7}[(c)]	1.3×10^{-6}[(c)]
Cadmium	N/A	N/A	0.00082	0.0018	0.0073	0.016	1.6×10^{-6}	3.7×10^{-6}
Chromium (total)	N/A	N/A	0.00050	0.0011	0.0091	0.020	2.0×10^{-6}	4.7×10^{-6}
Mercury	N/A	N/A	<0.00001	<0.00003	0.001	0.003	2.9×10^{-7}	6.7×10^{-7}
Arsenic	N/A	N/A	0.0012	0.0026	ND	ND	ND	ND
Zinc	N/A	N/A	3.52	7.75	0.283	0.623	6.0×10^{-4}	1.4×10^{-4}
Chromium (hex)	N/A	N/A	NT	NT	ND	ND	ND	ND
Copper	N/A	N/A	0.0068	0.015	0.015[c]	0.032[c]	3.2×10^{-6}	7.5×10^{-6}
Manganese	N/A	N/A	0.011	0.023	0.003	0.007	6.9×10^{-7}[(c)]	1.6×10^{-6}[(c)]

(Continued)

Table A-1b. Facility A - Dedicated Tires-to-Energy Power Plant (Cont.)

Pollutant	Limit		1988		October 9-11, 1990[a]		October 9-11, 1990[a]	
	kg/day	lb/day	kg/day	lb/day	kg/day	lb/day	g/MJ	lb/MMBtu
Nickel	N/A	N/A	NT	NT	0.012[c]	0.027[c]	$2.7 \times 10^{-6(c)}$	$6.3 \times 10^{-6(c)}$
Tin	N/A	N/A	NT	NT	0.0082	0.018	1.8×10^{-6}	4.2×10^{-6}
Aluminum	N/A	N/A	0.13	0.28	0.0459[c]	0.101[c]	$9.9 \times 10^{-6(c)}$	$2.3 \times 10^{-5(c)}$
Iron	N/A	N/A	0.28	0.62	0.144[c]	0.316[c]	$3.1 \times 10^{-5(c)}$	$7.3 \times 10^{-5(c)}$
Beryllium	N/A	N/A	NT	NT	ND	ND	ND	ND
Organics								
	N/A	N/A	<10.1	<22.3	NT	NT	NT	NT
Dioxin and Furan	N/A	N/A	1.9×10^{-7}	4.2×10^{-7}	NT	NT	NT	NT
PAH	N/A	N/A	0.0054	0.012	NT	NT	NT	NT
PCB	N/A	N/A	2.60×10^{-4}	5.71×10^{-4}	NT	NT	NT	NT
Naphthalene	N/A	N/A	NT	NT	0.002[c]	0.005[c]	$5.1 \times 10^{-7(c)}$	$1.2 \times 10^{-6(c)}$
Acenaphthylene	N/A	N/A	NT	NT	ND	ND	ND	ND
Acenaphthene	N/A	N/A	NT	NT	$1.1 \times 10^{-5(c)}$	$2.4 \times 10^{-5(c)}$	$2.4 \times 10^{-9(c)}$	$5.6 \times 10^{-9(c)}$
Fluorene	N/A	N/A	NT	NT	$3.3 \times 10^{-5(c)}$	$7.2 \times 10^{-5(c)}$	$7.3 \times 10^{-9(c)}$	$1.7 \times 10^{-8(c)}$
Anthracene	N/A	N/A	NT	NT	$2.2 \times 10^{-5(c)}$	$4.8 \times 10^{-5(c)}$	$4.7 \times 10^{-9(c)}$	$1.1 \times 10^{-8(c)}$
Fluoranthene	N/A	N/A	NT	NT	$3.3 \times 10^{-5(c)}$	$7.2 \times 10^{-5(c)}$	$7.3 \times 10^{-9(c)}$	$1.7 \times 10^{-8(c)}$

(Continued)

Table A-1b. Facility A - Dedicated Tires-to-Energy Power Plant (Cont.)

Pollutant	Limit		1988		October 9-11, 1990[a]		October 9-11, 1990[a]	
	kg/day	lb/day	kg/day	lb/day	kg/day	lb/day	g/MJ	lb/MMBtu
Pyrene	N/A	N/A	NT	NT	4.4×10^{-5}[c]	9.6×10^{-5}[c]	9.5×10^{-9}[c]	2.2×10^{-8}[c]
Benz(a)anthracene	N/A	N/A	NT	NT	ND	ND	ND	ND
Chrysene	N/A	N/A	NT	NT	ND	ND	ND	ND
Benzo(b)fluoranthene	N/A	N/A	NT	NT	1.1×10^{-5}[c]	2.4×10^{-5}[c]	2.4×10^{-9}[c]	5.6×10^{-9}[c]
Benzo(k)fluoranthene	N/A	N/A	NT	NT	ND	ND	ND	ND
Benzo(a)pyrene	N/A	N/A	NT	NT	ND	ND	ND	ND
Dibenzo(a,h) anthracene	N/A	N/A	NT	NT	ND	ND	ND	ND
Benzo(g,h,i)perylene	N/A	N/A	NT	NT	ND	ND	ND	ND
Indeno (1,2,3-cd)pyrene	N/A	N/A	NT	NT	ND	ND	ND	ND
Phenanthrene	N/A	N/A	NT	NT	1.1×10^{-4}[c]	2.4×10^{-4}[c]	2.4×10^{-9}[c]	5.6×10^{-9}[c]
Phenol	N/A	N/A	NT	NT	ND	ND	ND	ND
Formaldehyde	N/A	N/A	NT	NT	0.334[c]	0.735[c]	7.3×10^{-5}[c]	1.7×10^{-4}[c]
Benzene	N/A	N/A	NT	NT	ND	ND	ND	ND
Monochlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND

(Continued)

Table A-1b. Facility A - Dedicated Tires-to-Energy Power Plant (Cont.)

Pollutant	Limit		1988		October 9-11, 1990[a]		October 9-11, 1990[a]	
	kg/day	lb/day	kg/day	lb/day	kg/day	lb/day	g/MJ	lb/MMBtu
Dichlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Trichlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Tetrachlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Pentachlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Hexachlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Heptachlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Nonachlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Decachlorobiphenyl	N/A	N/A	NT	NT	ND	ND	ND	ND
Vinyl chloride	N/A	N/A	NT	NT	ND	ND	ND	ND

[a] Assumed 24 hr/day operation.
[b] As sulfur trioxide; sulfur dioxide not reported.
[c] MQL or trip blank showed significant measurement.
N/A = Not applicable.
NT = Not tested or data not available.
ND = Data not determined.

Table A-2a. Facility B - Coal-Fired Power Plant

Source Description

Facility Name, Location:	United Power Association Elk River, MN
Facility Type:	Utility
Source Type:	Three boilers, TDF tested in 2 stoker-fired with traveling grate, 135,000 lb steam/hr; 12 MW capacity.
Test Dates:	May, 1979
Other fuel(s):	Coal
Air pollution control device(s) used:	Fabric filter
Test Conditions:	100% coal 95% coal, 5% TDF 90% coal, 10% TDF
Test Methods:	Unknown
Fuel Handling/Feeding:	Coal/TDF blending system at reclaim hoppers. Variable speed conveyor belt used to control mixture during fuel reclaim. System worked well up to 10% TDF.
Testing Company:	Burns & McDonnell
Environmental Agency:	Illinois Department of Commerce and Community Affairs has been spearheading efforts to support the use of TDF.
Reference:	Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency			X

Table A-2b. Facility B - Coal-Fired Power Plant

Pollutant	0% TDF				5% TDF				10% TDF			
	kg/ hr	lb/hr	g/MJ	lb/ MMBtu	kg/ hr	lb/hr	g/MJ	lb/ MMBtu	kg/hr	lb/hr	g/MJ	lb/ MMBtu
Particulate	2.50	5.49	0.0090	0.021	1.61	3.55	0.0064	0.015	1.19	2.61	0.004	0.009
SO_2	173	380	0.606	1.41	206	454	0.774	1.80	195	430	0.645	1.53
NO_x	91.8	202	0.34	0.78	65.4	144	0.25	0.58	41	90	0.13	0.30
H_2SO_4	1.8	4.0	0.0065	0.015	1.6	3.6	0.0060	0.014	1.5	3.3	0.0052	0.012
Chloride (as Cl-) inlet to fabric filter	3.7	8.1	0.013	0.029	3.3	7.2	0.013	0.029	3.5	7.7	0.012	0.027

Table A-3a. Facility C - Coal-Fired Power Plant

Source Description

Facility Name, Location:	Wisconsin Power & Light (WP&L) - Rock River Generating Station, Beloit, WI
Facility Type:	Utility
Source Type:	Two Boilers, cyclone-fired, @ 75 MW capacity; 525,000 lb steam/hr.
Test Dates:	February/March 1991
Other fuel(s):	Coal
Air pollution control device(s) used:	ESPs
Test Conditions:	100% Coal 93% Coal, 7% TDF
Test Methods:	Unknown
Fuel Handling/Feeding:	Initially, existing coal crushers did not significantly reduce size of TDF and magnets pulled small crumb rubber from conveyor. Additional coal yard conveyor was added to safely blend TDF with coal downstream from coal crushing equipment.
Testing Company:	Unknown
Environmental Agency:	Wisconsin DNR
Reference:	Clark, et al (1991), Malcolm Pirnie (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	some		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-3b. Facility C - Coal-Fired Power Plant

Pollutant	Emissions Units	100% Coal	7% TDF	% Change
Particulate Matter	g/MJ	0.22	0.060	-73
	lb/MMBtu	0.52	0.14	-73
Sulfur Dioxide	g/MJ	0.490	0.37	-24
	lb/MMBtu	1.14	0.87	-24
Nitrogen Oxides	g/MJ	0.34	0.39	+16
	lb/MMBtu	0.79	0.91	+16
Carbon Monoxide	kg/hr	0.691	3.30	+377
	lb/hr	1.52	7.26	+377
Hydrocarbons (as CH_4)	kg/hr	2.35	4.668	+99
	lb/hr	5.16	10.27	+99
HCl	kg/hr	11.71	9.040	-23
	lb/hr	25.77	19.89	-23
HF	kg/hr	0.845	0.609	-28
	lb/hr	1.86	1.34	-28

[a] Semivolatile organic samples at 4% TDF were lost in a lab accident; thus, baseline results are not included here.
[b] Baseline = 82% coal, 13% bark, 5% sludge, 0% TDF.
[c] TDF = 80% coal, 12% bark, 4% sludge, 4% TDF.

Table A-4a. Facility D - Coal-Fired Power Plant

Source Description

Facility Name, Location:	Ohio Edison Toronto, Ohio
Facility Type:	Utility
Source Type:	Boiler - Pulverized coal feed, front-fired, wet bottom, noncontinuous tap.
Test Dates:	May 21 - 25, 1990
Other fuel(s):	Coal
Air pollution control device(s) used:	ESP
Test Conditions:	0%, 5%, 10%, 15%, 20% TDF
Test Methods:	EPA Methods 2, 3, 5, 6, 7A
Fuel Handling/Feeding:	Pulverized coal-fired boiler required modifications; an additional opening was created in the boiler wall to feed whole tires into the boiler.
Testing Company:	Entropy Environmentalists
Environmental Agency:	Ohio EPA
Reference:	Ohio Edison (1990), Clark, et al (1991), Malcolm Pirnie (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates	X		
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency		X	

Table A-4b. Facility D - Coal-Fired Power Plant

		Tire Feed Rate	Particulate		SO_2		NO_x		Lead	
			g/MJ	lb/MMBtu	g/MJ	lb/MMBtu	g/MJ	lb/MMBtu	g/MJ	lb/MMBtu
Day 1	Run 1		0.0328	0.0764	2.03	4.71	0.327	0.761	4.03×10^{-6}	9.38×10^{-6}
0%	Run 2	None	0.0159	0.0370	2.21	5.15	0.257	0.598	4.00×10^{-5}	9.31×10^{-5}
Tires	Run 3		0.0327	0.0760	2.59	6.03	0.191	0.445	4.39×10^{-5}	1.02×10^{-4}
	Average		0.0271	0.0631	2.28	5.30	0.258	0.601	4.02×10^{-5}	9.63×10^{-5}
Day 2	Run 1	1 tire per	0.0203	0.0472	2.34	5.44	0.168	0.391	4.18×10^{-5}	9.73×10^{-5}
5%	Run 2	34 seconds	0.0412	0.0959	2.51	5.83	0.235	0.547	4.29×10^{-5}	9.97×10^{-5}
Tires	Run 3		0.0309	0.0719	2.55	5.93	0.255	0.593	4.34×10^{-5}	1.01×10^{-4}
	Average		0.0308	0.0717	2.46	5.73	0.219	0.510	4.27×10^{-5}	9.93×10^{-5}
Day 3	Run 1	1 tire per	0.0178	0.0414	2.42	5.62	0.139	0.324	4.20×10^{-5}	9.77×10^{-5}
10%	Run 2	17 seconds	0.0384	0.0892	2.48	5.76	0.206	0.478	4.15×10^{-5}	9.66×10^{-5}
Tires	Run 3		0.0166	0.0385	2.47	5.74	0.217	0.504	4.07×10^{-5}	9.47×10^{-5}
	Average		0.0243	0.0564	2.46	5.71	0.188	0.436	4.14×10^{-5}	9.63×10^{-5}
Day 4	Run 1	1 tire per	0.0336	0.0781	2.09	4.85	0.147	0.342	4.00×10^{-5}	9.31×10^{-5}
15%	Run 2	11.3 seconds	0.0334	0.0776	2.49	5.80	0.196	0.455	4.24×10^{-5}	9.86×10^{-5}
Tires	Run 3		0.0382	0.0889	2.47	5.75	0.228	0.531	4.22×10^{-5}	9.82×10^{-5}
	Average		0.0350	0.0815	2.35	5.47	0.191	0.443	4.15×10^{-5}	9.66×10^{-5}
Day 5	Run 1	1 tire per	0.0162	0.0377	2.16	5.03	0.135	0.313	3.79×10^{-5}	8.81×10^{-5}
20%	Run 2	8.5 seconds	0.0163	0.0380	2.31	5.38	0.175	0.407	4.02×10^{-5}	9.34×10^{-5}
Tires	Run 3		0.0259	0.0603	2.41	5.60	0.201	0.440	3.96×10^{-5}	9.21×10^{-5}
	Average		0.019	0.0453	2.30	5.34	0.166	0.387	3.92×10^{-5}	9.12×10^{-5}

Table A-5a. Facility E - Wood-Fired Power Plant

Source Description

Facility Name, Location:	Northern States Power Company, French Island Plant French Island, WI
Facility Type:	Utility
Source Type:	Bubbling Fluidized Bed Boiler, 150,000 lb steam/hr capacity.
Test Dates:	1982
Other fuel(s):	Wood waste
Air pollution control device(s) used:	Unknown
Test Conditions:	100% Wood waste 91% Wood waste, 9% Rubber Buffings 93% Wood waste, 7% TDF
Test Methods:	Unknown
Testing Company:	Unknown
Environmental Agency:	Wisconsin DNR
Reference:	Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency			X

Table A-5b. Facility E - Wood-Fired Power Plant

Pollutant	100% Wood-Waste				9% Rubber Buffings				7% TDF			
	kg/hr	lb/hr	g/MJ	lb/ MMBtu	kg/hr	lb/hr	g/MJ	lb/ MMBtu	kg/hr	lb/hr	g/MJ	lb/ MMBtu
Particulate	NT	NT	0.036	0.083	NT	NT	0.11[a]	0.25[a]	NT	NT	0.13[a]	0.31[a]
SO_2	3	7	0.086	0.020	NT	NT	NT	NT	23	50	0.032	0.074
NO_x	41	90	0.082	0.19	NT	NT	NT	NT	22	48	0.0538	0.125
CO	1,050	2,300	NT	NT	1,200	2,700	NT	NT	1,000	2,200	NT	NT
Aldehydes	30.3	66.6	NT	NT	6.4	14	NT	NT	5.5	12	NT	NT
Benzene	8.2	18	NT	NT	NT	NT	NT	NT	11	25	NT	NT
Phenols	28	61	NT	NT	NT	NT	NT	NT	6.4	14	NT	NT
Polyaromatic hydrocarbons	59.1	130	NT	NT	NT	NT	NT	NT	77.3	170	NT	NT

[a] Exceeds Wisconsin limit of 0.15 lb/MMBtu.
NT = Not tested or data not available.

Table A-6a. Facility F - Coal-Fired Power Plant

Source Description

Facility Name, Location:	Illinois Power - Baldwin Generating Station Baldwin, IL
Facility Type:	Utility
Source Type:	Two cyclone fired boilers, universal pressure, balanced draft, turbine rated 560 MW, capacity: 4,199,000 lb steam/hr.
Test Dates:	March 21, 1991
Other fuel(s):	Coal
Air pollution control device(s) used:	ESP (Western Precipitation)
Test Conditions:	2% TDF
Test Methods:	Unknown
Fuel Handling/Feeding:	Mixing of coal and TDF occurs at front of closed conveyor system. TDF went through hammer mills at time of test, but size did not decrease appreciably.
Testing Company:	Burns & McDonnell
Environmental Agency:	Unknown
Reference:	Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available		X	
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency			X

Table A-6b. Facility F - Coal-Fired Power Plant - 2% TD

Pollutant	kg/hr	lb/hr	g/MJ	lb/MMBtu
PM (ESP inlet)	8,147.790	17,926.93	1.478	3.438
PM (ESP outlet)	419.4	922.7	0.0740	0.1722
SO_2[a]	NT	NT	2.27	5.28
Beryllium	0.00439	0.00966	NT	NT
Cadmium	0.01085	0.02387	NT	NT
Total Chromium	0.25565	0.56249	NT	NT
Lead	0.03679	0.08095	NT	NT
Zinc (filter catch only)	0.00220	0.00484	NT	NT

[a] Stack concentration = 2,396.
NT = Not tested or data not available.

Table A-7a. Facility G - Coal and Wood-Fired Power Plant

Source Description

Facility Name, Location:	Northern States Power Company, Bay Front Plant Eau Claire, WI
Facility Type:	Utility
Source Type:	Boiler - two drum (Sterling) equipped with Detroit rotograte and spreader stoker (150,000 lb steam/hr capacity) .
Test Dates:	May 21 - 23, 1991
Other fuel(s):	Wood chips, coal
Air pollution control device(s) used:	Electrolyzed gravel bed filter (EFB, Inc., manufacturer)
Test Conditions:	100% wood chips, 95% wood chips, 5% coal, 95% wood chips, 5% TDF
Test Methods:	For PM, SO2, CO: EPA Methods 1 - 6 and 10 CFR Title 40, Part 60, Appendix A (rev. July 1, 1990). (Method 5; front and backhalf extraction.) For benzene: EPA Method 18 For formaldehyde: Modified NIOSH 3500. For PAHs: EPA Method 0010, using modified method 5 sampling train. Analyzed in accordance with EPA Method 8270.
Testing Company:	Interpoll Laboratories, Inc.
Environmental Agency:	Wisconsin DNR
Reference:	Interpoll (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	some		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-7b. Facility G - Coal and Wood-Fired Power Plant

Compound		Emission Factor or Rate		
		100% Wood Chips	Wood Chips + 5% Coal	Wood Chips +5% TDF
PM	g/MJ	0.0490	0.037	0.040
	lb/MMBtu	0.114	0.085	0.093
SO_2	g/MJ	0.003	0.001	0.001
	lb/MMBtu	0.006	0.003	0.003
CO	kg/hr	188	50.4	34.5
	lb/hr	414	111	76.0
Formaldehyde	kg/hr	0.0773	0.0727	0.0477
	lb/hr	0.170	0.160	0.105
Benzene	kg/hr	0.0741	$\leq$0.010	$\leq$0.011
	lb/hr	0.163	$\leq$0.022	$\leq$0.023
Benzo(a)anthracene	ug/sec	>66	>66	>66
Benzo(b)flouranthene	ug/sec	>36	>37	>37
Benzo(a)pyrene	ug/sec	>14	>14	>14
Dibenzo(a,h)anthracene	ug/sec	>32	>33	>33
Indeno(1,2,3)pyrene	ug/sec	>33	>33	>33
Dibenzo(a,h)acridine	ug/sec	>552	>553	>553

(Continued)

Table A-7b. Facility G - Coal and Wood-Fired Power Plant (Cont.)

Compound		Emission Factor or Rate		
		100% Wood Chips	Wood Chips + 5% Coal	Wood Chips +5% TDF
Dibenzo(a,j)acridine	ug/sec	>552	>553	>553
7H-dibenzo(c,g)carbazole	ug/sec	>44	>44	>44
Dibenzo(a,h)pyrene	ug/sec	>737	>738	>738
Dibenzo(a,i)pyrene	ug/sec	>737	>738	>738
Idenol(1,2,3-cd)pyrene	ug/sec	NT	>33	>33

[a] Semivolatile organic samples at 4% TDF were lost in a lab accident; thus, baseline results are not included here.
[b] Baseline = 82% coal, 13% bark, 5% sludge, 0% TDF.
[c] TDF = 80% coal, 12% bark, 4% sludge, 4% TDF.
NT = Not tested or data not available.

Table A-8a. Facility H - Coal and Petroleum Coke-Fired Power Plant

Source Description

Facility Name, Location:	Manitowoc Power Station Manitowoc, WI
Facility Type:	Utility
Source Type:	Circulating fluidized bed boiler (220,000 lb steam/hr capacity).
Test Dates:	May 30-31, 1991, September 25-26, 1991, October 29-30, 1991
Other fuel(s):	Coal, petroleum coke
Air pollution control device(s) used:	Pulse jet baghouse with air-to-cloth ratio of 3:1.
Test Conditions:	Test 1: 100% Coal Test 2: 100% Petroleum coke Test 3: 80% Petroleum coke, 20% TDF
Test Methods:	Unknown
Fuel Handling/Feeding:	Unknown
Testing Company:	Clean Air Engineering
Environmental Agency:	Wisconsin DNR
Reference:	CAE (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency		X	

Table A-8b. Facility H - Coal and Petroleum Coke-Fired Power Plant

Pollutant	Test 1 - Coal 5/30-31/91	Test 2 - Pet. Coke 9/25-26/91	Test 3 - Pet. Coke/TDF 10/29-30/91	Limit						Compl.
				g/MJ	lb /MMBtu	kg/yr	lb/yr	kg/hr	lb/hr	
TSP	0.0089	0.0069	0.003	0.01	0.03	NT	NT	NT	NT	Y
SO_2	0.47	0.66	0.51	0.38	0.89	NT	NT	NT	NT	Y
NO_2	0.061	0.063	0.032	0.24	0.55	NT	NT	NT	NT	Y
CO	0.067	0.013	0.032	0.3	0.74	NT	NT	NT	NT	Y
VOC	0.0012	NT	0.0004	0.069	0.16	NT	NT	NT	NT	Y
HCOH	<124	<32.4	<150	NT	NT	113	250	NT	NT	Y
Benzene	<33	<18.4	10.5	NT	NT	136	300	NT	NT	Y
Metals										
Be	$<1.38 \times 10^{-6}$	$<1.0 \times 10^{-7}$	$<9.9 \times 10^{-7}$	NT	NT	NT	NT	1.8×10^{-5}	4.0×10^{-5}	Y
Hg	$<7.10 \times 10^{-4}$	$<1.57 \times 10^{-2}$	$<1.59 \times 10^{-2}$	NT	NT	NT	NT	7.7×10^{-3}	1.7×10^{-2}	Y
Lead	$<2.67 \times 10^{-3}$	$<4.05 \times 10^{-3}$	$<5.87 \times 10^{-3}$	NT	NT	NT	NT	9.1×10^{-5}	2.0×10^{-4}	N
Ni	$<3.94 \times 10^{-3}$	$<3.42 \times 10^{-3}$	$<3.2 \times 10^{-3}$	NT	NT	NT	NT	1.8×10^{-4}	4.0×10^{-4}	N
As	$<3.13 \times 10^{-4}$	$<1.35 \times 10^{-4}$	$<5.25 \times 10^{-4}$	NT	NT	NT	NT	1.8×10^{-3}	4.0×10^{-3}	Y
Cd	$<1.61 \times 10^{-3}$	$<1.01 \times 10^{-3}$	$<1.19 \times 10^{-3}$	NT	NT	NT	NT	6.4×10^{-3}	1.4×10^{-2}	Y
Cr	$<2.5 \times 10^{-4}$	$<2.06 \times 10^{-3}$	$<2.35 \times 10^{-3}$	NT	NT	NT	NT	0.13	0.29	Y

NT = Not tested or not available.

Table A-9a. Facility I - Cement Kiln

Source Description

Facility Name, Location:	Ash Grove Cement Durkee, OR
Facility Type:	Cement Plant
Source Type:	Cement Kiln
Test Dates:	October 18 - 20, 1989
Other fuel(s):	Natural gas and coal
Air pollution control device(s) used:	ESP
Test Conditions:	Unknown
Test Methods:	Unknown
Fuel Handling/Feeding:	Unknown
Testing Company:	Unknown
Environmental Agency:	Oregon DEQ
Reference:	Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	some		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates		X	
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-9b. Facility I - Cement Kiln

Pollutant		Baseline, 0% TDF	9-10% TDF	% Change
Particulate	g/MJ	0.417	0.382	-8
	lb/MMBtu	0.969	0.888	-8
SO_2	g/MJ	0.119	0.0950	-20
	lb/MMBtu	0.276	0.221	-20
CO	ppm	0.046	0.036	-27
Aliphatic compounds	g/MJ	0.00047	0.0004	-18
	lb/MMBtu	0.0011	0.0009	-18
Nickel	ug	30	ND	NA
Cadmium	ug	3.0	2.0	-33
Chromium	ug	30	ND	NA
Lead	ug	ND	ND	NA
Zinc	ug	35	35	0
Arsenic	ug	0.2	0.2	0
Chloride	kg/hr	0.122	0.0895	-26
	lb/hr	0.268	0.197	-26
Copper	ug	37	13	-65
Iron	ug	400	200	-50

ND = Not detected.
NA = Not applicable.

Table A-10a. Facility J - Cement Kiln

Source Description

Facility Name, Location:	Holnam Incorporated Industries Seattle, WA
Facility Type:	Cement Plant
Source Type:	Cement Kiln
Test Dates:	October 15 - 19 1990
Other fuel(s):	Coal/coke
Air pollution control device(s) used:	ESP
Test Conditions:	0%, 11%, 14% TDF (as heat input)
Test Methods:	EPA Methods 1, 2, 3A, 4, 5 (front and backhalf extraction), 6C, 7E, 10, 12, 0010 (Semi-Volatile Organic Sampling Train), TO-14 .
Fuel Handling/Feeding:	Tire chips
Testing Company:	Am Test, Inc.
Environmental Agency:	Washington DOE
Reference:	Am Test (1991), Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-10b. Facility J - Cement Kiln

Pollutant	Baseline, 100% Coal, 0% TDF		11% TDF			14% TDF		
	10^{-6} g/MJ	10^{-6} lb /MMBtu	10^{-6} g/MJ	10^{-6} lb /MMBtu	% Change	10^{-6} g/MJ	10^{-6} lb /MMBtu	% Change
Acenaphthalene	1.19	2.76	0.864	2.01	-27	0.886	2.06	-26
Acenaphthylene	0.095	0.22	ND	ND	-100	ND	ND	-100
Anthracene	1.06	2.46	ND	ND	-100	ND	ND	-100
Benzo(b)anthracene	4.25	9.88	ND	ND	-100	ND	ND	-100
Benzoic Acid	4.498	10.46	ND	ND	-100	ND	ND	-100
Benzo(a)pyrene	0.877	2.04	ND	ND	-100	ND	ND	-100
Benzo(g,h,i)perylene	ND	ND	1.34	3.11	NA	4.442	10.33	NA
Bis(2-chloroethoxy)methane	95.641	222.42	74.583	173.45	-22	118.57	275.75	+24
Butyl Benzyl Phthalate	2.57	5.98	ND	ND	-100	ND	ND	-100
Dibenz(g,h)phthracene	45.877	106.69	20.50	47.67	-55	28.88	67.17	-37
Di-N-Butylphthalate	0.959	2.23	ND	ND	-100	ND	ND	-100
1,2-Dichlorobenzene	1.38	3.21	ND	ND	-100	ND	ND	-100
2,4-Dinitrotoluene	5.749	13.37	4.29	9.97	-25	3.87	9.00	-33
Fluorene	3.29	7.65	3.02	7.03	-8	3.06	7.12	-7

(Continued)

Table A-10b. Facility J - Cement Kiln (Cont.)

Pollutant	Baseline, 100% Coal, 0% TDF		11% TDF			14% TDF		
	10^{-6} g/MJ	10^{-6} lb /MMBtu	10^{-6} g/MJ	10^{-6} lb /MMBtu	% Change	10^{-6} g/MJ	10^{-6} lb /MMBtu	% Change
Hexachlorobenzene	31.60	73.49	17.38	40.42	-45	22.99	53.46	-27
Naphthalene	146.20	340.00	76.944	178.94	-47	68.456	159.20	-53
2-Nitroanaline	2.01	4.67	ND	ND	-100	2.16	5.02	+7
N-Nitrosodiphenyl-amine	39.05	90.81	20.47	47.60	-48	21.47	49.92	-45
Pyrene	2.14	4.97	1.02	2.38	-52	0.959	2.23	-55
1,2,4-Tricholrobenzene	7.504	17.45	1.11	2.57	-85	ND	ND	-100
4,6-Dinitro-2-methylphenol	2.38	5.53	ND	ND	-100	ND	ND	-100
4-Methyl Phenol	8.407	19.55	3.93	9.13	-53	6.570	15.28	-22
2-Nitrophenol	83.846	194.99	72.747	169.18	-13	74.012	172.12	-12
4-Nitrophenol	ND	ND	21.34	49.62	NA	12.80	29.77	NA
Pentachlorophenol	ND	ND	ND	ND	NA	ND	ND	NA
Phenol	140	32	69.247	161.04	-50	131.89	306.71	-4
2,4,5-Trichlorophenol	ND	ND	ND	ND	NA	ND	ND	NA

NA = Not applicable.
ND = Not detected.

Table A-11a. Facility K - Lime Kiln

Source Description

Facility Name, Location:	Boise Cascade Wallula, WA
Source Type:	Pulp and Paper Mill - Rotary Lime Kiln
Test Dates:	May 20-21, 1986
Other fuel(s):	Natural Gas
Air pollution control device(s) used:	Air Pol variable throat venturi scrubber (27 - 29 inches H_2O, 1100 gallons water/hour).
Test Conditions:	Approximately 15% TDF by heat input
Test Methods:	Washington DOE Methods 3 and 5
Fuel Handling/Feeding:	Unknown
Testing Company:	Washington DOE
Environmental Agency:	Washington DOE
Reference:	Clark, et al (1991), State of Washington (1986a, 1986b)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-11b. Facility K - Lime Kiln

Pollutant	100% Gas Fired		85% Gas, 15% TDF		% Change
	10^{-6}g /MJ	10^{-6} lb/MMBtu	10^{-6}g /MJ	10^{-6} lb/MMBtu	
Organics[a]					
Anthracene	1.6	3.7	0.77	1.8	-51
Phenanthrene	22.3	51.9	12.5	29.1	-44
Fluoranthene	3.7	8.6	3.8	8.8	+2
Pyrene	2.8	6.6	2.7	6.2	-6
Benzo(a)anthracene	0.47	1.1	0.47	1.1	0
Chrysene	0.47	1.1	0.47	1.1	0
Benzo(b)fluoranthene	0.3	0.8	0.3	0.8	0
Benzo(k)fluoranthene	0.1	0.3	0.2	0.4	+33
Metals					
Arsenic	0.82	1.9	1.5	3.5	+84
Copper	1.4	3.2	1.3	2.9	-9
Zinc	98.5	28.8	183.9	427.7	+1,385
Iron	99.63	231.7	72.37	168.3	-27
Nickel	2.4	5.6	1.5	3.5	-38
Chromium	35.8	83.3	137.0	318.6	+282

(Continued)

Table A-11b. Facility K - Lime Kiln (Cont.)

Pollutant	100% Gas Fired		85% Gas, 15% TDF		% Change
	10^{-6}g /MJ	10^{-6} lb/MMBtu	10^{-6}g /MJ	10^{-6} lb/MMBtu	
Cadmium	0.60	1.4	0.56	1.3	-7
Lead	1.8	4.1	0.56	1.3	-31
Vanadium	2.5	5.7	1.6	3.8	-33
Barium	10.7	24.9	22.4	52.1	+109

[a] Also measured, but not detected with or without (TDF) were naphthalene, acenaphthalene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

Table A-12a. Facility L - Pulp Mill

Source Description

Facility Name, Location:	Port Townsend Paper Company Port Townsend, WA
Facility Type:	Kraft Pulp Mill
Source Type:	Power Boiler, No. 10. 200,000 lb/hr steam
Test Dates:	February 25 and March 5, 1986
Other fuel(s):	Hogged fuel, oil
Air pollution control device(s) used:	600 tube multiclone followed by venturi scrubber. Multiclone operated at 3.5 - 4 inch H_2O pressure differential. Venturi operated at 15 inches H_2O when tires burned and 13 inches when tires were not burned. Venturi water rate 2,500 - 2,900 gpm.
Test Conditions:	Approximately 7% TDF by heat input
Test Methods:	Washington DOE Methods 3 and 5
Fuel Handling/Feeding:	Shredded tires
Testing Company:	Washington DOE
Environmental Agency:	Washington DOE
Reference:	State of Washington (1986e)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available		X	
Accurate Fuel Feed Rates		X	
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-12b. Facility L - Pulp Mill - PNA and Metal Emissions

Pollutant	Port Townsend Paper (2/25/86)							
	Waste Wood + 5% Oil				Waste Wood + 7% TDF			
	kg/hr	lb/hr	g/MJ	10^{-6}lb/ MMBTu	kg/hr	lb/hr	g/MJ	10^{-6}lb/ MMBtu
Particulate	21.0	46.2	NT	NT	29.0	63.8	NT	NT
Metals								
Arsenic	NT	NT	NA	NA	NT	NT	NA	NA
Barium	NT	NT	110.7	257.4	NT	NT	150.7	350.5
Cadmium	0.004	0.009	18.4	42.8	0.003	0.007	12.5	31.3
Chromium	0.005	0.01	23.6	54.9	0.05	0.01	15.0	34.9
Copper	NT	NT	1,038.7	2,415.6	NT	NT	987.62	2,296.8
Iron	NT	NT	859.91	1,999.8	NT	NT	1,106.8	2,574.0
Lead	0.05	0.1	259.7	603.9	0.01	0.03	56.89	132.3
Nickel	0.05	0.1	296.3	689.0	0.05	0.01	25.4	59.0
Vanadium	0.09	0.2	388.2	902.9	0.0005	0.001	3.8	8.9
Zinc	1.4	3.1	6,359.96	14,790.6	22.2	48.8	107,276.4	249,480.0
PNA's								
Anthracene	0.01	0.03	4.3	9.9	0.05	0.01	11.5	26.7
Phenanthrene	0.05	0.1	180.5	419.8	0.09	0.2	332.0	772.2

(Continued)

Table A-12b. Facility L - Pulp Mill - PNA and Metal Emissions (Cont.)

Pollutant	Port Townsend Paper (2/25/86)							
	Waste Wood + 5% Oil				Waste Wood + 7% TDF			
	kg/hr	lb/hr	g/MJ	10^{-6}lb/ MMBTu	kg/hr	lb/hr	g/MJ	10^{-6}lb/ MMBtu
Fluoranthene	NT	NT	197.6	459.4	NT	NT	101.3	235.6
Pyrene	NT	NT	107.3	249.5	NT	NT	163.5	380.2
Benzo(b)fluoranthene	NT	NT	0.3	0.6	NT	NT	0.52	1.2
Benzo(k)fluoranthene	NT	NT	0.3	0.6	NT	NT	0.3	0.6
Benzo(a)fluoranthene	NT	NT	0.7	1.6	NT	NT	0.95	2.2
Chrysene	NT	NT	1.4	3.2	NT	NT	1.0	2.4
TOTAL PNA's	**NT**	**NT**	**NT**	**NT**	**0.1**	**0.3**	**NT**	**NT**

NT = Not tested or data not available.

Table A-13a. Facility M - Pulp and Paper Mill

Source Description

Facility Name, Location:	Crown Zellerbach Port Angeles, WA
Facility Type:	Pulp and Paper Mill
Source Type:	Wood-fired Boiler
Test Dates:	June 10 -11, 1986
Other fuel(s):	Hogged fuel, oil
Air pollution control device(s) used:	Multi-clone followed by venturi scrubber (scrubber uses single pass fresh water and operated at 11 - 12 inches H_2O pressure drop during test.).
Test Conditions:	Approx. 2% TDF heat input on June 11 (oil = 11% of heat input; balance was wood).
Test Methods:	Washington DOE Methods 3 and 5
Fuel Handling/Feeding:	Unknown
Testing Company:	Washington DOE
Environmental Agency:	Washington DOE
Reference:	Clark, et al (1991), State of Washington (1986c, 1986d)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available		X	
Accurate Fuel Feed Rates		X	
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-13b. Facility M - Pulp and Paper Mill - PNA and Metal Emissions

Pollutant	Crown Zellerbach Corp. (6/10/86)							
	Waste Wood + 12% Oil				Waste Wood + 2% TDF + 11% Oil			
	kg/hr	lb/hr	10^{-6}g /MJ	10^{-6}lb /MMBtu	kg/hr	lb/hr	10^{-6}g /MJ	10^{-6}lb /MMBtu
Particulate	5.00	11.0	NT	NT	7.00	15.4	NT	NT
Metals								
Arsenic	NT	NT	1.4	3.3	NT	NT	2.70	6.28
Barium	NT	NT	4.86	11.3	NT	NT	12.5	29.1
Cadmium	NT	NT	1.3	2.9	NT	NT	2.49	5.8
Chromium	NT	NT	0.2	0.5	NT	NT	1.51	3.5
Copper	NT	NT	13.2	30.7	NT	NT	17.2	40.0
Iron	NT	NT	113.1	263.1	NT	NT	163	377.8
Lead	NT	NT	27.5	64.0	NT	NT	31.1	72.4
Nickel	NT	NT	1.5	3.5	NT	NT	1.55	3.6
Vanadium	NT	NT	1.3	3.0	NT	NT	3.23	7.5
Zinc	NT	NT	1,055.7	2,455.0	1.41	3.1	7,044	16,381.4
PNA's								
Anthracene	NT	NT	0.43	1.0	NT	NT	0.3	0.6
Phenanthrene	NT	NT	19.5	45.3	NT	NT	7.18	16.7

(Continued)

Table A-13b. Facility M - Pulp and Paper Mill - PNA and Metal Emissions (Cont.)

Pollutant	Crown Zellerbach Corp. (6/10/86)							
	Waste Wood + 12% Oil				Waste Wood + 2% TDF + 11% Oil			
	kg/hr	lb/hr	10^{-6}g /MJ	10^{-6}lb /MMBtu	kg/hr	lb/hr	10^{-6}g /MJ	10^{-6}lb /MMBtu
Fluoranthene	NT	NT	16.1	37.4	NT	NT	6.11	14.2
Pyrene	NT	NT	20.6	47.8	NT	NT	9.33	21.7
Benzo(b)fluoranthene	NT	NT	0.99	2.3	NT	NT	ND	ND
Benzo(k)fluoranthene	NT	NT	0.3	0.7	NT	NT	ND	ND
Benzo(a)fluoranthene	NT	NT	ND	ND	NT	NT	ND	ND
Chrysene	NT	NT	ND	ND	NT	NT	ND	ND
TOTAL PNA's	**NT**	**NT**	**NT**	**NT**	**0.009**	**0.02**	**NT**	**NT**

NT = Not tested or data not available.

Table A-14a. Facility N - Pulp and Paper Mill

Source Description

Facility Name, Location:	Smurfit Newsprint Newburg, OR
Facility Type:	Pulp and Paper Mill
Source Type:	Wood-fired boiler
Test Dates:	May 28, June 3, July 16, 1987
Other fuel(s):	Wood
Air pollution control device(s) used:	Venturi scrubber
Test Conditions:	May 28 - wood only June 3 - 1% TDF July 16 - 1.5%
Test Methods:	Unknown
Fuel Handling/Feeding:	Tire chips
Testing Company:	Horizon Engineering
Environmental Agency:	Oregon DEQ
Reference:	Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available	some		
Accurate Fuel Feed Rates	X		
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency			X

Table A-14b. Facility N - Pulp and Paper Mill - PM

Date	% TDF	PM Emissions			
		kg/hr	lb/hr	Mg/yr[a]	tons/yr[a]
5/28/87	0	12.2	26.8	106	117
5/28/87	1	20.7	45.6	182	200
5/28/87	1.5	26.0	57.2	228	251
11/14/89	1	13.9	30.5	122	134
8/14/90	1	11.8	26.0	103	114

[a] Assumes 8,760 h/yr.

Table A-14c. Facility N - Pulp and Paper Mill - Non-particulate Testing

Pollutant	Date	%TDF	kg/hr	lb/hr	Mg/yr	tons/yr
Criteria						
VOC[a]	5/28/87	0	11.4	25.1	99.9	110
	5/28/87	1	3.6	8.0	31.9	35.1
	5/28/87	1.5	31.8	69.9	278	306
	11/14/89	1.0	0.55	1.2	4.8	5.3
	8/14/90	1.0	0.46	1.0	4.0	4.4
NO_x[b]	11/14/89	1.0	37.6	82.8	33.0	36.3
	8/14/90	1.0	15.2	33.4	133	146
SO_2[c]	11/14/89	1.0	2.2	4.8	19	21
	8/14/90	1.0	NT	NT	NT	NT
CO[d]	11/14/89	1.0	43.1	94.9	379	417
	8/14/87	1.0	66.4	146	580	639
Barium	11/14/89	1.0	ND	ND	NT	NT
Cadmium	11/14/89	1.0	0.0077	0.017	NT	NT
Chromium	11/14/89	1.0	0.003	0.006	NT	NT
Copper	11/14/89	1.0	0.0091	0.020	NT	NT
Iron	11/14/89	1.0	0.118	0.260	NT	NT

(Continued)

Table A-14c. Facility N - Pulp and Paper Mill - Non-particulate Testing (Cont.)

Pollutant	Date	%TDF	kg/hr	lb/hr	Mg/yr	tons/yr
Lead	11/14/89	1.0	0.017	0.037	NT	NT
Zinc	11/14/89	1.0	1.74	3.82	NT	NT
Titanium	11/14/89	1.0	ND	ND	NT	NT

[a] VOC limit is 189 TPY.
[b] NO_x limit is 2,850 TPY.
[c] SO_2 limit is 250 TPY.
[d] CO limit is 570 TPY.
ND = Not detected.
NT = Not tested or data not available.

Table A-15a. Facility O - Paper Mill

Source Description

Facility Name, Location:	Packaging Corp. of America (Formerly Nekoosa Packaging) Tomahawk, WI
Facility Type:	Paper Mill (Corrugated paper products)
Source Type:	Traveling grate spreader/stoker boilers (3)
Test Dates:	August 4 - 11, 1989
Other fuel(s):	Coal, bark
Air pollution control device(s) used:	ESP
Test Conditions:	Tested on overall facility basis; all three boilers ducted to common duct, then to two ESPs.
Test Sampling Procedures:	EPA Methods 1, 2, 3, 4, 5, MM5, 6, 7E, 10, 12, 13B, 18, 25A, and 101A.
Fuel Handling/Feeding:	Unknown
Testing Company:	Clean Air Engineering (Report Date November 7, 1989)
Environmental Agency:	Wisconsin DNR
Reference:	CAE (1989), Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates		X	
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-15b. Facility O - Paper Mill

Pollutant	0% TDF		1-2%TDF		% Change
	kg/hr	lb/hr	kg/hr	lb/hr	
Particulate	8.64	19.0	9.41	20.7	+9
NO_x	51.977	114.36	48.659	107.06	-6
CO	50.490	111.09	66.916	147.23	+33
SO_2	82.3	180.67	121.81	268.00	+48
Chromium VI	0.00586	0.0129	0.016	0.036	+179
Metals					
Arsenic	0.001	0.003	0.001	0.003	0.0
Cadmium	<0.0010	<0.0023	<0.0010	<0.0023	ND
Lead	0.0086	0.019	0.0082	0.018	-5
Nickel	<0.004	<0.008	<0.004	<0.008	ND
Zinc	0.325	0.715	0.367	0.851	+19
Mercury	0.0002	0.0005	0.0003	0.0006	+20
Chloride	0.44	0.96	0.827	1.82	+90
Benzene	<0.0253	<0.0557	0.0303	0.0665	+20

NOTE: All three boilers are ducted to common duct and then to two ESP's.

ND = Not detected.

Table A-16a. Facility P - Pulp and Paper Mill

Source Description

Facility Name, Location:	Champion International, Inc. Sartell, MN
Facility Type:	Pulp and Paper Mill
Source Type:	Stoker boiler with traveling grate.
Test Dates:	October 28 - 30, 1987
Other fuel(s):	Coal, wood, sludge
Air pollution control device(s) used:	Zuran multi-clone as a pre-separator followed by a Neptune AirPol venturi scrubber.
Test Conditions:	Baseline: Approximately 55% coal, 25% tree bark, 20% sludge, 0% TDF Unknown fuel mix, 15% TDF Unknown fuel mix, 30% TDF
Test Methods:	EPA Methods 1- 5, MM5, 7, 8, 25A
Fuel Handling/Feeding:	Unknown
Testing Company:	Pace Laboratories, Inc.
Environmental Agency:	Minnesota Pollution Control Agency (MPCA)
Reference:	Pace (1988), Malcolm Pirnie (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-16b. Facility P - Pulp and Paper Mill

Test Type		Test 1, 0% TDF	Test 2, 15% TDF	Test 3, 30% TDF
Particulate	g/dscm	0.05	0.09	0.2
	gr/dscf	0.02	0.04	0.09
	kg/hr	8.04	13.5	33.7
	lb/hr	17.7	29.8	74.1
	g/MJ	0.02	0.04	0.095
	lb/MMBtu	0.05	0.09	0.22
Sulfur Oxides				
SO_2	g/dscm	0.23	0.32	0.46
	gr/dscf	0.10	0.14	0.20
	kg/hr	35.5	47.54	75.40
	lb/hr	78.2	104.6	165.9
	g/MJ	0.11	0.14	0.19
	lb/MMBtu	0.25	0.33	0.45
H_2SO_4	g/dscm	0.02	0.02	0.02
	gr/dscf	0.01	0.01	0.01
	kg/hr	4.64	4.55	4.59
	lb/hr	10.2	10.0	10.1

(Continued)

Table A-16b. Facility P - Pulp and Paper Mill (Cont.)

Test Type		Test 1, 0% TDF	Test 2, 15% TDF	Test 3, 30% TDF
	g/MJ	0.01	0.01	0.01
	lb/MMBtu	0.03	0.03	0.03
Nitrogen Oxides	g/dscm	0.589	0.631	0.484
	gr/dscf	0.257	0.276	0.212
	kg/hr	91.4	98.2	75.9
	lb/hr	201	216	167
	g/MJ	0.28	0.29	0.20
	lb/MMBtu	0.64	0.67	0.47
Metals				
Cd	mg/dscm	0.004	0.014	0.028
	gr/dscf	1	6.1	12
	kg/hr	0.001	0.002	0.004
	lb/hr	0.001	0.005	0.009
	10^{-2}g/MJ	0.0002	0.00065	0.0011
	10^{-2}lb/MMBtu	0.0005	0.0015	0.0026
Cr (total)	mg/dscm	0.022	0.010	0.25
	gr/dscf	9.61	4.37	109

(Continued)

Table A-16b. Facility P - Pulp and Paper Mill (Cont.)

Test Type		Test 1, 0% TDF	Test 2, 15% TDF	Test 3, 30% TDF
	kg/hr	0.004	0.5	0.039
	lb/hr	0.008	0.003	0.085
	10^{-2}g/MJ	0.0099	0.0004	0.010
	10^{-2}lb/MMBtu	0.0023	0.0009	0.024
Pb	mg/dscm	0.066	0.21	0.34
	gr/dscf	28.8	91.8	149
	kg/hr	0.011	0.035	0.055
	lb/hr	0.023	0.076	0.12
	10^{-2}g/MJ	0.0031	0.095	0.014
	10^{-2}lb/MMBtu	0.0071	0.022	0.032
Zn	mg/dscm	0.231	36.4	90.0
	gr/dscf	101	15,900	39,300
	kg/hr	0.036	5.59	14.1
	lb/hr	0.080	12.3	31.0
	10^{-2}g/MJ	0.011	1.7	3.7
	10^{-2}lb/MMBtu	0.025	3.9	8.6
PAH		ND	ND	ND
Total Hydrocarbons	ppm	959	16	3
	kg/hr	75.0	1.2	0.3
	lb/hr	165	2.7	0.6

ND = Not detected.

Table A-17a. Facility Q - Pulp and Paper Mill

Source Description

Facility Name, Location:	Champion International, Inc. Sartell, MN
Facility Type:	Pulp and Paper Mill
Source Type:	Stoker boiler with traveling grate
Test Dates:	March 12 - 16, 1990
Other fuel(s):	Coal, wood, sludge
Air pollution control device(s) used:	Zuran multi-clone as a pre-separator followed by a Neptune AirPol venturi scrubber.
Test Conditions:	Baseline: 82% coal, 13% bark, 5% sludge, 0% TDF TDF: 80 % coal, 12% bark, 4% sludge, 4% TDF [Clark, et al (1991)]
Test Methods:	Method 5, with both front and back-half catch included.
Fuel Handling/Feeding:	Unknown
Testing Company:	Pace Laboratories
Environmental Agency:	Minnesota Pollution Control Agency (MPCA)
Reference:	Pace (1990), Clark, et al (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-17b. Facility Q - Pulp and Paper Mill

	0% TDF[a]		4% TDF[b]		% Change
	kg/hr	lb/hr	kg/hr	lb/hr	
Particulate	8.95	19.7	11.0	24.3	+23
SO_x	121	266	126	277	+4
Cadmium	0.0011	0.0025	0.00082	0.0018	-28
Chromium (total)	0.022	0.048	0.0020	0.0046	-90
Lead	0.023	0.050	0.016	0.036	-28
Mercury	1.7×10^{-4}	3.8×10^{-4}	3.6×10^{-5}	8.0×10^{-5}	+111
Zinc	0.11	0.23	1.56	3.43	+1,391

[a] Baseline = 82% coal, 13% bark, 5% sludge, 0% TDF.
[b] TDF = 80% coal, 12% bark, 4% sludge, 4% TDF.

Table A-18a. Facility R - Cogeneration

Source Description

Facility Name, Location:	Monsanto - K.G. Krummrich Plant Sauget, IL
Facility Type:	Industrial (Cogeneration)
Source Type:	Boiler - four-drum chain grate stoker
Test Dates:	December 18-19, 1990
Other fuel(s):	Low-sulfur coal
Air pollution control device(s) used:	ESP
Test Conditions:	80% coal, 20% TDF
Test Methods:	Unknown
Fuel Handling/Feeding:	Tire chips blended with coal. Delivered to plant pre-blended and handled as a single fuel.
Testing Company:	The Almega Corp.
Environmental Agency:	Test not conducted for environmental compliance. Test commissioned by Illinois Department of Commerce and Community Affairs to study feasibility of use of TDF.
Reference:	Dennis (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available		X	
Accurate Fuel Feed Rates	X		
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency		X	

Table A-18b. Facility R - Cogeneration

	100% Coal		80% Coal, 20%TDF		% Change
	kg/hr	lb/hr	kg/hr	lb/hr	
Particulate	1.64	3.60	0.814	1.79	-50
CO	0.17	0.38	0.24	0.53	+40
VOC	0.473	1.04	0.33	0.73	-30
SO_2	37.7	83.0	49.54	109.0	+31
NO_x	15.8	34.7	11.0	24.3	-30
HCl	6.14	13.5	4.36	9.59	-29
HF	0.42	0.93	0.38	0.84	-10
Metals					
Chromium (total)	0.00217	0.00478	0.00207	0.00456	-4
Mercury	7.95×10^{-5}	1.75×10^{-5}	7.27×10^{-5}	1.60×10^{-4}	-9
Zinc	0.27	0.59	0.20	0.44	-25
Cadmium	0.00165	0.00363	0.00120	0.00263	-28
Lead	0.045	0.099	0.002	0.005	-95
Beryllium	ND	ND	ND	ND	NT

ND = Not detected.
NT = Not tested or data not available.

Table A-19a. Facility S - Industrial Boiler

Source Description

Facility Name, Location:	University of Iowa Iowa City, Iowa
Facility Type:	Industrial/Commercial
Source Type:	Boiler (Riley - 1975) with stoker and economizer (170,000 lb steam/hr capacity).
Test Dates:	December 9 - 14, 1991
Other fuel(s):	Coal
Air pollution control device(s) used:	Seven-section coldside ESP (Buell)
Test Conditions:	100% Coal 96% Coal/4% TDF 92% Coal/8% TDF
Test Methods:	EPA Methods 1, 2, 3, 4, 5 (front and back half), 6, 7, 201A, 26, 13B, Multi-Metal Modified Method 5 (4M5), 23.
Fuel Handling/Feeding:	Unknown
Testing Company:	Interpoll Laboratories, Inc.
Environmental Agency:	Iowa DNR
Reference:	Interpoll (1992)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form		X	
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-19b. Facility S - Industrial Boiler

	100% Coal		96% Coal/4% TDF			92% Coal/8% TDF		
	kg/hr	**lb/hr**	**kg/hr**	**lb/hr**	**Difference**	**kg/hr**	**lb/hr**	**Difference**
Particulate[1]	14	31	9.5	21	-32.3%	13	29	-6.5%
PM_{10}[1]	4.2	9.3	4.1	9.0	-3.2%	8.6	19	104%
SO_2	265	582	246	542	-6.9%	244	537	-7.7%
NO_x	68.2	150	66.4	146	-2.7%	64.1	141	-6.0%
CO	3.9	8.5	6.8	15	76.5%	5.5	12	41.2%
Fluoride	0.00082	0.0018	0.00064	0.0014	-22.2%	0.00077	0.0017	-5.6%
HCl	5.0	11	6.8	15	36.4%	8.6	19	72.7%
THC	9.5	2.1	0.95	2.1	0.0%	0.68	1.5	-28.6%

[1] Dry catch only

Dioxins	**ng/sec**	**10^{-12}lb/sec**	**ng/sec**	**10^{-12}lb/sec**	**Difference**	**ng/sec**	**10^{-12}lb/sec**	**Difference**
PCDD/PCDF	18	40	10	22	-44.4%	6.0	6.9	-82.6%

Metals	**g/hr**	**10^{-3}lb/hr**	**g/hr**	**10^{-3}lb/hr**	**Difference**	**g/hr**	**10^{-3}lb/hr**	**Difference**
Arsenic	2.97	6.55	2.08	4.58	-30.1%	11.9	26.2	300%
Barium	1.25	2.75	0.93	2.05	-25.5%	3.13	6.90	151%

(Continued)

Beryllium	0.04	0.086	0.03	0.064	-25.6%	0.19	0.41	377%

Table A-19b. Facility S - Industrial Boiler (Cont.)

Metals	g/hr	10^{-3}lb/hr	g/hr	10^{-3}lb/hr	Difference	g/hr	10^{-3}lb/hr	Difference
Cadmium	<0.19	<0.419	<0.188	<0.414	NT	0.45	0.99	NT
Chromium	0.92	2.03	0.779	1.72	-15.3%	2.11	4.66	130%
Copper	2.13	4.69	2.47	5.44	16%	9.100	20.09	328%
Lead	2.02	4.45	2.26	4.99	12.1%	10.32	22.79	412%
Magnesium	9.730	21.48	7.506	16.57	-22.9%	15.57	34.38	60.1%
Mercury	1.42	3.13	1.21	2.67	-14.7%	1.15	2.53	-19.2%
Nickel	1.41	3.11	1.77	3.90	25.4%	4.34	9.56	207%
Zinc	36.40	80.35	163.56	361.07	349%	1,575.5	3,478.0	4,229%

NT = Not tested or data not available.

Table A-20a. Facility T - Industrial Boiler

Source Description

Facility Name, Location:	John Deere Works - Waterloo Waterloo, Iowa
Facility Type:	Industrial
Source Type:	Boiler
Test Dates:	November 6 - 16, 1995
Other fuel(s):	Coal, oil
Air pollution control device(s) used:	Unknown
Test Conditions:	100% coal 90% coal, 10% oil 84% coal, 7.4% oil, 8.9% TDF (by weight) 88% coal, 12% TDF
Test Methods:	EPA Reference Methods 1, 2, 3, 4, 201A, 202, 6C, 7E, 10
Fuel Handling/Feeding:	Unknown
Testing Company:	Compliance Services, Inc.
Environmental Agency:	Iowa DNR
Reference:	Compliance Services (1996)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	some		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels	X		
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-20b. Facility T - Industrial Boiler

Pollutant	100% Coal		90% Coal/10% Oil		Difference[a]	84% Coal/7.4% Oil/8.9% TDF		Difference[a]	88% Coal/12% TDF		Difference[a]
	kg/hr	lb/hr	kg/hr	lb/hr	%	kg/hr	lb/hr	%	kg/hr	lb/hr	%
PM_{10}	10.484	23.067	4.5814	10.080	-57.9	5.4940	12.088	-49.5	4.265	9.384	-60.8
SO_2	528.22	1,162.2	495.81	1,090.9	-5.60	449.3	988.6	-14.5	527.54	1,160.7	0.33
NO_x	49.90	109.8	48.54	106.8	-53.3	50.81	111.8	-51.3	56.40	124.1	-45.8
CO	3.0	6.5	5.18	11.4	81.3	6.09	13.4	109	6.14	13.5	114

[a] % Difference with respect to 100% coal emission rate.

Table A-21a. Facility U - Industrial Boiler

Source Description

Facility Name, Location:	Cargill Inc. Corn Milling Division Eddyville, Iowa
Facility Type:	Industrial (Food Processing)
Source Type:	Boiler
Test Dates:	June 30 - July 1, 1993
Other fuel(s):	Coal
Air pollution control device(s) used:	Ten section reverse baghouse (Joy Manufacturing).
Test Conditions:	100% Coal 95% Coal, 5% TDF
Test Methods:	EPA Methods 7, 10, 201A
Fuel Handling/Feeding:	Unknown
Testing Company:	Interpoll Laboratories
Environmental Agency:	Iowa DNR
Reference:	Interpoll (1993)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	some		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency	X		

Table A-21b. Facility U - Industrial Boiler

Parameter		100% Coal	5% TDF
Particulate	g/dscm	0.117	0.0670
	gr/dscf	0.0514	0.0293
	g/MJ	0.0424	0.024
	lb/MMBtu	0.0987	0.056
PM_{10}	g/dscm	0.1048	0.0558
	gr/dscf	0.0458	0.0244
	kg/hr	35	18
	lb/hr	77	40
Nitrogen Oxides	ppm,d	134	152
	g/MJ	0.0972	0.105
	lb/MMBtu	0.226	0.245
Carbon Monoxide	ppm,d	4,305	2,048
	kg/hr	1,663	789.9
	lb/hr	3,659	1,738

Table A-22a. Facility V - Industrial Boiler

Source Description

Facility Name, Location:	Dow Corning Midland, MI
Facility Type:	Manufacturing
Source Type:	Boiler
Test Dates:	March 9 - 29, 1989
Other fuel(s):	Wood
Air pollution control device(s) used:	ESP
Test Conditions:	100% Wood, 0% TDF 95% Wood, 5% TDF 90% Wood, 10% TDF 85% Wood, 15% TDF
Test Methods:	Unknown
Fuel Handling/Feeding:	Tire chips 2 - 3 inches in diameter, with wire.
Testing Company:	Unknown.
Environmental Agency:	Michigan DNR
Reference:	Clark, et al (1991) and Malcolm Pirnie (1991)

Source Test Data Evaluation

	Yes	No	Unknown
Data Expressed in Emission Factor Form	X		
Baseline Fuel Test Data Available	X		
Accurate Fuel Feed Rates			X
Multiple Baseline Fuels		X	
Test Witnessed by or Prepared for Governmental Agency			X

Table A-22b. Facility V - Industrial Boiler

Pollutant	0% TDF		5% TDF			10% TDF			15% TDF		
	lb/hr	lb/ MMBtu	lb/hr	lb/ MMBtu	% Change	lb/hr	lb/ MMBtu	% Change	lb/hr	lb/ MMBtu	% Change
Particulate	4.29	0.012	7.53	0.0205	+68	11.22	0.0305[a]	+150	38.10	0.1130[a]	+826
Cadmium	4.9×10^{-4}	1.39×10^{-6}	NT		N/T	--	--	N/T	0.0028	8.21×10^{-6}	+491
Chromium (total)	1.28×10^{-4}	3.64×10^{-6}	NT	NT	--		--	N/T	0.0019	5.57×10^{-6}	+53
Zinc	0.0634	1.8×10^{-4}	--	NT	N/T	--	--	N/T	11.32	0.03	+16,567
Beryllium[c]	ND	ND	--	--	N/T	--	--	N/T	ND	ND	ND
NO_x[c]	NT	0.153	--	0.162	+6	--	0.133	-13	--	0.081	-47
SO_2[d]	NT	0.026	--	0.028	+8	--	0.037	+42	--	0.059	+127

Pollutant	0% TDF		5% TDF			10% TDF			15% TDF		
	kg/hr	$gx10^{-6}$ /MJ	kg/hr	$gx10^{-6}$ /MJ	% Change	kg/hr	$gx10^{-6}$ /MJ	% Change	kg/hr	$gx10^{-6}$/MJ	% Change
Particulate	1.95	0.00525	3.42	0.0088	+68	5.099	0.0131[a]	+150	17.32	0.0486[a]	+826
Cadmium	0.00022	5.98×10^{-7}	--	--	N/T	--	--	N/T	0.0013	3.53×10^{-6}	+491
Chromium (total)	0.000058	1.57×10^{-6}	--	--	N/T	--	--	N/T	0.00086	2.40×10^{-6}	+53
Zinc	0.0288	7.7×10^{-5}	--	--	N/T	--	--	N/T	5.144	0.01	+16,567

(Continued)

Table A-22b. Facility V - Industrial Boiler (Cont.)

Pollutant	0% TDF		5% TDF			10% TDF			15% TDF		
	kg/hr	gx10^{-6} /MJ	kg/hr	gx10^{-6} /MJ	% Change	kg/hr	gx10^{-6} /MJ	% Change	kg/hr	gx10^{-6}/MJ	% Change
Beryllium[c]	ND	ND	--	--	N/T	--	--	N/T	ND	ND	ND
NO_x[c]	--	0.0695	--	0.0697	+6	--	0.0572	-13	--	0.035	-47
SO_2[d]	--	0.011	--	0.012	+8	--	0.016	+42	--	0.025	+127

[a] Emission limits of 0.035 lb/MMBtu at 12 percent CO_2.
[b] No limit for Beryllium was 7.3 x10^{-5} lb/hr.
[c] NO_x limit is 0.7 lb/MMBtu.
[d] SO_2 limit is 0.8 lb/MMBtu.
N/T = Not tested.
ND = Not detected.

Ref.: Clark, et al (1991)

TECHNICAL REPORT DATA
Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-600/R-97-115		

4. TITLE AND SUBTITLE	5. REPORT DATE
Air Emissions from Scrap Tire Combustion	October 1997
	6. PERFORMING ORGANIZATION CODE

7. AUTHOR(S)	8.PERFORMING ORGANIZATION REPORT NO.
Joel I. Reisman	

9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO.
E.H. Pechan & Associates, Inc. 2880 Sunrise Boulevard, Suite 220 Rancho Cordova, California 95742	11. CONTRACT/GRANT NO. 68-D3-0035, W.A. III-111

12. SPONSORING AGENCY NAME AND ADDRESS	13. TYPE OF REPORT AND PERIOD COVERED
EPA, Office of Research and Development Air Pollution Prevention and Control Division Research Triangle Park, NC 27711	Final; 10/96 - 9/97
	14. SPONSORING AGENCY CODE EPA/600/13

15. SUPPLEMENTARY NOTES
APPCD project officer is Paul M. Lemieux, Mail Drop 65, 919/541-0962

16. ABSTRACT

The report discusses air emissions from two types of scrap tire combustion: uncontrolled and controlled. Uncontrolled sources are open tire fires, which produce many unhealthful products of incomplete combustion and release them directly into the atmosphere. Controlled combustion sources (combustors) include boilers and kilns specifically designed for efficient combustion of solid fuel. Very little data exist for devices that are not well-designed and use scrap tires for fuel. These sources include fireplaces, wood stoves, small kilns, small incinerators, or any device with poor combustion characteristics. Air emissions from these types of devices are likely between that of open burning and a combustor. However, there is a serious concern that the emissions are much more similar to those of an open tire fire than a combustor. Open tire fires are discussed. Data from a laboratory test program on uncontrolled burning of tire pieces and ambient monitoring at open tire fires are presented and emissions are characterized. Mutagenic emission data from open burning of scrap tires are compared to mutagenic data for other fuels from both controlled and uncontrolled combustion. A list of 34 target compounds representing the highest potential for health impacts from open tire fires is presented. The list can be used to design an air monitoring plan to evaluate risk potential.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Pollution	Fireplaces	Pollution Control	13B
Emission	Wood	Stationary Sources	14G 11L
Tires	Stoves	Scrap Tires	13F
Combustion	Incinerators	Wood Stoves	21B
Boilers	Monitors		13A
Kilns			

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES
Release to Public	**Unclassified**	
	20. SECURITY CLASS *(This Page)*	22. PRICE
	Unclassified	

EPA Form 2220-1 (9-73)

EXHIBIT B

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

UNITED STATES OF AMERICA, the STATE OF ARKANSAS on behalf of the Arkansas Department of Environmental Quality, the IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY, the STATE OF KANSAS, STATE OF MONTANA ex rel. DEPARTMENT OF ENVIRONMENTAL QUALITY, the STATE OF NEBRASKA on behalf of the Nebraska Department of Environmental Quality, the STATE OF OREGON on behalf of the Oregon Department of Environmental Quality, the STATE OF UTAH on behalf of the Utah Department of Environmental Quality, the WASHINGTON STATE DEPARTMENT OF ECOLOGY, and the PUGET SOUND CLEAN AIR AGENCY Plaintiffs, v. ASH GROVE CEMENT COMPANY Defendant.	)	NO: _____

CONSENT DECREE

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WHEREAS, Plaintiff, the United States of America, on behalf of the United States Environmental Protection Agency (herein "U.S. EPA") has, simultaneously with the lodging of this Consent Decree, filed a Complaint against Defendant Ash Grove Cement Company ("Defendant"), pursuant to Sections 113(b) and 167 of the Clean Air Act ("Clean Air Act or Act"), 42 U.S.C. §§ 7413(b) and 7477, for injunctive relief and the assessment of civil penalties for violations of one or more of the following statutory and regulatory requirements of the Act at one or more of each of Defendant's Portland cement plants which collectively are located in nine (9) different states within the United States: the Prevention of Significant Deterioration ("PSD") provisions of the Act, 42 U.S.C. §§ 7470-7492; and/or the nonattainment New Source Review ("nonattainment NSR") provisions of the Act, 42 U.S.C. §§ 7501-7515; the New Source Performance Standards ("NSPS") provisions of the Act, 42 U.S.C. § 7411; the federally-approved and enforceable state implementation plans ("SIPs"), which incorporate and/or implement the above-listed federal PSD and/or nonattainment NSR requirements and NSPS Requirements; Title V of the Act, 42 U.S.C. §§ 7661-7661f; and Title V's implementing federal and state regulations;

WHEREAS, this Consent Decree sets forth injunctive relief in which Defendant has agreed to substantially reduce its emissions of sulfur dioxide, nitrogen oxide, and particulate matter at all nine of its Portland cement manufacturing facilities in the United States in such a manner that would resolve Defendant's alleged violations of the PSD, NNSR, NSPS, and Title V requirements of the Act;

WHEREAS, the State of Arkansas on behalf of the Arkansas Department of Environmental Quality, the Idaho Department of Environmental Quality, the State of Kansas, the State of Montana on behalf of the Montana Department of Environmental Quality, the State of

Nebraska on behalf of the Nebraska Department of Environmental Quality, the State of Oregon on behalf of the Oregon Department of Environmental Quality, the State of Utah on behalf of the Utah Department of Environmental Quality, the Washington State Department of Ecology, and the Puget Sound Clean Air Agency (collectively, "State Agency Plaintiffs") have joined as Co-Plaintiffs;

WHEREAS, U.S. EPA has provided notice of the violations alleged herein to the Defendant and to each of the states where Defendant's Facilities identified in the Complaint are located, and to the Puget Sound Clean Air Agency, pursuant to Section 113(a) of the Act, 42 U.S.C. § 7413(a), and Defendant stipulates that it has received actual notice of the violations alleged in the Complaint and that it does not contest the adequacy of the notice provided;

WHEREAS, Defendant denies the allegations of the Complaint of the United States and the State Plaintiffs and does not admit that it has any liability to the United States or the State Plaintiffs for civil penalties or injunctive relief arising out of the transactions and occurrences alleged in the Complaint;

WHEREAS, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I (Jurisdiction and Venue), below, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

SECTION I: JURISDICTION AND VENUE

1. This Court has jurisdiction of the subject matter herein and over the Parties consenting hereto pursuant to Sections 113(b), 167, and 304(a) of the Act, 42 U.S.C. §§ 7413(b), 7477, and 7604(a), and pursuant to 28 U.S.C. §§ 1331, 1345, 1355 and 1367(a). Venue is proper under Sections 113(b) and 304(c) of the Act, 42 U.S.C. §§ 7413(b) and 7604(c), and under 28 U.S.C. §§ 1391(b) and (c) and 1395(a). For purposes of this Consent Decree and the underlying Complaint, Defendant waives all objections and defenses it may have to the Court's jurisdiction over this action, to the Court's jurisdiction over the Defendant, and to venue in this District. For the purposes of the Complaint filed by the Plaintiffs in this matter and resolved by the Consent Decree, Defendant waives any defense or objection based on standing.

2. For purposes of this Consent Decree, Defendant agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 113 and 167 of the Act, 42 U.S.C. §§ 7413 and 7477; Section 111 of the Act, 42 U.S.C. § 7411; and Title V of the Act, 42 U.S.C. §§ 7661-7661f; and Title V's implementing federal and state laws and regulations.

SECTION II: APPLICABILITY

4. The obligations of this Consent Decree apply to and are binding upon the United States, the State Agency Plaintiffs and upon the Defendant, and any successors, assigns, or other entities or persons otherwise bound by law.

5. At least 30 Days prior to any transfer of ownership or operation of any Facility identified in Paragraph 8.x, Defendant shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to U.S. EPA, the United States, and the Affected State(s) in accordance with Section XXI (Notices) of this Consent Decree. No transfer

of ownership or operation of a Facility identified in Paragraph 8.x, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Defendant of its obligation to ensure that the terms of the Decree are implemented, unless:

a. the transferee agrees, in writing, to undertake the obligations required by Sections V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), Section VII (PM Control Technology, Emission Limits and Monitoring Requirements), Section IX (Temporary Cessation of Kiln Operation), Section XI (Prohibition on Netting Credits or Offsets from Required Controls), Section XII (Permits), Section XIII (Review and Approval of Submittals), Section XIV (Reporting Requirements), Section XV (Stipulated Penalties), Section XVI (Force Majeure), Section XVII (Dispute Resolution), Section XVIII (Information Collection and Retention) and the requirements of Appendix A, B, and C of this Consent Decree applicable to such Facility and further agrees in writing to be substituted for the Defendant as a Party under the Decree with respect to such Facility and thus become bound by the terms thereof;

b. the United States and the Affected State(s) determine that the transferee has the financial and technical ability to assume the Consent Decree's obligations applicable to such Facility;

c. the United States and the Affected State(s) consent, in writing, to relieve Defendant of its Consent Decree obligations applicable to such Facility; and

d. the transferee becomes a party to this Consent Decree with respect to the transferred Facility, pursuant to Section XXIV (Modification).

5. Any attempt to transfer ownership or operation of any of the Facilities identified in Paragraph 8.x, or any portion thereof, without complying with Paragraph 4 constitutes a violation of this Consent Decree.

6. The Defendant shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Consent Decree. Defendant shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, Defendant shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

SECTION III: DEFINITIONS

8. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated by U.S. EPA pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Definitions stated in this Consent Decree are exclusively for the purpose of interpreting and applying the Consent Decree terms and are not intended to establish any type of determination under circumstances not covered by the Consent Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. "12-Month Rolling Tonnage Limit" shall mean, with respect to Midlothian Kiln 3 after Reconstruction and the Montana City Kiln after Replacement, the maximum allowable tons of emission of a specified air pollutant from such Kiln during any consecutive period of twelve months, expressed as Tons of such air pollutant.

Compliance with the 12-Month Rolling Tonnage Limit for NO_x or SO_2 shall be determined on a monthly basis by summing the total Tons of air pollutant in question emitted from the Kiln during the most recent complete month and the previous eleven (11) months, as measured pursuant to Section V.B. (NO_x Continuous Emission Monitoring Systems) or Section VI.B. (SO_2 Continuous Emission Monitoring Systems), of this Consent Decree. Compliance with the 12-Month Rolling Tonnage Limit for PM shall be determined on a monthly basis by compliance with the performance testing and continuous parametric monitoring requirements in Section VII.B (PM Continuous Parametric Monitoring Systems). A new compliance determination of the 12-Month Rolling Tonnage Limit shall be calculated for each new complete month in accordance with the provisions of this Consent Decree. In calculating each compliance determination of the 12-Month Rolling Tonnage Limit for NO_x and SO_2 at any Kiln, the total Tons of such air pollutant emitted from the Kiln shall include all emissions of that air pollutant during each Startup, Shutdown, or Malfunction that occurs during the 12-month period at issue.

b. "30-Day Rolling Average Emission Limit" shall mean, with respect to any Kiln at a Facility, the maximum allowable rate of emission of a specified air pollutant from such Kiln or Kilns, as applicable, and shall be expressed as pounds of such air pollutant emitted per Ton of clinker produced. Compliance with the 30-Day Rolling Average Emission Limit shall be determined in accordance with the following procedure, beginning on the date on which the 30-Day Rolling Average Emission Limit applies pursuant to Appendix A, or pursuant to Section V (NO_x Control Technology, Emission Limits and Monitoring Requirements), or Section VI (SO_2

Control Technology, Emission Limits and Monitoring Requirements): first, sum the total pounds of the air pollutant in question emitted from the Kiln or Kilns during that Operating Day and the previous twenty-nine (29) Operating Days as measured pursuant to Section V.B. (NO_x Continuous Emission Monitoring Systems), or Section VI.B. (SO_2 Continuous Emission Monitoring Systems), as applicable; second, sum the total Tons of clinker produced by the Kiln or Kilns during the same Operating Day and previous 29 Operating Days; and third, divide the total number of pounds of the air pollutant emitted from the Kiln or Kilns during the thirty (30) Operating Days by the total Tons of clinker produced by such Kiln or Kilns during the same 30 Operating Days. A new compliance determination of the 30-Day Rolling Average Emission Limit shall be calculated for each new Operating Day in accordance with the provisions of this Consent Decree. In calculating each compliance determination of the 30-Day Rolling Average Emission Limit in accordance with this Paragraph 8.b, for NO_x or SO_2 at any Facility, the total pounds of such air pollutant emitted from the Kiln or Kilns during a specified period (Operating Day or 30-Day Period) shall include all emissions of that pollutant from the subject Kiln that occur during the specified period, including emissions during each Startup, Shutdown, or Malfunction, except to the extent a Malfunction qualifies as a Force Majeure event under Section XVI and Defendant has complied with the requirements of that Section. Compliance with the 30-Day Rolling Average Emission Limits established in Section VII (PM Control Technology, Emission Limits and Monitoring Requirements) shall be demonstrated by operating the PM CPMS at each Kiln consistent with the

performance testing and continuous parametric monitoring requirements in Section VII.B (PM Continuous Parametric Monitoring Systems).

c. "30-Day Rolling Average Emission Rate" shall mean, with respect to each Kiln subject to Appendix A, the rate of emission of NO_x expressed as pounds (lbs.) per Ton of clinker produced at such Kiln(s) and calculated in accordance with the following procedure: first, sum the total pounds of the pollutant in question emitted from the specified Kiln(s) during an Operating Day and the previous twenty-nine (29) Operating Days, as measured pursuant to Section V.B. (NO_x Continuous Emission Monitoring Systems); second, sum the total Tons of clinker produced by that Kiln during the same Operating Day and previous 29 Operating Days; and third, divide the total number of pounds of NO_x emitted from the Kiln(s) during the thirty (30) Operating Days referred to above by the total Tons of clinker produced at such Kiln(s) during the same 30 Operating Days. A new 30-Day Rolling Average Emission Rate shall be calculated for each new Operating Day. In calculating each 30-Day Rolling Average Emission Rate, the total pounds of NO_x emitted from a Kiln during a specified period (Operating Day or 30-Day Period) shall include all emissions of that pollutant from the subject Kiln that occur during the specified period, including emissions during each Startup, Shutdown, or Malfunction, except to the extent a Malfunction qualifies as a Force Majeure event under Section XVI and Defendant has complied with the requirements of that Section;

d. "Affected State" shall mean any State Agency Plaintiff having jurisdiction over a Facility addressed in this Consent Decree;

e. “Baghouse” shall mean a pollution control system used for the removal and collection of Particulate Matter from Kiln flue gases;

f. “Business Day” means any Day, except for Saturday, Sunday, and federal holidays. In computing any period of time used as a deadline for submission under this Consent Decree, where the last Day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next Business Day;

g. “CEMS” or “Continuous Emission Monitoring System” shall mean, for obligations involving NO_x and SO_2, under this Consent Decree, the total equipment and software required to sample and condition (if applicable), to analyze, and to provide a record of NO_x and SO_2 emission rates, and the raw data necessary to support the reported emission rates, and that have been installed and calibrated in accordance with 40 C.F.R. § 60.13 and 40 C.F.R. Part 60 Appendix B and Appendix F;

h. “CPMS” or “Continuous Parametric Monitoring System” shall mean, for obligations involving PM under this Consent Decree, the total equipment and software required to establish and monitor a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit in accordance with 40 C.F.R. § 63.1350;

i. “Commence” or “Commencement” of operation of a Control Technology shall mean to begin the introduction of the reagent employed by the Control Technology, as applicable to that technology, or where the technology is otherwise activated;

j. “Complaint” shall mean the complaint filed by the United States and State Agency Plaintiffs in this action;

k. "Consent Decree" or "Decree" shall mean this Decree and each Appendix attached hereto (listed in Section XXX (Appendices)), but in the event of any conflict between the text of this Decree and any Appendix, the text of this Decree shall control;

l. "Continuously Operate" or "Continuous Operation" shall mean that when a Control Technology is used at a Kiln, it shall be operated at all times of Kiln Operation, excluding Malfunction of the Control Technology, consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for such Control Technology and the Kiln. For example, the requirement to continuously operate SNCR does not require that the SNCR be operated under conditions where the Kiln has not reached or is no longer maintaining the minimum temperature for reagent injection.

m. "Contractor" shall mean any person or entity hired by Defendant to perform services on its behalf necessary to comply with the provisions of this Consent Decree;

n. "Control Technology" shall mean Selective Non-Catalytic Reduction; Dry Absorbent Addition; Semi-Dry Flue Gas Desulphurization ("Semi-Dry Scrubber"); or Baghouse.

o. "Date of Lodging of the Consent Decree" or "Date of Lodging" shall mean the date the Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the District of Kansas;

p. "Day" shall mean a calendar day unless expressly stated to be a Business Day;

q. "Defendant" or "Ash Grove" shall mean Ash Grove Cement Company;

r. "Demonstration Phase" shall mean that period of time identified in Appendix A, following optimization, and at the conclusion of which, Defendant will propose a 30-Day Rolling Average Emission Limit for NO_x that is achievable through the

implementation of SNCR Control Technology at the Montana City Kiln, and that is consistent with optimized operation of the Louisville ACL Kiln and Seattle Kiln, and that will be applied in accordance with Sections V (NO_x Control Technology, Emission Limits, and Monitoring Requirements) of this Consent Decree;

s. "Demonstration Phase 30-Day Rolling Average Emission Limit" shall mean the 30-Day Rolling Average Emission Limit that applies upon Defendant's commencement of Continuous Operation of SNCR Control Technology at the Montana City Kiln and until the Defendant proposes a 30-Day Rolling Average Emission Limit for NO_x applicable to the Montana City Kiln in accordance with the procedures of Appendix A to this Consent Decree;

t. "Dry Absorbent Addition" or "DAA" shall mean a pollution control system that combines a dry alkaline reagent directly with the Kiln gas stream to achieve the reduction of sulfur dioxide emissions;

u. "Effective Date" shall have the meaning given in Paragraph 138;

v. "Emission Limit" shall mean the maximum allowable Emission Rate of a specified air pollutant from any Kiln or Kilns and shall be expressed as pounds of such air pollutant emitted per Ton of clinker produced;

w. "Emission Rate" for a specified air pollutant from any Kiln or Kilns shall mean the number of pounds of such air pollutant emitted per Ton of clinker measured in accordance with this Consent Decree.

x. "Facilities" shall mean the following nine (9) Portland cement manufacturing facilities used for the production of Portland cement. Each of these facilities may be referred to as a "Facility."

(1) Foreman Cement Plant, 4343 Highway 108, Foreman, Arkansas, 71836 (hereinafter "Foreman, Arkansas");

(2) Chanute Cement Plant, 1801 Santa Fe Ave., Chanute, Kansas, 66720 (hereafter "Chanute, Kansas");

(3) Durkee Cement Plant, 33060 Shirttail Creek Rd., Durkee, Oregon 97905-0287 (hereinafter "Durkee, Oregon");

(4) Leamington Cement Plant, 600 West Highway 132, Leamington, Utah 84638 (hereinafter "Leamington, Utah");

(5) Seattle Cement Plant, 3801 E. Marginal Away, S., Seattle, Washington 98134-1147 (hereinafter "Seattle, Washington");

(6) Louisville Cement Plant, 16215 Highway 50, Louisville, Nebraska 68037 (hereinafter "Louisville, Nebraska");

(7) Midlothian Cement Plant, 900 Gifco Road, Midlothian, Texas 76065 (hereinafter "Midlothian, Texas");

(8) Montana City Cement Plant, 100 Highway 518, Clancy, Montana 59634-9701 (hereinafter "Montana City, Montana");

(9) Inkom Cement Plant, 230 Cement Road, Inkom, Idaho 83245-1543 (hereinafter "Inkom, Idaho");

y. "Kiln" as used in this Consent Decree shall mean a device, including any associated preheater or precalciner devices, inline raw mills, inline coal mills or alkali bypasses that produces clinker by heating limestone and other materials for subsequent production of portland cement. Because the inline raw mill is considered an integral part of the Kiln, for purposes of determining the appropriate emissions limit, the term

Kiln also applies to the exhaust of the inline raw mill. The following are identified as the individual Kilns at each Facility:

(1) Foreman, Arkansas: Foreman Kiln 4;

(2) Chanute, Kansas: Chanute Kiln 1;

(3) Durkee, Oregon: Durkee Kiln 1;

(4) Leamington, Utah: Leamington Kiln 1;

(5) Seattle, Washington: Seattle Kiln 1 or "the Seattle Kiln";

(6) Louisville, Nebraska: Louisville ACL Kiln , Louisville HW Kiln;

(7) Midlothian, Texas: Midlothian Kiln 1, Midlothian Kiln 2, Midlothian Kiln 3;

(8) Montana City, Montana: Montana City Kiln 1 or "the Montana City Kiln"; and

(9) Inkom, Idaho: Inkom Kiln 1, Inkom Kiln 2.

z. "Kiln Operation" shall mean any period when any raw materials are fed into the Kiln and any combustion is occurring in the Kiln;

aa. "Malfunction" as used in this Consent Decree shall have the same meaning as defined at 40 C.F.R. § 60.2;

bb. "National Ambient Air Quality Standards" or "NAAQS" shall mean national ambient air quality standards that are promulgated pursuant to Section 109 of the Act, 42 U.S.C. § 7409;

cc. "New Source Performance Standards" or "NSPS" shall mean those standards and emission limitations applicable to the emissions of NO_x, SO_2, and PM from

existing, modified or reconstructed Portland cement manufacturing facilities, codified at 40 C.F.R. Part 60, Subpart F;

dd. "NO_x" shall mean oxides of nitrogen, measured in accordance with the provisions of this Consent Decree;

ee. "Non-attainment NSR" shall mean the non-attainment area New Source Review (NSR) program within the meaning of Part D of Subchapter I of the Act, 42 U.S.C. §§ 7501-7515, 40 C.F.R. Part 51, and any applicable State Implementation Plan.

ff. "Operating Day" shall mean any Day on which Kiln Operation has occurred;

gg. "Operating Month" shall mean any calendar month in which Kiln Operation has occurred;

hh. "Paragraph" shall mean a portion of this Decree identified by an Arabic numeral;

ii. "Particulate," "Particulate Matter" or "PM" shall have the same meaning as in 40 C.F.R. Part 63, Subpart LLL.

jj. "Parties" shall mean the United States, the State Agency Plaintiffs and their agencies and political subdivisions having jurisdiction over a Facility, and Ash Grove;

kk. "PSD" shall mean the Prevention of Significant Deterioration program within the meaning of Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, 40 C.F.R. Part 52, and any applicable State Implementation Plan;

ll. "Reconstruct" or "Reconstruction" shall mean the replacement of components of an existing Kiln to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to

construct a comparable entirely new Kiln. For purposes of this definition, "fixed capital cost" shall mean the capital needed to provide all the depreciable components. The evaluation as to whether a Kiln has been Reconstructed shall be performed consistent with guidance issued by EPA in applying the definition of "reconstruction" in 40 C.F.R. § 60.15(b).

mm. "Replace" or "Replacement" shall mean the construction of a new Kiln or Reconstruction of an existing Kiln at the Montana City Facility pursuant to Section V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements) or Section VII (PM Control Technology, Emission Limits, and Monitoring Requirements) of this Consent Decree;

nn. "Retire" or "Retirement" shall mean, with respect to any Kiln, (1) to permanently Shut Down the Kiln; and (2) to file an application in accordance with the Affected State's SIP to remove permanently any legal authorization for further operation of the Kiln;

oo. "Section" shall mean a portion of this Decree identified by a Roman numeral;

pp. "Selective Non-Catalytic Reduction" or "SNCR" shall mean a pollution control system that injects an ammonia-based reagent into the gas stream without the use of a catalyst for the purpose of reducing NO_x emissions;

qq. "Shut Down" shall mean the cessation of kiln operation. Shutdown begins when feed to the kiln is halted and ends when continuous kiln rotation ceases;

rr. "Site Specific Operating Limit" or "SSOL" is the parametric limit used to monitor the operation of the particulate control device. The SSOL is also referred to as the

"site specific CPMS limit" in 40 CFR Part 63 Subpart LLL. The SSOL requirements are contained in paragraph 60 and Appendix C of this Decree.

ss. "SO_2" shall mean the pollutant sulfur dioxide, measured in accordance with the provisions of this Consent Decree;

tt. "Startup" shall mean the time from when a shutdown kiln first begins firing fuel until it begins producing clinker. Startup begins when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. Startup ends when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first;

uu. "State Agency Plaintiff" or "State" shall mean any of the following: the State of Arkansas on behalf of the Arkansas Department of Environmental Quality, the Idaho Department of Environmental Quality, the State of Kansas, the State of Montana on behalf of the Montana Department of Environmental Quality, the State of Nebraska on behalf of the Nebraska Department of Environmental Quality, the State of Oregon on behalf of the Oregon Department of Environmental Quality, the State of Utah on behalf of the Utah Department of Environmental Quality, the Washington State Department of Ecology, and the Puget Sound Clean Air Agency. State Agency Plaintiff shall include, for the foregoing, any agencies and political subdivisions having jurisdiction over a Facility;

vv. "Temporary Cessation," "Temporary Cessation of Kiln Operation" or "Temporarily Cease Kiln Operation" shall mean the period when a Kiln is not in a

state of Kiln Operation and Defendant has provided the required notice pursuant to Paragraph 67 of Section IX (Temporary Cessation of Kiln Operation) of this Consent Decree;

ww. "Title V permit" shall mean a permit required by and issued in accordance with the requirements of 42 U.S.C. §§ 7661 - 7661f;

xx. "Ton" or "Tons" shall mean short ton or short tons;

yy. "United States" shall mean the United States of America, acting on behalf of U.S. EPA;

zz. "U.S. EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies; and

aaa. "Semi -Dry Flue Gas Desulphurization System," "Semi-Dry FGD," or "Semi-Dry Scrubber" shall mean a pollution control system that employs semi-dry gas scrubber technology to achieve the reduction of sulfur dioxide emissions.

SECTION IV: CIVIL PENALTY

9. Within thirty (30) Days after the Effective Date of this Consent Decree, Defendant shall pay to the United States as a civil penalty the sum of $1,666,000 together with interest accruing from the Effective Date through the date of payment, at the rate specified in 28 U.S.C. § 1961 as of the Effective Date. Defendant shall pay the civil penalty due under this Paragraph 9 by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with written instructions to be provided to Defendant following lodging of the Consent Decree by the Financial Litigation Unit of the U.S. Attorney's Office for the District of Kansas, 1200 Epic Center, 301 N. Main, Wichita, Kansas, 67202. At the time of payment, Defendant shall send a copy of the EFT authorization form and the EFT transaction record,

together with a transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in United States, *et al.* v. Ash Grove Cement Company, and shall reference the civil action number and DOJ case number 90-5-2-1-09875, to the United States in accordance with Section XXI of this Decree (Notices); by email to acctsreceivable.CINWD@epa.gov; and to:

U.S. EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268.

10. Within thirty (30) Days after the Effective Date of this Consent Decree, Defendant shall pay civil penalties, together with interest accruing from the Effective Date through the date of payment at the rate identified in Paragraph 9, in the following amounts to the following Affected States in accordance with the payment instructions below:

State Agency	**Amount**	**Payment Instructions**
State of Arkansas	$103,000	Arkansas Department of Environmental Quality Fiscal 5301 Northshore Drive North Little Rock, AR 72118-5317

Idaho Department of Environmental Quality	$103,000	Check payable in amount of $77,250, stating "Wood Stove Change-Out Supplemental Environmental Project" in the memo line and mailed to: Fiscal Office Idaho Department of Environmental Quality 1410 N. Hilton Boise, Idaho 83706 Check payable in amount of $25,750, stating "Civil Penalty Payment" in memo line and mailed to: Fiscal Office Idaho Department of Environmental Quality 1410 N. Hilton Boise, Idaho 83706
State of Kansas	$113,000	Check payable and mailed to: Kansas Department of Health and Environment Address: Kansas Department of Health and Environment 1000 SW Jackson Street, Suite 310 Topeka, Kansas 66612-1366 Attn: Sheila Pendleton The memorandum portion of the check shall identify the case number.
State of Montana	$103,000	Check or money order, made payable to the "Montana Department of Environmental Quality," and sent to the Department at John L. Arrigo, Administrator Enforcement Division Department of Environmental Quality 1520 East Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901

State of Nebraska	$103,000	Checks shall be made to Cass County District Court Clerk and shall be mailed with notice referring to this action, to: Katherine J. Spohn Deputy Attorney General 2115 State Capitol Lincoln, NE 68508-8920
State of Oregon	$103,000	In accordance with Oregon DEQ's directive on state Supplemental Environmental Projects (SEPs), Defendant shall fund a SEP for woodstove change outs in Lakeview, Oregon per the application submitted to DEQ from the South Central Oregon Economic Development District (SCOEDD). Check in the amount of $82,400 payable to SCOEDD with SEP in the memo line, mailed to: SCOEDD c/o Betty Riley PO Box 1529 Klamath Falls, OR 97601 Check in the amount of $20,600 payable to State Treasurer, State of Oregon, mailed to: DEQ, Business Office 811 S.W. Sixth Avenue Portland, OR 97204
State of Utah	$103,000	Check payable and mailed to: Utah Division of Air Quality Multi Agency State Office Building 195 North 1950 West, Fourth Floor Salt Lake City, Utah 84116

Washington State Department of Ecology	$20,600	Check payable and mailed to: Department of Ecology Cashiering Unit P.O. Box 47611 Olympia, WA 98504-7611 The Memorandum on the check should reference NR13168001 and "Ash Grove Settlement"
Puget Sound Clean Air Agency	$82,400	Check payable to "Puget Sound Clean Air Agency": Craig Kenworthy Executive Director Puget Sound Clean Air Agency 1904 3rd Ave, Suite 105 Seattle WA USA 98101
TOTAL	**$834,000**	

11. Defendant shall not deduct any penalties paid under this Section in calculating its federal or state or local income tax.

SECTION V: NO_x CONTROL TECHNOLOGY, EMISSION LIMITS AND MONITORING REQUIREMENTS

A. NO_x Control Technology and Emission Limits

12. Subject to Section IX (Temporary Cessation of Kiln Operation), Defendant shall install the NO_x Control Technology and comply with the Emission Limits for the specific Kilns within its system according to Paragraphs 13 through 31. Defendant shall Continuously Operate each NO_x Control Technology.

Foreman, Arkansas

13. Defendant shall have installed and Commenced Continuous Operation of the SNCR technology at Foreman Kiln 4 by the date specified in the table below in this Paragraph 13:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)
Kiln 4	SNCR	12/31/15	1.5

Defendant shall Continuously Operate the SNCR technology by no later than the date specified in the table above.

14. Beginning on the Operating Day which is the 30th Operating Day after the date by which Defendant is required to Commence Continuous Operation of the SNCR technology at Foreman Kiln 4 identified in Paragraph 13, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for NO_x specified in Paragraph 13 at that Kiln.

Chanute, Kansas

15. Defendant shall have installed and Commenced Continuous Operation of the SNCR technology at Chanute Kiln 1 by the date specified in the table below in this Paragraph 15:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)
Kiln 1	SNCR	12/31/15	1.5

Defendant shall Continuously Operate the SNCR technology by no later than the date specified in the table above.

16. Beginning on the Operating Day which is the 30th Operating Day after the date by which Defendant is required to Commence Continuous Operation of the SNCR technology at Chanute Kiln 1 identified in Paragraph 15 Defendant shall demonstrate compliance and

thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for NO_x specified in Paragraph 15 at that Kiln.

Durkee, Oregon

17. Defendant shall have installed and Commenced Continuous Operation of the SNCR technology at Durkee Kiln 1 by the date specified in the table below in this Paragraph 17:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)
Kiln 1	SNCR	3/31/15	2.0

Defendant shall Continuously Operate the SNCR technology by no later than the date specified in the table above.

18. Beginning on the Operating Day which is the 30th Operating Day after the date by which Defendant is required to Commence Continuous Operation of the SNCR technology at Durkee Kiln 1 identified in Paragraph 17, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for NO_x specified in Paragraph 17 at that Kiln.

Leamington, Utah

19. Defendant shall have installed and Commenced Continuous Operation of the SNCR Control Technology at Leamington Kiln 1 by the date specified in the table below in this Paragraph 19:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)
Kiln 1	SNCR	12/10/2013	2.8

Defendant shall Continuously Operate the SNCR technology by no later than the date specified in the table above.

20. Beginning on the Operating Day which is the 30th Operating Day after the date by which Defendant is required to Commence Continuous Operation of the SNCR technology at Leamington Kiln 1 identified in Paragraph 19, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for NO_x specified in Paragraph 19 at that Kiln. Defendant need not demonstrate compliance at the stack venting exhaust gases from the Leamington coal mill. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way or to reduce the amount of reagent Ash Grove uses in the SNCR.

Seattle, Washington

21. Defendant shall submit pursuant to Section XXI of this Consent Decree (Notices) an optimization protocol for the Seattle Kiln in accordance with the applicable procedures of Appendix A to this Consent Decree, hereinafter the Seattle Kiln NO_x Emission Reduction Report, for the purpose of optimizing the operation of the Seattle Kiln to reduce NO_x emissions to the maximum extent practicable from that Kiln. The Seattle Kiln NO_x Emission Reduction Report shall conform to the applicable procedures set forth in Appendix A for the establishment of a 30-Day Rolling Average Emission Limit for NO_x at the Seattle Kiln. Consistent with the requirements and deadlines specified in Appendix A, Defendant shall demonstrate compliance and thereafter maintain compliance with the proposed 30-Day Rolling Average Emission Limit for NO_x at the Seattle Kiln. Defendant need not demonstrate compliance at the stack venting

exhaust gases from the Seattle coal mill. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way.

22. U.S. EPA, in consultation with the Puget Sound Clean Air Agency, shall review the Seattle Kiln NO_x Emission Reduction Report in accordance with Section XIII (Review and Approval of Submittals). Consistent with the requirements and deadlines specified in Appendix A, Defendant shall take all actions required pursuant to that review, including but not limited to achieving and maintaining compliance with the 30-Day Rolling Average Emission Limit for NO_x at the Seattle Kiln approved, conditionally approved, or partially approved by U.S. EPA pursuant to Section XIII (Review and Approval of Submittals).

Louisville, Nebraska

23. Louisville ACL Kiln.

a. Defendant shall submit pursuant to Section XXI of this Consent Decree (Notices) an optimization protocol for the Louisville ACL Kiln in accordance with the applicable procedures of Appendix A to this Consent Decree, hereinafter the Louisville ACL Kiln NO_x Emission Reduction Report, for the purpose of optimizing the operation of Louisville ACL Kiln to reduce NO_x emissions to the maximum extent practicable from that Kiln. The Louisville ACL Kiln NO_x Emission Reduction Report shall conform to the applicable procedures and schedule set forth in Appendix A for the establishment of a 30-Day Rolling Average Emission Limit for NO_x at the Louisville ACL Kiln. Consistent with the requirements and deadlines specified in Appendix A, Defendant shall

demonstrate compliance and thereafter maintain compliance with the proposed 30-Day Rolling Average Emission Limit for NO_x at the Louisville ACL Kiln.

b. U.S. EPA, in consultation with the State of Nebraska, shall review the Louisville ACL Kiln NO_x Emission Reduction Report in accordance with Section XIII (Review and Approval of Submittals). Consistent with the requirements and deadlines specified in Appendix A, Defendant shall take all actions required pursuant to that review, including but not limited to achieving and maintaining compliance with the 30-Day Rolling Average Emission Limit for NO_x at the Louisville ACL Kiln approved, conditionally approved, or partially approved by U.S. EPA pursuant to Section XIII (Review and Approval of Submittals).

24. Louisville HW Kiln.

a. Defendant shall have installed and Commenced Continuous Operation of the SNCR technology at the Louisville HW Kiln by the date specified in the table below in this Paragraph 24.a:

Kiln	**Control Technology**	**Date of Installation and Deadline for Commencement of Continuous Operation**	**30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)**
HW Kiln	SNCR	9/10/2014	3.5

Defendant shall Continuously Operate the SNCR technology by no later than the date specified in the table above.

b. Beginning on the Operating Day which is the 30th Operating Day after the date by which Defendant is required to Commence Continuous Operation of the SNCR technology at Louisville HW Kiln identified in Paragraph 24.a, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day

Rolling Average Emission Limit for NOx specified in Paragraph 24.a at that Kiln. Defendant need not demonstrate compliance at the stack venting exhaust gases from the Louisville HW coal mill. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way or to reduce the amount of reagent Ash Grove uses in the SNCR.

Midlothian, Texas

25. Defendant shall Retire Midlothian Kiln 1 and Midlothian Kiln 2 by the dates specified in the table below in this Paragraph 25. Defendant shall not Operate Midlothian Kiln 3 after the dates specified in the table below in this Paragraph 25 unless and until Midlothian Kiln 3 has been Reconstructed.

Kiln	**Control Technology**	**Deadline for Retirement or Commencement of Continuous Operation**	**30-Day Rolling Average Emission Limits (lbs. NO_x/Ton of clinker)**
Kiln 1	Retire	9/10/2014	0
Kiln 2	Retire	9/10/2014	0
Kiln 3	Retire or Reconstruct with SNCR	First Operating Day after 9/10/2014	1.5

If Defendant Reconstructs Midlothian Kiln 3, then commencing on the date specified in the table above, Defendant shall Continuously Operate the SNCR Control Technology on Midlothian Kiln 3.

26. If Defendant Reconstructs Midlothian Kiln 3, then beginning on the Operating Day which is the 30th Operating Day after the date identified in Paragraph 25 by which Defendant is required to Operate the Reconstructed Midlothian Kiln 3, Defendant shall demonstrate compliance and thereafter maintain compliance at the stack for Kiln 3 with the 30-Day Rolling Average Emission Limit for NO_x specified in Paragraph 25. By no later than September 10, 2015, Defendant shall demonstrate compliance and maintain compliance with a 12-Month Rolling Tonnage Limit for NO_x of 975 tons per year at Midlothian Kiln 3.

Montana City, Montana

27. By no later than 60 Days after the Effective Date, Defendant shall Continuously Operate Low NO_x Burner technology at Montana City Kiln 1 specified in the table below in this Paragraph 27. In addition, Defendant shall have installed and Commenced Continuous Operation of the SNCR Control Technology at Montana City Kiln 1 by the date specified in the table below in this Paragraph 27:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	Demonstration Phase 30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)	30-Day Rolling Average Emission Limit (lbs. NO_x/Ton of clinker)
Kiln 1	Low NO_x Burner	60 Days after Effective Date	--	*See* Appendix A
	SNCR	9/10/2014	8.0	

Beginning on the Operating Day which is the 30th Operating Day after September 10, 2014, Defendant shall demonstrate compliance and thereafter maintain compliance with the Demonstration Phase 30-Day Rolling Average Emission Limit for NO_x of 8.0 lb/ton of clinker at the Montana City Kiln.

28. Pursuant to Appendix A, Defendant shall propose to U.S. EPA and the Montana Department of Environmental Quality a 30-Day Rolling Average Emission Limit for NO_x applicable to Montana City Kiln 1 that is no less stringent than 8.0 lb NO_x/ton of clinker and that represents the optimal performance and Continuous Operation of the SNCR Control Technology.

a. Within 30 Days after proposing a 30-Day Rolling Average Emission Limit for NO_x at Montana City Kiln 1 under Appendix A, Defendant shall demonstrate compliance and thereafter maintain compliance with the proposed 30-Day Rolling Average Emission Limit for NO_x at the Kiln. U.S. EPA shall review the proposed 30-Day Rolling Average Emission Limit for NO_x applicable to Montana City Kiln 1 in consultation with the Montana Department of Environmental Quality. Within 30 Operating Days after U.S. EPA has notified Defendant of the completion of its review of the proposed 30-Day Rolling Average Emission Limit for NO_x, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for NO_x approved, conditionally approved, or partially approved by U.S. EPA pursuant to Section XIII (Review and Approval of Submittals).

b. If, on or before May 4, 2015, Defendant provides notice to EPA pursuant to Section XXI of the Consent Decree (Notices) that it intends to Replace Montana City Kiln 1 and shall Retire the existing Montana City Kiln 1 within 42 months, then Defendant's obligations under Appendix A shall terminate immediately, but Defendant shall continue to comply with the Demonstration Phase 30-Day Rolling Average Emission Limit for NO_x and continuously operate the SNCR for the time period prior to Retirement of Montana City Kiln 1.

29. If Defendant elects to Replace Montana City Kiln 1 in accordance with Section X (Election to Retire and Replace Kilns), then Defendant shall:

a. Prior to Replacing Montana City Kiln 1 and prior to termination pursuant to Section XXV of this Consent Decree (Termination), submit an application for a federally enforceable preconstruction permit for the Replacement of the Montana City Kiln that is issued under the federally-approved minor or major new source review program and which incorporates, at a minimum, a proposed 30-Day Rolling Average Emission Limit for NO_x that is no less stringent than 1.5 lb/ton clinker, or the applicable NSPS, whichever is more stringent. Such application for a federally enforceable preconstruction permit shall also contain, at a minimum, a proposed 12-Month Rolling Tonnage Limit for NO_x of no more than 700 tons per year. Defendant shall thereafter take all other actions necessary to obtain such permits or approvals after filing the applications including, but not limited to, responding to reasonable requests for additional information by the permitting authority in a timely fashion, and conducting any environmental or other assessment lawfully required by the permitting authority.

b. Within 180 Days after Defendant commences Operation of the Replaced Montana City Kiln, Defendant shall demonstrate compliance and maintain compliance with the Control Technology and other applicable requirements of Paragraph 29.a. applicable to the Replaced Montana City Kiln, or those Control Technology and Emission Limits for NO_x imposed by the federally enforceable preconstruction permit(s), whichever are more stringent.

Inkom, Idaho

30. Prior to Startup of Inkom Kiln 1 and/or Inkom Kiln 2, Defendant shall first apply for and obtain applicable permits required under: (1) the PSD provisions of the Act, 42 U.S.C. §§ 7470-7492 and/or the nonattainment NSR provisions of the Act, 42 U.S.C. §§ 7501-7515; or (2) the federally-approved and enforceable SIP which incorporates and/or implements the federal PSD and/or nonattainment NSR requirements. At a minimum, any such application for the foregoing permit(s) shall require that Defendant install and Commence Continuous Operation of SNCR Control Technology at each Kiln, as specified in the table below in this Paragraph 30:

Kiln	**Control Technology**	**Date of Installation and Deadline for Commencement of Continuous Operation**	**30-Day Rolling Average Emission Limit (lbs. NO_x /Ton of clinker)**
Kiln 1	SNCR	Upon Startup	1.5
Kiln 2	SNCR	Upon Startup	1.5

Defendant shall Continuously Operate the SNCR Control Technology by no later than the date specified in the table above.

31. Beginning on the Operating Day which is the 30th Day after the date by which Defendant is required to Commence Continuous Operation of the SNCR technology at Inkom Kiln 1 and Inkom Kiln 2 identified in Paragraph 30, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for NO_x specified in the table in Paragraph 30 at Inkom Kiln 1 and Inkom Kiln 2, or those Emission Limits for NO_x required under the federally enforceable preconstruction permit(s) required in Paragraph 30, above, whichever are more stringent.

B. NO_x Continuous Emission Monitoring Systems

32. At each Kiln identified in Paragraph 8.y of this Decree other than the Midlothian Kilns and the Inkom Kilns, Defendant shall install and make operational no later than twelve months after the Effective Date a NO_x continuous emissions monitoring system (CEMS) at each stack which collects emissions from such Kiln in accordance with the requirements of 40 C.F.R. Part 60. Notwithstanding the foregoing, Defendant shall install and make operational a NO_x CEMS at each stack which collects emissions from Midlothian Kiln 3 in accordance with the requirements of 40 C.F.R. Part 60 within 60 Days after achieving the maximum production rate at which the Reconstructed Kiln will be operated, but not later than 180 Days after Defendant first Operates the Reconstructed Kiln. Defendant shall install and make operational a NO_x CEMS at each stack which collects emissions from Inkom Kiln 1 or Inkom Kiln 2 in accordance with the requirements of 40 C.F.R. Part 60 not later than 180 Days after Startup of the Kiln. Defendant is not required to install or operate NO_x CEMS on the stack(s) of the indirect fired coal mills serving the Leamington, Louisville HW and Seattle Kilns.

33. On or before the date that a NO_x CEMS is required pursuant to Paragraph 32, Defendant shall determine and record the daily clinker production rates by either one of the two following methods:

a. Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates of the amount of clinker produced in tons of mass per hour.; or

b. Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates of the amount of feed to the kiln in tons of mass per hour. Defendant shall calculate hourly clinker production rate using a kiln

specific feed-to-clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. This ratio should be updated no less frequently than once per month. If this ratio changes at clinker reconciliation, the new ratio must be used going forward, but it is not necessary to retroactively change clinker production rates previously estimated.

34. Except during CEMS breakdowns, repairs, calibration checks, and zero span adjustments, the CEMS required pursuant to Paragraph 32 shall be operated at all times during Kiln Operation. Each such CEMS shall be used at each Kiln to demonstrate compliance with the NO_x Emission Limits established in Section V.A (NO_x Control Technology and Emission Limits) and Appendix A, as applicable, of this Consent Decree. If Defendant Reconstructs or Replaces the Montana City Kiln, it shall commence operation of the NO_x CEMS for that Kiln within 60 Days after achieving the maximum production rate at which the Montana City Replacement Kiln will be operated, but not later than 180 Days after Defendant first Operates the Montana City Replacement Kiln .

35. Each NO_x CEMS required pursuant to Paragraph 32 shall monitor and record the applicable NO_x emission rate from each Kiln stack in units of lbs. of NO_x per Ton of clinker produced at such Kiln and shall be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 C.F.R. Part 60.

36. For purposes of this Consent Decree, all emissions of NO_x from Kilns shall be measured by CEMS. During any time when CEMs are inoperable and otherwise not measuring emissions of NO_x from any Kiln, Defendant shall apply the missing data substitution procedures used by the Affected State or the missing data substitution procedures in 40 C.F.R. Part 75, Subpart D, whichever is deemed appropriate by the Affected State.

SECTION VI: SO_2 CONTROL TECHNOLOGY, EMISSION LIMITS AND MONITORING REQUIREMENTS

A. SO_2 Control Technology and Emission Limits

37. Defendant shall, as applicable, install the SO_2 Control Technology and comply with the Emission Limits for the specific Kilns within their system according to Paragraphs 38 through 50. Defendant shall Continuously Operate each SO_2 Control Technology.

Foreman, Arkansas

38. Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 at Foreman Kiln 4 on the 30th Operating Day following the date specified in the table below in this Paragraph 38:

Kiln	Date on Which 30-Day Rolling Average Emission Limit Applies	30-Day Rolling Average Emission Limit (lbs. SO_2/Ton of clinker)
Kiln 4	12/31/15	0.6

Chanute, Kansas

39. Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 at Chanute Kiln 1 on the 30th Operating Day following the date specified in the table below in this Paragraph 39:

Kiln	Date on Which 30-Day Rolling Average Emission Limit Applies	30-Day Rolling Average Emission Limit (lbs. SO_2/Ton of clinker)
Kiln 1	12/31/15	0.6

Durkee, Oregon

40. Defendant shall demonstrate compliance and thereafter maintain compliance with the 3-hour Emission Limit for SO_2 at Durkee Kiln 1 by performing the emissions testing

required under Paragraph 55 and comparing the average of the valid test runs to the limit specified in the table below in this Paragraph 40:

Kiln	Date on Which Emission Limit Applies	Emission Limit (lbs. SO_2 /Ton of clinker)
Kiln 1	3/31/2015	0.4

Leamington, Utah

41. Defendant shall demonstrate compliance and thereafter maintain compliance with the 3-hour Emission Limit for SO_2 at Leamington Kiln 1 by performing the emissions testing required under Paragraph 55 and comparing the average of the valid test runs to the limit specified in the table below in this Paragraph 41:

Kiln	Date on Which Emission Limit Applies	Emission Limit (lbs. SO_2/Ton of clinker)
Kiln 1	9/10/2013	0.4

Defendant need not demonstrate compliance with the 3-hour Rolling Average Emission Limit for SO_2 at the stack venting exhaust gases from the Leamington coal mill. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way.

Seattle, Washington

42. Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 at Seattle Kiln 1 on the 30th Operating Day following the date specified in the table below in this Paragraph 42:

Kiln	Date on Which 30-Day Rolling Average Emission Limit Applies	30-Day Rolling Average Emission Limit (lbs. SO_2/Ton of clinker)
Kiln 1	9/10/2013	0.4

Defendant need not demonstrate compliance with the 30-Day Rolling Average Emission Limit for SO_2 at the stack venting exhaust gases from the Seattle coal mill. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way.

Louisville, Nebraska

43. Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 at the Louisville HW Kiln and Louisville ACL Kiln by the date specified in the table below in this Paragraph 43:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	30-Day Rolling Average Emission Limit (lbs. SO_2 /Ton of clinker)
HW Kiln	DAA	9/10/2015	2.6
ACL Kiln	DAA	9/10/2015	3.0

Defendant shall Continuously Operate the DAA Control Technology by no later than the dates specified in the table above at Louisville HW Kiln and Louisville ACL Kiln.

44. Beginning on the Operating Day which is the 30th Operating Day after the date by which Defendant is required to Commence Continuous Operation of the DAA Control Technology at Louisville HW Kiln and at the Louisville ACL Kiln identified in Paragraph 43, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day

Rolling Average Emission Limits for SO_2 each applicable to the Louisville HW Kiln and the Louisville ACL Kiln specified in Paragraph 43 at that Kiln. Defendant need not demonstrate compliance with the 30-Day Rolling Average Emission Limit for SO_2 at the stack venting exhaust gases from the Louisville HW coal mill. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way or to reduce the amount of reagent Ash Grove uses in the DAA.

Midlothian, Texas

45. Defendant shall Retire Midlothian Kiln 1 and Midlothian Kiln 2 by the dates specified in the table below in Paragraph 25 and in this Paragraph 45. Defendant shall not Operate Midlothian Kiln 3 after the date specified in the table below in this Paragraph 45 unless Defendant has Reconstructed Kiln 3.

Kiln	**Control Technology**	**Date of Retirement or Installation and Deadline for Commencement of Continuous Operation**	**30-Day Rolling Average Emission Limits (lbs. SO_2 /Ton of clinker)**
Kiln 1	Retire	9/10/2014	0
Kiln 2	Retire	9/10/2014	0
Kiln 3	Retire or Reconstruct with Inherent Scrubbing	First Operating Day after 9/10/2014	0.4

Commencing on the date specified in the table above, Defendant shall Continuously Operate Midlothian Kiln 3 in a manner consistent with good air pollution control practice for minimizing emissions during all times of Kiln Operation.

46. If Defendant Reconstructs Midlothian Kiln 3, then beginning on the Operating Day which is the 30th Operating Day after the date identified in Paragraph 45 for Commencement of Continuous Operation of the Reconstructed Kiln 3, at the stack for Kiln 3 Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 identified in Paragraph 45. By no later than September 10, 2015, Defendant shall demonstrate compliance and maintain compliance with a 12-Month Rolling Tonnage Limit for SO_2 of 260 tons per year at Midlothian Kiln 3.

Montana City, Montana

47. Defendant shall have installed and Commenced Continuous Operation of the Semi-Dry Scrubbing Control Technology at the Montana City Kiln by the date specified in the table below in this Paragraph 47:

Kiln	Control Technology	Date of Installation and Deadline for Commencement of Continuous Operation	30-Day Rolling Average Emission Limit (lbs. SO_2 /Ton of clinker)
Kiln 1	Semi-Dry Scrubbing	9/10/2014	2.0

Starting on the 210th Operating Day following the date specified in the table above in this Paragraph 47, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 applicable to Montana City Kiln 1 and as identified in this Paragraph 47.

48. If Defendant elects to Replace Montana City Kiln 1 in accordance with Section X (Election to Retire and Replace Kilns), then Defendant shall:

a. Prior to Replacing Montana City Kiln 1 and prior to termination pursuant to Section XXV of this Consent Decree (Termination), submit an application for a federally enforceable preconstruction permit for the Replacement of Montana

City Kiln 1 that is issued under the federally-approved minor or major new source review program and which incorporates, at a minimum, a proposed 30-Day Rolling Average Emission Limit for SO_2 that is no less stringent than 0.4 lb/ton clinker, or the applicable NSPS, whichever is more stringent. Such application for a federally enforceable preconstruction permit shall also contain, at a minimum, a proposed 12-Month Rolling Tonnage Limit for SO_2 of no greater than 200 tons per year. Defendant shall thereafter take all other actions necessary to obtain such permits or approvals after filing the applications including, but not limited to, responding to reasonable requests for additional information by the permitting authority in a timely fashion, and conducting any environmental or other assessment lawfully required by the permitting authority.

b. Within 180 Days after Defendant commences Operation of the Replaced Montana City Kiln, Defendant shall demonstrate compliance and maintain compliance with applicable requirements of Paragraph 48.a. at the Replaced Montana City Kiln, or those Control Technology requirements and Emission Limit(s) for SO_2 imposed by the federally enforceable preconstruction permit(s), whichever are more stringent.

Inkom, Idaho

49. Prior to Startup of Inkom Kiln 1 and/or Inkom Kiln 2, Defendant shall first apply for and obtain applicable permits required under: (1) the PSD provisions of the Act, 42 U.S.C. §§ 7470-7492 and/or the nonattainment NSR provisions of the Act, 42 U.S.C. §§ 7501-7515; or (2) the federally-approved and enforceable SIP which incorporates and/or implements the federal PSD and/or nonattainment NSR requirements. At a minimum, any such application for the

foregoing permit(s) shall require that Defendant achieve and maintain compliance with the Emission Limits, as specified in the table below in this Paragraph 49:

Kiln	Date on Which 30-Day Rolling Average Emission Limit for SO_2 Applies	30-Day Rolling Average Emission Limit (lbs. SO_2/Ton of clinker)
Kiln 1	Upon Startup	0.4
Kiln 2	Upon Startup	0.4

50. Beginning on the 30th Operating Day of each Inkom Kiln 1 and Inkom Kiln 2 identified in Paragraph 49, Defendant shall demonstrate compliance and thereafter maintain compliance with the 30-Day Rolling Average Emission Limit for SO_2 specified in the table in Paragraph 49 at Inkom Kiln 1 and Inkom Kiln 2, or those Emission Limits for SO_2 required under the federally enforceable preconstruction permit(s) required in Paragraph 49, above, whichever are more stringent.

B. SO_2 Continuous Emission Monitoring Systems

51. At each Kiln identified in Paragraph 8.y of this Decree except Durkee Kiln 1, Leamington Kiln 1, the Midlothian Kilns and the Inkom Kilns, Defendant shall install and make operational no later than twelve months after the Effective Date a SO_2 continuous emissions monitoring system (CEMS) at each stack which collects emissions from such Kiln in accordance with the requirements of 40 C.F.R. Part 60. Notwithstanding the foregoing, Defendant shall install and make operational an SO_2 CEMS at each stack which collects emissions from Midlothian Kiln 3 in accordance with the requirements of 40 C.F.R. Part 60 within 60 Days after achieving the maximum production rate at which the Reconstructed Kiln will be operated, but not later than 180 Days after Defendant first Operates the Reconstructed Kiln. Defendant shall install and make operational an SO_2 CEMS at each stack which collects emissions from Inkom

Kiln 1 or Inkom Kiln 2 in accordance with the requirements of 40 C.F.R. Part 60 not later than 180 Days after Startup of the Kiln. Defendant is not required to install or operate SO_2 CEMS on the stack(s) of the indirect fired coal mills serving the Leamington, Louisville HW and Seattle Kilns.

52. Except during CEMS breakdowns, repairs, calibration checks, and zero span adjustments, the CEMS required pursuant to Paragraph 51 shall be operated at all times during Kiln Operation. Each such CEMS shall be used at each Kiln to demonstrate compliance with the SO_2 Emission Limits established in Section V.A (SO_2 Control Technology and Emission Limits) of this Consent Decree. If Defendant Replaces the Montana City Kiln, it shall commence operation of the SO_2 CEMS for that Kiln within 60 Days after achieving the maximum production rate at which the Replaced Montana City Kiln will be operated, but not later than 180 Days after Defendant first Operates the Replaced Montana City Kiln.

53. Each SO_2 CEMS required pursuant to Paragraph 51 shall monitor and record the applicable SO_2 emission rate from each Kiln stack in units of lbs. of SO_2 per Ton of clinker produced at such Kiln and shall be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 C.F.R. Part 60.

54. For purposes of this Consent Decree, all emissions of SO_2 from Kilns other than Durkee Kiln 1 and Leamington Kiln 1 shall be measured by CEMS. During any time when CEMs are inoperable and otherwise not measuring emissions of SO_2 from any Kiln, Defendant shall apply the missing data substitution procedures used by the Affected State or the missing data substitution procedures in 40 C.F.R. Part 75, Subpart D, whichever is deemed appropriate by the Affected State.

55. Within 12 months of the Effective Date, Defendant shall conduct an SO_2 source

test for Durkee Kiln 1 and Leamington Kiln 1 and submit an application to the Durkee and Leamington Title V permitting authority requesting that a condition be added to the Title V permit, if no such condition already exists, requiring Kiln stack SO_2 testing at least once every two (2) years.

SECTION VII: PM CONTROL TECHNOLOGY, EMISSION LIMITS AND MONITORING REQUIREMENTS

A. PM Control Technology and Emission Limits

56. At each of the Kilns identified in Paragraph 8.y and by each of the dates specified in the table below, Defendant shall demonstrate compliance and thereafter maintain compliance with the PM limit specified in the table. Compliance shall be demonstrated using a three run EPA Method 5 or Method 5I performance test and that performance test shall be repeated no less frequently than every 365 Operating Days thereafter. If performance testing would be required less than 15 Operating Days after the Kiln has completed Startup after being down for more than 24 hours, then performance testing may be deferred up to 15 Operating Days after completion of the Startup. Defendant need not demonstrate compliance at the stack venting exhaust gases from the Leamington, Louisville HW and Seattle coal mills. However, Defendant shall control indirect-fired coal mill feed gas from the kiln exhaust according to the standard protocol of the coal mill system. Defendant shall not adjust, increase or activate the coal mill feed gas in order to affect the emissions at the main stack in any way. The methods specified in this Decree for demonstrating compliance with the PM limits in the table below are not intended to change the means by which Defendant demonstrates compliance with standards not addressed by this Decree.

57. Subject to Section IX of this Consent Decree (Temporary Cessation of Kiln Operation), Defendant shall install and Commence Continuous Operation of each Baghouse Control Technology by the deadline shown below.

Kiln	**Date of Installation and Deadline for Commencement of Continuous Operation of Baghouse**	**Emission Limit (lbs. PM/Ton of clinker)**
Chanute Kiln 1	12/31/2015	0.086
Durkee Kiln 1	3/31/2015	0.07
Foreman Kiln 4	12/31/2015	0.086
Leamington Kiln 1	12/10/2013	0.07
Louisville ACL Kiln	9/10/2014	0.07
Louisville HW Kiln	9/10/2014	0.07
Midlothian Kiln 3	9/10/2014	0.07
Montana City Kiln 1	9/10/2014	0.07
Seattle Kiln 1	9/10/2013	0.07

58. Prior to Startup of Inkom Kiln 1 and/or Inkom Kiln 2, Defendant shall first apply for and obtain applicable permits required under: (1) the PSD provisions of the Act, 42 U.S.C. §§ 7470-7492 and/or the nonattainment NSR provisions of the Act, 42 U.S.C. §§ 7501-7515; or (2) the federally-approved and enforceable SIP which incorporates and/or implements the federal PSD and/or nonattainment NSR requirements. At a minimum, any such application for the

foregoing permit(s) shall require that Defendant achieve and maintain compliance with the Emission Limits, as specified in the table below in this Paragraph 58:

Kiln	Date on Which Emission Limit for PM Applies	Emission Limit (lbs. PM /Ton of clinker)
Kiln 1	Upon Startup	0.02, or the NSPS for new kilns, whichever is more stringent
Kiln 2	Upon Startup	0.02, or the NSPS for new kilns, whichever is more stringent

Within 60 Days after achieving the maximum production rate at which a particular Inkom Kiln will be operated, but not later than 180 Days after the particular Kiln first Operates, Defendant shall demonstrate compliance using a three run EPA Method 5 or Method 5I stack test and thereafter achieve and maintain compliance with the Emission Limit for PM specified in the table in this Paragraph 58 at Inkom Kiln 1 and Inkom Kiln 2, or the Emission Limit(s) for PM required under the federally enforceable preconstruction permit(s) required in this Paragraph 58, above, whichever are more stringent, using the PM Continuous Parametric Monitoring System required by Paragraph 59.

B. PM Continuous Parametric Monitoring Systems

59. At each Kiln identified in Paragraph 8.y of this Decree and by the deadline identified in Paragraph 57, Defendant shall install and make operational a PM continuous parametric monitoring system (CPMS) at each stack from which the Kiln directly discharges emissions, in accordance with the requirements of Appendix B and 40 C.F.R. §63.1350(b) and (d). Defendant is not required to install or operate PM CPMS on the stack(s) of the indirect fired coal mills serving the Leamington, Louisville HW and Seattle Kilns unless otherwise required to do so under any other applicable regulation. Location of the PM CPMS at Foreman will be in a position to monitor operating parameter data from both the Kiln and clinker cooler. If Defendant

Replaces the Montana City Kiln, it shall commence operation of the PM CPMS for that Kiln within 60 Days after achieving the maximum production rate at which the Replacement Kiln 1 will be operated, but not later than 180 Days after Defendant first Operates the Replaced Montana City Kiln. Location of the PM CPMS at the Replaced Montana City Kiln shall be in a position to monitor operating parameter data from both the Kiln and clinker cooler (if the Montana City clinker cooler's exhaust is vented to the main stack).

60. Ash Grove shall use a PM CPMS to establish a Site-Specific Operating Limit (SSOL) for PM corresponding to the results of the performance test demonstrating compliance with the PM limit. Ash Grove shall conduct a performance test using EPA Method 5 or Method 5I at appendix A-3 of 40 C.F.R. Part 60. Pursuant to Section XXI of this Decree (Notices), Ash Grove may propose an alternative monitoring protocol that is at least as accurate as a PM CPMS installed or to be installed at a Kiln pursuant to Paragraph 59 by the deadline required in that Paragraph, whereby Ash Grove demonstrates continuous compliance with the applicable limit in Paragraph 57 as a 30-Day Rolling Average Emission Limit. EPA shall review the alternative monitoring protocol pursuant Section XIII of this Decree (Review and Approval of Submittals). If approved or approved with conditions, Ash Grove shall comply with the approved alternative monitoring protocol and take all actions required pursuant thereto, and shall not be required to install and operate a PM CPMS under Paragraph 59, to establish an SSOL under this Paragraph and to perform annual performance testing under Paragraph 56 at any Kiln for which an alternative monitoring protocol has been approved.

SECTION VIII: OTHER INJUNCTIVE RELIEF

61. Defendant shall implement the Environmental Mitigation Projects ("Project" or "Projects") described in Appendix C to this Consent Decree.

62. Defendant, shall maintain, and, within 30 Days upon U.S. EPA's request, provide to U.S. EPA all documents that substantiate work completed on the Projects in accordance with Section XXI (Notices).

63. Defendant certifies that Defendant is not otherwise required by law to perform any of the Projects, that Defendant is unaware of any other person who is required by law to perform any of the Projects, and that Defendant will not use any of the Projects, or portion thereof, to satisfy any obligations that it may have under other applicable requirements of law.

64. Beginning six (6) months after the Effective Date of this Consent Decree, and continuing until completion of each Project, Defendant shall provide U.S. EPA with semi-annual or annual updates concerning the progress of the Project in the semi-annual or annual reports required (as applicable) in Section XIV (Reporting Requirements) of this Consent Decree.

65. Within sixty (60) Days following the completion of all Projects required under this Consent Decree, Defendant shall submit to U.S. EPA a report that documents the date that each Project was completed, Defendant's results from implementing all Projects, including the emission reductions or other environmental benefits achieved (including the emission reductions achieved for NOx, SO_2, and PM), and the money expended by Defendant in implementing each Project.

66. In connection with any communication to the public or to shareholders regarding Defendant's actions or expenditures relating in any way to the Projects, Defendant shall include prominently in the communication the information that the actions and expenditures were required as part of a negotiated consent decree to resolve allegations that Defendant violated the Clean Air Act.

SECTION IX: TEMPORARY CESSATION OF KILN OPERATION

67. If Defendant has Temporarily Ceased Kiln Operation of any Kiln on the date by which Defendant is required to install and/or Continuously Operate any Control Technology at that Kiln under Section V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), or Section VII (PM Control Technology, Emission Limits, and Monitoring Requirements), Defendant shall provide written notice to U.S. EPA and the Affected State(s) within ten (10) Days after such Temporary Cessation began, specifying the date on which such period of Temporary Cessation began. Defendant shall provide such written notice pursuant to Section XXI (Notices).

68. If Defendant has provided the written notice as required in Paragraph 67, above, Defendant shall not be required to install and Continuously Operate the Control Technology at that Kiln by the dates required in Section V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), and Section VII (PM Control Technology, Emission Limits, and Monitoring Requirements) of this Consent Decree with respect to that Kiln. However, Defendant shall not recommence Kiln Operation after the date required in Section V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), and Section VII (PM Control Technology, Emission Limits, and Monitoring Requirements) of this Consent Decree with respect to that Kiln unless the Defendant has 1) installed and Commenced Continuous Operation of the Control Technology required by this Consent Decree for that Kiln, 2) commenced compliance with all requirements for that Kiln contained in Section V (NO_x Control Technology,

Emission Limits, and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), and Section VII (PM Control Technology, Emission Limits and Monitoring Requirements) and 3) provided notice to U.S. EPA and the Affected State(s) within 30 Days after recommencing Kiln Operation. If Defendant recommences Kiln Operation without installing and Commencing Continuous Operation of the Control Technology required under this Decree and does not demonstrate compliance with all requirements for that Kiln contained in Section V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), Section VI (SO_2 Control Technology Emission Limits, and Monitoring Requirements), and/or Section VII (PM Control Technology, Emission Limits and Monitoring Requirements), Defendant shall be liable for stipulated penalties pursuant to Section XV (Stipulated Penalties).

69. Notwithstanding Paragraph 68, above, if Defendant Temporarily Ceases Kiln Operation for twenty-four (24) consecutive months subsequent to the Effective Date of this Consent Decree, prior to recommencing Kiln Operation Defendant shall first apply for and obtain applicable permits required under: (1) the PSD provisions of the Act, 42 U.S.C. §§ 7470-7492 and/or the nonattainment NSR provisions of the Act, 42 U.S.C. §§ 7501-7515; or (2) the applicable federally-approved and enforceable SIP which incorporates and/or implements the federal PSD and/or nonattainment NSR requirements, as applicable.

SECTION X: ELECTION TO RETIRE AND REPLACE KILNS

70. At least 180 Days prior to submitting a written request by Defendant to terminate this Consent Decree, Defendant shall provide written notice to U.S. EPA, Director of the Air Enforcement Division, and the State of Montana, stating whether Defendant intends to Replace Montana City Kiln 1.

SECTION XI: PROHIBITION ON NETTING CREDITS OR OFFSETS FROM REQUIRED CONTROLS

71. Except as specifically stated to the contrary in this Consent Decree, NOx, SO_2 and PM emission reductions resulting from compliance with the requirements of this Consent Decree shall not be considered as a creditable contemporaneous emission decrease for the purpose of obtaining a netting credit under the Clean Air Act's Non-attainment NSR and PSD programs.

72. The limitations on the generation and use of netting credits or offsets set forth in Paragraph 71 do not apply to emission reductions achieved by Defendant that are surplus to those required under this Consent Decree ("surplus emission reductions"). For purposes of this Paragraph, surplus emission reductions are the reductions over and above those required under this Consent Decree that result from Defendant's compliance with federally enforceable emissions limits that are more stringent than limits imposed under this Consent Decree or from Defendant's compliance with emissions limits otherwise required under applicable provisions of the Clean Air Act or with an applicable SIP that contains more stringent limits than those imposed under this Consent Decree.

73. Nothing in this Consent Decree is intended to preclude the emission reductions generated under this Consent Decree from being considered by U.S. EPA or a State as creditable contemporaneous emission decreases for the purpose of attainment demonstrations submitted pursuant to § 110 of the Act, 42 U.S.C. § 7410, or in determining impacts on NAAQS, PSD increments, or air quality-related values, including visibility in a Class I area.

74. Notwithstanding this Section XI (Prohibition on Netting Credits or Offsets from Required Controls), nothing in this Consent Decree prohibits Defendant from relying upon the emission reductions for purposes of determining whether there is a net emissions increase or

significant net emissions increase of any pollutant where the construction approval relying on that netting analysis was issued prior to the Date of Lodging of this Consent Decree.

75. Notwithstanding this Section XI (Prohibition on Netting Credits or Offsets from Required Controls), nothing in this Consent Decree prohibits Defendant from relying upon the emission reductions resulting from compliance with this Consent Decree for purposes of determining whether there is a net emissions increase or significant net emissions increase of NO_x, SO_2 or PM from the Replacement of the Montana City Kiln if, within twelve (12) consecutive months of commencing operation of the Montana City Replacement Kiln, Defendant achieves and maintains a 12-Month Rolling Tonnage Limit for NO_x of 700 tons per year, a 12-Month Rolling Tonnage Limit for SO_2 of 200 tons per year and a 12-Month Rolling Tonnage Limit for PM of 32.7 tons per year.

SECTION XII: PERMITS

76. Where any compliance obligation under this Consent Decree requires Defendant to obtain a federal, State, or local permit or approval, Defendant shall submit a timely and complete application for such permit or approval and take all other actions necessary to obtain all such permits or approvals, allowing for all legally required processing and review including requests for additional information by the permitting or approval authority. The inability of Defendant to obtain a permit in adequate time to allow compliance with the deadlines stated in this Consent Decree shall be considered a Force Majeure event if Defendant demonstrates that it exercised best efforts to timely fulfill its permitting obligations and has otherwise satisfied the requirements of Section XVI of this Consent Decree (Force Majeure). If, after demonstrating compliance with the requirements of this Paragraph, Defendant determines that it is unable to timely obtain a permit or approval necessary to install and continuously operate a Control

Technology under this Consent Decree, then Defendant shall immediately notify EPA and the Affected State pursuant to Section XVI of this Consent Decree (Force Majeure) and shall request an extension of time necessary to obtain such permit or approval and install and shake down the required improvements. If EPA and the Affected State determine that Defendant's inability to timely obtain any such required permit or approval is a *force majeure* event, then the provisions of Paragraph 108 shall apply to extend the deadline for installation and commencement of Continuous Operation of the Control Technology and for achieving and maintaining compliance with any applicable Emission Limits. Subject to the requirements of this Section, nothing in this Consent Decree shall be construed to require Ash Grove to apply for or obtain a PSD or Non-attainment NSR permit or SIP amendment to permit any actions required under this Consent Decree, unless otherwise required by law.

77. In addition to having first obtained any required preconstruction permits or other approvals pursuant to Paragraph 76, within 12 months after the commencement of Continuous Operation of each Control Technology required to be installed, upgraded, or operated on a Kiln under this Consent Decree or, if no Control Technology is required, within 12 months after the Effective Date of this Consent Decree, Defendant shall apply to the Affected State to include the requirements and limitations enumerated in this Consent Decree in a construction permit or other permit or approval (other than a Title V permit) which is federally enforceable, issued under the SIP of the Affected State, and issued under authority independent of the Affected State's authority to issue Title V permits. The permit or approval shall require compliance with any applicable 30-Day Rolling Average Emission Limit and any monitoring requirements, including those in Sections V.B, VI.B, and VII.B of this Decree. Following submission of the application for the permit or approval, Defendant shall cooperate with the appropriate permitting authority

by promptly submitting all information that such permitting authority seeks following its receipt of the application for the permit. The methods specified in this Decree for demonstrating compliance with the limits in this Decree are not intended to change the means by which Defendant demonstrates compliance with standards not addressed by this Decree. The requirements of this Paragraph are satisfied if a preconstruction permit was obtained, that permit serves as a state operating permit under the Affected State's SIP and that permit contains the elements identified in this Paragraph.

78. Within 120 Days after the establishment of any Emission Limits pursuant to Appendix A of this Consent Decree, Defendant shall submit applications to the appropriate permitting authority to incorporate all Appendix A Emission Limits, and any associated requirements and limitations, including those in Sections V (NO_x Control Technology, Emission Limits and Monitoring Requirements), VI (SO_2 Control Technology, Emission Limits and Monitoring Requirements), and Section VII (PM Control Technology, Emission Limits and Monitoring Requirements) of this Decree, into federally enforceable construction or other permits (other than Title V permits) which are federally enforceable. Following submission of the permit application by Defendant to the Affected State, Defendant shall cooperate with the appropriate permitting authority by promptly submitting all information that such permitting authority seeks following its receipt of the permit application.

79. Upon issuance of any permit or approval required under Paragraphs 77 and 78, Defendant shall file any applications necessary to incorporate the requirements of that permit into the Title V operating permit of the appropriate Facility. Defendant shall not challenge the inclusion in any such permit of the Emission Limits expressly prescribed in this Consent Decree (including, where applicable, 30-Day Rolling Average Emission Limits determined in

accordance with Appendix A), but nothing in this Consent Decree is intended nor shall it be construed to require the establishment of Emission Limits other than those Emission Limits expressly prescribed in this Consent Decree nor to preclude Defendant from challenging any more stringent Emission Limits should they be proposed for reasons independent of this Consent Decree.

80. The Parties agree that the incorporation of any Emission Limits and any other requirements and limitations into the Title V permits for Defendant's Facilities shall be in accordance with the applicable federal, State or local rules or laws.

81. For each Kiln, Defendant shall provide U.S. EPA with a copy of each application for a permit to address or comply with any provision of this Consent Decree, as well as a copy of any permit proposed as a result of such application, to allow for timely U.S. EPA participation in any public comment opportunity.

82. In lieu of incorporating the terms of the Consent Decree directly into a permit issued under a SIP pursuant to Paragraphs 77 and 78, Defendant may request an Affected State to submit the portions of the Consent Decree applicable to the Facilities in that Affected State to the U.S. EPA for approval under the State's SIP in accordance with 42 U.S.C. § 7410(k). Upon approval by the U.S. EPA, those portions of this Consent Decree will be incorporated into the Affected State's SIP, and subsequently incorporated into Title V permits for each Facility consistent with applicable requirements in 40 C.F.R. Part 70 or State-specific rules adopted and approved consistent with Part 70. Defendant agrees not to contest the submittal of any such proposed SIP revision that incorporates the terms of this Consent Decree to U.S. EPA, or U.S. EPA's approval of such submittal, or the incorporation of the applicable portions of this Consent Decree through these SIP requirements into the Title V permits.

83. Notwithstanding the reference to Title V permits in this Consent Decree, the enforcement of such permits shall be in accordance with their own terms and the Act. The Title V permits shall not be enforceable under this Consent Decree, although any term or limit established by or under this Consent Decree shall be enforceable under this Consent Decree regardless of whether such term has or will become part of a Title V permit, subject to the terms of Section XXV (Termination) of this Consent Decree.

SECTION XIII: REVIEW AND APPROVAL OF SUBMITTALS

84. After review of any plan, report, or other document that is required to be submitted pursuant to this Consent Decree, U.S. EPA, after consultation with the Affected State, shall in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

85. If the submission is approved pursuant to Paragraph 84, Defendant shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 84.b or c, Defendant shall, upon written direction of U.S. EPA, after consultation with the Affected State, take all actions required by the approved plan, report, or other item that U.S. EPA, after consultation with the Affected State, determines are technically severable from any disapproved portions, subject to Defendant's right to dispute only the specified conditions or the disapproved portions, under Section XVII of this Decree (Dispute Resolution).

86. If the submission is disapproved in whole or in part pursuant to Paragraph 84.c or d, Defendant shall, within 45 Days or such other time as the Parties agree to in writing, correct

all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendant shall proceed in accordance with the preceding Paragraph.

87. Any stipulated penalties applicable to an original submission that is disapproved in whole or in part pursuant to Paragraph 84.c or d, as provided in Section XV (Stipulated Penalties) of this Decree, shall continue to accrue during the period specified in Paragraph 97, but any stipulated penalties that accrue following the receipt of the submission shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendant's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

88. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, U.S. EPA and the Affected State may again require Defendant to correct any deficiencies in accordance with the preceding Paragraphs, or may themselves correct any deficiencies and seek stipulated penalties, subject to Defendant's right to invoke Dispute Resolution under Section XVII of this Consent Decree.

SECTION XIV: REPORTING REQUIREMENTS

89. Defendant shall submit the following reports: Within 30 Days after the end of each half calendar year (*i.e.*, June 30, December 31) after the Effective Date, until termination of this Decree pursuant to Section XXV (Termination), Defendant shall submit a semi-annual report to U.S. EPA and the Affected States for the immediately preceding half calendar year period that shall:

a. Identify any and all dates on which Defendant has installed, or describe the progress of installation of, each Control Technology required for each Kiln under Section V (NO_x Control Technology, Emission Limits and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits and Monitoring Requirements), and Section VII (PM Control Technology, Emission Limits and Monitoring Requirements) and describe any problems encountered or anticipated during such installation, together with implemented or proposed solutions;

b. Identify any and all dates on which Defendant has completed installation of, or describe the progress of installation of, each continuous monitoring system required under Section V.B. (NO_x Continuous Emission Monitoring Systems), Section VI.B (SO_2 Continuous Emission Monitoring Systems), and Section VII.B (PM Continuous Parametric Monitoring Systems) and describe any problems encountered or anticipated during such installation, together with implemented or proposed solutions;

c. Provide, in electronic format able to be manipulated with Microsoft Excel, all CEMS data and CPMS data collected for each Kiln, reduced to 1 hour averages, in accordance with 40 C.F.R. Part 60.13(h)(2), including an explanation of any periods of CEMs or CPMS downtime together with any missing data for which Defendant applied missing data substitution procedures, under Section V.B. (NO_x Continuous Emission Monitoring Systems), Section VI.B (SO_2 Continuous Emission Monitoring Systems), and Section VII.B (PM Continuous Parametric Monitoring Systems);

d. Demonstrate compliance with all applicable 30-Day Rolling Average Emission Limits of this Consent Decree, including but not limited to those in Sections V (NO_x Control Technology, Emission Limits and Monitoring Requirements), Section VI (SO_2 Control Technology, Emission Limits and Monitoring Requirements), and Section VII (PM Control Technology, Emission Limits and Monitoring Requirements) of this Consent Decree;

e. Provide a complete description and status of all actions Defendant has undertaken to comply with each of the Appendices of this Consent Decree;

f. Demonstrate compliance with any applicable 30-Day Rolling Average Emission Limits established under Appendix A of this Consent Decree;

g. Describe the status of permit applications and any proposed SIP revisions made to implement the requirements of this Consent Decree; and

h. Describe the status of any operation and maintenance work relating to activities required under this Consent Decree.

The semi-annual report shall also include a description of any non-compliance with the requirements of this Consent Decree and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation.

90. If Defendant violates, or has reason to believe that it may violate, any requirement of this Consent Decree, Defendant shall notify the United States and the Affected State of such violation and its likely duration, in writing, within ten (10) Business Days of the Day Defendant first becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation and to mitigate any adverse effect of such violation. Defendant shall investigate the cause of the violation and

shall then submit an amendment to the report required under Paragraph 89, including a full explanation of the cause of the violation, within 30 Days of the Day Defendant becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the notice required by Section XVI of this Consent Decree (Force Majeure) if Defendant contends a Force Majeure event occurred.

91. Whenever any violation of this Consent Decree, or of any applicable permits required under this Consent Decree, or any other event affecting Defendant's performance under this Decree, or the performance of any Facility, may pose an immediate threat to the public health or welfare or the environment, Defendant shall notify U.S. EPA and the Affected State, orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Defendant first knew, or should have known, of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

92. All reports shall be submitted to the persons designated in Section XXI of this Consent Decree (Notices).

93. Each report submitted by Defendant under this Section shall be signed by an official of the submitting party and include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

94. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the Clean Air Act or implementing regulations, or by any other federal, State, or local law, regulation, permit, or other requirement.

95. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

SECTION XV: STIPULATED PENALTIES

96. Defendant shall be liable for stipulated penalties to the United States and Affected State(s) for violations of this Consent Decree as specified in Table 1 below, unless excused under Section XVI (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree. Violation of an Emission Limit that is based on a 30-Day Rolling Average is a violation on every Day on which the average is based. Each subsequent Day of violation after a violation of a 30-Day Rolling Average Emission Limit is subject to the corresponding penalty per Day specified in Table 1, below. Where a violation of a 30-Day Rolling Average Emission Limit (for the same pollutant and from the same source) recurs within periods of less than thirty (30) Days, Defendant shall not pay a daily stipulated penalty for any Day of recurrence for which a stipulated penalty is already payable. Stipulated penalties may only be assessed once for a given Day or month within any averaging period for violation of any particular Emission Limit. Stipulated penalties for consecutive periods of

violation of an Emission Limit shall be calculated based upon the violation of the Emission Limit for the same pollutant from the same Kiln.

TABLE 1

Consent Decree Violation	**Stipulated Penalty**
Failure to pay the civil penalty as specified in Section IV (Civil Penalty) of this Consent Decree.	$7,500 for each Day
Failure to comply with a 30-Day Rolling Average Emission Limit for NO_x or SO_2 where the emissions are less than 5% in excess of the limits set forth in this Consent Decree.	$1,500 for each Day during any 30-Day rolling period where the violation is less than 5% in excess of the Limit.
Failure to comply with a 30-Day Rolling Average Emission Limit for NO_x or SO_2 where the emissions are equal to or greater than 5% but less than 10% in excess of the limits set forth in this Consent Decree	$3,000 for each Day during any 30-Day rolling period where the violation is equal to or greater than 5% but less than 10% in excess of the Limit.
Failure to comply with a 30-Day Rolling Average Emission Limit for NO_x or SO_2 where the emissions are equal to or greater than 10% in excess of the limits set forth in this Consent Decree	$5,000 for each Day during any 30-Day rolling period where the violation is equal to or greater than 10% in excess of the Limit.
Failure to comply with any PM Emission Limit based on performance test data	$5,000 for each Day of violation
Failure to comply with a 12-Month Rolling Tonnage Limit at Midlothian Kiln 3 for NO_x or SO_2 where the tons of pollutant are less than 5% in excess of the applicable 12-Month Rolling Tonnage Limit set forth in this Consent Decree.	$7,500 for each month during the initial 12 months, and $10,000 for each consecutive month thereafter of a violation of the 12-Month Rolling Tonnage Limit where the violation is less than 5% in excess of the Limit.

Failure to comply with a 12-Month Rolling Tonnage Limit at Midlothian Kiln 3 for NO_x or SO_2 where the tons of pollutant are greater than 5% and less than 10% in excess of the applicable 12-Month Rolling Tonnage Limit set forth in this Consent Decree.	$10,000 for each month during the initial 12 months, and $15,000 for each consecutive month thereafter of a violation of the 12-Month Rolling Tonnage Limit where the violation is greater than 5% and less than 10% in excess of the Limit.
Failure to comply with a 12-Month Rolling Tonnage Limit at Midlothian Kiln 3 for NO_x or SO_2 where the tons of pollutant are greater than 10% in excess of the applicable 12-Month Rolling Tonnage Limit set forth in this Consent Decree.	$20,000 for each month during the initial 12 months, and $32,500 for each consecutive month thereafter of a violation of the 12-Month Rolling Tonnage Limit where the violation is greater than 10% in excess of the Limit.
Failure to install or Commence Continuous Operation or Continuously Operate Control Technology at a Kiln required by the deadlines established in Sections V, VI and VII of this Consent Decree.	$5,000 for each consecutive Day during the first 20 Days, $ 10,000 for each consecutive Day for the next 40 Days, and $32,500 for each consecutive Day thereafter.
Failure to install or Commence Continuous Operation or Continuously Operate Control Technology at a Kiln upon re-commencing operation of that Kiln following Temporary Cessation of Kiln Operation under Section IX of this Consent Decree	$100,000 for the first Day upon re-commencing Kiln Operation and $32,500 for each Day thereafter
Failure to apply for any permit or permit amendment or seek a SIP approval required by Section XII (Permits)	$1,000 for each Day for each such failure
Failure to install or operate a CEMS or other monitoring device in conformance with the requirements of Section V.B. (NOx Continuous Emission Monitoring Systems), Section VI.B (SO_2 Continuous Emission Monitoring Systems), Section VII.B (PM Continuous Parametric Monitoring Systems), or Appendix B, as applicable.	$1,000 for each Day for each such failure
PM CPMS deviations from the Site Specific Operating Limit leading to more than four required performance tests in a 12-month period (rolling monthly)	$1,000 for each Day for each such failure

Failure to timely inspect, repair, or retest after a deviation of the Site Specific Operating Limit, as required in Appendix B	$750 for each Day during the first 10 Days, $1,000 per Day thereafter
Failure to timely submit, modify, or implement, as approved, a report, plan, study, analysis, protocol, or other submittal required by this Consent Decree	$750 for each Day during the first 10 Days, $1,000 per Day thereafter
Any other violation of this Consent Decree	$1,000 for each Day for each violation

97. Subject to the provisions of Paragraph 96 above, stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree. The United States or Affected State(s), or all of the foregoing, may seek stipulated penalties under this Section. Where both the United States and the Affected State(s) seek stipulated penalties for the same violation of this Consent Decree, Defendant shall pay two thirds (2/3) of the amount in demand to the United States and one third (1/3) to the Affected State(s). If the stipulated penalty arises in relation to the Seattle Kiln, the portion of the penalty due to the Affected State shall be paid to Puget Sound Clean Air Agency.

98. Defendant shall pay any stipulated penalty within thirty (30) Days of receiving the United States' and/or the Affected State(s') written demand.

99. The United States may, in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due the United States under this Consent Decree. An Affected State may, in its unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due the Affected State under this Consent Decree.

100. Defendant may assert an affirmative defense to stipulated penalties if it exceeds an emission rate due to Startup, Shutdown or Malfunction emissions provided that Defendant timely meets the notification requirements in Paragraph 90 and proves by a preponderance of the evidence that the excess emissions:

a. Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner, and

b. Could not have been prevented through careful planning, proper design or better operation and maintenance practices, and

c. Did not stem from any activity or event that could have been foreseen and avoided, or planned for, and

d. Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance, and

e. Repairs were made as expeditiously as possible when the applicable emission limits were being exceeded;and

f. The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions, and

g. If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, and

h. All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health, and

i. All emissions monitoring and control systems were kept in operation if at all possible consistent with safety and good air pollution control practices, and

j. All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, and

k. At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions, and

l. A written root cause analysis has been prepared the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

101. Stipulated penalties shall continue to accrue as provided in this Section, during any Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement between the Parties or by a decision of the United States or the Affected State that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing, together with interest accruing from the 31st Day after the written demand in Paragraph 97, within 30 Days of the effective date of the agreement or the receipt of U.S. EPA's or the Affected State's decision or order.

b. If the dispute is appealed to the Court and the United States or the Affected State is the prevailing party, in whole or in part, as may be determined by the Court, Defendant shall pay all accrued penalties determined by the Court to be owing, together with interest accruing from the 31st Day after the written demand in

Paragraph 97, within 60 Days of receiving the Court's decision or order, except as provided in Subparagraph c, below.

c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with interest accruing from the 31st Day after the written demand in Paragraph 97, within 15 Days of receiving the final appellate court decision.

102. Defendant shall pay stipulated penalties owing to the United States and an Affected State in the manner set forth and with the confirmation notices to the persons specified in Paragraphs 9 and 10, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid. Defendant shall pay stipulated penalties owing to an Affected State in accordance with the instructions provided below:

TABLE 2

State Agency	**Payment Instructions**
State of Arkansas	Arkansas Department of Environmental Quality Fiscal 5301 Northshore Drive North Little Rock, AR 72118-5317
Idaho Department of Environmental Quality	Check payable and mailed to: Fiscal Office Idaho Department of Environmental Quality 1410 N. Hilton Boise, Idaho 83706

State of Kansas	Check payable and mailed to: Kansas Department of Health and Environment Address: Kansas Department of Health and Environment 1000 SW Jackson Street, Suite 310 Topeka, Kansas 66612-1366 Attn: Sheila Pendleton The memorandum portion of the check shall identify the case number.
State of Montana	Check or money order, made payable to the "Montana Department of Environmental Quality," and sent to the Department at John L. Arrigo, Administrator Enforcement Division Department of Environmental Quality 1520 East Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901
State of Nebraska	Checks shall be made to Cass County District Court Clerk and shall be mailed with notice referring to this action, to: Katherine J. Spohn Deputy Attorney General 2115 State Capitol Lincoln, NE 68508-8920
State of Oregon	Check payable to State Treasurer, State of Oregon, mailed to: DEQ, Business Office 811 S.W. Sixth Avenue Portland, OR 97204
State of Utah	Check payable and mailed to: Utah Division of Air Quality Multi Agency State Office Building 195 North 1950 West, Fourth Floor Salt Lake City, Utah 84116

Washington State Department of Ecology	Check payable and mailed to: Department of Ecology Cashiering Unit P.O. Box 47611 Olympia, WA 98504-7611 The Memorandum on the check should reference NR13168001 and "Ash Grove Settlement"
Puget Sound Clean Air Agency	Check payable to "Puget Sound Clean Air Agency": Craig Kenworthy Executive Director Puget Sound Clean Air Agency 1904 3rd Ave, Suite 105 Seattle WA USA 98101

103. Defendant shall not deduct stipulated penalties paid under this Section in calculating their federal income tax.

104. If Defendant fails to pay stipulated penalties according to the terms of this Consent Decree, Defendant shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or any Affected State from securing any remedy otherwise provided by law for Defendant's failure to pay any stipulated penalties.

105. Subject to the provisions of Section XIX of this Consent Decree (Effect of Settlement/Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States or an Affected State for Defendant's violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of any applicable statute or regulation, Defendant shall be allowed a credit, dollar for dollar, for any stipulated penalties paid, against

any statutory penalties imposed for such violation, including penalties resulting from enforcement pursuant to Paragraphs 128 and 129.

SECTION XVI: FORCE MAJEURE

106. "Force Majeure" (for purposes of this Consent Decree) is defined as any event arising from causes beyond the control of Defendant, of any entity controlled by Defendant or Defendant's Contractors that causes a delay or impediment to performance in complying with any obligation under this Consent Decree despite the Defendant's best efforts to fulfill the obligation. The requirement that the Defendant exercise best efforts to fulfill the obligation includes using best efforts to anticipate any potential Force Majeure event and best efforts to address the effects of any such event (a) as it is occurring and (b) after it has occurred to prevent or minimize any resulting delay and the effects of such event to the greatest extent possible. Force Majeure does not include the Defendant's financial inability to perform any obligation under this Consent Decree. Force majeure may include Defendant's inability after demonstrating compliance with the requirements of Paragraph 76 to obtain a permit or approval such that there is adequate time to install, commence operation, and shake down improvements necessary to satisfy a compliance obligation under this Consent Decree.

107. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree that Defendant claims was caused by a force majeure event, Defendant shall provide notice orally or by electronic or facsimile transmission to the representatives of U.S. EPA and the Affected State(s) designated to receive notice pursuant to Section XXI (Notices) within 7 Business Days of when Defendant first knew that the event might cause a delay. Within 21 Days thereafter, Defendant shall provide in writing to U.S. EPA and the Affected State(s) an explanation and description of the reasons for the delay; the

anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Defendant's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendant, such event may cause or contribute to an endangerment to public health, welfare or the environment. Defendant shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Defendant from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendant shall be deemed to know of any circumstance of which Defendant, any entity controlled by Defendant, or Defendant's contractors knew or should have known.

108. If U.S. EPA, after a reasonable opportunity for review and comment by the Affected State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by U.S. EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. U.S. EPA will notify Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

109. If U.S. EPA, after a reasonable opportunity for review and comment by the Affected State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, U.S. EPA will notify Defendant in writing of its decision.

110. If Defendant elects to invoke the dispute resolution procedures set forth in Section XVII (Dispute Resolution), it shall do so no later than 15 Days after receipt of U.S. EPA's notice. In any such proceeding, Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendant complied with the requirements of Paragraphs 106 and 107, above. If Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Defendant of the affected obligation of this Consent Decree identified to U.S. EPA and the Court.

SECTION XVII: DISPUTE RESOLUTION

111. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendant's failure to seek resolution of a dispute under this Section shall preclude Defendant from raising any such issue as a defense to an action by the United States or Affected State(s) to enforce any obligation of Defendant arising under this Decree.

112. Informal Dispute Resolution for Emission Limit Setting Process under Appendix A. If Defendant invokes Dispute Resolution regarding an EPA established alternative final 30-Day Rolling Average Emission Limit, Defendant shall simultaneously initiate the process set forth in this Paragraph to hire an independent contractor who will be tasked to analyze the Emission Limits established by EPA and proposed by Defendant and to provide, for the benefit of both U.S. EPA and Defendant, the reports, analysis, and services identified in this Paragraph, below, by the specified deadlines. Defendant shall bear all costs associated with the contractor's

work up to $150,000, and shall provide the contractor access to records, employees, contracts, and facilities which are reasonably necessary to complete the report required by this Paragraph. If costs to perform the work set forth in the Scope of Work (SOW) requirements described in Paragraph 112.b are expected to be higher than $150,000, Defendant and U.S. EPA will, upon written mutual agreement, limit or modify the nature and/or scope of the work to be performed under Paragraph 112.b to meet the expenditure limitation. For purposes of this Paragraph, "independent" shall mean a qualified professional with at least 5 years of experience relating to the operations of and/or emissions from cement kilns or similar sources and who has not previously been employed or retained by Defendant in any capacity (unless otherwise approved by U.S. EPA).

a. Defendant shall submit to U.S. EPA for approval, the name and qualifications of a proposed contractor for this engagement at the time it submits its Written Notice of Dispute in accordance with Section XXI (Notices). If U.S. EPA disapproves of the contractor, Defendant is required to propose to U.S. EPA within 15 Days of the disapproval a different contractor, also subject to U.S. EPA's approval. If U.S. EPA disapproves the third contractor, U.S. EPA may choose and identify to Defendant the Contractor to be employed. Defendant shall enter into a contract with the Contractor, containing the Statement of Work requirements in Paragraph 112.b, below (as modified to meet the expenditure limitations), within 7 Days of U.S. EPA's approval or final identification of the Contractor.

b. As part of the contract, Defendant shall provide to the Contractor a SOW which will include a requirement or direction to:

i. Analyze the baseline data, if available, as well as the Demonstration Report, proposed Emission Limits, data collected during the demonstration phase and any other relevant data from the Facility;

ii. Submit to U.S. EPA and Defendant, a report on the appropriate 30-day rolling emission limit, consistent with the methodology set forth in and information collected through Appendix A, as applicable, based upon the injection rates and the operational parameters approved as part of the Optimization Report required by Appendix A, as applicable. The conclusions of this report shall be based on all of the information and data collected during the baseline, Optimization and Demonstration Periods, as applicable, as well as any additional site-specific information available to the Contractor. The report shall include a section on whether the data collected during the Demonstration Period is representative of normal operations of the unit, as well as a recommended final Emission Limit using the protocol and procedures in Appendix A, as applicable;

iii. Make available to U.S. EPA any and all data evaluated, and reveal all communications with Defendant in the course of work pursuant to the SOW. The contractor shall also be tasked in the SOW to attend up to 40 hours of meetings specifically requested by U.S. EPA, to answer questions concerning any analysis or work undertaken pursuant to the SOW. Defendant may attend any such meeting between U.S. EPA and the contractor. The SOW shall make clear that the contractor is free to discuss

their analysis, findings and the content of their report with U.S. EPA prior to the completion of the report; and

iv. Complete the contractor report within 45 Days from the time of the effective date of the contract.

c. The results of the contractor report will inform the parties in the process of engaging in informal dispute resolution on the proposed and final permit limit.

113. If the United States and Affected State are unable to reach agreement on a final 30-Day Rolling Average Emission Limit within 20 Days after receipt of the contractor report by EPA, Defendant may request formal dispute resolution under Paragraph 115 of this Consent Decree. The contractor report shall be part of the Dispute Resolution record in any formal dispute proceedings under this Consent Decree.

114. Informal Dispute Resolution with Respect to All Other Disputes. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendant sends the United States and Affected State(s) a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 20 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States, after consultation with the Affect State(s), shall be considered binding unless, within 10 Days after the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

115. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United

States and Affected State(s) a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendant's position and any supporting documentation relied upon by Defendant.

116. The United States, after consultation with the Affected State(s), shall serve its Statement of Position within 45 Days of receipt of Defendant's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

117. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States and Affected State(s), in accordance with Section XXI of this Consent Decree (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within 20 Days of receipt of the United States Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

118. The United States, after consultation with the Affected State(s), shall respond to Defendant's motion within the time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

119. Standard of Review. Except as otherwise provided in this Consent Decree, the Court shall decide all disputes pursuant to the applicable principles of law. The disputing parties shall state their respective positions as to the applicable standard of law for resolving the particular dispute in the Parties initial filings with the Court under Paragraphs 117 and 118 of this Consent Decree. Except as otherwise provided in this Consent Decree, in any dispute brought under this Section XVII (Dispute Resolution), Defendant shall bear the burden of demonstrating that its position complies with this Consent Decree.

120. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 101. If Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XV (Stipulated Penalties).

SECTION XVIII: INFORMATION COLLECTION AND RETENTION

121. The United States and each Affected State and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States or the Affected State in accordance with the terms of this Consent Decree;

c. conduct performance testing;

d. obtain documentary evidence, including photographs and similar data; and

e. assess Defendant's compliance with this Consent Decree.

122. Upon request, Defendant shall provide U.S. EPA and the Affected State and their authorized representatives copies of analytical data from Kiln performance testing performed by Defendant. Upon request, U.S. EPA and the Affected State shall provide Defendant copies of analytical data from Kiln performance testing performed by U.S. EPA or the Affected State.

123. Until five years after the termination of this Consent Decree, Defendant shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendant's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the Affected State, Defendant shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

124. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendant shall notify the United States and the Affected State at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or Affected State, Defendant shall deliver any such documents, records, or other information to U.S. EPA or Affected State. Defendant may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendant asserts such a privilege, it shall provide the following: (1) the title of the document, record, or

information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendant. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

125. Defendant may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that Defendant seeks to protect as CBI, Defendant shall follow the procedures set forth in 40 C.F.R. Part 2.

126. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or Affected State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendant to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

SECTION XIX: EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

127. Resolution of Liability. With respect to the emissions of NO_x, SO_2, and PM (including PM_{10} and $PM_{2.5}$) from the Facilities identified in Paragraph 8.x, entry of this Consent Decree shall resolve all civil liability of Defendant to the United States and the Affected States for any violations of the following requirements resulting from or arising out of a construction, reconstruction or modification that commenced prior to the Date of Lodging of the Consent Decree:

a. The PSD requirements at Part C of Subchapter I of the Act, 42 U.S.C. § 7475, and the regulations promulgated thereunder at 40 C.F.R. §§ 52.21 and 51.166; "Plan Requirements for Non-attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §7503 and the regulations promulgated thereunder at 40 C.F.R. §§ 51.165(a) and (b), 40 C.F.R. Part 51 (Appendix S), and 40 C.F.R. § 52.24; any applicable federally-enforceable State, regional, or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified above; and, any applicable State, regional, or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified above.

b. Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f; any applicable federally-enforceable State, regional, or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements of Title V; and, any applicable State, regional, or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements of Title V, but only to the extent that such claims are based on the Defendant's failure to obtain an operating permit that reflects applicable requirements imposed under Parts C or D of Subchapter I of the Clean Air Act as a result of construction or modification of those portions of the Facilities identified in Paragraph 8.x that: (a) are affected facilities under 40 C.F.R. Part 60, Subparts F, Y or OOO, and/or affected sources under 40 C.F.R. Part 63, Subpart LLL, and (b) where that construction or modification commenced prior to the Date of Lodging; and

c. The New Source Performance Standards Provisions of the Clean Air Act, 42 U.S.C. § 7411; and the regulations codified at 40 C.F.R. Part 60, Subparts F, Y or OOO; any applicable federally-enforceable State, regional, or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified above; and, any applicable State, regional, or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified above.

128. Notwithstanding the resolution of liability in Paragraph 127, nothing in this Consent Decree precludes the United States and/or the Affected States from seeking from Defendant injunctive relief, penalties, or other appropriate relief for violations by Defendant of the regulatory requirements identified in Paragraph 127 resulting from (1) construction or modification that commenced prior to the Date of Lodging of the Consent Decree, if the resulting violations are not arising from the conduct specifically resolved by Paragraph 127 or do not relate to NO_x, SO_2 or PM (including PM_{10} and $PM_{2.5}$); or (2) any construction, Reconstruction or modification that commences after the Date of Lodging of the Consent Decree.

129. The United States and the Affected States reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States or the Affected States to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or State laws, regulations, or permit conditions, except as expressly specified in Paragraph 127. The United States and the Affected States further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment

arising at, or posed by, one or more of the Defendant's Facilities, whether related to the violations addressed in this Consent Decree or otherwise.

130. In any subsequent administrative or judicial proceeding initiated by the United States or the Affected States for injunctive relief, civil penalties, other appropriate relief relating to the Facilities or Defendant's violations, Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, *res judicata*, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or an Affected State in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 127 of this Decree.

131. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. Defendant is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and the Defendant's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the Affected States do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act, 42 U.S.C. § 7401 *et seq.*, or with any other provisions of federal, State, or local laws, regulations, or permits.

132. This Consent Decree does not limit or affect the rights of Defendant or of the United States or the Affected States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

133. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

SECTION XX: COSTS

134. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and the Affected State(s) shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendant.

SECTION XXI: NOTICES

135. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To U.S. EPA:

Phillip Brooks
U.S. Environmental Protection Agency
MC 2242A
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

And

For all submissions referring to the Foreman and Midlothian Facilities:
David Garcia, Associate Director Air/Toxics and Inspection Coordination Branch
U.S. EPA Region 6
1445 Ross Avenue
Suite 1200, MC 6EN-A
Dallas, Texas 75202

For all submissions referring to the Louisville and Chanute Facilities:
Rebecca Weber
U.S. EPA Region VII
11201 Renner Blvd.
Lenexa, KS 66219

For all submissions referring to the Montana City and Leamington Facilities:

Cynthia Reynolds, 8ENF-AT
U.S. EPA Region VIII
1595 Wynkoop St.
Denver, CO 80202-1129

For all submissions referring to the Inkom, Seattle and Durkee Facilities:
John Keenan
U.S. EPA Region X
1200 Sixth Avenue Suite 900
Seattle, WA 98101

To the United States (in addition to the U.S. EPA addresses above):

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-2-1-08221

To State Agency Plaintiffs:

For all submissions referring to the Foreman Facility, to the State of Arkansas:
Arkansas Department of Environmental Quality
Attn: Mike Porta
5301 Northshore Drive
North Little Rock, AR 72118-5317

For all submissions referring to the Inkom Facility, to the Idaho Department of Environmental Quality
Mike Simon
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

For all submissions referring to the Chanute Facility, to the Kansas Department of Health and Environment:
Timothy E. Keck, Deputy Chief Counsel
Kansas Department of Health and Environment
1000 SW Jackson, Suite 560
Topeka, KS 66612-1371

For all submissions referring to the Montana City Facility, to the State of Montana:
John L. Arrigo, Administrator
Enforcement Division
Department of Environmental Quality

1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

For all submissions referring to the Louisville Facility, to the Nebraska Department of Environmental Quality
Shelley Schneider
Nebraska Department of Environmental Quality
1200 N Street, Suite 400
Lincoln, NE 68509-8922

For all submissions referring to the Durkee Facility, to the State of Oregon:
Linda Hayes-Gorman, Eastern Region Administrator
Oregon Department of Environmental Quality
475 NE Bellevue Dr. #110
Bend, OR 97702

For all submissions referring to the Seattle Facility, to the Puget Sound Clean Air Agency:
Laurie Halvorson, Director - Compliance and Legal
Puget Sound Clean Air Agency
1904 Third Avenue - Suite 105
Seattle, WA 98101

For all submissions referring to the Leamington Facility, to the State of Utah:
Utah Division of Air Quality
Attn: Rusty Ruby
Multi Agency State Office Building
195 North 1950 West, Fourth Floor
Salt Lake City, Utah 84116

For all submissions referring to the Seattle Facility, the Washington State Department of Ecology:
Stuart Clark
Air Quality Manager
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

To Ash Grove Cement Company:

Curtis Lesslie
Vice President Environmental Affairs
Ash Grove Cement Company
11011 Cody St.
Overland Park, KS 66210

Steve Ryan
Vice President & General Counsel
Ash Grove Cement Company
11011 Cody St.
Overland Park, KS 66210

Tom Wood
Outside Counsel to Ash Grove Cement Company
Stoel Rives LLP
900 SW Fifth Ave.; Suite 2600
Portland, OR 97204

136. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above. In addition, any Party may submit any written notification, submission, or communication under this Decree by electronic means.

137. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

SECTION XXII: EFFECTIVE DATE

138. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first.

SECTION XXIII: RETENTION OF JURISDICTION

139. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XVII (Dispute Resolution) and XXIV (Modification), or effectuating or enforcing compliance with the terms of this Decree.

SECTION XXIV: MODIFICATION

140. The terms of this Consent Decree, including the Appendices, may be modified only by a subsequent written agreement signed by any Affected State(s), the United States, and Defendant. With the exception of submittals under Appendix A and Appendix B that are approved or conditionally approved pursuant to Section XIII (Review and Approval of Submittals), and which are incorporated by reference in this Consent Decree upon such approval or conditional approval, where the modification constitutes a material change to this Decree it shall be effective only upon approval by the Court.

141. Any disputes concerning modification of this Decree shall be resolved pursuant to Section XVII of this Decree (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 119, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

SECTION XXV: TERMINATION

142. Termination as to an Individual Facility. After Defendant has satisfied the requirements of Sections V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), Section VII (PM Control Technology, Emission Limits and Monitoring Requirements), and Section XII (Permits) of this Decree and has Continuously Operated any Control Technology as required by this Consent Decree for that Kiln for a period of two years at an individual Facility, Defendant may serve upon the United States and the Affected State a Request for Termination of the Consent Decree as it relates to that Facility, stating that Defendant has satisfied those requirements, together with all necessary supporting documentation. If the United States and the

Affected State agree that the Decree as it relates to an individual Facility may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating those provisions of the Decree. Notwithstanding the foregoing, operation of the Replacement Montana City Kiln for two years is not required prior to termination so long as the SO_2 and NO_x Emission Limits required by Paragraphs 29 and 48, or more stringent limits, are included in the preconstruction permit required under those Paragraphs.

143. Complete Termination. After the Defendant has satisfied the requirements of Sections V (NO_x Control Technology, Emission Limits, and Monitoring Requirements), VI (SO_2 Control Technology, Emission Limits, and Monitoring Requirements), Section VII (PM Control Technology, Emission Limits, and Monitoring Requirements), Section VIII (Other Injunctive Relief) and Section XII (Permits) of this Decree and has maintained Continuous Operation of all Control Technology as required by this Consent Decree for a period of two years at all Facilities, has complied with all other requirements of this Consent Decree, and has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, Defendant may serve upon the United States and the Affected States a Request for Termination, stating that Defendant has satisfied those requirements, together with all necessary supporting documentation. If the United States and the Affected State(s) agree that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

144. If the United States and the Affected State(s) do not agree that the Decree as a whole, or as it relates to an individual Facility, may be terminated, Defendant may invoke Dispute Resolution under Section XVII of this Decree. However, Defendant shall not seek Dispute Resolution of any dispute regarding termination under this Section XXV of this Consent Decree until sixty (60) Days after service of its Request for Termination.

SECTION XXVI: PUBLIC PARTICIPATION

145. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendant consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Consent Decree.

SECTION XXVII: SIGNATORIES/SERVICE

146. The Assistant Attorney General or Acting Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice and each undersigned representative of Defendant and the State Agency Plaintiffs certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

147. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons. Defendant shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of Defendant with respect to all matters arising under or relating to this Consent Decree. All Parties

agree that Defendant need not file an answer or otherwise respond to the Complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

SECTION XXVIII: INTEGRATION

148. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. No other document, nor any representation, inducement, agreement, understanding or promise constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

SECTION XXIX: FINAL JUDGMENT

149. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and State Agency Plaintiffs and Defendant. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

SECTION XXX: APPENDICES

150. The following Appendices are attached to and incorporated as part of this Consent Decree:

"Appendix A" contains the Control Technology Demonstration/NO_x Emission Reduction Report Requirements that apply to each Kiln under this Decree subject to those requirements.

"Appendix B" contains the PM Continuous Parametric Monitoring System Requirements that apply to each Kiln under this Decree subject to those requirements.

"Appendix C" contains the Environmental Mitigation Project Requirements.

All terms in the Appendices shall be construed in a manner consistent with this Decree.

Dated and entered this ___ ___Day of _____, _____.

_____
UNITED STATES DISTRICT COURT JUDGE
District of Kansas

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR PLAINTIFF UNITED STATES OF AMERICA:

[redacted]

Date: 6/17/13

ROBERT G. DREHER
Acting Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice

[redacted]

Date: 5/28/13

ANDREW C. HANSON
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
(202) 514-9859 (Tel.)
(202) 616-6584 (Fax)
andrew.hanson2@usdoj.gov

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR PLAINTIFF UNITED STATES OF AMERICA:

BARRY R. GRISSOM
United States Attorney, District of Kansas

[redacted]

Date: May 6, 2013

EMILY METZGER #10788
Assistant United States Attorney
1200 Epic Center
301 N. Main
Wichita, Kansas 67202
(316) 269-6481
Emily.metzger@usdoj.gov

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

[redacted]

Date: 4/18/13

CYNTHIA GILES
Assistant Administrator
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency

[redacted]

Date: 4/15/2013

PHILLIP A. BROOKS
Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6:

[redacted]

Date: 2·27·13

JOHN BLEVINS
Director
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, Texas 75202

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7:

[redacted]

Date: 4/18/13

KARL BROOKS
Regional Administrator
U.S. Environmental Protection Agency
Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219

[redacted]

Date: 4/19/13

DAVID COZAD
Regional Counsel
U.S. Environmental Protection Agency
Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 8:

[redacted]

Date: MAR 2 2 2013

ANDREW M. GAYDOSH
Assistant Regional Administrator
Office of Enforcement, Compliance and
Environmental Justice
U.S. Environmental Protection Agency
1595 Wynkoop Street
Denver, CO 80202

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE STATE OF ARKANSAS on behalf of the
Arkansas Department of Environmental Quality:

[redacted]

Date: 4/16/13

KENDRA AKIN JONES
Assistant Attorney General
On Behalf of the Arkansas Department
Of Environmental Quality
323 Center Street, Ste. 400
Little Rock, AR 72201
(501) 682-7383

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY:

[redacted]

Date: 4/16/13

for CURT FRANSEN
Director
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Signature Page to the Consent Decree in *United States et al v. Ash Grove Company*

FORE THE STATE OF KANSAS:

[redacted]

Date: 4/22/13

ROBERT MOSER
Secretary
Kansas Department of Health and Environment
1000 SW Jackson, Suite 580
Topeka, Kansas 66612

[redacted]

Date: 4/22/13

TIMOTHY E. KECK #14993
Deputy Chief Counsel
Kansas Department of Health and Environment
1000 SW Jackson, Suite 560
Topeka, Kansas 66612

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE STATE OF MONTANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

[redacted]

Date: 4/1/13

TRACY STONE-MANNING
Director
Montana Department of Environmental Quality

[redacted]

Date: 4-2-13

NORMAN J. MULLEN
Attorney
Montana Department of Environmental Quality

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE STATE OF NEBRASKA, on behalf of the
Nebraska Department of Environmental Quality:

[redacted]

Date: February 5, 2013

KATHERINE J. SPOHN
Deputy Attorney General
Office of the Nebraska Attorney General
2115 State Capitol
Lincoln, NE 68509-8920
Nebraska Bar Number 22979
(402) 471-2682
Email: katie.spohn@nebraska.gov

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE STATE OF OREGON on behalf of the
Oregon Department of Environmental Quality:

[redacted]

Date: 2-13-13

STEPHANIE M. PARENT OSB #925908
Senior Assistant Attorney General
Oregon Department of Justice
Trial Division/Special Litigation Unit
1515 SW Fifth Street, Suite 410
Portland, OR 97201
Phone: (971) 673-1880
Fax: (971) 673-5000
Stephanie.M.Parent@doj.state.or.us

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE PUGET SOUND CLEAN AIR AGENCY:

[redacted]

Date: 2/7/2013

CRAIG KENWORTHY
Executive Director
Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle WA 98101

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE STATE OF UTAH on behalf of the
Utah Department of Environmental Quality:

[redacted]

Date: 07/11/2013

BRYCE C. BIRD,
Director
Utah Division of Air Quality
Multi Agency State Office Building
195 North 1950 West, Fourth Floor
Salt Lake City, Utah 84116

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR THE WASHINGTON STATE
DEPARTMENT OF ECOLOGY:

[redacted]

Date: 4/2/13

KATHARINE G. SHIREY
Assistant Attorney General
2425 Bristol Court SW, 2nd Floor
P.O. Box 40117
Olympia, WA 98504-0117

[redacted]

Date: 4/2/13

STUART CLARK
Manager
Air Quality Program
Washington State Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Signature Page to the Consent Decree in *United States et al v. Ash Grove Cement Company*

FOR DEFENDANT ASH GROVE CEMENT COMPANY:

[redacted]

Date: April 12, 2013

MICHAEL HRIZUK
Senior Vice-President—Manufacturing
11011 Cody St.
Overland Park, KS 66210

The following is the name and address of Defendant Ash Grove Cement Company's agent for service pursuant to Paragraph 147.

Thomas R. Wood
Stoel Rives LLP
900 SW Fifth Ave.
Suite 2600
Portland OR 97204-1268
(503) 204-9396

Appendix A to Consent Decree
Control Technology Demonstration Requirements/NO_x Emission Reduction Requirements

I. Scope and Applicability

Ash Grove Cement Company (Ash Grove) shall comply with the requirements contained in this Appendix A in proposing and establishing 30-Day Rolling Average Emission Limits for Nitrogen Oxide ("NO_x") for the Montana City Kiln, Seattle Kiln, and the Louisville ACL Kiln ("Affected Kilns"). Terms in this Appendix A have the same meaning as in the Consent Decree unless otherwise specified.

The Affected Kilns include kilns of varying type, age, design and operating capacities. Raw materials employed in the Affected Kilns vary substantially. Fuels used in the Affected Kilns vary by location and may include fuel oil, natural gas, coal, petroleum coke, tire-derived fuel, hazardous waste derived fuel, used oils and other materials reused as fuel. Affected Kilns will be limited to those fuels and the amounts allowed by their various operating permits.

Supporting data required to be submitted under this protocol may contain information relating to operation of any Affected Kiln and production data that Ash Grove considers to be proprietary. In such a situation, Ash Grove may submit the information to EPA as confidential business information (CBI).

II. Montana City Kiln SNCR Control Technology Demonstration Requirements

(1) Summary

For the Montana City Kiln, Ash Grove shall take the following steps to establish a 30-Day Rolling Average Emission Limit for NO_x at that Kiln:

a. **Design Report:** Ash Grove shall prepare and submit to EPA for approval a Design Report for SNCR Control Technology for NO_x at the Montana City Kiln, based on similar SNCR Control Technology installations and the control requirements of this Consent Decree;

b. **Baseline Data Collection**: Prior to initiating operation of SNCR Control Technology at the Montana City Kiln, Ash Grove shall either: (i) collect new baseline emissions and operational data for a 180-Day period; or (ii) obtain EPA's approval of baseline emissions and operational data from a period prior to the date of any baseline data collection period. Such baseline emissions and operational data shall be representative of the full range of normal kiln operations, including regular operating changes in raw mix chemistry due to different clinker manufacture and changes in production levels.

c. **Startup and Optimization Period:** Following completion of installation of SNCR Control Technology at the Montana City Kiln, Ash Grove shall undertake a startup and optimization program for the SNCR Control Technology;

d. **Demonstration Program:** Upon completion of the startup and optimization program specified above, Ash Grove shall operate SNCR Control Technology at the Montana City Kiln in an optimized manner for a period of 300 Operating Days for the purpose of establishing a 30-Day Rolling Average Emission Limit for NO_x;

e. **Demonstration Report:** Ash Grove shall prepare and submit to EPA for approval, a Final Report following completion of the Demonstration Program Period for SNCR Control Technology used to establish a 30-Day Rolling Average Emission Limit for NO_x at the Montana City Kiln.

(2) Montana City Kiln SNCR Design Report

a. No later than 3/14/2014 Ash Grove shall submit to EPA for approval a Design Report for SNCR Control Technology to be installed at the Montana City Kiln. The Design Report will contain the information contained in any permit application or de minimis notification which may be required under state or federal law. EPA shall review and comment on the Design Report within 45 Days of receipt. Ash Grove shall respond to any comments received within 30 Days of receipt. The Design Report shall comply with the following minimum requirements and shall be subject to the review requirements of Section XIII (Review and Approval) of the Consent Decree.

b. Selective Non-Catalytic Reduction ("SNCR"): Ash Grove shall design the SNCR system at the Montana City Kiln to deliver the proposed reagent to the exhaust gases of the kiln system at a rate and location to minimize NO_X emissions to the greatest extent practicable. At a minimum, the system must be capable of injecting ammonia at a rate of 1.2 mols of reagent to 1.0 mols of NO_x (1.2:1 molar ratio). Ash Grove shall specify in the Design Report the reagent(s) selected, the locations selected for reagent injection, and other design parameters based on maximum emission reduction effectiveness, good engineering judgment, vendor standards, available data, kiln operability, and regulatory restrictions on reagent storage and use.

(3) Montana City Kiln Baseline Data Collection

a. Prior to commencement of Continuous Operation of SNCR Control Technology, Ash Grove shall either: (a) collect new baseline emissions and operational data for a 180-Day period; or (b) obtain EPA approval pursuant to Section XIII (Review and Approval) of the Consent Decree of existing baseline emissions and operational data collected from a period of time prior to the initiation of the baseline collection period. Such baseline emissions and operational data shall include the data required by Paragraph 3.b of Section II of this Appendix A for periods of time representing the full range of normal kiln operations including changes in raw mix chemistry due to differing clinker manufacture, and changes in production levels. Ash Grove shall

select the data collection period to ensure the baseline data collection period will be representative of the normal Kiln Operation.

b. Within 45 Days following the completion of the baseline data collection period or EPA's approval of the use of existing data, Ash Grove shall submit to EPA the baseline data collected during the baseline data collection period. Unless otherwise agreed to by EPA, the baseline data will include the following information either derived from available direct monitoring or as estimated from monitored or measured data:

    i. Kiln flue gas temperature at the inlet to the fabric filter or electrostatic precipitator as applicable or at the Kiln stack (daily average);

    ii. Kiln production rate in tons of clinker (daily total);

    iii. Raw material feed rate in tons (daily total);

    iv. Type and percentage of each raw material used and the total feed rate (daily);

    v. NO_x concentrations and mass rates for each Kiln (daily average for concentrations and daily totals for mass rates) as measured at the Kiln stack gas analyzer location;

    vi. Flue gas volumetric flow rate (daily average in acfm or dscfm, as appropriate);

    vii. Sulfate in feed (calculated to a daily average percentage);

    viii. Feed burnability (C3S) (at least once daily);

    ix. Temperatures near the burning zone;

    x. Back end kiln temperature;

    xi. Back end kiln oxygen;

    xii. Kiln fuel feed rate and type of fuel by weight or total heat input (daily average);

    xiii. Fuel distribution, if fuel is injected at more than one location, how much is injected at each location (daily average);

    xiv. Primary (and secondary and tertiary, where available) air rate into the Kiln, preheater and/or precalciner (as applicable) or blower/fan settings;

xv. Documentation of any Startup, Shut Down, or Malfunction events; and

xvi. An explanation of any gaps in the data or missing data.

Ash Grove shall submit the baseline data to EPA in an electronic format and shall explain the reasons for any data not collected for each of the parameters listed in this Paragraph of this Appendix A. Ash Grove shall submit all data in a format consistent with and able to be manipulated by Microsoft Excel.

(4) Montana City Kiln Startup and Optimization Period

a. Ash Grove shall install and begin operating the SNCR Control Technology according to the requirements of Section V (NO_x Control Technology, Emission Limits and Monitoring Requirements) of the Consent Decree. Ash Grove shall Commence Operation of SNCR Control Technology in accordance with the final Design Report by adding reagent to the SNCR system.

b. By 9/10/2014, Ash Grove shall commence Continuous Operation of the SNCR Control Technology. Any shakedown of the SNCR must be completed by 9/10/2014. Ash Grove will commence optimization of the SNCR Control Technology within 90 Days of the commencement of Continuous Operation of the SNCR.

c. Not later than 90 Days prior to the start of the optimization of the SNCR Control Technology, Ash Grove will submit to U.S. EPA a protocol for optimizing each SNCR Control Technology ("Optimization Protocol") to minimize emissions of NO_x to the greatest extent practicable. U.S.EPA shall review and comment on the Protocol within 45 Days of receipt and Ash Grove will respond to any comments with 30 Days of their receipt. The Optimization Protocol shall describe procedures that shall be used to evaluate the impact of different SNCR Control Technology operating parameters on the rate of emission reduction achieved by each applicable SNCR Control Technology and shall contain:

i. The steps taken to commence Continuous Operation of the SNCR Control Technology;

ii. The initial reagent injection rate (as a molar ratio of the average pollutant concentration calculated during the baseline period) for each SNCR Control Technology;

iii. A description of all sampling procedures that will be undertaken during the optimization of each SNCR Control Technology;

iv. Detailed description of the plan to increase the reagent injection rate for each Control Technology. At a minimum, Ash Grove shall test SNCR at three molar ratios of 0.75, 1.0, and 1.2.

v. The factors that will determine the maximum reagent injection rates and pollutant emission rates for the SNCR Control Technology (including maintenance of Kiln productivity and product quality);

vi. Explanation of how any observed effects on Kiln emissions, Kiln Operation or product quality will be evaluated;

vii. A proposal for the evaluation of the cost effectiveness of the incremental addition of reagent(s) and any incremental reduction in emissions of an air contaminant; and

viii. A detailed protocol for evaluating SNCR Control Technology operation and reagent injection rates with respect to alternate fuel scenarios to the extent that alternate fuels are anticipated.

d. The optimization period will be conducted in accordance with the approved Optimization Protocol and shall last no longer than 150 Operating Days.

e. Within 30 Days following the completion of the optimization period for the SNCR Control Technology, Ash Grove shall provide to EPA an Optimization Report demonstrating conformance with the Optimization Protocol for the SNCR Control Technology and establishing the operating parameters for the Control Technology determined under the Optimization Protocol. Ash Grove shall include in the report: the proposed optimized injection rate to be used continuously during the Demonstration Phase, a discussion of any problems encountered with the operation of the SNCR Control Technology, and a detailed discussion of the results of the Optimization on emissions from the kiln system. The provisions of Section XIII (Review and Approval of Submittals) shall apply to EPA's review of the Optimization Report, except that EPA shall review and comment on the Optimization Report within 45 Days of receipt of the Optimization Report and Ash Grove shall respond to any comments received within 30 Days of their receipt of EPA's comments. Ash Grove's submittal of and EPA's review of the Optimization Report shall not toll Ash Grove's obligation to fulfill other requirements of this Appendix.

f. As part of the optimization, the SNCR Control Technology will be presumed to be optimized at a molar ratio of 1.2 if it reduces NOx significantly, and does not impair product quality or production levels, impair kiln system reliability or impair compliance with then applicable emission requirements. For the Affected Kiln to be deemed to be optimized at a molar ratio of less than 1.2, the Optimization Report must demonstrate that, during periods of normal operation, a higher rate of emission reduction or operation cannot be sustained without creating a meaningful risk of impairing product quality or production levels, impairing kiln system reliability or impairing compliance with then applicable emission requirements or if the SNCR Control Technology cannot sustain operation at design values.

g. During the Optimization Period, Ash Grove, to the extent practicable, shall operate the SNCR Control Technology in a manner consistent with good air pollution control practice for minimizing emissions. Ash Grove will adjust its optimization of a SNCR Control Technology as may be necessary to avoid, mitigate or abate an identifiable non-compliance with an emission limitation or standard for pollutants other than NO_x. In the event Ash Grove determines, prior to the expiration of 150 operating days, that its ability to optimize the SNCR Control Technology will be affected by potential impairments to product quality or production levels, kiln system reliability or increased emissions of other pollutants, then Ash Grove shall promptly advise EPA of this determination, and include these considerations as part of its recommendation in its Optimization Report. In the event that Ash Grove determines, prior to the expiration of 150 Operating Days that the SNCR Control Technology has been optimized, Ash Grove shall promptly advise EPA of this determination.

(5) Montana City Kiln SNCR Control Technology Demonstration Period

a. The Demonstration Period shall commence within 7 Days after Ash Grove's receipt of the final approval by EPA of the Optimization Report. During the Demonstration Period, Ash Grove shall operate the SNCR Control Technology for a period of 300 Operating Days consistent with the operating parameters determined during the Optimization Period for the SNCR Control Technology and identified in the approved Optimization Report.

b. If operation of an Affected Kiln is disrupted by excessive startups and shutdowns during the Demonstration Period, Ash Grove may request or EPA may decide to extend the Demonstration Period. In granting any such request, the amount the time that the Demonstration Period will be extended is subject to the Section XVII (Dispute Resolution) provisions of this Consent Decree.

c. If evidence arises during the Demonstration Period that product quality, production levels, kiln system reliability, or compliance with an emission limitation or standard is impaired by reason of longer term operation of an SNCR Control Technology in a manner consistent with the parameters identified in the Optimization Report, then Ash Grove may, upon notice to, and approval by, EPA, temporarily modify the manner of operation of the Facility process or the SNCR Control Technology to mitigate the effects and request that EPA suspend or extend the Demonstration Period for further technical evaluation of the effects of a process optimization or SNCR Control Technology or permanently modify the manner of operation of the Control Technology to mitigate the effects. EPA's decision in response to any such Ash Grove request is subject to the Section XVII (Dispute Resolution) provisions of this Consent Decree.

d. During the Demonstration Period, Ash Grove shall collect the same data required during the baseline period and identified in this Appendix A. The Demonstration Report shall include the data collected as required in this Paragraph in an electronic

form in an Excel spreadsheet or a format compatible and able to be manipulated by Excel.

e. At least every 3 months during the Demonstration Period (unless that period lasts less than 3 months in which case this requirement does not apply), Ash Grove shall submit a periodic report to EPA. Each periodic report shall include the data collected during the Demonstration Period to that point, and shall include all of the information in Paragraph 3.b of Section II of this Appendix A. In addition, the periodic report shall include all 30-Day Rolling Average Emission Rates calculated from the beginning of the Demonstration Period until the preparation of the periodic report. The report data shall be submitted electronically in an Excel spreadsheet or a format compatible and able to be manipulated by Excel.

f. Within 60 Days following completion of the Demonstration Period for the SNCR Control Technology, Ash Grove shall submit a Demonstration Report to EPA, based upon and including all of the data collected during the Demonstration Period that identifies a proposed 30-Day Rolling Average Emission Limit for NO_x. The proposed 30-Day Rolling Average Emission Limit for NO_x shall be based upon an analysis of CEMS data and clinker production data collected during the Demonstration Period, while the process and SNCR Control Technology parameters were optimized in determining the proposed final NO_x Emission Limit achievable for the Montana City Kiln. Total pounds of NO_x emitted during an individual Operating Day will be calculated from collected CEMS data for that Day. Hours or Days when there is no Kiln Operation may be excluded from the analyses. However, Ash Grove shall provide an explanation in the Demonstration Report for any data excluded from the analyses. In any event, Ash Grove shall include all data required to be collected during the Demonstration Period in the Final Demonstration Report.

g. Ash Grove shall propose a 30-Day Rolling Average Emission Limit for NO_x in the Demonstration Report as provided in the preceding Paragraph and in accordance with the definition of that term in the Consent Decree. The final 30-Day Rolling Average Emission Limits shall be calculated in accordance with the following formula:

$X = \mu + 1.65\sigma$ where:

X = 30-Day Rolling Average Emission Limit (lb/Ton of clinker)
μ = arithmetic mean of all of the 30-Day rolling averages
σ = standard deviation of all of the 30-Day rolling averages, as calculated in the following manner:

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \bar{x})^2}$$

h. In no event shall the 30-Day Rolling Average Emission Limit for NO_x proposed by Defendant in the Demonstration Report at the Montana City Kiln be less stringent than 8.0 lb/ton of clinker.

i. Notwithstanding Section XIII of this Consent Decree (Review and Approval of Submittals), EPA shall either approve the proposed 30-Day Rolling Average Emission Limit or establish an alternative final 30-Day Rolling Average Emission Limit. If EPA approves Ash Grove's proposed 30-day Rolling Average Emission limit, Ash Grove shall demonstrate compliance and maintain compliance with EPA's final 30-day Rolling Average Emission Limit within 30 Days of receipt of EPA's notice. If EPA establishes an alternative final 30-Day Rolling Average Emission Limit that differs from Ash Grove's proposed 30-Day Rolling Average Emission Limit, Ash Grove shall demonstrate compliance and maintain compliance with EPA's final 30-Day Rolling Average Emission Limit within 60 Days of receipt of EPA's notice. If Ash Grove invokes Dispute Resolution, it shall follow the procedures set forth in Paragraph 112 (Informal Dispute Resolution for Emission Limit Setting Process under Appendix A) to hire an independent contractor to review and make a non-binding recommendation regarding the appropriate final 30-Day Rolling Average Emission Limit. During the period of Dispute Resolution, Ash Grove shall demonstrate compliance and maintain compliance with EPA's final 30-Day Rolling Average Emission Limit.

III. NO_x Emission Reduction Study and Demonstration Phase Requirements for Seattle Kiln and Louisville ACL Kiln

This Section III of the Appendix A applies to the Seattle Kiln and the Louisville ACL Kiln, and sets forth the requirements for reducing NO_x emissions through optimized operation of those Kilns. The NO_x Emission Reduction Study and Demonstration Phase Requirements for these Kilns shall consist of three phases:

- Baseline Data Collection
- Process Optimization
- Demonstration

These phases and their associated requirements are described more fully below.

(1) Baseline Data Collection

a. Beginning no later than 120 Operating Days after the Effective Date of the Consent Decree, for the Seattle Kiln and Louisville ACL Kiln Ash Grove shall: (a) commence collection of new baseline emissions and operational data from each Kiln for a 180-Operating Day period; or (b) obtain EPA approval pursuant to Section XIII (Review and Approval of Submittals) of the Consent Decree to use existing baseline emissions and operational data from one or both Kilns collected from a period of time prior to the Effective Date of the Consent Decree. Such baseline emissions and operational

data shall include the data required in Paragraph 3.b of Section II of this Appendix A, relating to the Montana City Kiln. The baseline period shall represent the full range of normal kiln operations including changes in raw mix chemistry due to differing clinker manufacture, and changes in production levels. Ash Grove shall select the data collection period to ensure the baseline data collection period will be representative of the normal Kiln Operation. Within 45 Days following the completion of the baseline data collection period or EPA's approval of the use of existing data, Ash Grove shall submit to EPA the baseline data collected during the baseline data collection period.

(2) Seattle and Louisville ACL Kiln Emission Reduction Study and Process Optimization Period

a. By no later than the date by which the Baseline Data Report must be submitted, Ash Grove shall submit to EPA pursuant to Section XXI of the Consent Decree (Notices) a protocol for optimization of operation of the Louisville ACL Kiln and the Seattle Kiln ("Process Optimization Protocol" or "Protocol"). Each Protocol will include optimization of key operating parameters resulting in the minimization of emissions of NO_x to the greatest extent practicable without incurring unreasonable cost and without causing an exceedance of any other applicable emission limit and without materially impairing production quality or quantity. At a minimum, the Protocol must address:

i. Adjustments to the combustion zone temperature to minimize NO_x formation;

ii. Optimization of air flow and oxygen levels;

iii. Improvement of fuel efficiency;

iv. Adjustments to the existing Kiln including, but not limited to, introduction of air at different locations in the Kiln to create reducing zones for NO_x reduction and adjustments to the primary air;

v. Adjustment of the balance between fuel supplied to each burner at the Kiln and/or calciner to improve overall combustion while maintaining product quality;

vi. Adjustments to combustion to improve overall NO_x levels by:

1. Adjusting fuel fineness to improve emission rates;
2. Adjusting the proportions of primary, secondary and tertiary air, where applicable, supplied to the kiln system while maintaining product quality; and
3. Adjustments to the raw mix chemical and physical properties using onsite raw materials to improve kiln stability and maintain product

quality, including but not limited to, fineness of the raw mix. As part of this optimization measure, Ash Grove shall take additional measurements using existing monitoring equipment at relevant process locations to evaluate the impact of raw mix refinements.

EPA shall review each Optimization Protocol pursuant to Section XIII of the Consent Decree (Review and Approval of Submittals).

b. As part of the Protocol submitted pursuant to Section III of this Appendix A, Ash Grove shall propose a schedule for optimizing each of the measures identified in the Protocol. The schedule shall not be shorter than 90 Operating Days, nor last longer than 120 Operating Days from the beginning of the Process Optimization Phase. Within 30 Days following approval of the Optimization Protocol and the schedules therein, Ash Grove will commence the optimization of the Kiln according to the terms of the Protocol and EPA's approval of such. Subject to Section IX (Temporary Cessation of Kiln Operation), all Process Optimizations shall be completed within 180 Days of the EPA approval of the Optimization Protocol.

c. Within 30 Days following the optimization period in each approved Protocol at each Kiln, Ash Grove shall provide to EPA a Process Optimization Report demonstrating conformance with the Protocol required under this section and establishing the operating parameters determined under the Protocol. Each Process Optimization Report shall:

i. identify all potential process and/or operational changes that can be implemented to reduce emissions of NO_x at the Louisville ACL Kiln and Seattle Kiln;

ii. estimate the amount of NO_x emission reductions that can be obtained through implementation of each of the individual process and/or operational changes;

iii. assess process and/or operational changes appropriate for implementation;

iv. assess which potential process and/or operational changes are inappropriate for implementation;

v. determine the appropriate period of time for implementing those process and/or operational changes that are appropriate for implementation;

vi. estimate the amount of NO_x emissions that can be reduced through all of the individual process and/or operational changes that are appropriate for implementation;

vii. discuss any problems encountered with the operation of the Kilns during the Optimization and the impact of the Optimization on emissions;

viii. recommend the process and/or operational changes to be implemented as measures to reduce NO_x emissions from the Kiln and include a detailed analysis of why such changes are proposed and, if applicable, why any changes are not proposed to be implemented; and

ix. include a proposed implementation schedule for the proposed measures.

j. The provisions of Section XIII (Review and Approval of Submittals) shall apply to EPA's review of the Optimization Report, except that EPA shall review and comment on the Optimization Report within 45 Days of receipt of the Optimization Report and Ash Grove shall respond to any comments received within 30 Days of their receipt of EPA's and comments. Ash Grove's submittal of and EPA's review of the Optimization Report shall not toll Ash Grove's obligation to fulfill other requirements of this Appendix.

(3) Seattle Kiln and Louisville ACL Kiln Demonstration Period

a. Upon completion of the optimization requirements of each Optimization Protocol approved by EPA pursuant to Section III of this Appendix A for the Louisville ACL Kiln and the Seattle Kiln, Ash Grove shall commence a Demonstration Period for each such Kiln. Each Demonstration Period shall commence within 7 Days after Ash Grove's receipt of the final approval by EPA of the Optimization Report for the respective Kiln. During the Demonstration Period, Ash Grove shall operate each Kiln for a period of 180 Operating Days consistent with the operating parameters in the approved Optimization Protocol and identified in the approved Optimization Report for the respective Kiln.

b. If operation of the Seattle Kiln or Louisville ACL Kiln is disrupted by excessive startups and shutdowns during the Demonstration Period for that Kiln, Ash Grove may request or EPA may decide to extend the Demonstration Period for that Kiln. EPA shall grant or deny any request and shall state the amount the time that the Demonstration Period will be extended. EPA's decision is subject to the Section XVII (Dispute Resolution) provisions of this Consent Decree. Ash Grove may not suspend Demonstration Period data collection prior to the completion of 180 Operating Days until and unless EPA has granted the request.

c. Within 90 Days following the start of each Demonstration Period for each Kiln subject to Section III of this Appendix A, Ash Grove shall submit a report to EPA. Each report shall include the 30-Day Rolling Average Emission Rate calculated from the beginning of the Demonstration Period until the preparation of the periodic report. The report data shall be submitted electronically in an Excel spreadsheet or a format compatible and able to be manipulated by Excel.

d. Within 60 Days following completion of the Demonstration Period for each Kiln subject to Section III of this Appendix A, Ash Grove shall submit a Demonstration

Report to EPA, based upon and including all of the data collected during the Demonstration Period that identifies proposed 30-Day Rolling Average Emission Limits for NO_x at the Louisville ACL Kiln and the Seattle Kiln. Each 30-Day Rolling Average Emission Limit for NO_x shall be based upon an analysis of CEMS data and clinker production data collected during the Demonstration Period, while the Kiln was optimized in accordance with Optimization Protocol approved by EPA pursuant to Section III of this Appendix A. Total pounds of an affected pollutant emitted during an individual Operating Day will be calculated from collected CEMS data for that Day. Hours or Days when there is no Kiln Operation may be excluded from the analyses. However, Ash Grove shall provide an explanation in the Demonstration Report(s) for any data excluded from the analyses. In any event, Ash Grove shall include all data required to be collected during the Demonstration Period in the Final Demonstration Report(s).

e. For the Louisville ACL Kiln and the Seattle Kiln, Ash Grove shall propose 30-Day Rolling Average Emission Limits for NO_x for each Kiln in each Demonstration Report as provided in the preceding Paragraph and in accordance with the definition of "30-Day Rolling Average Emission Limit" in the Consent Decree. The final 30-Day Rolling Average Emission Limit shall be calculated in accordance with the following formula:

$X = \mu + 1.65\sigma$ where:

X = 30-Day Rolling Average Emission Limit (lb/Ton of clinker)
μ = arithmetic mean of all of the 30-Day rolling averages
σ = standard deviation of all of the 30-Day rolling averages, as calculated in the following manner:

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \bar{x})^2}$$

Notwithstanding Section XIII of this Consent Decree (Review and Approval of Submittals), EPA shall either approve the proposed 30-Day Rolling Average Emission Limit or establish an alternative final 30-Day Rolling Average Emission Limit. If EPA approves Ash Grove's proposed 30-day Rolling Average Emission limit, Ash Grove shall demonstrate compliance and maintain compliance with EPA's final 30-day Rolling Average Emission Limit within 30 days of receipt of EPA's notice. If EPA establishes an alternative final 30-Day Rolling Average Emission Limit that differs from Ash Grove's proposed 30-Day Rolling Average Emission Limit, Ash Grove shall demonstrate compliance and maintain compliance with EPA's final 30-Day Rolling Average Emission Limit within 30 days of receipt of EPA's notice. If Ash Grove invokes Dispute Resolution, it shall follow the procedures set forth in Paragraph 112 (Informal Dispute Resolution for Emission Limit Setting Process under Appendix A) to hire an independent contractor to review and make a non-binding recommendation regarding the appropriate final 30-Day Rolling Average Emission Limit. During the period of Dispute

Resolution, Ash Grove shall demonstrate compliance and maintain compliance with EPA's final 30-Day Rolling Average Emission Limit.

Appendix B to Consent Decree
PM Continuous Parametric Monitoring System Requirements

I. CPMS

(1) A PM Continuous Parametric Monitoring System ("CPMS") is a monitoring system which uses an operating principle based on in-stack or extractive light scatter, light scintillation or beta attenuation. Ash Grove shall examine the fuel and process conditions of each stack as well as the capabilities of these devices before selecting a particular CPMS technology under this Decree. The reportable measurement output from the PM CPMS may be expressed as milliamps, stack concentration or other raw data signal. If Ash Grove wishes to use a CPMS other than those described in this Paragraph or to install a PM CEM, Ash Grove may propose an alternate CPMS or CEM to EPA for approval no later than 120 days prior to the CPMS installation date required under this Decree.

(2) Except during CPMS breakdowns, repairs, calibration checks, and zero span adjustments, the CPMS required pursuant to this CD shall be operated at all times during Kiln Operation.

II. Site-Specific Operating Limit

(1) The Site Specific Operating Limit (SSOL) will be established as required in Paragraph 60.

(2) Each CPMS shall be used at each Kiln to demonstrate compliance with the SSOL.

(3) Defendant shall reassess and adjust each SSOL, developed in accordance with Paragraph 59 and 60 and in accordance with Section II of this Appendix and in accordance with the results of each most recent PM performance test demonstrating compliance with the PM Emission Limit. The SSOL will correspond to the highest 1 hour average CPMS output value recorded during any performance test demonstrating compliance.

(4) Each CPMS required pursuant to Paragraph 59 shall monitor and record the output data for all periods of Kiln Operation and the CPMS is not out-of-control. Compliance with the SSOL must be demonstrated by using all quality-assured hourly average data collected by the CPMS for all hours of Kiln Operation to calculate the arithmetic average operating parameter in units of the operating limit (e.g., milliamps, PM concentration, raw data signal) on a 30 Operating Day rolling average basis, updated at the end of each new Kiln Operating Day.

III. Deviations of the CPMS

(1) To determine continuous compliance, Ash Grove must record the PM CPMS output data for all periods of Kiln Operation when the PM CPMS is not out-of-control. Ash Grove must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (e.g., milliamps, PM concentration, raw

data signal) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use the following equation to determine the 30 kiln operating day average.

$$30\text{kiln operating day} = \frac{\sum_{i=1}^{n} Hpv_i}{n}$$

where:

Hpvi = The hourly parameter value for hour i; n is the number of valid hourly parameter values collected over 30 kiln operating days.

(2) For any deviation from the SSOL established in accordance with Paragraph 60 of the Decree, Ash Grove shall:

a. Within 48 hours of the deviation, visually inspect the PM Control Technology;

b. If inspection of the PM Control Technology identifies the cause of the deviation, take corrective action as soon as possible, and return the CPMS measurement to within the SSOL;

c. Within 45 Days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the SSOL consistent with Section II of this Appendix B, above. Ash Grove is not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this subparagraph; and

d. Except as identified in Section III(3) below, deviation from the SSOL does not a constitute a violation of the Consent Decree and is not subject to stipulated penalties under Section XV of this Decree (Stipulated Penalties).

(3) Any deviation of the 30 day rolling average from the established SSOL leading to more than four required performance tests in a 12-consecutive month period (rolling monthly) shall be treated as a separate violation of this Consent Decree and subject to stipulated penalties under Section XV of this Decree (Stipulated Penalties).

IV. Alkali Bypass

(1) If any of Ash Grove's kiln gases are diverted through an alkali bypass, Ash Grove must account for the PM emitted from the alkali bypass stack by following the procedures in this Appendix B.

(2) Ash Grove must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere from the alkali bypass stack according to the requirements of 40 C.F.R. 63.1350(n).

(3) Ash Grove will conduct an annual EPA Method 5 or Method 5I performance test to determine total PM emissions from the alkali bypass as well as the Kiln.

(4) Ash Grove will use the maximum exhaust gas flow rate from the alkali bypass during Ash Groves annual performance test demonstrating compliance with the PM Emission Limit as the SSOL for each alkali bypass. Ash Grove must continuously monitor the flow rate until the next performance test. If there is an increase of the monitored flow rate from the maximum established during the last performance test by more than 10 percent, Ash Grove must retest the Kiln and alkali bypass to determine compliance.

V. Performance Tests

For each performance test, Ash Grove shall conduct three separate runs under the conditions that exist when the Kiln is operating at the highest load or capacity level reasonably expected to occur. Ash Grove shall conduct each test run to collect a minimum sample volume of 2 dry standard cubic meter ("dscm") for determining compliance with a new source limit and 1 dscm for determining compliance with a existing source limit. Ash Grove shall calculate the average of the results from three runs to determine compliance. Ash Grove need not determine the PM collected in the impingers (‘‘back half’’) of the EPA Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM Emission Limits of this Consent Decree. This shall not preclude the permitting authority from requiring a determination of the ‘‘back half’’ for other purposes nor shall it be deemed to exempt Ash Grove from any other applicable PM limit.

Appendix C to Consent Decree
Environmental Mitigation Projects

In compliance with and in addition to the requirements in Section VIII of this Consent Decree (Other Injunctive Relief), Defendant shall comply with the requirements of this Appendix to ensure that the benefits for the federally directed Environmental Mitigation Projects below are achieved.

Clean Diesel Replacement Projects

1. Defendant shall implement the following schedule to replace the identified in-service diesel engines with diesel engines that have emission control equipment further described in this Paragraph 1 of this Appendix C, designed to reduce approximately 28 tons per year of emissions of NOx, particulates and/or ozone precursors (the "Projects" or "Project"):

    a. By December 31, 2013, at the Foreman, Arkansas plant, Defendant shall replace the 2003 Terex Haul Truck, Model TA-40, Engine Serial Number 06R0718605 with a replacement Truck with a Tier 4 engine in accordance with Tier 4 engine standards under 40 CFR Part 89;

    b. By December 31, 2013, at the Chanute, Kansas plant, Defendant shall replace the currently unregulated Tier 0, 1986 CAT Dozer, Model D8L, Engine Serial Number 48W22583 with a replacement dozer with a Tier 2 engine in accordance with Tier 2 engine standards under 40 CFR Part 89; and

    c. By December 31, 2013, at the Midlothian, Texas plant, Defendant shall replace the current Tier 0 1977 Euclid Haul Truck, Model 302LD, Engine Serial Number 10623360 with a replacement Truck with a Tier 4 engine in accordance with Tier 4 engine standards under 40 CFR Part 89.

2. Defendant shall provide a mechanism by which each replaced engine in Paragraph 1 of this Appendix C above is properly disposed of, which must include destruction of the engine block.

3. Nothing in this Consent Decree shall be interpreted to prohibit Defendant from completing any of the Projects ahead of schedule.

4. In accordance with the requirements of Paragraph 65 of the Consent Decree, within 60 Days following the completion of each Project, Defendant shall submit to U.S. EPA for approval a report that documents:

    a. The date the Project was completed;

    b. The results of implementation of the Project, including the estimated emission reductions or other environmental benefits achieved; and

c. The cost incurred by Defendant in implementing the Project.

EXHIBIT C

May 28, 2024

By E-mail

Norm Frederick
Pennsylvania Department of Environmental Protection
Northeast Region, Air Quality Program
2 Public Square
Wilkes-Barre, PA 18701-1915
nfrederick@pa.gov

Re: Notice of Intent to Issue Title V Operating Permit
Panther Creek Power Operating, LLC
54 Pa.B. 2236 (April 27, 2024)

Dear Mr. Frederick:

In November 2021, Stronghold Digital Mining, Inc. ("Stronghold Digital") acquired the Panther Creek Plant in Nesquehoning, Carbon County ("Panther Creek") and immediately repurposed Panther Creek to mine cryptocurrency behind-the-meter. Since then, Panther Creek operations have significantly increased, as has its air pollution. Its new purpose - to mine cryptocurrency - requires the Department to revisit and revise its permits issued to Panther Creek, not to re-issue a permit that looks nearly identical to its prior permit and that increasingly harms the air in Carbon County as well as the climate.

These comments incorporate by reference the comments dated March 31, 2023 and December 18, 2023, submitted by PennFuture, Clean Air Council, and Earthjustice to the Department, attached as Exhibits A and B.

1. Stronghold Digital Is a Bad Neighbor that has Repeatedly Violated Air Quality Requirements.

Stronghold Digital has a demonstrated history of violations of federal and state law. According to the U.S. Environmental Protection Agency (EPA), Panther Creek has violated clean air requirements in 9 of the last 12 calendar quarters.[1] The Department's own eFACTS database

[1] https://echo.epa.gov/detailed-facility-report?fid=110030471610.

also shows repeated violations since the Stronghold Digital purchase, including monitoring violations and fugitive emissions violations.[2] The most recent violations occurred just a few weeks ago.[3]

At the public hearing on the proposed permit to burn tire-derived fuel at the plant, neighbors described for Department officials the ill effects of the plant. Residents testified about a wide range of concerns regarding Panther Creek, including:

- Benzene;
- Heavy metals;
- Dioxins;
- Polyaromatic hydrocarbons;
- Other air contaminants;
- Health effects;
- Emissions from trucks;
- Violations at the plant;
- Effects on wildlife;
- Tire storage and burning;
- Noise;
- Environmental Rights Amendment; and
- Climate change.

Transcript, Public Hearing, December 18, 2023. Panther Creek is a dangerous neighbor to the people of Nesquehoning that deserves close scrutiny, and not a rubber stamp, from the Department.

2. Neither the Applicant's Original Clean Air Act Permit Nor the Current Draft Permit Are Sufficient to Authorize Its New Proof-Of-Work Cryptocurrency Mining Operations.

   a) The Applicant's Clean Air Act Construction And Operating Permit Should Not Be Renewed Because the Facility's Fundamental Purpose Has Changed, Rendering's Prior Best Available Control Technology (BACT) And Lowest Achievable Emissions Rate (LAER) Determinations Invalid.

In 2018, when the Department last renewed the operating permit for Panther Creek, it considered and approved an electric generating station that would generate limited electricity for

[2] https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleFacility.aspx?FacilityID=475620.

[3] The Department found a violation of 25 Pa. Code 127.444, as follows:
"Construction, Modification, Reactivation and Operation of Sources, Operating Permit Requirements, Compliance requirements. A person may not cause or permit the operation of a source subject to this article unless the source and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the application and conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices."
https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleViol.aspx?InspectionID=3760307

sale. This was consistent with the historic use of Panther Creek, which was originally constructed in 1992. Since the last permit review, however, Stronghold Digital has acquired Panther Creek and has repurposed it as a behind-the-meter power source for its own cryptocurrency mining operations.

The Department's Permit Review Memo references "best available control technology" ("BACT") for pollutants for which the area was attaining federal ambient air quality standards,[4] These critical Clean Air Act determinations were made based on the core assumption that Panther Creek would operate with the primary purpose of producing electricity for sale.

Rather than primarily producing electricity for sale, however, Panther Creek's new owner has decided to convert Panther Creek to a cryptocurrency mining operation. As an illustration of the changes in the plant's operations, one can simply look at the proportion of direct use of energy before it began mining cryptocurrency, and after it began mining cryptocurrency in late 2021, as follows:

YEAR	Gross Generation	Incoming Electricity	Station Use	Direct Use	Sales for Resale	% of Gross Directly Used
2020	68,922	644	9,600	0	59,966	0%
2021	146,784	8,248	25,800	135	126,427	0%
2022	579,572	40,202	88,489	237,846	289,419	41%

Although facility-specific data is not available, regulatory filings by Stronghold Digital[5] indicate that the company has further decreased the proportion of energy it generates for sale to Pennsylvania's energy market and further increased the proportion of energy it directly uses for mining cryptocurrency:

OPERATING REVENUES	Three Months Ended March 31, 2023	Three Months Ended March 31, 2024
Energy	$2,730,986	$700,067
Cryptocurrency mining	$11,297,298	$21,291,058

Despite the physical and operational changes made to Panther Creek to enable it to mine cryptocurrency (presumably, consistent with other bitcoin mining conversions: new electrical equipment, electrical distribution equipment/switchgear, breakers, transformers, and bus ducts) and the resulting impact on Panther Creek's operations and air pollution, Stronghold Digital did not apply for Department approval to convert Panther Creek to a cryptocurrency mining operation. Nor does its 2023 air permit renewal application make any mention of its cryptocurrency mining operations. Instead, its 2023 application merely declares: "No changes to current operations are included in this application, it is simply a renewal of the existing operating permit, which occurs every 5 years" (at pdf 119). Likewise, the public notice announcing release of the draft renewal permit declares that Panther Creek is an "electric generation facility." 54 Pa.B. 2236. To the contrary, the Applicant's transition from a Facility with a primary purpose of

[4] CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j)(2).

[5] https://www.sec.gov/ix?doc=/Archives/edgar/data/1856028/000162828024021273/sdig-20240331.htm.

generating limited electricity for sale on the capacity market to a facility with a primary purpose of mining cryptocurrency fundamentally undermines the basis for the Department's original decision to issue an air permit authorizing Panther Creek's construction and operation.

Specifically, as discussed in more detail below, when a permitting agency determines what control options must be considered pursuant to the Clean Air Act's BACT and LAER requirements, an agency generally only considers those options that would not "redefine the source."[6] Since Panther Creek was intended to serve as an electric generating station producing limited electricity for sale on the capacity market, the Department only considered those control options that were consistent with that purpose. If the Department had instead been confronted with a permit application for a source with a primary business purpose of cryptocurrency mining, the Department's consideration of control options would have been much broader.

Due to the Applicant's 2021 conversion from an electric generating station primarily producing limited electricity for sale to a cryptocurrency mining operation producing power that it overwhelmingly utilizes for its own operations, the Department should not renew the Applicant's 2018 air permit. Rather, the Department should void its prior permit issuance, including its Clean Air Act approval, and require Panther Creek to apply for new Clean Air Act NSR and Title V air permits as though it were not yet constructed.[7]

b) A Facility's Purpose Is Fundamental to a Permitting Agency's Determination of Control Options for Purposes of the Clean Air Act's New Source Review Program.

The Applicant's fundamental change in purpose is no small matter in the Clean Air Act permitting context. Because the purpose of the original construction of Panther Creek was to combust waste coal to produce limited amounts of electricity to sell on the capacity market to meet limited existing electrical demand, the Department's evaluation of the pollution control strategies available for achieving BACT-level emission limits were limited to those strategies that supported that purpose.

[6] In re Pennsauken County, 2 E.A.D. 667, 673 (EAB, Nov. 10, 1998) (explaining that BACT conditions "are not intended to redefine the source"). *See*, *also*, *e.g.*, In re Knauf Fiber Glass, GmbH, 8 E.A.D. 121, 136 (EAB Feb. 4, 1999) (". . . it is legitimate to look at inherently lower-polluting processes in the BACT analysis, but EPA has not generally required a source to change (*i.e.*, redefine) its basic design."); In re Desert Rock Energy Co., LLC, 14 E.A.D. 484, 526-530 (EAB, Sept. 24, 2009) (describing the concept of "Redefinition of the Source").

[7] Federal regulations define "Building, structure, facility, or installation" as "all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel." 40 C.F.R. § 52.21(b)(6)(i). EPA has explained that even facilities with different two-digit source classifications can be part of the same "industrial grouping" where one facility serves as "support" for the other. *See, e.g.*, Letter from U.S. EPA Region 5 to Michael Valentine, Minnesota Pollution Control Agency at 2 (June 12, 1990), (https://www.epa.gov/sites/default/files/2015-07/documents/chemolite.pdf) (citing to the preamble to the 1980 federal PSD rules). The Applicant's electric generating facility provides the electricity needed for its cryptocurrency mining equipment, and thus, the electric generating facility plainly serves as a support facility for the cryptocurrency mining facility. As the Department knows from inspections and the company's filings, the mining operations are located on the same property and that they are under common control.

If the Applicant had instead proposed to construct and operate a facility with the primary purpose of mining energy-intensive proof-of-work cryptocurrency 24 hours a day, 365 days per year, the Department could have considered a much broader array of control strategies. Because the Applicant's previous permit applications provided no indication that Panther Creek would become a cryptocurrency mining operation, none of these options—or any other option designed to reduce the Applicant's dependence on fossil fuels to mine proof-of-work cryptocurrency—were considered, nor the requirement mitigation or pollution controls to reduce its harmful air pollution to match its increased operations.

The determination of what constitutes BACT for a new major stationary source "is one of the central features of [the Clean Air Act's] PSD program."[8] To satisfy the BACT requirement, the permitting agency is required to make a case-specific determination of the emission limitations that equate to "application of control technology or methods appropriate for the particular facility."[9] The Act defines BACT as follows:

> "The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant."[10]

While a permitting agency has discretion regarding what control options it requires a PSD permit applicant to consider, "[h]istorically, EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives."[11] This is because BACT is a statutory requirement that applies to the "proposed facility,"[12] and EPA has viewed a "proposed facility" as a facility consisting of those design elements that "are inherent for the applicant's purpose."[13] Accordingly, decisions by EPA's Environmental Appeals Board ("EAB") reflect "a central concern with preservation of a facility's basic purpose."[14]

Specifically, EAB explains that in determining whether a particular control option would "redefine" a source—and therefore be inappropriate for consideration in the BACT analysis—a permitting agency "appropriately looks to how the applicant, in proposing the facility, defines the

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[8] *In re Prairie State Generating Company*, 13 E.A.D. 1, 7 (EAB, Aug. 24, 2006, aff'd sub. nom Sierra Club v. U.S. EPA, 499 F.3d 653 (7th Cir. 2007).

[9] *Id.* at 12.

[10] CAA § 169(3), 42 U.S.C. § 7479(3).

[11] *Prairie State* at 21 (quoting EPA's NSR Manual at B.13) (emphasis added).

[12] 42 U.S.C. § 7475(a)(4). *See Sierra Club v. U.S. EPA*, 499 F.3d 653, 654 (7th Cir. 2007).

[13] *In re Desert Rock Energy Co.*, 14 E.A.D. 484, 530 (EAB Sept. 24, 2009).

[14] *Prairie State* at 21.

goals, objectives, purpose, or basic design for the proposed facility."[15] According to EAB: "[T]he permit issuer must be mindful that BACT, in most cases, should not be applied to regulate the applicant's objective or purpose for the proposed facility, and therefore, the permit issuer must discern which design elements are inherent to that purpose, articulated for reasons independent of air quality permitting, and which design elements may be changed to achieve pollutant air pollution reductions without disrupting the applicant's basic business purpose for the proposed facility."[16] Quoting this language, EPA's "PSD and Title V Permitting Guidance for Greenhouse Gases" further emphasized that a permitting agency should consider a proposed facility's purpose when identifying available emission reduction methods and strategies for purposes of determining what constitutes BACT for a particular facility.[17]

Consistent with EPA's EAB decisions, the Department's 1988 evaluation for Panther Creek should have considered only those control options that would be consistent with its purpose of producing limited amounts of electricity for sale on the wholesale market. In other words, the Department considered those approaches that would reduce air pollution from the process of generating electricity from waste coal or other authorized fuels. The Department did not have any occasion to evaluate the efficiency of the end-users of the electricity, because the electricity was not being consumed by Panther Creek, it was only being sold. Likewise, the Department did not evaluate whether it would be feasible to generate electricity through some less-polluting means, because that would change the facility's fundamental purpose and basic design. Now, however, the Applicant's fundamental purpose is no longer to produce electricity for sale on the wholesale market. Instead, by far and away the most significant process at Panther Creek is mining cryptocurrency. That transition fundamentally altered the design and purpose of the facility, thereby invalidating the Department's BACT determination for the Panther Creek. Given the substantial difference between the facility that the Department permitted in 1988 and the facility that is operating now, the Department should not renew the Applicant's Title V permit.

c) <u>The BACT Determination for the Applicant's Proof-of-Work Cryptocurrency Mining Facility Likely Would Be Different from the BACT Determination for Its Originally-Proposed Electric Generating Station Producing Electricity for the Grid.</u>

If Panther Creek had been permitted in 1988, or even five years ago, as a cryptocurrency mining operation, the Department's BACT determination would have been different. First, the Department's BACT analysis would have considered the feasibility of using less-polluting electricity sources, at least in part, to generate the electricity needed for cryptocurrency mining. As explained above, the options available for consideration as BACT change, depending upon the applicant's purpose in constructing the facility. For electric generating facilities, the EAB explains that requiring such a facility to utilize a different fuel than the one proposed by the applicant would typically be viewed as a redefinition of the proposed source, and therefore,

[15] *Prairie State* at 23 (emphasis added); *see also In re Desert Rock Energy Co.*, 14 E.A.D. at 530.

[16] *Prairie State* at 23 (emphasis added)

[17] U.S. EPA, *PSD and Title V Permitting Guidance for Greenhouse Gases* at 31(Mar. 2011) ("EPA PSD GHG Guidance"), https://www.epa.gov/sites/default/files/2015-08/documents/ghgguid.pdf.

inappropriate as a BACT option.[18] For example, "a proposal to construct a coalfired power Facility or boiler . . . need not consider the alternative of a natural gas-fired unit as part of the BACT determination, even though a natural gas unit would be inherently less polluting than the coal-fired unit."[19] Thus, in considering BACT options pertaining to the Applicant's 1988 proposal to construct and operate an electric generating station that would produce limited amounts of electricity for Pennsylvania's electrical grid, the Department would not have considered requiring Panther Creek to instead produce electricity, in whole or in part, or utilize less polluting sources of energy. Excluding consideration of such "clean fuels" would have been unjustified if the Applicant had instead proposed to construct and operate a facility primarily engaged in cryptocurrency mining, since the primary business purpose of such a facility would be to mine Bitcoins, not to produce electricity.

Second, if Stronghold Digital had applied to construct an energy-intensive proof-of-work cryptocurrency mining facility, the BACT analysis would have needed to consider the possibility that the facility could use lower-emitting "production processes."[20] As explained in U.S. EPA's NSR Workshop Manual, "[a] production process is defined in terms of its physical and chemical unit operations used to produce the desired product from a specified set of raw materials."[21] In the original permitting action, the BACT analysis necessarily focused on techniques for reducing air pollution from electric generation, since Panther Creek's "product" was electricity to be sold on the wholesale market. Now, though Panther Creek's air pollution primarily comes from the electric generating units, these units are no longer free-standing, but are instead part of the cryptocurrency mining process. Cryptocurrency has now become Panther Creek's "product," and it is the cryptocurrency production process that uses energy and produces air pollution. Thus, the Department's BACT analysis for the cryptocurrency operation would necessarily include consideration of lower-emitting processes for producing cryptocurrency—or, more generally, lower-emitting processes for producing cryptocurrency.

In addition to the express statutory and regulatory language requiring consideration of lower-emitting "production processes" as part of the BACT analysis, EPA's "PSD and Title V Permitting Guidance for Greenhouse Gases," confirms that the Department has discretion "to evaluate BACT on a facility-wide basis by taking into account operations and equipment which affect the environmental performance of the overall facility."[22] Specifically, EPA's GHG PSD Guidance explains that for "a new greenfield facility," energy efficiency options include those

[18] 9 In re Northern Michigan University, PSD Appeal No. 08-02, 301-02 (EAB Feb. 18, 2009) (explaining that the purpose-based test "shields from BACT review fuel choices found 'integral' to the basic design," *e.g.*, "[p]roposed coal-fired electric generators need not consider a natural gas turbine.").

[19] *In re Knauf Fiber Glass*, 8 E.A.D. 121, 136 (EAB Feb. 4, 1999)

[20] 42 U.S.C. § 7479(3) (defining BACT as including lower-emitting "production processes"). 6 NYCRR § 231-4.1(b)(9) (same). *See also In re Knauf Fiber Glass*, 8 E.A.D. at 136 (observing that "[t]he permitting authority may require consideration of alternative production processes in the BACT analysis when appropriate.").

[21] U.S. EPA, Draft NSR Workshop Manual at B.13-14 (1990), https://www.epa.gov/sites/default/files/2015-07/documents/1990wman.pdf.

[22] EPA PSD GHG Guidance at 23 (emphasis added)

that ”improv[e] the utilization of thermal energy and electricity that is generated and used on site.”[23] Thus, EPA:

> “recommends that permitting authorities consider technologies or processes that not only maximize the energy efficiency of the individual emitting units, but also process improvements that impact the facility’s energy utilization assuming it can be shown that efficiencies in energy use by the facility’s higher-energy using equipment, processes or operations could lead to reductions in emissions from the facility.”[24]

Accordingly, if the Applicant had proposed construction of a proof-of-work cryptocurrency mining operation, it would have been appropriate for the Department to consider as part of its BACT determination methods for reducing the energy demand from Panther Creek’s proof-of-work cryptocurrency mining operation. For example, if the Applicant were to instead utilize the “proof-of-stake” process for mining cryptocurrency (just one of many alternatives described in Section E below), Panther Creek would consume up to 99% less energy than it currently uses in its “proof-of-work” cryptocurrency mining operation.[25] No such considerations were ever brought to bear on the Applicant’s cryptocurrency mining operations because the applications made no mention of cryptocurrency mining.

In sum, if Panther Creek had been permitted as a proof-of-work cryptocurrency mining facility, the Department’s BACT evaluation would have been much more far-reaching and would have necessarily considered production processes and clean fuels that could have greatly reduced Panther Creek’s air pollution. The Department must deny the application to renew its 2018 air permit and instruct the Applicant that to continue operating, it must apply for and obtain a new construction and operating permit that reflects its primary purpose as a cryptocurrency mining facility.

d) <u>NSR/PSD Applies to the Applicant’s Construction of Its Cryptocurrency Mining Operation and Commencement of Proof-of-Work Cryptocurrency Mining Activities.</u>

Because cryptocurrency mining-related changes at Panther Creek constitute material physical changes and significant changes in the method of operations at Panther Creek that increase air pollution, the Department must require the application of special permitting rules for Facility modifications. Pennsylvania regulations include New Source Review (“NSR”), and Prevention of Significant Deterioration (“PSD”) (collectively, “NSR”) for new and modified

[23] *Id.* at 30.

[24] *Id.*

[25] *See, e.g.*, NBC News, Cryptocurrency goes green: Could ‘proof of stake’ offer a solution to energy concerns? (May 25, 2021), https://www.nbcnews.com/tech/tech-news/cryptocurrency-goes-green-proof-stake-offer-solutionenergy-concerns-rcna1030; Digiconomist, Bitcoin Energy Consumption Index (2021), https://digiconomist.net/Bitcoin-energy-consumption/; Carl Beekhuizen, A country's worth of power, no more!, Etherium Foundation Blog (May 18, 2021), https://blog.ethereum.org/2021/05/18/country-power-no-more/.

facilities.[26] These rules apply to modifications, defined as any physical change in, or change in the method of operation of, a facility which results in a level of annual air pollution in excess of the baseline actual emissions of any regulated NSR contaminant. In particular, an NSR major modification is any modification of a major facility that would equal or exceed the applicable significant project threshold of a regulated NSR contaminant and would result in a significant net emissions increase of that contaminant.

Regulated NSR contaminants include, among other pollutants, nitrogen oxides (NOx). A "net emission increase" includes increases from the project emission potential of the modification, among other things. The project emission potential, for existing sources at existing facilities, is the difference between the baseline actual emissions and the projected actual emissions of the sources. Baseline actual emissions are the rate of emissions in tons per year of a regulated NSR contaminant during a baseline period, measured by continuous emission monitors or other methods. The baseline period is any twenty-four consecutive months in the five years preceding various dates specified in the rule, except that "for a facility which fails to submit a permit application for a NSR major modification and begins actual construction of such modification, the department will determine an appropriate baseline period."

As noted, Panther Creek's air pollution potential depends in part on the projected actual emissions after the project is completed. Under the rules, projected actual emissions are the maximum annual rate, in tons per year, at which an existing emission source is projected to emit a regulated NSR contaminant in any one of the five years (12-month period) following the date the source commences operation after a modification. A source must consider any one of the 10 years following that date if the project involves increasing the emission source's design capacity or its potential to emit that regulated NSR contaminant and full utilization of the emission source would result in exceeding the applicable significant project threshold or a significant net emissions increase at the major facility. Among other criteria, a source may exclude, in calculating any increase in air pollution that results from the particular project, that portion of the emission source's air pollution following the project that the existing emission source could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project. Finally, the owner or operator of the facility may elect to use the potential to emit of the emission source(s), in tons per year.

NSR major modifications are those modifications that, among other things, result in a significant net emission increase. This is defined as a net emission increase of a regulated NSR contaminant at an existing major facility located in an attainment area or unclassifiable area that equals or exceeds the applicable significant net emissions increase threshold.

Panther Creek has made wide-ranging changes in 2021 as part of its switch to cryptocurrency mining. Panther Creek has increased its operations and air pollution as a result. For example, in the five years before Stronghold Digital owned Panther Creek, Panther Creek emitted an average of 82.488 tons of sulfur dioxide. In contrast:

[26] 25 Pa. Code Chapter 127, Subchapter D (Prevention of Significant Deterioration), Subchapter E (New Source Review).

- In 2023, the Panther Creek Plant reported an increase of almost 500%, resulting in 430.451 tons of sulfur dioxide emissions.

Similarly, in the five years before Stronghold Digital owned Panther Creek, from 2016-2020, Panther Creek emitted an average of 80.19 tons of nitrogen oxides.

- In 2023, the Panther Creek Plant reported more than triple this result, emitting 291.545 tons of nitrogen oxides.

The changes at Panther Creek to mine cryptocurrency involve physical and operational changes (presumably, consistent with other bitcoin mining conversions: new electrical equipment, electrical distribution equipment/switchgear, breakers, transformers, and bus ducts), which also change the method of the Applicant's operations. Further, the Applicant is fundamentally changing its method of operation from a Facility that primarily sells electricity to the grid to a Facility that primarily "mines" cryptocurrency. Thus, the modification to cryptocurrency-related power generation is both a physical change and a change in the method of operation. Due to these changes, the Department must evaluate state-of-the-art NSR/PSD air pollution controls at Panther Creek.

e) Panther Creek Can Significantly Reduce Emissions.

Panther Creek can sharply reduce emissions by abandoning its hugely energy intensive proof-of-work method. "Bitcoin uses more electricity per transaction than any other method [of cryptocurrency mining] known to mankind."[27] Many less energy intensive methods exist to mine cryptocurrency, a more well-known, one being the proof-of-stake validation method. Ethereum, the world's second-largest cryptocurrency, switched from proof-of-work to proof-of-stake, which uses approximately 99.95% less energy, or be approximately 2,000 times more energy efficient.[28] Other "mining" or validation methods exist as well, *e.g.*, proof-of-authority, open representative voting, and federated consensus. Like proof-of-stake validation, open representative voting eliminates the unnecessary expenditure of energy—0.0000072% of the power it takes for a single Bitcoin transaction.[29] Other forms of cryptocurrency mining or validation show that there are viable and profitable alternatives to significant increases in air pollution in Carbon County.[30]

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[27] Andrew Ross Sorkin et al., Why Bill Gates Is Worried About Bitcoin, N.Y. Times (Mar. 9, 2021), https://www.nytimes.com/2021/03/09/business/dealbook/bill-gates-bitcoin.html.

[28] Ezra Kaplan, Cryptocurrency Goes Green: Could 'Proof of Stake' Offer a Solution to Energy Concerns?, NBC News (May 25, 2021), https://www.nbcnews.com/tech/tech-news/cryptocurrency-goes-green-proof-stake-offersolution-energy-concerns-rcna1030.

[29] *E.g.*, Hiranmayi Srinivasan, How Cryptocurrency Impacts the Environment-and Some Sustainable Choices to Make Instead, Real Simple (June 8, 2021), https://www.realsimple.com/work-life/money/money-planning/howcryptocurrency-uses-energy (stating that Bitcoin uses 1,546 kWh of energy per transaction, compared to Nano at 0.000112 kWh per transaction); Peter W. Eklund & Roman Beck, Factors That Impact Blockchain Scalability, Proceedings of the 11th Int'l Conference on Mgmt. of Digital Ecosystems, 126 (2019), https://doi.org/10.1145/3297662.3365818.

[30] *See, e.g.*, Ethereum Energy Consumption Index, Digiconomist, https://digiconomist.net/ethereum-energyconsumption/.

3. The Department Must Consider Actual NOx Emissions When Setting RACT Limits.

Reasonably available control technology, or RACT, is a technology-forcing standard designed to induce and require improvements in control technology and reductions in pollutant emissions. Indeed, EPA has long maintained that "RACT should represent the toughest controls considering technological and economic feasibility that can be applied to a specific situation" and that "[a]nything less than this is by definition less than RACT."[31] RACT is defined as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility."[32]

According to the Department's Review Memo (at 7, unnumbered), the most stringent RACT limit for NOx at Panther Creek is 0.15 lbs/MMBtu, and this limit applies to the plant. However, a review of monthly data on the EPA's Clean Air Markets Program shows that the plant is already achieving lower levels of NOx emissions than this purported RACT limit, sometimes much lower.[33] Therefore, lower limits that at least reflect lower emission levels are technologically and economically feasible. The Department must review Panther Creek emissions data and establish a RACT limit at least as stringent as what the plant is actually achieving.

4. The Department Must Take a Hard Look at Whether Panther Creek Still Qualifies as a "Electric Utility Steam Generating Unit"

Because Panther Creek uses most of the electricity it produces to mine cryptocurrency, rather than selling electricity to the energy grid, Panther Creek should be analyzed to if it should still be permitted as an "electrical steam generating unit." The Clean Air Act defines an "Electric Utility Steam Generating Unit" as "any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale." Panther Creek does not supply "more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale."

[31] Memorandum from Roger Strelow, Assistant Administrator for Air and Waste Management, U.S. EPA, to Regional Administrators, Regions I - X, at 2 (Dec. 9, 1976) ("Strelow Memo"), *available at* https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19761209_strelow_ract.pdf (last visited Nov. 11, 2019).

[32] EPA, State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 55,620, 55,624/3 (Nov. 25, 1992); *see also Navistar Int'l Transp. Corp. v. EPA*, 941 F.2d 1339, 1343 (6th Cir. 1991) ("Since 1976, the EPA has interpreted reasonably available control technology to be the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility") (internal quotations omitted).

[33] https://campd.epa.gov/data/custom-data-download.

5. The Department Must Deny The Proposal to Burn Tire Derived Fuel.

Last year, Panther Creek applied to incinerate 15% shredded tires (tire-derived fuel, or TDF) as part of the total mix it burns to produce electricity. The draft permit for review does not incorporate that alternative fuel source.

The EPA and the Department have recognized that burning tires creates significant air pollution of polyaromatic hydrocarbons (PAH) which are known to contain at least seven carcinogens.[34] The Department should require Panther Creek to test its air pollution for PAHs and other heavy metal and air toxics.

In addition, there have been reports from nearby residents who smelled burning rubber when Panther Creek burns tire, which is a violation of Panther Creek's current air permit.

We incorporate by reference the comments dated December 18, 2023 and March 31, 2023 comments submitted by PennFuture, Clean Air Council, and Earthjustice to the PADEP, attached as Exhibits A and B.

Conclusion

A renewal of Panther Creek's air permit cannot be business-as-usual. Panther Creek's fundamental purpose has changed. The Department must take a hard look at the plant's operations and reduce the amount of harmful air pollution to comply with the Clean Air Act to and to protect nearby residents.

Respectfully submitted,

s/ Charles McPhedran

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[34] U.S. EPA, Air Emissions From Scrap Tire Combustion (Oct. 1997), https://www3.epa.gov/ttncatc1/dir1/tire_eng.pdf.

Exhibit A

December 18, 2023

Mark Wejkszner, P.E.
Northeast Region Air Quality Program Manager
Department of Environmental Protection
Wilkes-Barre Regional Office
2 Public Square
Wilkes-Barre, PA 18701-1915

Re: Panther Creek Power Operating LLC
Notice of Intent to Issue Plan Approval No. 13-00003B
Interim Comments of Earthjustice and Sierra Club

Dear Mr. Wejkszner:

Earthjustice and Sierra Club hereby submit these interim comments on the Notice of Intent to Issue Plan Approval No. 13-00003B for Panther Creek Power Operating LLC.

1. The Department arbitrarily and unreasonably denied an extension in the public comment period, while granting itself an extension for a Right-to-Know request, and ensured that important documents would not be available to commenters.

These interim comments are submitted to meet the deadlines set by the Department's notice published in the Pennsylvania Bulletin on November 18, 2023 (53 Pa.B. 7183). On November 21, 2023, Earthjustice submitted a Right-to-Know request to the Northeast Regional Office seeking the following documents relevant to the Department's proposal:

> We are requesting documents from the Northeast Regional Office of the Department of Environmental Protection regarding the Panther Creek plant, as follows:
> --All documents regarding tire-derived fuel at the Panther Creek plant since January 1, 2022. This request includes, but is not limited to, applications, correspondence, inspections, stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, and e-mails.
> --All continuous emission monitoring data from the Panther Creek plant since January 1, 2023 for sulfur dioxide and oxides of nitrogen.
>
> We are also requesting all documents regarding tire-derived fuel at the Northampton Generating Plant, Northampton, Pennsylvania since January 1, 2022. This request includes, but is not limited to, applications, correspondence, inspections, stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, and e-mails.

Attachment A. On November 27, Earthjustice, PennFuture, and Sierra Club sought an extension in the time for comment until 20 days after the Department's final response to this Right-to-Know request, so that they could consider the responsive information in preparing comments (Attachment B).

However, rather than answer this request by releasing Department documents that could inform public comments on the Department's proposal, on December 1, 2023 the Department granted itself an extension in the time to respond, to January 2 (Attachment C). The Department then denied the extension sought by Earthjustice, PennFuture, and Sierra Club (Attachment D). The Department's actions all but guarantee that essential information that the groups would use to comment on the permit will not be available to them by the comment deadline, which the Department has described as either December 18 or 28 (53 Pa.B. 7183).

The opportunity for public comment on a plan approval, and public access to documents via the Right-to-Know Law, should work hand in hand. Public comments that have the benefit of fully understanding the basis for Department's action benefit the public and the Department alike. Instead, the Department has granted itself an extension for releasing documents while denying an extension to groups seeking to comment. These actions are contrary to the goals of public participation in both the Air Pollution Control Act and the Right-to-Know Law. Once the Department provides its response, apparently not until January, these groups will review the documents and file supplemental comments.

2. Information available to date does not provide a basis for the Department to approve the Proposed Plan Approval.[1]

These initial comments on the proposed action (namely burning of tire-derived fuels, or TDF) at the Panther Creek plant are based on available information (permit application, proposed plan approval) at the time of writing. Substantial additional and relevant information is missing in the record but has not yet been provided. This includes details of the testing that has supposedly been conducted under a temporary permit issued by the Department (see letter dated June 9, 2023 in the June 2023 plan approval application, at pdf p. 41 or 48) referenced in the Should such information become available, these comments will be updated, as necessary.

A. These comments incorporate all of the technical comments noted in the March 31, 2023 comments submitted by PennFuture, Clean Air Council, and Earthjustice to the PADEP (Attachment E) in relation to the Agency's Notice of Intent to Approve the Plan Approval 13-00003A, the air permit for the facility, which was subsequently granted by the Department effective May 25, 2023, with a Plantwide Applicability Limit (PAL) for various pollutants, as shown below (Table 3-1 from the June 2023 plan approval application at pdf p. 6 of 48).

[1] Section 2 of the comments was prepared with the assistance of Ranajit Sahu, Ph.D.

Table 3-1
Plantwide Applicability Limits (Tons per Rolling 12-Months)
Panther Creek Facility

Pollutant	Running 12-month PAL Limit (Tons)
PM_f	**113.81**
PM_{10}	**86.12**
$PM_{2.5}$	**35.55**
SO_2	**603.65**
NO_X	**586.85**
CO	**381.05**
Fluorides (not including HF)	**3.0**
H_2SO_4	**15.15**
Pb	**0.03**
$CO_2(e)$	**1,116,217.64**

B. In June 2023, the company submitted an application to supplement the combustion at the two circulating fluidized bed (CFB) units (designated as Sources 031 and 032) at the plant using TDF in addition to coal refuse (anthracitic culm) and No. 2 fuel oil as authorized under Plan Approval 13-00003A. The Application for the modification states that PAL under 13-00003A will not be exceeded as a result of this proposed use of TDF as a "supplemental fuel up to 15% by weight on a monthly basis."

The only basis for the claim that the PAL limits established under 13-00003A will not be exceeded as a result of burning the TDF at 15% by weight on a monthly basis are the following statements in the June 2023 plan approval application (at pdf p. 5 of 48):

> "TDF has long been recognized as a valuable fuel in well-controlled power plants, as well as cement plants. In a 1991 report, EPA concluded "Based on the experience and the emissions data from power plants burning tire or TDF, the use of tires and TDF as supplemental fuel is viable. In many cases, the quality of the emissions actually improves with increased use of tires or TDF as supplemental fuel.
>
> "Additionally, DEP has permitted the combustion of tires and/or TDF as a supplemental fuel at several facilities in Pennsylvania, including Northampton Generating, Hercules Cement, Lafarge, Lehigh Cement, ESSROC, and Viking Energy."

The referenced 1991 EPA Report nor any details of the emissions at the various facilities noted in the second paragraph were provided in the public record. They are the subject of outstanding records requests to the Department and have not been received at the time of this writing.

Subsequent to the submittal of the plan approval application, the Department requested additional information on the "emission factors" associated **with and without TDF** combustion.

In response, the consultant for the company provided summary results relating to the differences with and without TDF combustion for CO, NOx, SO2, and CO2 – and concluded that the differences were not statistically significant. However, **actual results of the data collected were not provided**. Importantly, for example, the quantities of TDF burned (in one or both of the CFBs) on the days counted as TDF-burning days along with the quantities of the culm or other fuels burned on the same days were not provided. Similarly, no information is provided in the non-TDF-firing days about the quantities of fuel burned. Thus, accepting the summary results of "differences" between TDF and non-TDF burning days, as the PADEP seems to have done, is simply unsupported and improper. The full details of the actual fuels and their quantities for all testing days should be provided in the public record along with all test conditions (such as the amounts of limestone used for SO2 control and the amount of ammonia used for NOx control, etc.) for there to be a meaningful comparison of the emissions with and without TDF combustion at the two CFBs at Panther Creek.

C. Specifically for SO2, per the June 2023 application, it is clear that substantially more sulfur will be introduced into the two CFB boilers as a result of the 15% by weight addition of TDF. The excerpt below (from pdf p. 22 of 48) shows the characteristics of the various fuels that will be burned, including TDF. Note the much higher levels of sulfur in TDF compared to any of the other fuels, including culm.

Section B - Combustion Unit Information (Continued)

3. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number 2	1440 GPH @ 60°F	110 X 10^3 Gal	0.04% by wt	0.001	19450Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Gas (other)	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Coal Culm		490,600	0.41%	47%	5200-6000 btu
Other* TDF		78,000 Tons	2%	5%	15,000 BTU/lb

Burning 15% by weight of TDF at 2% sulfur will clearly release more SO2 emissions in the boilers since the sulfur content of the culm is 0.41% and the sulfur contents of the other fuels are much lower.

While the CFB boilers are equipped with SO2 CEMS and can track the SO2 emissions and perhaps control the additional SO2 that will be emitted as a result of TDF combustion by adding more limestone into the boilers (which may have been done during the test days as noted prior), the effect of the use of extra limestone (i.e., increase in particulate matter emissions, for

example) have not been addressed or quantified in any manner. Such PM (including PM2.5) emissions will increase as a result of greater limestone use. Also, the impact of additional limestone (which is used inherently as part of the bed material in the CFB units) on the operation of the units themselves (i.e., on the combustion efficiency, NOx emissions, greenhouse gas emissions, etc.) have not been addressed. The with- and without-TDF analysis did not address any of the particulate emissions.

D. The application notes that the TDF use will be limited to 15% by weight "on a monthly basis." This means, however, on a short-term basis, the amount of TDF used could be substantially greater than 15%. For example, on any given day or hour, the amount of TDF used could be far greater than 15%. The impact of these greater than 15% use of TDF (theoretically up to 100% TDF in a given hour, for example) on the emissions profile of the two CFB units has not been addressed. In fact, other than noting that the annual PAL limits will not be exceeded, with no quantification, there is literally no mention of any short-term emissions and how they will change with the introduction of TDF, unlimited in short-term time scales. This "monthly averaging" aspect cannot be reconciled with the testing that was conducted since, as noted prior, no information about how much TDF was used during testing days, is provided in the record.

Short-term emissions are important because several pollutants such as NOx, SO2, PM10, etc. have hourly or 24-hour average National Ambient Air Quality Standards. Therefore large increases in these pollutants are consequential. And, they have not been analyzed in the proposed action.

E. Finally, the application does not address how emissions of various toxic air contaminants or hazardous air pollutants (HAPs) would change as a result of burning the TDF at these two CFB units. There is substantial evidence that burning TDF can cause the emissions of various HAPs, including various metals such as antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, selenium, and zinc) and organic HAPs such as benzene, ethylbenzene, hexane, toluene, xylenes, styrene, and many others. See, for example a 1997 EPA report (i.e., one issued several years after the 1991 EPA report noted in the June 2023 plan approval application) Air Emissions From Scrap Tire Combustion, EPA-600/R-97-115, October 1997. The plan approval does not address how these air toxic compound emissions (either on a short-term or on an annual basis) will change as a result of the proposed supplemental use of TDF.

Conclusion

As noted, Earthjustice, Sierra Club, and possibly other groups will file supplemental comments after they have received and reviewed the documents to be released by the Department in response to the Right-to-Know request described above. Further, for the reasons described in Section 2 above, the information available to us to date does not provide a basis for the Department to grant the proposed plan approval.

Sincerely,

Charles McPhedran, Esq.

Earthjustice
1617 JFK Boulevard, Suite 2020
Philadelphia, PA 19103
(215) 206-0352
cmcphedran@earthjustice.org

Zachary M. Fabish, Senior Attorney
Sierra Club
50 F Street, NW - 8th Floor
Washington, DC 20001
(650) 388 8446
zachary.fabish@sierraclub.org

Attachment A

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP Right-to-Know Law Record Request Form

Business Hours:	8:00 am - 4:30 pm (RTK requests received after 4:30 pm are considered received the next business day)
Mail to:	DEP Open Records Officer ("AORO"), DEP/BOS, PO Box 8473, Harrisburg, PA 17105-8473.
Or Fax to:	717-705-8023
Or Email to:	EP-DEP-RTK@pa.gov *Request sent to any other email will not be deemed a RTKL request.
Contact:	717-787-7397

Name of Requester (or Anonymous):	Charles McPhedran
Name of Company (or N/A):	Earthjustice
Requester's Street Address:	1617 JFK Boulevard, Suite 2020
Requester's City/State/Zip Code:	Philadelphia, PA 19103
Requester's Telephone Number:	(215) 206-0352
Requester's Email Address:	cmcphedran@earthjustice.org

Records being requested (please sufficiently describe the record(s) requested so that they are identifiable to Department staff.):

Documents regarding the Panther Creek plant

Subject matter of the records by transaction or activity of the agency

Panther Creek Power Operating, LLC

The facility, company, or person that is the subject of the records

4 Dennison Road, Nesquehoning, PA 18240

Street Address (including zip code)

Carbon

County

Nesquehoning

Municipality

Additional information to assist with search and retrieval of responsive records (e.g. permit no.(s); dates or timeframe of records requested; programs of interest)

We are requesting documents from the Northeast Regional Office of the Department of Environmental Protection regarding the Panther Creek plant, as follows:
--All documents regarding tire-derived fuel at the Panther Creek plant since January 1, 2016. This request includes, but is not limited to, applications, correspondence, inspections, stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, and e-mails.
--All continuous emission monitoring data from the Panther Creek plant since January 1, 2023 for sulfur dioxide and oxides of nitrogen.

We are also requesting all documents since January 1, 2022 regarding tire-derived fuel at both (a) the Northampton Generating Plant, Northampton, Pennsylvania and (b) the Viking Energy facility referenced in the Panther Creek Power Operating, LLC Air Quality Plan Approval Application, June 2023, Section 2.0, p. 4. This request includes, but is not limited to, applications, correspondence, inspections,
stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, and e-mails.

This request is in response to the Department's notice in the November 18, 2023 Pennsylvania Bulletin providing notice of a Department permit action regarding tire-derived fuels at the Panther Creek plant, which we are attaching to this request.

We request that documents provided in response to this request be provided in electronic form, either by e-mail to cmcphedran@earthjustice.org or by file sharing. No hard copy documents are requested to be sent by U.S. mail, except for

documents that are not available in electronic form.

Programs for Review

Air Quality

FORM OF RECORD PRODUCTION – check appropriate response:

REQUESTING IN-PERSON ACCESS:
Review records at DEP's offices with opportunity for self-copying at reduced cost of $.15 per page.

☐ YES
☑ NO

REQUESTING DUPLICATION AND MAILING RECORDS:
Fees for reproduction are identified in the agency's fee schedule. Each 8.5" x 11" page costs $.25 to copy.

☑ YES
☐ NO

REQUESTING CERTIFICATION OF RECORDS:
I want DEP to provide certified copies of the following records (at a cost of $5.00 per document):

☐ YES

Attachment B

November 27, 2023

Joseph J. Buczynski, P.E.
Regional Director
Pennsylvania Department of Environmental Protection
2 Public Square
Wilkes-Barre, PA 18701-1915

Re: Panther Creek Power Operating LLC
53 Pa.B. 7183 (Nov. 18, 2023)

Dear Regional Director Buczynski:

We are writing to request an extension in the Department's comment period for its proposed approved of an application to burn tire-derived fuel at the Panther Creek plant in Nesquehoning, Carbon County. The Department proposed this Plan Approval # 13-00003B approval in the Pennsylvania Bulletin on November 18, 2023 (53 Pa. B. 7183) (see attached).

Our groups seek to reduce pollution from the Panther Creek plant to protect public health and the environment. The Department's proposal raises concerns that require our close evaluation.

On November 21, 2023, Earthjustice submitted a Right-to-Know request to the Department seeking, among other things, documents regarding tire-derived fuel at the Panther Creek plant including applications, correspondence, inspections, stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, e-mails, and monitoring data. A copy of the request, including the full details of the documents we seek, is attached.

We intend to use documents released by the Department in response to this request to evaluate a range of issues raised by the proposal, including but not limited to emissions of air toxics and criteria pollutants; plant emission limits; odors; materials handling, including the use of lime; variation in emissions allowed by 12-month rolling averages; emission data, stack tests, and the Department's evaluation thereof; tests of tire-derived fuel and the Department's approval and review of such testing; and the burning of tire-derived fuel at Northampton Generating Plant. We will engage engineering expertise regarding these and likely additional issues.

We will only be able to fully evaluate these issues and prepare our comments once we have received the Department's response to our Right-to-Know request. Therefore, by this letter, we are requesting that the Department extend the comment period for Plan Approval # 13-00003B to Panther Creek Power Operating, LLC for all commenters until 20 days after the Department provides its full response to the Right-to-Know request submitted on November 21.

Thank you for the Department's attention to this request.

Sincerely,

Charles McPhedran, Esq.
Earthjustice
1617 JFK Boulevard, Suite 2020
Philadelphia, PA 19103
(215) 206-0352
cmcphedran@earthjustice.org

Emma H. Bast, Staff Attorney
Citizens for Pennsylvania's Future
1429 Walnut St., Suite 701
Philadelphia, PA 19102
(267) 838-9154
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Zachary M. Fabish, Senior Attorney
Sierra Club
50 F Street, NW - 8th Floor
Washington, DC 20001
(650) 388 8446
zachary.fabish@sierraclub.org

copy: Mark Wejkszner, DEP

Attachment C

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

December 1, 2023

VIA EMAIL: cmcphedran@earthjustice.org

Charles McPhedran
Earthjustice
1617 JFK Boulevard, Suite 2020
Philadelphia, PA 19103

RE: Right-to-Know Request Tracking Numbers: 2023-1106 (NC)
2023-1106 (NE)

Dear Requester:

The Department of Environmental Protection's (DEP) Open Records Officer received your request and assigned the above-listed tracking number to it. This letter is DEP's interim response to your request under the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-67.3104 (RTKL).

A copy of your request is enclosed and incorporated into this response.

DEP's Central Office is issuing this interim response on behalf of all DEP offices that have been or may be assigned to this request. If DEP determines that multiple DEP offices may potentially have responsive records, it assigns the request to each of those DEP offices. DEP's final response(s) will list each of the assigned DEP offices covered by that final response. It is possible that you may receive more than one final response to your request. It is also possible that a final response may cover more than one office.

Under the RTKL, a written response to your RTKL request is due by December 1, 2023.

This interim response notifies you that DEP requires up to an additional 30 days, until January 2, 2024, to issue a final response to your request. The extension is permitted under Section 902 of the RTKL, 65 P.S. § 67.902, because:

- A response by the mailing date of this letter could not be accomplished due to bona fide staffing limitations.
- The extent or nature of the request precludes a response within the required time-period.

NOTICE REGARDING FEES, FORMATS, AND ACCESS TO RECORDS

Under Section 1307 of the RTKL, 65 P.S. § 67.1307, DEP may impose fees for postage, duplication, certification, and conversion to paper. Under Section 901 of the RTKL, 65 P.S. § 67.901, *all applicable fees must be paid to receive access to the record requested*.

The RTKL requires that DEP produce records in a requested medium only if DEP maintains them in that medium for regular business purposes. DEP need not create or reformat records to respond to a RTKL request. 65 P.S. § 67.705.

If the fees for your records are expected to exceed $100.00, DEP may—under Section 1307 of the RTKL, 65 P.S. 67.1307—require that you prepay an *estimate* of the fees required to fulfill the request. (Although prepayment is required in all situations in which DEP does not waive fees, DEP requires prepayment based on the estimated fees only when the fees are estimated to exceed $100.00) If the estimate exceeds the actual fees, DEP will reimburse you for the difference. If the actual fees exceed the estimate, you will be responsible for paying the difference.

If you are concerned about duplication costs, consider performing a file review. In a file review, *you may duplicate documents at a reduced rate of $0.15 per page for standard-size pages, and you can be selective about which records you copy.* Please note that an informal file review (a file review outside the RTKL) may enable you to access records more quickly than a formal file review (a file review pursuant to the RTKL) or a request under the RTKL that records be sent to you. If you prefer an informal file review, you may withdraw your RTKL request and conduct an informal file review. Performing an informal file review does not preclude you from filing a RTKL request later. You can find more information about informal file reviews on DEP's public website.

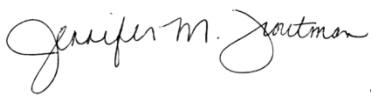
If you request a file review, you must view the records at the DEP office that maintains the records. Records are not transferred between DEP offices for file reviews.

If you need records certified, certification of records costs $5.00 per record.

If you expressly limited your RTKL request to electronic records and no electronic records exist, DEP will issue a "no records" final response.

Please contact me if you have questions.

Sincerely,



Jennifer M. Troutman
Agency Open Records Officer

Enclosure

cc: RTK CO Legal via email
RTK NC/NE via email

Attachment D

Charles McPhedran

From: Robbins, Sean <serobbins@pa.gov>
Sent: Thursday, December 14, 2023 3:59 PM
To: Charles McPhedran
Subject: RE: [External] RE: Request for extension re: Panther Creek comments

External Sender

Hi Charlie,

The Program will not be extending the public comment period beyond Dec. 28.

Feel free to contact me with any questions.

Thank you,
Sean

Sean L. Robbins | Assistant Counsel | he/him/his
Department of Environmental Protection
Northeast Regional Office
2 Public Square | Wilkes-Barre, PA 18701-1915
Phone: 570.826.2519 | Fax: 570.820.4838
www.depweb.state.pa.us

PRIVILEGED AND CONFIDENTIAL ATTORNEY-CLIENT COMMUNICATION

ATTORNEY WORK PRODUCT

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From: Charles McPhedran <cmcphedran@earthjustice.org>
Sent: Thursday, December 14, 2023 12:08 PM
To: Robbins, Sean <serobbins@pa.gov>
Subject: [External] RE: Request for extension re: Panther Creek comments

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Sean—

What is the status of the Department's action on our request for an extension? The e-mail below says only the Department is "inclined" to deny our request. For the reasons we provide, the Department should grant it.

Charley

Charles McPhedran, Esq.
(215) 206-0352

From: Charles McPhedran
Sent: Friday, December 8, 2023 3:15 PM
To: Robbins, Sean <serobbins@pa.gov>
Subject: RE: Request for extension re: Panther Creek comments

Sean—

We described the basis for an extension in the comment period in detail in our letter of Nov. 27 (attached). By your e-mail, the Department is "inclined" to deny our request. Meanwhile, by letter to us dated December 1 (attached), the Department has granted itself an extension of 30 days to Jan. 2 for its response to our Right-to-Know request in which we seek documents necessary to our comments.

Not having these documents limits our ability to evaluate the basis for the Department's action. If the Department's final action is ultimately appealed to the EHB, the proceeding will be de novo, and our groups can bring in arguments in any supplemental comments we develop after Department documents are released. Instead, the Department should release documents that demonstrate the full basis for its decision in time for our groups to evaluate and understand this basis before filing comments. Per our Nov. 27 letter, we have proposed that the comments be due 20 days after the Department's full response.

Charley

Charles McPhedran, Esq.
(215) 206-0352

EARTHJUSTICE

From: Robbins, Sean <serobbins@pa.gov>
Sent: Thursday, December 7, 2023 2:17 PM
To: Charles McPhedran <cmcphedran@earthjustice.org>
Subject: Request for extension re: Panther Creek comments

External Sender

Hi Charlie,

I've been asked to respond to your request for an extension of the comment period on the draft plan approval for the combustion of TDF as a supplemental fuel at the Panther Creek facility. As I'm sure you know, the Department is holding

a public hearing on the draft plan approval on December 18 and is already extending the public comment period until December 28, 2023. It is not inclined to extend the public comment period beyond this date at this time.

The Department is continuing to process your Right to Know request and is hoping to have the records produced before the beginning of January.

Please feel free to contact me with any questions.

Thanks,
Sean

Sean L. Robbins | Assistant Counsel | he/him/his
Department of Environmental Protection
Northeast Regional Office
2 Public Square | Wilkes-Barre, PA 18701-1915
Phone: 570.826.2519 | Fax: 570.820.4838
www.depweb.state.pa.us

PRIVILEGED AND CONFIDENTIAL ATTORNEY-CLIENT COMMUNICATION

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From: Charles McPhedran <cmcphedran@earthjustice.org>
Sent: Tuesday, December 5, 2023 11:07 AM
To: Buczynski, Joseph <jbuczynski@pa.gov>; Wejkszner, Mark <mwejkszner@pa.gov>
Cc: Emma Bast <bast@pennfuture.org>; Zachary Fabish <Zachary.fabish@sierraclub.org>
Subject: [External] FW: Request for extension re: Panther Creek comments

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Mr. Buczynski and Mr. Wejkszner:

I'm writing to follow up on the attached request for an extension in the comment period regarding proposed Plan Approval # 13-00003B for the Panther Creek plant in Nesquehoning, Carbon County. We have not yet received any documents responsive to our attached Right-to-Know request, which we need to prepare our comments on this plan approval, as described in more detail in the attached letter. Thank you for the Department's attention to this request.

Charles McPhedran, Esq.
(215) 206-0352

From: Charles McPhedran
Sent: Monday, November 27, 2023 4:14 PM
To: jbuczynski@pa.gov; Wejkszner, Mark <mwejkszner@pa.gov>

Cc: Emma Bast <bast@pennfuture.org>; Zachary Fabish <Zachary.fabish@sierraclub.org>
Subject: Request for extension re: Panther Creek comments

Mr. Buczynski and Mr. Wejkszner:

Attached please find a request for an extension in the comment period regarding proposed Plan Approval # 13-00003B for the Panther Creek plant in Nesquehoning, Carbon County.

Regards,

Charles McPhedran, Esq.
(215) 206-0352



Attachment E

March 31, 2023

By E-mail

Raymond Kempa, Environmental Group Manager
Air Quality Program
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18701-1915

Re: Notice of Intent to Issue Plan Approval No. 13-00003A
Panther Creek Power Operating LLC

Dear Mr. Kempa:

PennFuture, Clean Air Council, and Earthjustice hereby submit comments on the proposed Plan Approval for the Panther Creek Power Operating LLC (Panther Creek) for a plantwide applicability limit at its waste coal-combusting plant in Nesquehoning, Carbon County.

Panther Creek is a waste coal-fired power plant that now engages in proof-of-work cryptocurrency "mining", an energy-intensive process for creating virtual currency.[1] In fact, the cryptocurrency mining industry uses as much energy as is needed in many entire countries.[2] To meet these high energy demands, some miners place operations at locations with direct access to energy sources, such as power plants.

Fossil-based crypto mining operations pose the same environmental and public health threats as their underlying methods of energy generation—for waste coal combustion, this includes emissions of sulfur dioxide, oxides of nitrogen, and hazardous air pollutants. In fact, emissions of both sulfur dioxide and oxides of nitrogen at Panther Creek skyrocketed in 2022 following the change to cryptocurrency. Waste coal plants such as Panther Creek are also important sources of carbon dioxide, a principal greenhouse gas. By expanding fossil generation,

[1] See, e.g., Sierra Club and Earthjustice, *The Energy Bomb: How Proof-of-Work Cryptocurrency Mining Worsens the Climate Crisis and Harms Communities Now* (Sept. 2022) ("Energy Bomb") at 3, 10, 14; available at https://earthjustice.org/documents/report/the-energy-bomb-how-proof-of-work-cryptocurrency-mining-worsens-the-climate-crisis-and-harms-communities-now ; PennFuture, *Environmental Impacts of Bitcoin Mining*, https://www.pennfuture.org/bitcoin; Clean Air Council, *Pollution Concerns Around Cryptocurrency*, https://cleanair.org/pollution-concerns-around-cryptocurrency/; Allegheny Front, *How waste coal is fueling Bitcoin in Pennsylvania*, https://www.wesa.fm/environment-energy/2022-01-31/how-waste-coal-is-fueling-bitcoin-in-pennsylvania.

[2] Cambridge Bitcoin Electricity Consumption Index, https://ccaf.io/cbeci/index/comparisons.

cryptocurrency mining at Panther Creek threatens to undermine Pennsylvania's efforts to reduce local air pollution and emissions of greenhouse gases such as carbon dioxide and methane.[3]

Panther Creek submitted an application for a plantwide applicability limit, or PAL, in October 2016 ("Application", Attachment A). The Department found this application complete on November 30, 2016 ("Completeness Letter", Attachment B). The Department prepared a Title V Facility Plantwide Applicability Memo ("Review Memo", Attachment C), and a draft Title V permit modification ("Draft Modification", Attachment D).

Because the application is obsolete—predating the plant's increased operations from cryptocurrency mining—and fails for the additional reasons set forth herein, the Department's proposed approval is neither reasonable not appropriate.[4] Instead, the Department must deny or withdraw the proposed Plan Approval.

I. The Department's proposal is obsolete and must be withdrawn.

Panther Creek submitted its Application in October 2016. From the Department's date stamp on some pages, it appears that Panther Creek later submitted additional information to the Department, including regarding its failure to report emissions of particulate matter (Application at 3-18). Regardless, the Application is obsolete, and the Department must withdraw its proposed approval.

A. Since 2016, Panther Creek has changed its method of operation.

Since the 2016 Application, Panther Creek has been sold, and has fundamentally changed its method of operation to include mining cryptocurrency.[5] Stronghold Digital Mining, "a vertically integrated crypto asset mining company currently focused on mining Bitcoin," purchased the plant in November of 2021. Stronghold 10-Q at 51. Bitcoin uses the energy-intensive "proof-of-work" cryptocurrency mining method. Energy Bomb at 6. Stronghold reports thousands of Bitcoin miners at the Panther Creek plant. *Id*. at 48, 51. The plant even imported power from the grid to maintain its cryptocurrency mining operations during a planned maintenance outage. *Id*. at 55.

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[3] Pennsylvania Climate Action Plan 2021, available at https://www.dep.pa.gov/Citizens/climate/Pages/PA-Climate-Action-Plan.aspx (last visited Mar. 27, 2023).

[4] If the Department issues a final Plan Approval to Panther Creek, and this matter is appealed to the Environmental Hearing Board, the Board will make "a determination, based on the evidence we hear, whether the findings upon which DEP based its actions are correct and whether DEP's action is reasonable and appropriate and otherwise in conformance with the law." *Smedley v. DEP*, Docket No. EHB Docket No. 97-253-K (Feb. 8, 2001), citing 35 P.S. § 7514(c) (additional citations omitted); see also *Clancey v. DEP*, 2013 WL 5676896 (Oct. 11, 2013).

[5] Stronghold Digital Mining, Form 10-Q at 48 (Nov. 10, 2022), available at https://www.sec.gov/Archives/edgar/data/1856028/000162828022029524/sdig-20220930.htm ("Stronghold 10-Q"); see also "How waste from old coal mine is powering a Bitcoin mine in a Pennsylvania town" (Oct. 1,3 2022), available at https://6abc.com/bitcoin-mining-cryptocurrency-panther-creek-plant-stronghold-digital/12324696/ (last visited March 25, 2023).

Waste coal combustion to create energy for cryptocurrency mining has transformed air emissions at the Panther Creek plant. From 2021 to 2022, heat input at Unit 2 increased from 869,479 mmBtu to 4,034,846 mmBtu (U.S. EPA, Clean Air Market Division, https://campd.epa.gov/ , Attachment E). During the same time period, at Unit 1, sulfur dioxide emissions were up 221%, and nitrogen oxide emissions were up 244%. *Id*. At Unit 2, sulfur dioxide emissions were up 352% and NOx emission were up 231%. *Id*.

Yet, neither the Application nor the Department's permitting documents (see Attachments C and D) address this change in the method of the plant's operation. So that the Department may account for current operations and emissions at the plant, and so that the Department may reasonably apply regulatory criteria, the Department must require a new application that reflects current operating conditions and emissions.

B. The baseline emissions in the Application are obsolete.

According to the Review Memo (at 4, unnumbered), the baseline period for the development of the PAL for "PM, PM10, PM2.5, SOx, NOx and CO2e pollutants" is 2011-12. This baseline is no longer valid for Panther Creek, and the Department must withdraw the proposed Plan Approval.

According to the Review Memo, "PAL levels [are] established by summing the baseline actual emissions (as defined in 40 C.F.R. 52.21(b)(48)) for each emissions unit at the facility and then adding the significance level for the PAL pollutant." Under the regulation cited by the Department:

> For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24–month period selected by the owner or operator within the 5–year period immediately preceding when the owner or operator begins actual construction of the project.

40 C.F.R. § 52.21(b)(48)(i) (emphasis added). Per the Application (pdf 29 of 70) and Permit Review Memo (at 10, unnumbered), Panther Creek is an electric utility steam generating unit under New Source Performance Standards (NSPS). Since the Prevention of Significant Deterioration (PSD) program defines "electric utility steam generating unit" identically to NSPS, Panther Creek is also an electric utility for PSD. 40 C.F.R. § 52.21(b)(31), 40 C.F.R. § 60.41Da.

Under applicable regulations, "begin actual construction" refers to activities that happen once an owner or operator has its permit. 40 C.F.R. § 52.21(b)(9-11). Although the Application was submitted in 2016, as of 2023, the Department has not issued a plan approval, and Panther Creek has not "begun actual construction" of the PAL. Even if Panther Creek were not an electric utility steam generating unit, and were subject to a longer baseline period of ten years under 40 C.F.R. § 52.21(b)(48(i), EPA rules would prohibit the Department from using baseline data from 2011-12, since that would be more than ten years before the project will begin actual construction after any future issuance of a PAL.

Moreover, fluctuations in Panther Creek's levels operation mean that an accurate, recent baseline is critically important. According to the updated particulate matter disclosures in the Application (pdf 12 of 70), heat input levels fell from 8,877,787 mmBtu in the proposed baseline year of 2011 to 589,164 mmBtu in 2020, a drop of 93%. A more recent baseline than 2011-12 is required to comply with EPA rules, and to more accurately reflect actual baseline conditions, to develop any PAL for Panther Creek.

C. The Department must update its findings on New Source Review.

The Review Memo states (at 10, unnumbered): "Neither PSD nor NNSR [nonattainment New Source Review] will be triggered by this action as no modification of an existing emissions unit, change in the method of operation, or installation of a new emissions unit is proposed."[6]

However, this Memo does not account for the change in the method of operations that occurred in 2021 with the change to cryptocurrency at Panther Creek; the possible applicability of PSD/NNSR; and any effect on the proposed PAL. It does not address the steep emission increases in sulfur dioxide, oxides of nitrogen, and possibly other pollutants that have occurred since this change, in amounts that would be significant for purposes of PSD or NNSR. See, e.g., 40 C.F.R. § 52.21(b)(23)(i). The Memo also fails to address issues involving baseline emissions for purposes of PSD or NNSR (see, e.g., 40 C.F.R. § 52.21(b)(48)) or how the Department evaluated emissions before and after the change to cryptocurrency (see, e.g., 40 C.F.R. § 52.21(b)(3)), all fundamental to understanding PSD/NNSR applicability and the PAL.

The Department has acted unreasonably by developing no meaningful record regarding PSD and NNSR. Therefore, the Department must withdraw its proposed Plan Approval, and evaluate these issues in light of the change to cryptocurrency at the Panther Creek plant and the Department's regulatory criteria.

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Under 25 Pa. Code § 127.12d, "an application is administratively complete if it contains the necessary information." The Department issued its letter accepting the application as complete on November 30, 2016. The Department cannot possibly now find that "necessary information" has been submitted for an application that is over six years old, for a plant that has undergone a change in the method of operation by transforming itself into a cryptocurrency mine. Similarly, the General Information Form submitted with the Application (pdf 33-39 of 70), Compliance Review Form (pdf 56-60 of 70), and notices to public officials (pdf 62-63 of 70) are all dated from 2016 and are also obsolete. The Department must require updated information from Panther Creek as part of any action on the proposed Plan Approval.

II. The Department must not waive existing permit requirements.

Regarding PALs, Department regulations provide:

[6] For Prevention of Significant Deterioration, DEP has adopted EPA's regulations. 25 Pa. Code §§ 127.81, 127.83.

> (4) An owner or operator of a major facility shall continue to comply with applicable Federal or State requirements, emissions limitations and work practice requirements that were established prior to the PAL effective date.

25 Pa. Code 127.218(a)(4). Thus, while a PAL addresses applicability of the New Source Review and Prevention of Significant Deterioration programs,[7] it does not waive the applicability of the other requirements and emission limits that apply to the plant. In its review of the Panther Creek Application, the Department affirms this principle:

> PC will continue to comply with all applicable Federal or State requirements, emissions limitations, and work practice requirements that were established prior to the effective date of the PAL. . .

Review Memo at 2 (unnumbered).

The Panther Creek Title V Permit effective November 27, 2018 ("2018 Permit", Attachment F) contains many substantive provisions that are not reflected in the proposed Plan Approval. For example, the 2018 Permit (at 53-96) contains extensive requirements in "Section E, Source Group Restrictions". By contrast, the Draft Modification section titled "Section E. Source Group Plan Approval Restrictions" (at 51) is blank. If this matter moves forward, the Department should confirm that the provisions of the existing 2018 Title V permit not directly modified by the Draft Permit remain in effect.

III. The proposal unreasonably ignores important sources of particulate matter air pollution at Panther Creek.

As part of its disclosure of unreported particulate matter emissions, the Application (pdf 3 of 70) identifies emissions from roadways and cooling towers. In fact, in its inventory of baseline emissions (Application, pdf 5 of 70), these are the highest sources of particulate matter (as "FPM") after PyroPower Units 1 and 2. The "Revised PAL Limits" proposed (Application, pdf 18 of 70) reference cooling tower emissions for 2011-12 averaging over 28 tons per year PM, and over 14 tons per year for PM10, in each case over half of the total emissions presented in this table.[8]

In the Review Memo (at 7, unnumbered), the Department lists "Table 6: Panther Creek Boiler Emission Factors" and "Table 7: Other Minor Facility Emission Factors." However, these tables do not mention roadways and cooling towers. The Department then states:

> These emissions are all estimated using EPA FIRE factors or AP-42 factors. Apart from the insignificant emissions from the fire pump (less than 0.1 TPY

[7] Wooley and Morss, Clean Air Act Handbook § 4:17 (2022) (Regarding PAL, "EPA adopted provisions that allow source owners to make changes to their facilities without obtaining a major NSR permit provided their emissions do not exceed a plantwide cap").

[8] Application at 3: "These cooling tower emissions account for over 50% of the changes to the particulate matter baseline change."

> for any pollutant), the other emissions sources only emit particulate and are de minimis sources with each source emitting less than 0.6 TPY and all sources combined emitting under 3.0 TPY of total particulate.

By the Application's own admission (pdf 3, 5, 18), cooling towers and roadways emit well above these "insignificant" and "de minimis" levels. The proposed Plan Approval should be withdrawn so that the Department can address these sources of particulate matter.

IV. The Department unreasonably proposes to waive emission fees.

The Air Pollution Control Act provides for funding the Department's Title V operating permit program emission fees paid by Title V facilities. 35 P.S. § 4006.3. Under applicable Department regulations:

> (a) The owner or operator of a Title V facility . . .shall pay an annual Title V emission fee of $85 per ton for each ton of a regulated pollutant actually emitted from the facility.

25 Pa. Code § 127.70(a).[9]

Panther Creek has confessed to violations regarding unreported particulate matter emissions. Application (pdf 3 of 70). These violations mean that the company could be subject to sanctions under Department rules, including:

> An air contamination source that fails to pay the fees within the time frame established by this act or by regulation shall pay a penalty of fifty per centum (50%) of the fee amount, plus interest . . . from the date the fee was required to be paid. In addition, such source may have its permit terminated or suspended.

35 P.S. 3005.6(h)(2).[10] Panther Creek claims it has paid penalties and interest for its violations. Application (pdf 3 of 70).

[9] See also 25 Pa. Code § 127.70(c) ("As used in this section, the term "regulated pollutant" means a VOC, each pollutant regulated under sections 111 and 112 of the Clean Air Act.. . and each pollutant for which a National ambient air quality standard has been promulgated, except that carbon monoxide shall be excluded from this reference").

[10] Under some circumstances involving noncompliance, the APCA authorizes the Department to refuse to issue a plan approval. 35 P.S. § 4007.1. The APCA also authorizes civil penalties for failure to comply. 35 P.S. § 4009.1.

Panther Creek measures particulate matter in three forms: total particulate (PM), particulate less than ten microns (PM10), and particulate matter less than 2.5 microns (PM2.5). Its failure to report emissions stemmed from requirements applicable to each of these types. Panther Creek summarizes its unreported emissions as follows:

Revised PAL Limits

			Tons					
	PM10/PM	PM2.5/PM	PM	PM	PM10	PM10	PM2.5	PM2.5
Unreported Emissions	Ratio	Ratio	2011	2012	2011	2012	2011	2012
Diesel Fire Pump	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Ash Loading System	1.00	0.50	2.33	2.04	2.33	2.04	1.16	1.02
Ash Silo	1.00	0.50	1.37	1.35	1.37	1.35	0.69	0.67
Bottom Ash Conveyor	0.38	0.04	1.78	1.75	0.67	0.66	0.07	0.03
Culm Crusher (% of fuel)	0.40	0.02	0.03	0.03	0.01	0.01	0.00	0.00
Flyash Filter Separator #1	1.00	0.50	2.50	2.45	2.50	2.45	1.25	1.22
Flyash Filter Separator #2	1.00	0.50	2.48	2.38	2.48	2.38	1.24	1.19
Fuel Silo/Reversing Conveyor	0.33	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	0.56	0.05	3.17	2.92	1.79	1.65	0.15	0.08
Fuel Truck Unloading	0.47	0.07	0.62	0.57	0.29	0.27	0.04	0.02
Lime Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	0.22	0.04	10.12	9.20	2.20	2.00	0.44	0.09
Cooling tower	0.50	0.01	28.63	28.07	14.31	14.03	0.15	0.08
Soda Ash Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
			53.03	50.75	27.96	26.84	5.21	4.40
		Average	51.89		27.40		4.81	
Current PAL Limits			61.90		58.72		30.48	
		Revised PAL Limits	**113.79**		**86.12**		**35.29**	
			PM (TPY)		**PM10 (TPY)**		**PM2.5 (TPY)**	

Application (pdf 18 of 70). Thus, the failure to report implicates each of these pollutants: PM, PM10, and PM2.5. The Permit Review Memo addresses this issue as follows:

> PC realized certain auxiliary source emissions were not reported during the baseline years. PC recalculated those emissions, paid emissions fees on them, including a 50% penalty for late reporting, and accumulated interest. These emissions were included in the final baseline and the sources have been added to the permit to ensure they are reported in the future for comparison to the PALs.

The Department fails to describe for what fraction of PM fees have been paid. However, according to information provided by Panther Creek, it appears that the fees were calculated on terms inappropriately favorable to Panther Creek:

> While we are seeking to amend the baseline for all three particulate parameters, fees are only due and payable for PM2.5. DEP has not assessed penalties for PM and since PM2.5 is a subset of PM 10, fees for PM10 will also cover the PM2.5 emissions.

Application (pdf 6 of 70). Panther Creek then calculates fees based on PM10 emissions. Application (pdf 17). However, Panther Creek's claim that "fees are only due and payable for PM2.5" is belied by Applicant's table set forth above, in which emission reporting shortfalls are identified for PM, PM10, and PM2.5. Moreover, the Applicant is seeking a PAL for PM, as well as PM10 and PM2.5 *Id*.; see also Application (pdf 23 of 70).

As demonstrated by the table above, emission reporting shortfalls are much smaller for PM10 than for PM. For example, in 2012, the unreported emissions for PM10 were 26.84 tons, while the unreported emissions for PM were 50.75 tons. Where a permittee has failed to report emissions, and the Department is taking no other enforcement action, it is unreasonable to for the Department to waive a portion of the unpaid fee.

V. The Department unreasonably failed to consider environmental justice.

Environmental justice should be an integral part of Department actions. Pennsylvania regulations define environmental justice as:

> The fair treatment and meaningful involvement of all people regardless of race, color, National origin or income, with respect to the Commonwealth's development, implementation and enforcement of environmental laws, regulations and policies.

4 Pa. Code § 5.1031. In 2021, Governor Wolf issued an executive order finding, in part:

> WHEREAS, historically and currently, low-income communities and communities of color bear a disproportionate share of adverse climate and environmental impacts with accompanying adverse health impacts; and
>
> WHEREAS, all Pennsylvanians are entitled to fair and equitable treatment and meaningful involvement in decision-making that affects their environment, communities, homes, livelihoods, and health. . .

Executive Order 2021-07 at 1. The Executive Order addresses the Office of Environmental Justice and an Environmental Justice Advisory Board, both at the Department, and an Interagency Environmental Justice Council. Id. at 2-5. The Department has made the following statement about environmental justice:

> Environmental justice embodies the principles that communities and populations should not be disproportionally exposed to adverse environmental impacts. Historically, minority and low-income Pennsylvanians have been forced to bear a disproportionate share of adverse environmental impacts. It is our duty to ensure that all Pennsylvanians, especially those that have typically been disenfranchised, are meaningfully involved in the decisions that affect their environment and that all communities are not unjustly and/or disproportionally burden with adverse

> environmental impacts. Simply put, environmental justice ensures that everyone has an equal seat at the table.[11]

We support these principles.

To implement environmental justice goals, the Department has created an online, interactive map of environmental justice areas in the Commonwealth, the Environmental Justice Areas Viewer ("EJ Viewer").[12] The Panther Creek plant is in Nesquehoning, Carbon County. According to Google Maps, the plant is located less than two miles from an environmental justice area that includes Coaldale, Schuylkill County. According to the EJ Viewer, 30% of residents in Census Tract 28, Coaldale, Schuylkill live in poverty. This environmental justice area should benefit from the environmental justice protections provided to communities by the Department.

Nevertheless, the Application, the Permit Review Memo, and the draft Permit make no mention of environmental justice issues. Although the permit proposes to address air pollution, it presents no modeling to determine the impact of air quality emissions, before or after the PAL, on this environmental justice area. The Department's failure to address environmental justice areas, and even to determine pollution impacts, is unreasonable in light of its statements regarding environmental protection and its finding of an environmental justice area in Coaldale. The Department must consider environmental justice impacts from Panther Creek.

VI. The Department unreasonably refused to allow more than one day of additional time for comments.

As noted, Panther Creek applied for this Plan Approval in October of 2016. After finding the application complete on November 30, 2016, the Department did not take action on this application for over six years, until February 25, 2023, when it proposed approval in the Pennsylvania Bulletin (53 Pa.B. 1068). On March 10, 2023, Earthjustice requested an extension of the comment period of 30 days, noting that the application raises complex legal and technical issues. Earthjustice renewed its request during a phone call with Department counsel on March 14 and again by e-mail on March 23. On March 24, the Department informed Earthjustice that it would grant an extension of one day, to March 28. Then, on March 27, the Department informed Earthjustice that it would grant an additional extension of three days, to March 31.

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[11] https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/pages/default.aspx (last visited Mar. 25, 2023).

[12] Environmental Justice Areas Viewer, available at https://padep-1.maps.arcgis.com/apps/webappviewer/index.html?id=f31a188de122467691cae93c3339469c (last visited Mar. 25, 2023).

The Department's denial of the timely request for an extension was unreasonable. The piecemeal extensions, granted close to the deadline, did not cure this failure where the Department itself took over six years to act on the same application.[13]

VII. Conclusion

For these reasons, the Department's proposal to issue the Plan Approval is unreasonable, and must be withdrawn.

Sincerely,

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Philadelphia, PA 19103
(215) 206-0352
cmcphedran@earthjustice.org

[13] The Environmental Hearing Board noted a similar dynamic in an Adjudication in which it ruled against the Department on the merits:

> "143. Solebury School requested an extension from the May 20, 2011 deadline to provide substantive comments to the reports. (S. Ex. 181.)
> 144. The Department denied the School's request for a one-week extension, despite the fact that New Hope's application had been under consideration for more than 30 months. (T. 367-70; S. Ex. 181.)"

Solebury School v. DEP, 2014 WL 4087592, *9.

Exhibit B

March 31, 2023

By E-mail

Raymond Kempa, Environmental Group Manager
Air Quality Program
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18701-1915

Re: Notice of Intent to Issue Plan Approval No. 13-00003A
Panther Creek Power Operating LLC

Dear Mr. Kempa:

PennFuture, Clean Air Council, and Earthjustice hereby submit comments on the proposed Plan Approval for the Panther Creek Power Operating LLC (Panther Creek) for a plantwide applicability limit at its waste coal-combusting plant in Nesquehoning, Carbon County.

Panther Creek is a waste coal-fired power plant that now engages in proof-of-work cryptocurrency "mining", an energy-intensive process for creating virtual currency.[1] In fact, the cryptocurrency mining industry uses as much energy as is needed in many entire countries.[2] To meet these high energy demands, some miners place operations at locations with direct access to energy sources, such as power plants.

Fossil-based crypto mining operations pose the same environmental and public health threats as their underlying methods of energy generation—for waste coal combustion, this includes emissions of sulfur dioxide, oxides of nitrogen, and hazardous air pollutants. In fact, emissions of both sulfur dioxide and oxides of nitrogen at Panther Creek skyrocketed in 2022 following the change to cryptocurrency. Waste coal plants such as Panther Creek are also important sources of carbon dioxide, a principal greenhouse gas. By expanding fossil generation,

[1] See, e.g., Sierra Club and Earthjustice, *The Energy Bomb: How Proof-of-Work Cryptocurrency Mining Worsens the Climate Crisis and Harms Communities Now* (Sept. 2022) ("Energy Bomb") at 3, 10, 14; available at https://earthjustice.org/documents/report/the-energy-bomb-how-proof-of-work-cryptocurrency-mining-worsens-the-climate-crisis-and-harms-communities-now ; PennFuture, *Environmental Impacts of Bitcoin Mining*, https://www.pennfuture.org/bitcoin; Clean Air Council, *Pollution Concerns Around Cryptocurrency*, https://cleanair.org/pollution-concerns-around-cryptocurrency/; Allegheny Front, *How waste coal is fueling Bitcoin in Pennsylvania*, https://www.wesa.fm/environment-energy/2022-01-31/how-waste-coal-is-fueling-bitcoin-in-pennsylvania.

[2] Cambridge Bitcoin Electricity Consumption Index, https://ccaf.io/cbeci/index/comparisons.

cryptocurrency mining at Panther Creek threatens to undermine Pennsylvania's efforts to reduce local air pollution and emissions of greenhouse gases such as carbon dioxide and methane.[3]

Panther Creek submitted an application for a plantwide applicability limit, or PAL, in October 2016 ("Application", Attachment A). The Department found this application complete on November 30, 2016 ("Completeness Letter", Attachment B). The Department prepared a Title V Facility Plantwide Applicability Memo ("Review Memo", Attachment C), and a draft Title V permit modification ("Draft Modification", Attachment D).

Because the application is obsolete—predating the plant's increased operations from cryptocurrency mining—and fails for the additional reasons set forth herein, the Department's proposed approval is neither reasonable not appropriate.[4] Instead, the Department must deny or withdraw the proposed Plan Approval.

I. The Department's proposal is obsolete and must be withdrawn.

Panther Creek submitted its Application in October 2016. From the Department's date stamp on some pages, it appears that Panther Creek later submitted additional information to the Department, including regarding its failure to report emissions of particulate matter (Application at 3-18). Regardless, the Application is obsolete, and the Department must withdraw its proposed approval.

A. Since 2016, Panther Creek has changed its method of operation.

Since the 2016 Application, Panther Creek has been sold, and has fundamentally changed its method of operation to include mining cryptocurrency.[5] Stronghold Digital Mining, "a vertically integrated crypto asset mining company currently focused on mining Bitcoin," purchased the plant in November of 2021. Stronghold 10-Q at 51. Bitcoin uses the energy-intensive "proof-of-work" cryptocurrency mining method. Energy Bomb at 6. Stronghold reports thousands of Bitcoin miners at the Panther Creek plant. *Id*. at 48, 51. The plant even imported power from the grid to maintain its cryptocurrency mining operations during a planned maintenance outage. *Id*. at 55.

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[3] Pennsylvania Climate Action Plan 2021, available at https://www.dep.pa.gov/Citizens/climate/Pages/PA-Climate-Action-Plan.aspx (last visited Mar. 27, 2023).

[4] If the Department issues a final Plan Approval to Panther Creek, and this matter is appealed to the Environmental Hearing Board, the Board will make "a determination, based on the evidence we hear, whether the findings upon which DEP based its actions are correct and whether DEP's action is reasonable and appropriate and otherwise in conformance with the law." *Smedley v. DEP*, Docket No. EHB Docket No. 97-253-K (Feb. 8, 2001), citing 35 P.S. § 7514(c) (additional citations omitted); see also *Clancey v. DEP*, 2013 WL 5676896 (Oct. 11, 2013).

[5] Stronghold Digital Mining, Form 10-Q at 48 (Nov. 10, 2022), available at https://www.sec.gov/Archives/edgar/data/1856028/000162828022029524/sdig-20220930.htm ("Stronghold 10-Q"); see also "How waste from old coal mine is powering a Bitcoin mine in a Pennsylvania town" (Oct. 1,3 2022), available at https://6abc.com/bitcoin-mining-cryptocurrency-panther-creek-plant-stronghold-digital/12324696/ (last visited March 25, 2023).

Waste coal combustion to create energy for cryptocurrency mining has transformed air emissions at the Panther Creek plant. From 2021 to 2022, heat input at Unit 2 increased from 869,479 mmBtu to 4,034,846 mmBtu (U.S. EPA, Clean Air Market Division, https://campd.epa.gov/ , Attachment E). During the same time period, at Unit 1, sulfur dioxide emissions were up 221%, and nitrogen oxide emissions were up 244%. *Id*. At Unit 2, sulfur dioxide emissions were up 352% and NOx emission were up 231%. *Id*.

Yet, neither the Application nor the Department's permitting documents (see Attachments C and D) address this change in the method of the plant's operation. So that the Department may account for current operations and emissions at the plant, and so that the Department may reasonably apply regulatory criteria, the Department must require a new application that reflects current operating conditions and emissions.

B. The baseline emissions in the Application are obsolete.

According to the Review Memo (at 4, unnumbered), the baseline period for the development of the PAL for "PM, PM10, PM2.5, SOx, NOx and CO2e pollutants" is 2011-12. This baseline is no longer valid for Panther Creek, and the Department must withdraw the proposed Plan Approval.

According to the Review Memo, "PAL levels [are] established by summing the baseline actual emissions (as defined in 40 C.F.R. 52.21(b)(48)) for each emissions unit at the facility and then adding the significance level for the PAL pollutant." Under the regulation cited by the Department:

> For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24–month period selected by the owner or operator within the 5–year period immediately preceding when the owner or operator begins actual construction of the project.

40 C.F.R. § 52.21(b)(48)(i) (emphasis added). Per the Application (pdf 29 of 70) and Permit Review Memo (at 10, unnumbered), Panther Creek is an electric utility steam generating unit under New Source Performance Standards (NSPS). Since the Prevention of Significant Deterioration (PSD) program defines "electric utility steam generating unit" identically to NSPS, Panther Creek is also an electric utility for PSD. 40 C.F.R. § 52.21(b)(31), 40 C.F.R. § 60.41Da.

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Moreover, fluctuations in Panther Creek's levels operation mean that an accurate, recent baseline is critically important. According to the updated particulate matter disclosures in the Application (pdf 12 of 70), heat input levels fell from 8,877,787 mmBtu in the proposed baseline year of 2011 to 589,164 mmBtu in 2020, a drop of 93%. A more recent baseline than 2011-12 is required to comply with EPA rules, and to more accurately reflect actual baseline conditions, to develop any PAL for Panther Creek.

C. The Department must update its findings on New Source Review.

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However, this Memo does not account for the change in the method of operations that occurred in 2021 with the change to cryptocurrency at Panther Creek; the possible applicability of PSD/NNSR; and any effect on the proposed PAL. It does not address the steep emission increases in sulfur dioxide, oxides of nitrogen, and possibly other pollutants that have occurred since this change, in amounts that would be significant for purposes of PSD or NNSR. See, e.g., 40 C.F.R. § 52.21(b)(23)(i). The Memo also fails to address issues involving baseline emissions for purposes of PSD or NNSR (see, e.g., 40 C.F.R. § 52.21(b)(48)) or how the Department evaluated emissions before and after the change to cryptocurrency (see, e.g., 40 C.F.R. § 52.21(b)(3)), all fundamental to understanding PSD/NNSR applicability and the PAL.

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> These emissions are all estimated using EPA FIRE factors or AP-42 factors. Apart from the insignificant emissions from the fire pump (less than 0.1 TPY

[7] Wooley and Morss, Clean Air Act Handbook § 4:17 (2022) (Regarding PAL, "EPA adopted provisions that allow source owners to make changes to their facilities without obtaining a major NSR permit provided their emissions do not exceed a plantwide cap").

[8] Application at 3: "These cooling tower emissions account for over 50% of the changes to the particulate matter baseline change."

> for any pollutant), the other emissions sources only emit particulate and are de minimis sources with each source emitting less than 0.6 TPY and all sources combined emitting under 3.0 TPY of total particulate.

By the Application's own admission (pdf 3, 5, 18), cooling towers and roadways emit well above these "insignificant" and "de minimis" levels. The proposed Plan Approval should be withdrawn so that the Department can address these sources of particulate matter.

IV. The Department unreasonably proposes to waive emission fees.

The Air Pollution Control Act provides for funding the Department's Title V operating permit program emission fees paid by Title V facilities. 35 P.S. § 4006.3. Under applicable Department regulations:

> (a) The owner or operator of a Title V facility . . .shall pay an annual Title V emission fee of $85 per ton for each ton of a regulated pollutant actually emitted from the facility.

25 Pa. Code § 127.70(a).[9]

Panther Creek has confessed to violations regarding unreported particulate matter emissions. Application (pdf 3 of 70). These violations mean that the company could be subject to sanctions under Department rules, including:

> An air contamination source that fails to pay the fees within the time frame established by this act or by regulation shall pay a penalty of fifty per centum (50%) of the fee amount, plus interest . . . from the date the fee was required to be paid. In addition, such source may have its permit terminated or suspended.

35 P.S. 3005.6(h)(2).[10] Panther Creek claims it has paid penalties and interest for its violations. Application (pdf 3 of 70).

[9] See also 25 Pa. Code § 127.70(c) ("As used in this section, the term "regulated pollutant" means a VOC, each pollutant regulated under sections 111 and 112 of the Clean Air Act.. . and each pollutant for which a National ambient air quality standard has been promulgated, except that carbon monoxide shall be excluded from this reference").

[10] Under some circumstances involving noncompliance, the APCA authorizes the Department to refuse to issue a plan approval. 35 P.S. § 4007.1. The APCA also authorizes civil penalties for failure to comply. 35 P.S. § 4009.1.

Panther Creek measures particulate matter in three forms: total particulate (PM), particulate less than ten microns (PM10), and particulate matter less than 2.5 microns (PM2.5). Its failure to report emissions stemmed from requirements applicable to each of these types. Panther Creek summarizes its unreported emissions as follows:

Revised PAL Limits

			Tons					
	PM10/PM	PM2.5/PM	PM	PM	PM10	PM10	PM2.5	PM2.5
Unreported Emissions	Ratio	Ratio	2011	2012	2011	2012	2011	2012
Diesel Fire Pump	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Ash Loading System	1.00	0.50	2.33	2.04	2.33	2.04	1.16	1.02
Ash Silo	1.00	0.50	1.37	1.35	1.37	1.35	0.69	0.67
Bottom Ash Conveyor	0.38	0.04	1.78	1.75	0.67	0.66	0.07	0.03
Culm Crusher (% of fuel)	0.40	0.02	0.03	0.03	0.01	0.01	0.00	0.00
Flyash Filter Separator #1	1.00	0.50	2.50	2.45	2.50	2.45	1.25	1.22
Flyash Filter Separator #2	1.00	0.50	2.48	2.38	2.48	2.38	1.24	1.19
Fuel Silo/Reversing Conveyor	0.33	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	0.56	0.05	3.17	2.92	1.79	1.65	0.15	0.08
Fuel Truck Unloading	0.47	0.07	0.62	0.57	0.29	0.27	0.04	0.02
Lime Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	0.22	0.04	10.12	9.20	2.20	2.00	0.44	0.09
Cooling tower	0.50	0.01	28.63	28.07	14.31	14.03	0.15	0.08
Soda Ash Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
			53.03	50.75	27.96	26.84	5.21	4.40
		Average	51.89		27.40		4.81	
Current PAL Limits			61.90		58.72		30.48	
		Revised PAL Limits	**113.79**		**86.12**		**35.29**	
			PM (TPY)		**PM10 (TPY)**		**PM2.5 (TPY)**	

Application (pdf 18 of 70). Thus, the failure to report implicates each of these pollutants: PM, PM10, and PM2.5. The Permit Review Memo addresses this issue as follows:

> PC realized certain auxiliary source emissions were not reported during the baseline years. PC recalculated those emissions, paid emissions fees on them, including a 50% penalty for late reporting, and accumulated interest. These emissions were included in the final baseline and the sources have been added to the permit to ensure they are reported in the future for comparison to the PALs.

The Department fails to describe for what fraction of PM fees have been paid. However, according to information provided by Panther Creek, it appears that the fees were calculated on terms inappropriately favorable to Panther Creek:

> While we are seeking to amend the baseline for all three particulate parameters, fees are only due and payable for PM2.5. DEP has not assessed penalties for PM and since PM2.5 is a subset of PM 10, fees for PM10 will also cover the PM2.5 emissions.

Application (pdf 6 of 70). Panther Creek then calculates fees based on PM10 emissions. Application (pdf 17). However, Panther Creek's claim that "fees are only due and payable for PM2.5" is belied by Applicant's table set forth above, in which emission reporting shortfalls are identified for PM, PM10, and PM2.5. Moreover, the Applicant is seeking a PAL for PM, as well as PM10 and PM2.5 *Id*.; see also Application (pdf 23 of 70).

As demonstrated by the table above, emission reporting shortfalls are much smaller for PM10 than for PM. For example, in 2012, the unreported emissions for PM10 were 26.84 tons, while the unreported emissions for PM were 50.75 tons. Where a permittee has failed to report emissions, and the Department is taking no other enforcement action, it is unreasonable to for the Department to waive a portion of the unpaid fee.

V. The Department unreasonably failed to consider environmental justice.

Environmental justice should be an integral part of Department actions. Pennsylvania regulations define environmental justice as:

> The fair treatment and meaningful involvement of all people regardless of race, color, National origin or income, with respect to the Commonwealth's development, implementation and enforcement of environmental laws, regulations and policies.

4 Pa. Code § 5.1031. In 2021, Governor Wolf issued an executive order finding, in part:

> WHEREAS, historically and currently, low-income communities and communities of color bear a disproportionate share of adverse climate and environmental impacts with accompanying adverse health impacts; and
>
> WHEREAS, all Pennsylvanians are entitled to fair and equitable treatment and meaningful involvement in decision-making that affects their environment, communities, homes, livelihoods, and health. . .

Executive Order 2021-07 at 1. The Executive Order addresses the Office of Environmental Justice and an Environmental Justice Advisory Board, both at the Department, and an Interagency Environmental Justice Council. Id. at 2-5. The Department has made the following statement about environmental justice:

> Environmental justice embodies the principles that communities and populations should not be disproportionally exposed to adverse environmental impacts. Historically, minority and low-income Pennsylvanians have been forced to bear a disproportionate share of adverse environmental impacts. It is our duty to ensure that all Pennsylvanians, especially those that have typically been disenfranchised, are meaningfully involved in the decisions that affect their environment and that all communities are not unjustly and/or disproportionally burden with adverse

> environmental impacts. Simply put, environmental justice ensures that everyone has an equal seat at the table.[11]

We support these principles.

To implement environmental justice goals, the Department has created an online, interactive map of environmental justice areas in the Commonwealth, the Environmental Justice Areas Viewer ("EJ Viewer").[12] The Panther Creek plant is in Nesquehoning, Carbon County. According to Google Maps, the plant is located less than two miles from an environmental justice area that includes Coaldale, Schuylkill County. According to the EJ Viewer, 30% of residents in Census Tract 28, Coaldale, Schuylkill live in poverty. This environmental justice area should benefit from the environmental justice protections provided to communities by the Department.

Nevertheless, the Application, the Permit Review Memo, and the draft Permit make no mention of environmental justice issues. Although the permit proposes to address air pollution, it presents no modeling to determine the impact of air quality emissions, before or after the PAL, on this environmental justice area. The Department's failure to address environmental justice areas, and even to determine pollution impacts, is unreasonable in light of its statements regarding environmental protection and its finding of an environmental justice area in Coaldale. The Department must consider environmental justice impacts from Panther Creek.

VI. The Department unreasonably refused to allow more than one day of additional time for comments.

As noted, Panther Creek applied for this Plan Approval in October of 2016. After finding the application complete on November 30, 2016, the Department did not take action on this application for over six years, until February 25, 2023, when it proposed approval in the Pennsylvania Bulletin (53 Pa.B. 1068). On March 10, 2023, Earthjustice requested an extension of the comment period of 30 days, noting that the application raises complex legal and technical issues. Earthjustice renewed its request during a phone call with Department counsel on March 14 and again by e-mail on March 23. On March 24, the Department informed Earthjustice that it would grant an extension of one day, to March 28. Then, on March 27, the Department informed Earthjustice that it would grant an additional extension of three days, to March 31.

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[11] https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/pages/default.aspx (last visited Mar. 25, 2023).

[12] Environmental Justice Areas Viewer, available at https://padep-1.maps.arcgis.com/apps/webappviewer/index.html?id=f31a188de122467691cae93c3339469c (last visited Mar. 25, 2023).

The Department's denial of the timely request for an extension was unreasonable. The piecemeal extensions, granted close to the deadline, did not cure this failure where the Department itself took over six years to act on the same application.[13]

VII. Conclusion

For these reasons, the Department's proposal to issue the Plan Approval is unreasonable, and must be withdrawn.

Sincerely,

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[13] The Environmental Hearing Board noted a similar dynamic in an Adjudication in which it ruled against the Department on the merits:

> "143. Solebury School requested an extension from the May 20, 2011 deadline to provide substantive comments to the reports. (S. Ex. 181.)
> 144. The Department denied the School's request for a one-week extension, despite the fact that New Hope's application had been under consideration for more than 30 months. (T. 367-70; S. Ex. 181.)"

Solebury School v. DEP, 2014 WL 4087592, *9.

Attachment A

OES
Osman Environmental Solutions, LLC

October 30, 2016

Mr. Mark Wejkszner, P.E.
Air Quality Program Manager
Department of Environmental Protection
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18711-0790

RE: Panther Creek – Air Quality Plant-wide Applicability Limit (PAL) Application

Dear Mr. Wejkszner:

Panther Creek Power Operating, LLC (Panther Creek) is submitting this application in accordance with DEP regulations at 25 PaCode §127.218 to establish plant-wide applicability limits (PAL) for their Panther Creek facility in Nesquehoning in order to provide for greater flexibility in future operations. Apart from establishing PAL emission limits, no modification or change in the method of operation are proposed in this application.

This submittal consists of a narrative which provides the required elements of a PAL application; establishes the PAL baseline based on actual emissions during the baseline years of 2011-2015; a General Information Form (GIF); DEP Plan Approval Application forms for a combustion source; a compliance review form; proof of municipal notices; and an Addendum A which addresses the new requirements that will result from this application. A check for $5,300 is included. All forms are submitted with an original and two copies.

If you would like to meet to discuss any issues related to this application, Panther Creek Energy Facility personnel would be pleased to do so. Please let us know and we will meet at your earliest convenience. Thank you for your attention to this application.

Sincerely,

Fred P. Osman, P.E., BCEE
President

cc. Mr. Cochran
Mr. Brisni

4708 Rock Ledge Drive, Harrisburg, PA 17110 717-234-3610 fredosman@osmanenvironmental.com

OES
Osman Environmental Solutions, LLC

Panther Creek Power Operating, LLC
Nesquehoning, PA

APPLICATION

for

A Plant-wide Applicability Limit (PAL) Permit

For Submittal To

PENNSYVLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY
NORTHEAST REGIONAL OFFICE
WILKES-BARRE, PA

October 2016

Prepared By

OES **OSMAN ENVIRONMENTAL SOLUTIONS, LLC**
Harrisburg, Pennsylvania

4708 Rock Ledge Drive, Harrisburg, PA 17110 717-234-3610 fredosman@osmanenvironmental.com

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Panther Creek PAL Permit

Explanation of Changes from Original Application and Draft Permit proposed by DEP

Background

There have been two substantive changes agreed to by Panther Creek Operating (Panther Creek) and the Pennsylvania Department of Environmental Protection (DEP) between the Panther Creek PAL permit application and draft Panther Creek PAL permit. This document identifies and enumerates those changes and provides explanations of those changes and why they occurred. These changes all relate to changes in the baseline, or the PAL limit agreed to between Panther Creek and DEP.

Particulate Baseline Emissions

In finalizing the Plantwide Applicability Limit (PAL) baselines, Panther Creek conducted a thorough assessment of their emission estimation methodologies and the historical data that had been reported to DEP. During this assessment, Panther Creek discovered that certain auxiliary sources that emit particulate matter were not reported as required during the baseline period or subsequent years. These include cooling tower emissions which were and are identified as being of minor significance in the Title V permit. It appears this designation was made because of an incorrect characterization of the type cooling tower used at Panther Creek by the original owner or operator of the facility. These cooling tower emissions account for over 50% of the changes to the particulate matter baseline change. Additionally, roadway emissions were not consistently reported in annual emission reports. Panther Creek notified DEP of these situations and calculated the correct historical emissions based upon protocols approved by DEP, and paid emission fees, plus late reporting fees and interests for all years from the baseline years through the present and committed to ensuring that these auxiliary sources would report emissions and pay fees in all future reports. These sources emissions were thus incorporated into the PAL baseline calculations for particulate emissions. These additions changed the baseline as indicated in the table below:

Changes in Particulate Baseline from Original Application

Pollutant	FPM	PM_{10}	$PM_{2.5}$
Originally Reported Baseline	38	44	21
Corrected Baseline	88.81	71.12	25.55

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A detailed spreadsheet showing the adjustments made to the particulate baseline calculations is included as Attachment I.

Lead

The Panther Creek PAL lead limit is allowed by PSD regulation to include the established significance threshold of 0.6 tons per year plus the baseline emissions. Consequently, a PAL baseline of 0.61 tons per year was included in the original Panther Creek PAL application. However, due to DEP's and Panther Creek's sensitivity to lead emissions, Panther Creek voluntarily agreed to a PAL permit limit of 0.03 tons which is just 5% of the PSD significance threshold for lead.

Note: No other pollutant baselines were changed from the originally submitted application.

Apart from the substantive changes identified above, we also clarified the fluoride issue as described below:

Fluorides

The original application addressed "fluorides" without specifically addressing the fact that under PSD regulations, hydrogen fluoride is not a PSD pollutant. DEP agreed to clarify this issue in the draft permit by listing the PAL pollutant as "Fluorides minus HF".

Particulate Baseline Emissions

Source	FPM (Tons)		PM_{10} (Tons)		$PM_{2.5}$ (Tons)	
	Original	Revised	Original	Revised	Original	Revised
Pyropower Units #1 & 2	38	36.92	44.00	43.72	21.00	20.48
Diesel Fire Pump	0	0.00	0.00	0.00	0.00	0.00
Ash Loading System	0	2.18	0.00	2.18	0.00	1.09
Ash Silo	0	1.36	0.00	1.36	0.00	0.68
Bottom Ash Conveyor	0	1.77	0.00	0.66	0.00	0.07
Culm Crusher (% of fuel)	0	0.03	0.00	0.01	0.00	0.00
Cooling Tower*	0	28.35	0.00	14.17	0.00	0.15
Flyash Filter Separator #1	0	2.47	0.00	2.47	0.00	1.24
Flyash Filter Separator #2	0	2.43	0.00	2.43	0.00	1.22
Fuel Silo/Reversing Conveyor	0	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	0	3.04	0.00	1.72	0.00	0.14
Fuel Truck Unloading	0	0.59	0.00	0.28	0.00	0.04
Lime Bin	0	0.00	0.00	0.00	0.00	0.00
Limestone Bin	0	0.00	0.00	0.00	0.00	0.00
Portable Kerosene Heaters*	0	0.00	0.00	0.00	0.00	0.00
Roadways	0	9.66	0.00	2.10	0.00	0.42
Soda Ash Bin	0	0.00	0.00	0.00	0.00	0.00
Daily Use Coal Refuse Storage Pile	0	0.00	0.00	0.00	0.00	0.00
Strategic Reserve Coal Refuse Pile	0	0.00	0.00	0.00	0.00	0.00
Totals	38.00	88.81	44.00	71.11	21.00	25.54
Increase		50.81		27.11		4.54
Increases from sources previously identified as insignificant in the Title V Permit		28.35		14.17		0.15

*Sources that had been determined by the Department to be of minor significance under 25 Pa. Code, Chapter 127, Section 127.14(a)(8) and are not regulated in this TV Operating Permit.

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Panther Creek Preliminary Unreported Emissions from 2011-2020, November 17, 2021

The tables on the following pages show the preliminary estimates of PM_{10}, PM, and $PM_{2.5}$ emissions from Panther Creek that have not been consistently reported from these auxiliary sources, by year, using the methodologies provided in the separate Panther Creek Unreported Auxiliary Source Emissions document of November 16, 2021. Panther Creek is seeking the Department's approval to rectify the unreported emissions by revising the AIMs reports from 2011-2020 by agreed to quantities and paying the appropriate emissions fees, penalties, and interest to account for these emissions.

While we are seeking to amend the baseline for all three particulate parameters, fees are only due and payable for $PM_{2.5}$. DEP has not assessed penalties for PM and since $PM_{2.5}$ is a subset of PM_{10}, fees for PM_{10} will also cover the $PM_{2.5}$ emissions.

Unreported Emissions by Year (Tons PM_{10}) - Preliminary										
	Year									
Source	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Ash Loading System	2.33	2.04	2.02	1.77	1.51	0.39	0.28	0.51	0.36	0.18
Ash Silo	1.37	1.35	1.19	1.36	1.18	0.32	0.21	0.38	0.27	0.17
Bottom Ash Conveyor	0.67	0.66	0.58	0.66	0.58	0.15	0.10	0.18	0.13	0.08
Culm Crusher (% of fuel)	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Flyash Filter Separator #1	2.50	2.45	2.17	2.47	2.15	0.58	0.38	0.68	0.49	0.31
Flyash Filter Seperator #2	2.48	2.38	2.11	2.29	2.09	0.57	0.38	0.68	0.41	0.31
Fuel Silo/Reversing Conveyor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	1.79	1.65	1.52	1.53	1.26	0.35	0.25	0.41	0.29	0.16
Fuel Truck Unloading	0.29	0.27	0.25	0.25	0.21	0.06	0.04	0.07	0.05	0.03
Lime Bin	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	2.20	2.00	1.80	1.50	1.50	0.40	0.30	0.50	0.30	0.20
Soda Ash Bin	0.00	0.00	-	0.00	0.00	-	-	-	-	-
Totals	13.64	12.80	11.64	11.84	10.49	2.82	1.94	3.41	2.29	1.44

Unreported Emissions by Year (Tons PM) - Preliminary										
	Year									
Source	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Ash Loading System	2.33	2.04	2.02	1.77	1.51	0.39	0.28	0.51	0.36	0.18
Ash Silo	1.37	1.35	1.19	1.36	1.18	0.32	0.21	0.38	0.27	0.17
Bottom Ash Conveyor	1.78	1.75	1.55	1.77	1.54	0.41	0.27	0.49	0.35	0.22
Culm Crusher (% of fuel)	0.19	0.17	0.16	0.16	0.13	0.04	0.03	0.04	0.03	0.02
Flyash Filter Separator #1	2.50	2.45	2.17	2.47	2.15	0.58	0.38	0.68	0.49	0.31
Flyash Filter Seperator #2	2.48	2.38	2.11	2.29	2.09	0.57	0.38	0.68	0.41	0.31
Fuel Silo/Reversing Conveyor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	3.17	2.92	2.68	2.71	2.24	0.62	0.44	0.72	0.51	0.29
Fuel Truck Unloading	0.62	0.57	0.52	0.53	0.44	0.12	0.09	0.14	0.10	0.06
Lime Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	9.90	9.10	8.50	8.40	6.90	1.90	1.40	2.30	1.60	0.90
Soda Ash Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals	24.33	22.73	20.91	21.45	18.17	4.95	3.47	5.94	4.12	2.46

Unreported Emissions by Year (Tons $PM_{2.5}$) - Preliminary										
	Year									
Source	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Ash Loading System	1.16	1.02	1.01	0.88	0.75	0.19	0.14	0.25	0.18	0.09
Ash Silo	0.69	0.67	0.60	0.68	0.59	0.16	0.10	0.19	0.14	0.09
Bottom Ash Conveyor	0.07	0.07	0.06	0.07	0.06	0.02	0.01	0.02	0.01	0.01
Culm Crusher (% of fuel)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flyash Filter Separator #1	1.25	1.22	1.08	1.24	1.07	0.29	0.19	0.34	0.25	0.16
Flyash Filter Seperator #2	1.24	1.19	1.05	1.14	1.05	0.29	0.19	0.34	0.20	0.16
Fuel Silo/Reversing Conveyor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	0.15	0.14	0.13	0.13	0.11	0.03	0.02	0.03	0.02	0.01
Fuel Truck Unloading	0.04	0.04	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.00
Lime Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	0.40	0.40	0.40	0.40	0.30	0.10	0.10	0.10	0.10	0.00
Soda Ash Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals	5.01	4.76	4.37	4.59	3.97	1.08	0.76	1.29	0.91	0.51

Source	Source Classification Code
Diesel Fire Pump	2-02-001-02
Ash Loading System	3-05-888-01
Ash Silo	3-05-888-01
Bottom Ash Conveyor	3-05-888-01
Culm Crusher (% of fuel)	3-05-010-10
Flyash Filter Separator #1	3-05-888-01
Flyash Filter Separator #2	3-05-888-01
Fuel Silo/Reversing Conveyor	3-05-010-006
Fuel Truck Dump/Reclaim Hopper	3-05-010-008
Fuel Truck Unloading	3-05-010-040
Lime Bin	3-05-016-13
Limestone Bin	3-05-10-105
Roadways	3-05-010-90
Cooling tower	3-06-007
Soda Ash Bin	3-05-016-13

Emission Factors Used:

Assumptions:

	Bottom Ash %	53%
Soda ash	Tons Unloaded/hr.	20
Lime	Tons Unloaded/hr.	20
	Diesel MMBtu/gal	0.147

Emission Factors

		PM - factor	PM-10/PM Ratio	Units	Source
Diesel Fire Pump		3.18E-01	1.00	lb/MMBtu	AP-42 §3.3
Ash Loading System		9.70E-03	1.00	lb/ton	Mfg. Data
Ash Silo		3.17E-01	1.00	lb/hr	BAT =0.02gr/dscf
Bottom Ash Conveyor		4.11E-01	0.38	lb/hr	BAT =0.02gr/dscf
Culm Crusher (% of fuel)	16.67%	5.00E-04	0.40	lb/ton	AP-42 §11.19
Flyash Filter Separator #1		5.76E-01	1.00	lb/hr	BAT =0.02gr/dscf
Flyash Filter Separator #2		5.76E-01	1.00	lb/hr	BAT =0.02gr/dscf
Fuel Silo/Reversing Conveyor		7.00E-07	0.33	lb/ton	AP-42/99.9%
Fuel Truck Dump/Reclaim Hopper		8.50E-03	0.56	lb/ton	AP-42 §11.19
Fuel Truck Unloading		1.66E-03	0.47	lb/ton	AP-42 13.2.4
Lime Bin		3.43E-01	1.00	lb/hr	0.04 gr X flow
Limestone Bin		1.03E-05	1.00	lb/hr	Mfg. Data
Roadways		AP-42 Equations - 13.2.1 (Paved) &13.2.2 (Unpaved)			
Cooling tower		3.30	0.50	lb/hr	AP-42 13.4 (50% PM10)
Soda Ash Bin		3.43E-01	1.00	lb/hr	0.04 gr X flow

Calculated Emissions:

Throughputs

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Heat Input (MMBtu)	8,877,787	8,512,484	8,025,900	8,221,153	6,420,726	1,693,403	1,168,314	1,871,915	1,205,647	589,164
Fuel Burned (Tons)	744,958	686,518	631,651	637,086	526,206	146,406	103,633	170,389	119,429	67,970
Ash Generated (Tons)	480,112	420,491	417,031	363,930	310,546	80,107	57,087	104,613	74,110	36,210
Bottom ash (Tons)	254,459	222,860	221,026	192,883	164,589	42,457	30,256	55,445	39,279	19,191
Fly Ash (Tons)	225,653	197,631	196,005	171,047	145,957	37,650	26,831	49,168	34,832	17,019
No. 1 Boiler Hours	8667.5	8497.9	7526.8	8587.5	7464.1	2003.2	1324.3	2361.8	1707.1	1077.9
No. 2 Boiler Hours	8609.8	8280.0	7314.0	7946.0	7269.0	1991.0	1314.0	2374.0	1410.0	1084.0
Soda Ash (Tons)	119.4	96.4	0.0	143.6	72.1	0.0	0.0	0.0	0.0	0.0
Lime (Tons)	184.9	161.9	45.3	91.4	43.9	0.0	0.0	0.0	0.0	0.0
Fire Pump Diesel (gal)	195.0	195.0	195.0	195.0	195.0	150.0	274.5	325.3	205.3	599.1

Calculated Total PM Emissions (Tons)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Ash Loading System	2.33	2.04	2.02	1.77	1.51	0.39	0.28	0.51	0.36	0.18
Ash Silo	1.37	1.35	1.19	1.36	1.18	0.32	0.21	0.38	0.27	0.17
Bottom Ash Conveyor	1.78	1.75	1.55	1.77	1.54	0.41	0.27	0.49	0.35	0.22
Culm Crusher (% of fuel)	0.03	0.03	0.03	0.03	0.02	0.01	0.00	0.01	0.00	0.00
Flyash Filter Separator #1	2.50	2.45	2.17	2.47	2.15	0.58	0.38	0.68	0.49	0.31
Flyash Filter Separator #2	2.48	2.38	2.11	2.29	2.09	0.57	0.38	0.68	0.41	0.31
Fuel Silo/Reversing Conv.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim	3.17	2.92	2.68	2.71	2.24	0.62	0.44	0.72	0.51	0.29
Fuel Truck Unloading	0.62	0.57	0.52	0.53	0.44	0.12	0.09	0.14	0.10	0.06
Lime Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	10.12	9.20	8.28	8.28	6.90	1.89	1.38	2.30	1.38	0.92
Cooling tower	28.63	28.07	24.86	28.36	24.65	6.62	4.37	7.84	5.64	3.58
Soda Ash Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Calculated Emiss.	**53.03**	**50.75**	**45.42**	**49.57**	**42.72**	**11.52**	**7.81**	**13.76**	**9.51**	**6.06**

Calculated Emissions:

Throughputs

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Heat Input (MMBtu)	8,877,787	8,512,484	8,025,900	8,221,153	6,420,726	1,693,403	1,168,314	1,871,915	1,205,647	589,164
Fuel Burned (Tons)	744,958	686,518	631,651	637,086	526,206	146,406	103,633	170,389	119,429	67,970
Ash Generated (Tons)	480,112	420,491	417,031	363,930	310,546	80,107	57,087	104,613	74,110	36,210
Bottom ash (Tons)	254,459	222,860	221,026	192,883	164,589	42,457	30,256	55,445	39,279	19,191
Fly Ash (Tons)	225,653	197,631	196,005	171,047	145,957	37,650	26,831	49,168	34,832	17,019
No. 1 Boiler Hours	8667.5	8497.9	7526.8	8587.5	7464.1	2003.2	1324.3	2361.8	1707.1	1077.9
No. 2 Boiler Hours	8609.8	8280.0	7314.0	7946.0	7269.0	1991.0	1314.0	2374.0	1410.0	1084.0
Soda Ash (Tons)	119.4	96.4	0.0	143.6	72.1	0.0	0.0	0.0	0.0	0.0
Lime (Tons)	184.9	161.9	45.3	91.4	43.9	0.0	0.0	0.0	0.0	0.0
Fire Pump Diesel (gal)	195.0	195.0	195.0	195.0	195.0	150.0	274.5	325.3	205.3	599.1

Calculated PM10 Emissions (Tons)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Ash Loading System	2.33	2.04	2.02	1.77	1.51	0.39	0.28	0.51	0.36	0.18
Ash Silo	1.37	1.35	1.19	1.36	1.18	0.32	0.21	0.38	0.27	0.17
Bottom Ash Conveyor	0.67	0.66	0.58	0.66	0.58	0.15	0.10	0.18	0.13	0.08
Culm Crusher (% of fuel)	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Flyash Filter Separator #1	2.50	2.45	2.17	2.47	2.15	0.58	0.38	0.68	0.49	0.31
Flyash Filter Separator #2	2.48	2.38	2.11	2.29	2.09	0.57	0.38	0.68	0.41	0.31
Fuel Silo/Reversing Conv.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim	1.79	1.65	1.52	1.53	1.26	0.35	0.25	0.41	0.29	0.16
Fuel Truck Unloading	0.29	0.27	0.25	0.25	0.21	0.06	0.04	0.07	0.05	0.03
Lime Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	2.20	2.00	1.80	1.80	1.50	0.41	0.30	0.50	0.30	0.20
Cooling tower	14.31	14.03	12.43	14.18	12.33	3.31	2.19	3.92	2.82	1.79
Soda Ash Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Calculated Emiss.	**27.96**	**26.84**	**24.08**	**26.326**	**22.82**	**6.14**	**4.13**	**7.34**	**5.12**	**3.25**

Calculated Emissions:

Throughputs

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Heat Input (MMBtu)	8,877,787	8,512,484	8,025,900	8,221,153	6,420,726	1,693,403	1,168,314	1,871,915	1,205,647	589,164
Fuel Burned (Tons)	744,958	686,518	631,651	637,086	526,206	146,406	103,633	170,389	119,429	67,970
Ash Generated (Tons)	480,112	420,491	417,031	363,930	310,546	80,107	57,087	104,613	74,110	36,210
Bottom ash (Tons)	254,459	222,860	221,026	192,883	164,589	42,457	30,256	55,445	39,279	19,191
Fly Ash (Tons)	225,653	197,631	196,005	171,047	145,957	37,650	26,831	49,168	34,832	17,019
No. 1 Boiler Hours	8667.5	8497.9	7526.8	8587.5	7464.1	2003.2	1324.3	2361.8	1707.1	1077.9
No. 2 Boiler Hours	8609.8	8280.0	7314.0	7946.0	7269.0	1991.0	1314.0	2374.0	1410.0	1084.0
Soda Ash (Tons)	119.4	96.4	0.0	143.6	72.1	0.0	0.0	0.0	0.0	0.0
Lime (Tons)	184.9	161.9	45.3	91.4	43.9	0.0	0.0	0.0	0.0	0.0
Fire Pump Diesel (gal)	195.0	195.0	195.0	195.0	195.0	150.0	274.5	325.3	205.3	599.1

Calculated PM2.5 Emissions (Tons)

Source	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Ash Loading System	1.16	1.02	1.01	0.88	0.75	0.19	0.14	0.25	0.18	0.09
Ash Silo	0.69	0.67	0.60	0.68	0.59	0.16	0.10	0.19	0.14	0.09
Bottom Ash Conveyor	0.07	0.07	0.06	0.07	0.06	0.02	0.01	0.02	0.01	0.01
Culm Crusher (% of fuel)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flyash Filter Separator #1	1.25	1.22	1.08	1.24	1.07	0.29	0.19	0.34	0.25	0.16
Flyash Filter Separator #2	1.24	1.19	1.05	1.14	1.05	0.29	0.19	0.34	0.20	0.16
Fuel Silo/Reversing Conv.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim	0.15	0.14	0.13	0.13	0.11	0.03	0.02	0.03	0.02	0.01
Fuel Truck Unloading	0.04	0.04	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.00
Lime Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	0.44	0.40	0.36	0.36	0.30	0.08	0.06	0.10	0.06	0.04
Cooling tower	0.15	0.15	0.13	0.15	0.13	0.04	0.02	0.04	0.03	0.02
Soda Ash Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Calculated Emiss.	**5.21**	**4.92**	**4.47**	**4.70**	**4.11**	**1.10**	**0.75**	**1.34**	**0.90**	**0.59**

				Tons						
Previously Reported PM10 Emissions	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump				0.004	0.004	0.003	0.01	0.01	0.004	0.013
Ash Loading System				0.23	0.2	0.05	0.04	0.07	0.02	0
Ash Silo				0.23	0.2	0.05	0.04	0.07	0.02	0
Bottom Ash Conveyor				0.15	0.13	0.03	0.02	0.07	0	0
Culm Crusher (% of fuel)										
Flyash Filter Separator #1				0.04	0.03	0.01	0.01	0.01	0.01	0
Flyash Filter Separator #2				0.04	0.03	0.01	0	0.01	0.01	0
Fuel Silo/Reversing Conveyor				0.32	0.26	0.07	0.05	0.09	0.06	0.03
Fuel Truck Dump/Reclaim Hopper						0.07	0.05	0.09	0.06	
Fuel Truck Unloading										
Lime Bin				0	0	0	0	0	0	0
Limestone Bin				0	0	0	0	0	0	0
Roadways				0.32	0.26					
Cooling tower										0
Soda Ash Bin				0	0	0	0	0	0	
Total Previously Reported	**0**	**0**	**0**	**1.33**	**1.11**	**0.29**	**0.22**	**0.42**	**0.18**	**0.04**

						Tons				
Unreported PM10 Emissions	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diesel Fire Pump	0.00	0.00	0.00	0.00	0.00	0.00	(0.00)	(0.00)	0.00	0.00
Ash Loading System	2.33	2.04	2.02	1.54	1.31	0.34	0.24	0.44	0.34	0.18
Ash Silo	1.37	1.35	1.19	1.13	0.98	0.27	0.17	0.31	0.25	0.17
Bottom Ash Conveyor	0.67	0.66	0.58	0.51	0.45	0.12	0.08	0.11	0.13	0.08
Culm Crusher (% of fuel)	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Flyash Filter Separator #1	2.50	2.45	2.17	2.43	2.12	0.57	0.37	0.67	0.48	0.31
Flyash Filter Separator #2	2.48	2.38	2.11	2.25	2.06	0.56	0.38	0.67	0.40	0.31
Fuel Silo/Reversing Conveyor	0.00	0.00	0.00	(0.32)	(0.26)	(0.07)	(0.05)	(0.09)	(0.06)	(0.03)
Fuel Truck Dump/Reclaim Hopper	1.79	1.65	1.52	1.53	1.26	0.28	0.20	0.32	0.23	0.16
Fuel Truck Unloading	0.29	0.27	0.25	0.25	0.21	0.06	0.04	0.07	0.05	0.03
Lime Bin	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
Limestone Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	2.20	2.00	1.80	1.48	1.24	0.41	0.30	0.50	0.30	0.20
Cooling tower	14.31	14.03	12.43	14.18	12.33	3.31	2.19	3.92	2.82	1.79
Soda Ash Bin	0.00	0.00	-	0.00	0.00	-	-	-	-	-
Total Unreported	**27.96**	**26.84**	**24.08**	**24.99**	**21.70**	**5.85**	**3.91**	**6.92**	**4.93**	**3.21**

Emission Fees Due										
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Emissions (Tons)	27.96	26.84	24.08	24.99	21.70	5.85	3.91	6.92	4.93	3.21
Fee ($/Ton)	$55.00	$56.00	$85.00	$86.34	$86.73	$87.43	$89.17	$91.32	$93.06	$94.42
Total	$ 1,537.67	$ 1,503.05	$ 2,046.57	$ 2,157.78	$ 1,882.23	$ 511.48	$ 348.92	$ 631.64	$ 459.18	$ 302.66

Total Due

$ 11,381.19

Revised PAL Limits

			Tons					
	PM10/PM	PM2.5/PM	PM	PM	PM10	PM10	PM2.5	PM2.5
Unreported Emissions	Ratio	Ratio	2011	2012	2011	2012	2011	2012
Diesel Fire Pump	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Ash Loading System	1.00	0.50	2.33	2.04	2.33	2.04	1.16	1.02
Ash Silo	1.00	0.50	1.37	1.35	1.37	1.35	0.69	0.67
Bottom Ash Conveyor	0.38	0.04	1.78	1.75	0.67	0.66	0.07	0.03
Culm Crusher (% of fuel)	0.40	0.02	0.03	0.03	0.01	0.01	0.00	0.00
Flyash Filter Separator #1	1.00	0.50	2.50	2.45	2.50	2.45	1.25	1.22
Flyash Filter Separator #2	1.00	0.50	2.48	2.38	2.48	2.38	1.24	1.19
Fuel Silo/Reversing Conveyor	0.33	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Truck Dump/Reclaim Hopper	0.56	0.05	3.17	2.92	1.79	1.65	0.15	0.08
Fuel Truck Unloading	0.47	0.07	0.62	0.57	0.29	0.27	0.04	0.02
Lime Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Roadways	0.22	0.04	10.12	9.20	2.20	2.00	0.44	0.09
Cooling tower	0.50	0.01	28.63	28.07	14.31	14.03	0.15	0.08
Soda Ash Bin	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
			53.03	50.75	27.96	26.84	5.21	4.40
		Average	51.89		27.40		4.81	
Current PAL Limits			61.90		58.72		30.48	
		Revised PAL Limits	**113.79**		**86.12**		**35.29**	
			PM (TPY)		**PM10 (TPY)**		**PM2.5 (TPY)**	

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1.0 Introduction

1.1 *General*

This application seeks Pennsylvania Department of Environmental Protection (DEP) approval for Plant-Wide Applicability Limits (PALs) for the Panther Creek Power Operating, LLC (Panther Creek) facility in Nesquehoning, PA in accordance with DEP provisions at 25 PaCode §127.218 et sec. This application does not seek any plant modification or changes in the methods of operation and does not trigger any additional regulatory requirements.

1.2 *Application Organization*

There are four sections to the narrative portion of this permit application. These sections consist of the following: 1.0 Introduction, 2.0 Project Description and PAL Permit Information, 3.0 Regulatory Review of Project, and 4.0 Requested Permit Conditions:

- Section 1.0 describes the proposed project in general terms.
- Section 2.0 contains a more detailed description of the project for which the plan approval application is being submitted and includes the data required to be submitted to establish PALs, including the baseline actual emissions.
- Section 3.0 discusses the regulatory implications of the project.
- Section 4.0 lists the requested permit conditions which the applicant is seeking as PAL limits.
- The appendices of this application contain the actual application forms, a compliance review form, and proof of municipal notice.

2.0 Project Description and PAL Permit Information

The Panther Creek Energy Facility is an electrical generation facility located in the Borough of Nesquehoning in Carbon County, Pennsylvania. The facility consists of two existing, permitted, circulating fluidized bed (CFB) combustors, each having a rated Heat Input of 600 MMBTU/hr., and associated equipment. This application seeks a plant-wide applicability permit for the entire facility. The required information for a PAL is included in the following sections.

2.1 List of Emissions Units and Applicable Requirements.

The following three pages contain the list of emissions units to be included under the PAL and their significance based on their PTEs and the list of emissions units to be included under the PAL and a summary of the applicable requirements for each. Note that the existing permit limits for the two CFB's (Source IDs 031 and 032) are included on a separate sheet to make the data more manageable.

Panther Creek PAL Application - List of Emission Units and Significance Level

Source ID	Name	PM	PM-10	PM-2.5	SO_2	NO_X	CO	VOC	Lead	Fluorides	H_2SO_4
031	Pyropower Unit #1	Significant	Significant	Significant	**Major**	**Major**	**Major**	Small	Small	Significant	Small
032	Pyropower Unit #2	Significant	Significant	Significant	**Major**	**Major**	**Major**	Small	Small	Significant	Small
DFP	Diesel Fire Pump	Small	Small	Small	Small	Small	Small	Small	Small	Small	Small
ALS	Ash Loading System	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ASL	Ash Silo	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BAC	Bottom Ash Conveyor	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CC	Culm Crusher				N/A	N/A	N/A	N/A	N/A	N/A	N/A
FFS1	Fly Ash Filter Separator #1	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FFS2	Fly Ash Filter Separator #2	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FS	Fuel Silo/Reversing Conveyor	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTD	Fuel Truck Dump				N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTR	Fuel Truck Unloading				N/A	N/A	N/A	N/A	N/A	N/A	N/A
LBN	Lime Bin	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LSB	Limestone Bin	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PKH	Portable Kerosene Heaters (6)	Small	Small	Small	Small	Small	Small	Small	Small	Small	Small
RDW	Roadways										
RH	Reclaim Hoppers	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SAB	Soda Ash Bin	Small	Small	Small	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SP1	Daily Use Refuse Storage Pile										
SP2	Strategic Reserve Coal Refuse Storage Pile										
	Entire Facility	Significant	Significant	Significant	Major	Major	Major	Small	Small	Significant	Small

Table 2.1-2

Panther Creek Power Operating, LLC – PAL Plan Approval Application

Panther Creek PAL Application - List of Emission Units and Applicable Requirements

Panther Creek PAL Application - List of Emission Units and Applicable Requirements

Source ID	Name	Requirements
031	Pyropower Unit #1 & #2	See Sheet 3 for Emissions limits. Opacity 10%/30%. Daily Fuel Sampling. CEMS: CO, NO_X SO_2, Hg. O_2, HI. COMS. FF -Δp, inlet T. Records of special operations. Daily insp., VE's. Good APC pract. 60 Subpart Da; 63 Subpart UUUUU; Acid Rain; CSAPR; RACT2; GHG reporting.
DFP	Diesel Fire Pump	§123.13. §123.21. #2 Fuel Only. RACT2. 500 hrs. Daily Records. Good APC Pract. Fuels S limit.
ALS	Ash Loading System	Δp monitor. Covered Trucks. 0.02 gr/dscf; inspect control devices, log results; daily VE.
ASL	Ash Silo	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
BAC	Bottom Ash Conveyor	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
CC	Culm Crusher	Subpart Y. Daily insp. Enclosed conveyors and transfer points. Wet culm to prevent fugitives.
FFS1	Fly Ash Filter Seperator #1	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
FFS2	Fly Ash Filter Seperator #2	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
FS	Fuel Silo/Reversing Conveyor	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
FTD	Fuel Truck Dump	Sweep and treat roads Prohibit fug. Emis.
FTR	Fuel Truck Unloading	Prohibit fug. Emis.
LBN	Lime Bin	0.04 gr/dscf; control fugitives. Prohibit fug. Emis.
LSB	Limestone Bin	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
PKH	Portable Kerosene Heaters (6)	Fuel use records. RACT. Prohibit fug. Emis.
RDW	Roadways	Sweep and treat roads Prohibit fug. Emis.
RH	Reclaim Hoppers	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis.
SAB	Soda Ash Bin	0.04 gr/dscf; control fugitives. Prohibit fug. Emis.
SP1	Daily Use Refuse Storage Piole	Sweep and treat roads Prohibit fug. Emis.
SP2	Strategic Reserve Coal Refuse Storage Pile	Sweep and treat roads Prohibit fug. Emis.

Table 2.1-3

Panther Creek Power Operating, LLC – PAL Plan Approval Application

Panther Creek PAL Application -Emission Limits for Boilers

Normal Operating Conditions, Emission limits for 031 and 032 individually

	PM	PM-10	PM-2.5	SO_2	NO_X	CO	VOC
lb/MMBTU	0.017	0.014		0.156	0.15	0.18	0.005
lb/hr	8.22	6.77		75.4	75.2	87	2.42
Averaging Time	Stack Test	Stack Test		24-hr daily	1-hr	1-hr	1-hr

Special Operating Conditions for combined emissions of Units 031 and 032 when bed T on either unit<1400 °F (hr avg. on 15 min increments)

	PM	PM-10	PM-2.5	SO_2	NO_X	CO	VOC
lb/hr				317.5	202.4	1882.6	
Averaging Time				3-hr roll	1-hr	1-hr & 8-hr average	
lb/hr				100			
Averaging Time				24-hr avg.			

Special Operating Conditions for combined emissions of Units 031 and 032 when bed T on both units<1400 °F (hr avg. on 15 min increments)

	PM	PM-10	PM-2.5	SO_2	NO_X	CO	VOC
lb/hr				215.9	80.2	1882.6	
Averaging Time				3-hr roll	1-hr	1-hr & 8-hr average	
lb/hr				79.4			
Averaging Time				24-hr avg.			

Total Emissions for both units on a rolling 12-month basis

	PM	PM-10	PM-2.5	SO_2	NO_X	CO	VOC
TPY				660.5	635.1	762.1	

2.2 Baseline Actual Emissions

To establish PAL limits for a facility it is necessary to establish the Baseline Actual Emissions (BAE). Baseline actual emissions were taken, for the most part from DEP's eFACTS database. Because the 2015 data are not yet posted by DEP we have used the 2015 emissions data reported by the facility. Additionally, GHGs were not reported in 2011. We have calculated 2011 CO_2(e) by taking the average emission factor in lbs CO_2(e)/MMBTU heat input observed over the past 4 years (241 lbs/MMBTU) and multiplying that by the heat input in 2011. And finally the eFACTS data base in 2011 did not include condensables. We have recalculated the condensable fraction based on current emission factors and the 2011 heat input and have added that fraction to the filterable portion previously reported for both PM_{10} and $PM_{2.5}$.

Table 2.2-1
Baseline Actual Emissions (Tons per Year)
Panther Creek Facility

Year	2015	2014	2013	2012	2011
PM	36.4	36	32	38	38
PM_{10}	41.9	43	38	43	45
$PM_{2.5}$	17.8	20	18	21	21
SO_2	410.4	520	507	556	571
NO_X	378.5	500	486	543	551
CO	257.9	291	271	268	287
VOC	2.9	4	4	4	4
Lead	0.01	0.01	0.01	0.01	0.01
Fluorides	7.1	9	9	8	9
Sulfuric Acid Mist	0.6	1	1	16	
CO_2(e)	789,574	990,760	957,782	1,013,413	1,069,491

The Baseline Actual Emissions for purposes of establishing a PAL must be the annual average emissions over a continuous 24-month period. Using the annual averages from Table 2.2-1, one can calculate the average annual average over any two consecutive calendar years and with the addition of PSD significance levels determine the permit limits to comply with the PAL requirements.

Table 2.2-2
Allowable PAL Emissions (Tons per Year)
Panther Creek Facility

Pollutant	Max 24-month Average	Years Established	Significance Limit	Requested Permit Limit
PM	38	2012-2011	25	63
PM_{10}	44	2012-2011	15	59
$PM_{2.5}$	21	2012-2011	10	31
SO_2	563.5	2012-2011	40	603.5
NO_X	547	2012-2011	40	587
CO	281	2014-2013	100	381
VOC	4	2014-2013	Non-Attainm.	
Lead	0.01	2015-2014	0.6	0.61
Fluorides	9	2014-2013	3	12
H_2SO_4 Mist	8.5	2013-2012	7	15.5
$CO_2(e)$	1,041,452	2012-2011	75,000	1,116,452

2.3 PAL Compliance Calculations

Panther Creek proposes to use the same calculation methodologies that have been accepted by the Department for all quarterly and annual emissions reports that are currently submitted but to perform such calculations on a monthly basis to allow the calculation of rolling 12-month emissions that will be updated every month.

DEP Certified CEMS will continue to monitor real-time emissions of SO_2, NO_X, CO and heat input. Missing data procedures will be used to substitute data in the event of CEMS data non-availability.

For pollutants that are not continuously measured using a CEMS, stack test data will be used to establish emission factors which will then be used to calculate monthly emissions. For pollutants that are not measured using stack testing, AP-42 or other appropriate emissions factors will be utilized.

All such emissions calculations procedures are currently used for the annual AIMS reporting that is routinely submitted.

3.0 Regulatory Review

3.1 *Non-attainment Area Review*

The area in which this source is located is in attainment of all NAAQS. However, because it is located in the Northeast Ozone Transport Region it is treated as a moderate non-attainment area for ozone for some regulations. Consequently, the application is potentially subject to Non-Attainment New Source Review (NNSR) for NO_X and VOCs, only. Implications of this status are discussed below.

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3.2 *Major/Minor Source Review*

The facility is a major source for SO_2, CO, and NO_X, based on existing federally enforceable permit limits. The facility is minor for PM_{10} and VOCs based on existing federally enforceable permit limits and is also minor for $PM_{2.5}$, since by definition $PM_{2.5}$ is a subset of PM_{10}. The facility is major for HAPs due to HCl emissions, but the only MACT standards applicable to this facility are contained in Subpart UUUUU (see Section 3.7, below). These are applicable to all coal-fired EGUs irrespective of their major/area source status for HAPs.

3.3 *New Source Performance Standards (NSPS)*

3.3.1 40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units

The existing boilers are subject to Subpart Da. No modifications or any change in the method of operation are involved with this application. Consequently, there are no Subpart Da implications to the granting of a PAL.

3.4 *New Source Review*

The permit application must consider NSR (non-attainment) impacts. As discussed above, the facility is major for NO_X and minor for VOCs. This application is intended to establish permit limits as PALs to establish future NSR permitting thresholds. NSR is not triggered by the proposed PAL limits.

3.5 *Prevention of Significant Deterioration*

The facility is a major PSD source but this application is intended to establish permit limits as PALs as an option to avoid complex and timely future NSR permitting. NSR is not triggered by the proposed PAL limits.

3.6 *Best Available Technology (BAT) Analysis*

No modifications or changes in the method of operation are proposed for any sources at the facility. The facility will continue to use limestone injection for acid gas control, thermal DeNO$_X$ for NO$_X$ control, and fabric filters for control of particulate matter as BAT.

3.7 *Maximum Available Control Technology Standards*

3.7.1 40 CFR Part 63 Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

The facility is subject to this rule but the current application has no implications regarding applicability or compliance.

4.0 Requested PAL Permit Conditions

Panther Creek Power Operating, LLC, requests as Plant-wide Applicability (PAL) Limits the tons per year (TPY) limits identified in the table below. Please note that this a straightforward PAL approach that does not rely on any "capable of accommodating" provisions. Also note that no changes are proposed for any shorter term limits.

Table 4-1
Proposed Permit Limits
Panther Creek Facility

Pollutant	Requested PAL Permit Limit (TPY) Running 12- Mo. Average
PM	**63**
PM_{10}	**59**
$PM_{2.5}$	**31**
SO_2	**603.5**
NO_X	**587**
CO	**381**
VOC	**Minor source, no limit proposed**
Lead	**0.61**
Fluorides	**12**
H_2SO_4 Mist	**15.5**
CO_2(e)	**1,116,452**

Panther Creek Power Operating, LLC

Appendix A - General Information Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the Department.

Related ID#s (If Known)				DEP USE ONLY
Client ID#	43625	**APS ID#**		Date Received & General Notes
Site ID#	484644	**Auth ID#**		
Facility ID#	475620			

CLIENT INFORMATION

DEP Client ID#	**Client Type / Code**
43625	LLC

Organization Name or Registered Fictitious Name	**Employer ID#** (EIN)	**Dun & Bradstreet ID#**
Panther Creek Power Operating, LLC	45-5062056	

Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	**Mailing Address Line 2**
4 Dennison Road	

Address Last Line – City	**State**	**ZIP+4**	**Country**
Nesquehoning,	PA	18240	USA

Client Contact Last Name	**First Name**	**MI**	**Suffix**
Cochran	Mathew	J	

Client Contact Title	**Phone**	**Ext**
Asset Manager	(570) 645 - 8731	

Email Address	**FAX**
mcochran@olympuspower.com	(570) 645-9763

SITE INFORMATION

DEP Site ID#	**Site Name**
484644	Panther Creek Power

EPA ID# 110030471610 **Estimated Number of Employees to be Present at Site** 49

Description of Site
Electrical Generating Plant

County Name	**Municipality**	**City**	**Boro**	**Twp**	**State**
Carbon	Nesquehoning	☐	☒	☐	
County Name	**Municipality**	**City**	**Boro**	**Twp**	**State**
		☐	☐	☐	

Site Location Line 1	**Site Location Line 2**
4 Dennison Road	

Site Location Last Line – City	**State**	**ZIP+4**
Nesquehoning	PA	18240

Detailed Written Directions to Site
81 S to PA-309 S (Exit 138) PA 309-S to PA-54-E to Dennison Road. Left on Dennison Road to Plant

Site Contact Last Name	**First Name**	**MI**	**Suffix**
Rakauskas	Bernie		

Site Contact Title	**Site Contact Firm**
Regional EHS Manager	Panther Creek Power Operating, LLC

Mailing Address Line 1	**Mailing Address Line 2**
4 Dennison Road	

Mailing Address Last Line – City	State	ZIP+4
Nesquehoning	PA	18240

Phone	Ext	FAX	Email Address
(570) 645 - 8731		570) 645-9763	brakauskas@panthercreekenergy.com

NAICS Codes (Two- & Three-Digit Codes – List All That Apply)	6-Digit Code (Optional)
221	221112

Client to Site Relationship
OWN/OPR

FACILITY INFORMATION

Modification of Existing Facility	Yes	No
1. Will this project modify an existing facility, system, or activity?	☒	☐
2. Will this project involve an addition to an existing facility, system, or activity?	☐	☐

If "Yes", check all relevant facility types and provide DEP facility identification numbers below.

	Facility Type	DEP Fac ID#		Facility Type	DEP Fac ID#
☒	Air Emission Plant	475620	☐	Industrial Minerals Mining Operation	
☐	Beneficial Use (water)		☐	Laboratory Location	
☐	Blasting Operation		☐	Land Recycling Cleanup Location	
☐	Captive Hazardous Waste Operation		☐	MineDrainageTrmt/LandRecyProjLocation	
☐	Coal Ash Beneficial Use Operation		☐	Municipal Waste Operation	
☐	Coal Mining Operation		☐	Oil & Gas Encroachment Location	
☐	Coal Pillar Location		☐	Oil & Gas Location	
☐	Commercial Hazardous Waste Operation		☐	Oil & Gas Water Poll Control Facility	
☐	Dam Location		☐	Public Water Supply System	
☐	Deep Mine Safety Operation -Anthracite		☐	Radiation Facility	
☐	Deep Mine Safety Operation -Bituminous		☒	Residual Waste Operation	
☐	Deep Mine Safety Operation -Ind Minerals		☐	Storage Tank Location	
☐	Encroachment Location (water, wetland)		☐	Water Pollution Control Facility	
☐	Erosion & Sediment Control Facility		☐	Water Resource	
☐	Explosive Storage Location		☐	Other:	

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
AIRST	40	51	21	75	52	40

Horizontal Accuracy Measure: Feet 10 *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☒ World Geodetic System of 1984

Horizontal Collection Method Code: ITPSA

Reference Point Code: AIRST

Altitude: Feet 1060 *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code: TOPO

Geometric Type Code: POINT

Data Collection Date: 09/13/12

Source Map Scale Number: 1 Inch(es) = 2,000 Feet
--or-- Centimeter(s) = Meters

PROJECT INFORMATION

Project Name
PAL Application

Project Description
Establish PALS for CO, SO2, and NOx

Project Consultant Last Name	First Name	MI	Suffix
Osman	Fred	P	

Project Consultant Title	Consulting Firm
President	Osman Environmental Solutions, LLC

Mailing Address Line 1	Mailing Address Line 2
4708 Rock Ledge Drive	

Address Last Line – City			State	ZIP+4
Harrisburg			PA	17110
Phone	**Ext**	**FAX**	**Email Address**	
717 234-3610		717 234-0498	fredosman@osmanenvironmental.com	

Time Schedules	Project Milestone (Optional)

1.	**Have you informed the surrounding community and addressed any concerns prior to submitting the application to the Department?**	☐	Yes	☒	No
2.	**Is your project funded by state or federal grants?**	☐	Yes	☒	No
	Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date. Aspect of Project Related to Grant Grant Source: _____ Grant Contact Person: _____ Grant Expiration Date: _____				
3.	**Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions)**	☐	Yes	☒	No
	Note: If "No" to Question 3, the application is not subject to the Land Use Policy. If "Yes" to Question 3, the application is subject to this policy and the Applicant should answer the additional questions in the **Land Use Information** section.				

LAND USE INFORMATION

Note: Applicants are encouraged to submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1.	**Is there an adopted county or multi-county comprehensive plan?**	☐	Yes	☐	No
2.	**Is there an adopted municipal or multi-municipal comprehensive plan?**	☐	Yes	☐	No
3.	**Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?**	☐	Yes	☐	No
	Note: If the Applicant answers "No" to either Questions 1, 2 or 3, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 4 and 5 below. If the Applicant answers "Yes" to questions 1, 2 and 3, the Applicant should respond to questions 4 and 5 below.				
4.	**Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval?** If zoning approval has been received, attach documentation.	☐	Yes	☐	No
5.	**Have you attached Municipal and County Land Use Letters for the project?**	☐	Yes	☐	No

COORDINATION INFORMATION

Note: The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 and the accompanying Cultural Resource Notice Form.

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

1.0	**Is this a coal mining project?** If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	☐	Yes	☒	No
1.1	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?**	☐	Yes	☐	No
1.2	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?**	☐	Yes	☐	No
1.3	**Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?**	☐	Yes	☐	No
1.4	**For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
1.5	**Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No
1.6	**Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?**	☐	Yes	☐	No
2.0	**Is this a non-coal (industrial minerals) mining project?** If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	☐	Yes	☒	No
2.1	**Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?**	☐	Yes	☐	No
2.2	**Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?**	☐	Yes	☐	No
2.3	**Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?**	☐	Yes	☐	No
2.4	**For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
2.5	**Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No

3.0	**Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well?** If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	☐	Yes	☒	No
3.1	**Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?**	☐	Yes	☐	No
3.2	**Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system?** If "Yes", discuss in *Project Description*.	☐	Yes	☐	No
3.3	**Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☐	No
4.0	**Will the project involve a construction activity that results in earth disturbance?** If "Yes", specify the total disturbed acreage. **4.0.1 Total Disturbed Acreage**	☐	Yes	☒	No
5.0	**Does the project involve any of the following?** If "Yes", respond to 5.1-5.3. If "No", skip to Question 6.0.	☐	Yes	☒	No
5.1	**Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?**	☐	Yes	☐	No
5.2	**Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?**	☐	Yes	☐	No
5.3	**Floodplain Projects by the commonwealth, a Political Subdivision of the commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?**	☐	Yes	☐	No
6.0	**Will the project involve discharge of stormwater or wastewater from an industrial activity to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?**	☐	Yes	☒	No
7.0	**Will the project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☒	No
8.0	**Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations?** If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the *Project Description*, where applicable. **8.0.1 Estimated Proposed Flow (gal/day)**	☐	Yes	☒	No
9.0	**Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?**	☐	Yes	☒	No
	9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	☐	Yes	☐	No
10.0	**Is this project for the beneficial use of biosolids for land application within Pennsylvania?** If "Yes" indicate how much (i.e. gallons or dry tons per year). **10.0.1 Gallons Per Year (residential septage)** _____ **10.0.2 Dry Tons Per Year (biosolids)**	☐	Yes	☒	No
11.0	**Does the project involve construction, modification or removal of a dam?** If "Yes", identify the dam. **11.0.1 Dam Name**	☐	Yes	☒	No

12.0	**Will the project interfere with the flow from, or otherwise impact, a dam?** If "Yes", identify the dam.	☐	Yes	☒	No
	12.0.1 Dam Name				
13.0	**Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?** If "Yes", identify each type of emission followed by the amount of that emission.	☒	Yes	☐	No
	13.0.1 Enter all types & amounts of emissions; separate each set with semicolons. PM10 59 TPY; PM2.5 - 31 TPY; CO - 381.0 TPY; NOx - 5879 TPY; SO2 - 603.5 TPY				
14.0	**Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year?** If "Yes", check all proposed sub-facilities.	☐	Yes	☒	No
	14.0.1 Number of Persons Served				
	14.0.2 Number of Employee/Guests				
	14.0.3 Number of Connections				
	14.0.4 Sub-Fac: Distribution System	☐	Yes	☐	No
	14.0.5 Sub-Fac: Water Treatment Plant	☐	Yes	☐	No
	14.0.6 Sub-Fac: Source	☐	Yes	☐	No
	14.0.7 Sub-Fac: Pump Station	☐	Yes	☐	No
	14.0.8 Sub Fac: Transmission Main	☐	Yes	☐	No
	14.0.9 Sub-Fac: Storage Facility	☐	Yes	☐	No
15.0	**Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?**	☐	Yes	☒	No
16.0	**Is your project to be served by an existing public water supply?** If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	☒	Yes	☐	No
	16.0.1 Supplier's Name Borough of Nesquehoning				
	16.0.2 Letter of Approval from Supplier is Attached	☐	Yes	☒	No
17.0	**Will this project involve a new or increased drinking water withdrawal from a stream or other water body?** If "Yes", should reference both Water Supply and Watershed Management.	☐	Yes	☒	No
	17.0.1 Stream Name				
18.0	**Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste?** If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	☐	Yes	☒	No
	18.0.1 Type & Amount				
19.0	**Will your project involve the removal of coal, minerals, etc. as part of any earth disturbance activities?**	☐	Yes	☒	No
20.0	**Does your project involve installation of a field constructed underground storage tank?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	20.0.1 Enter all substances & capacity of each; separate each set with semicolons.				
21.0	**Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	21.0.1 Enter all substances & capacity of each; separate each set with semicolons.				

22.0	**Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **22.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No
23.0	**Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **23.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No
24.0	**Will the intended activity involve the use of a radiation source?**	☐	Yes	☒	No

CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

Type or Print Name Matthew J. Cochran

Signature	**Title** Asset Manager	**Date** 10/28/2016

Panther Creek Power Operating, LLC

Appendix B - Plan Approval Application Form

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

Submit in Triplicate

COMBUSTION UNIT

Application for Plan Approval to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device

This application and the General Information Form (GIF) must be included in the submittal

Before completing this form, read the instructions provided with this form.

Section A - Facility Name, Checklist And Certification

Organization Name or Registered Fictitious Name/Facility Name: Panther Creek Power Operating, LLC

DEP Client ID# (If Known): 43625

Type of Review required and Fees:

Source which is not subject to NSPS, NESHAPs, MACT, NSR and PSD: ..... $_____
Source requiring approval under NSPS or NESHAPS or both: ..... $_____
Source requiring approval under NSR: $5,300
Source requiring the establishment of a MACT limitation: ..... $_____
Source requiring approval under PSD: ..... $_____

Applicant's Checklist

Check the following list to make sure that all the required documents are included.

General Information Form (GIF)

Combustion Unit Plan Approval Application

Compliance Review Form or provide reference of most recently submitted compliance review form for facilities submitting on a periodic basis: _____

Proof of County and Municipal Notifications

Permit Fees

Addendum A: Source Applicable Requirements (only applicable to existing Title V facility)

Certification of Truth, Accuracy and Completeness by a Responsible Official

I, **Matthew J. Cochran**, certify under penalty of law in 18 Pa. C. S. A. §4904, and 35 P.S. §4009(b) (2) that based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate and complete.

(Signature): _____ Date: October 28, 2016

Name (Print): Matthew J. Cochran Title: Asset Manager

OFFICIAL USE ONLY

Application No. _____ Unit ID _____ Site ID _____
DEP Client ID #: _____ APS. ID _____ AUTH. ID _____
Date Received _____ Date Assigned _____ Reviewed By _____
Date of 1st Technical Deficiency _____ Date of 2nd Technical Deficiency _____
Comments: _____

Section B - Combustion Unit Information

1. Combustion Units: ☒ Coal ☒ Oil ☐ Natural Gas Other: _____

Description: Two existing and permitted CFBs and associated equipment.

Manufacturer	Model No.	Number of units	
PyroPower		2	
Maximum heat input (Btu/hr)	Rated heat input (Btu/hr)	Typical heat input (Btu/hr)	Furnace Volume
	600 MMBTU/hr, each		
Grate Area (if applicable)		Method of firing	
N/A			

Indicate how combustion air is supplied to boiler
ID Fan is used to suspend fuel in boilers

Indicate the Steam Usage: Steam is used to operate turbine and generate electricity

Mark and describe soot Cleaning Method:

i. Air Blown
ii. Steam Blown
iii. Brushed and Vacuumed
iv. Other _____
v. Frequency of Cleaning 6 times per day

Air Blown

Maximum Operating schedule

Hours/Day	Days/Week	Days/Year	Hours/Year
24	7	365	8760

Operational restrictions taken or requested, if any (e.g., bottlenecks or voluntary restrictions to limit potential to emit)

Capacity (specify units)

Per hour	Per day	Per week	Per year

Typical Operating schedule

Hours/Day	Days/Week	Days/Year	Hours/Year
24	7	365	8760

Seasonal variations (Months): If variations exist, describe them.

Operating using primary fuel: _____ From _____ to _____
Operating using secondary fuel: _____ Form _____ to _____
Non-operating: From _____ to _____

2. Specify the primary, secondary and startup fuel. Furnish the details in item 3.
Primary fuel is anthracite culm. Startup fuel is No. 2 oil.

Section B - Combustion Unit Information (Continued)

3. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number 2	1440 GPH @ 60°F	110 X 10^3 Gal	0.04% by wt	0.001	19450Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Gas (other)	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Coal Culm		490,600	0.41%	47%	5200-6000 btu
Other*					

***** Note: Describe and furnish information separately for other fuels in Addendum B.

4. Burner

Manufacturer	Model Number	Type of Atomization (Steam, air, press, mech., rotary cup)

Number of Burners	Maximum fuel firing rate (all burners)	Normal fuel firing rate

If oil, temperature and viscosity.

Maximum theoretical air requirement

Percent excess air 100% rating

Turndown ratio

Combustion modulation control (on/off, low-high fire, full automatic, manual). Describe.

Main burner flame ignition method (electric spark, auto gas pilot, hand-held torch, other). Describe.

5. Nitrogen Oxides (NO_x) control Options

Mark and describe the NO_x control options adopted

Low excess air (LEA)	Flue gas recirculation	Other._____
Over fire air (OFA)	Burner out of service	
Low-NO_x burner	Reburning	
Low NO_x burners with over fire air	Flue gas treatment (SCR / SNCR)	

Section B - Combustion Unit Information (Continued)

6. Miscellaneous Information

Describe fly ash reinjection operation
N/A

Describe, in detail, the equipment provided to monitor and to record the source(s) operating conditions, which may affect emissions of air contaminants. Show that they are reasonable and adequate.

PCEF has a certified CEMS unit for each boiler. The CEMS equipment consists of 2 MC3 Multi-Component Analyzers, ESC Data logger / system controllers and a Data Acquisition System. This is a Part 75 certified system.

Describe each proposed modification to an existing source.

N/A no modifications being proposed.

Describe how emissions will be minimized especially during start up, shut down, combustion upsets and/or disruptions. Provide emission estimates for start up, shut down and upset conditions. Provide duration of start up and shut down.

Describe in detail with a schematic diagram of the control options adopted for SO_2 (if applicable).

Anticipated milestones:

Expected commencement date of construction/reconstruction: Upon DEP approval
Expected completion date of construction/reconstruction: _____
Anticipated date(s) of start-up: _____

Section C - Air Cleaning Device

1. Precontrol Emissions*

Emission Rate

Pollutant	Maximum Emission Rate				Calculation/ Estimation Method
	Specify Units	Pounds/Hour	Hours/Year	Tons/Year	
PM	Both Boilers	1,962	8760	8,592	Fire
PM_{10}	Both Boilers	1,488	8760	6,519	Fire
SOx	Both Boilers	335	8760	1,466	Ap-42 1.2
CO	Both Boilers	69	8760	303	Ap-42 1.2
NO_x	Both Boilers	208	8760	910	Ap-42 1.2
VOC	Both Boilers	6	8760	25	Fire
Others: (e.g., HAPs)	-----	-----	-----		-----
HCl	Both Boilers	138	8760	606	Fire
HF	Both Boilers	17	8760	76	Fire

* These emissions must be calculated based on the requested operating schedule and/or process rate, e.g., operating schedule for maximum limits or restricted hours of operation and/or restricted throughput. Describe how the emission values were determined. Attach calculations.

2. Gas Conditioning

Water quenching ☐ YES ☐ NO Water injection rate _____GPM

Radiation and convection cooling ☐ YES ☐ NO	Air dilution ☐ YES ☐ NO If YES, _____ CFM
Forced draft ☐ YES ☐ NO	Water cooled duct work ☐ YES ☐ NO

Other _____

Inlet volume _____ ACFM@ _____ °F	Outlet volume _____ ACFM@ _____ °F _____ % Moisture

Describe the system in detail.

Section C - Air Cleaning Device (Continued)

4. Fabric Collector

Equipment Specifications

Manufacturer	Model No.	
Brandt		☒ Pressurized Design ☐ Suction Design

Number of Compartments	Number of Filters Per Compartment	Is Baghouse Insulated?
10	240	☐ Yes ☒ No

Can each compartment be isolated for repairs and/or filter replacement? ☒ Yes ☐ No

Are temperature controls provided? (Describe in detail) ☐ Yes ☐ No

Dew point at maximum moisture _____ °F | Design inlet volume 150,000 SCFM

Type of Fabric

Material Nomex ☐ Felted ☐ Membrane

Weight _____ oz/sq.yd ☐ Woven ☐ Others: List: _____

Thickness _____ in ☐ Felted-Woven

Fabric permeability (clean) @ ½" water-Δ P _____ CFM/sq.ft.

Filter dimensions 6.125" Diameter/Width 16' Long

Effective area per filter 24.42 | Maximum operating temperature (°F) 400

Effective air to cloth ratio Minimum 3.2:1 Maximum 4.0:1

Drawing of Fabric Filter

A sketch of the fabric filter showing all access doors, catwalks, ladders and exhaust ductwork, location of each pressure and temperature indicator should be attached.

Operation and Cleaning

Volume of gases handled	Pressure drop across collector (in. of water). 6-8
200,000 ACFM 350 °F	Describe the equipment to be used to monitor the pressure drop. Delta P gauge

Type of filter cleaning

☐ Manual Cleaning ☐ Bag Collapse ☒ Reverse Air Jets

☐ Mechanical Shakers ☐ Sonic Cleaning ☐ Other: _____

☐ Pneumatic Shakers ☐ Reverse Air Flow

If compressed air is required for collector operation, describe the equipment with the compressor to provide dry air free from oil.

Cleaning Initiated By

☐ Timer Frequency if timer actuated _____

☐ Expected pressure drop range _____ in. of water ☐ Other Specify _____

Does air cleaning device employ hopper heaters, hopper vibrators or hopper level detectors? If yes, describe.

No

Describe the warning/alarm system that protects against operation when the unit is not meeting design requirements.

Emissions Data

Pollutant	Inlet	Outlet	Removal Efficiency (%)
PM	1,962 lb/hr, 2 boilers	16.44 lb/hr, 2 boilers	99.2%
PM-10	1,488 lb/hr, 2 boilers	13.54 lb/hr, 2 boilers	99.1%

Section C - Air Cleaning Device (Continued)

8. ☐ **SELECTIVE CATALYTIC REDUCTION (SCR)**

☒ **SELECTIVE NON-CATALYTIC REDUCTION (SNCR)**

☐ **NON-SELECTIVE CATALYTIC REDUCTION (NSCR)**

Equipment specifications

Manufacturer	Type	Model No
Ransome		

Design inlet volume (SCFM)	Design operating temperature (°F)
150,000	1500

Is the system equipped with process controls for proper mixing/control of the reducing agent in gas stream? If yes, give details.

Control valves regulate ammonia flow based on NOx in stack

Attach efficiency and other pertinent information (e.g., Ammonia, urea slip).

Operating parameters

Volume of gases handled (ACFM) 500,000 @ 1500 (°F)

Operating temperature range for the SCR/SNCR/NSCR system (°F)	From	To
	1400	2000

Reducing agent used, if any.	Oxidation catalyst used, if any.
Ammonia	None

State expected range of usage rate and concentration.

0 to 24 gallon/hr

Service life of catalyst	Ammonia slip (ppm)

Describe fully with a sketch giving locations of equipment, controls system, important parameters and method of operation.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

High pressure trip; high temperature trip; low pressure warning; tank pressure relief valve

Emissions data

Pollutant	Inlet	Outlet	Removal Efficiency (%)
NOx	910 TPY, 2 boilers	587 TPY, 2 boilers	35%

Section C - Air Cleaning Device (Continued)

9. Other Control Equipment: Limestone Injection

Equipment specifications

Manufacturer	Type	Model No
Pyropower	Dry sorbent injection	

Design inlet volume (SCFM)	Capacity
	4,172 lb/hr limestone

Describe pH monitoring and pH adjustment, if any.
Injection rate controlled by SO2 CEMs

Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any.
N/A Dry injection

Attach efficiency curve and/ or other efficiency information.

Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.

Operating parameters

Volume of gas handled

_____ @ _____ °F _____ % Moisture

Describe, in detail, important parameters and method of operation.

Powdered limestone is pneumatically injected into the combustion chamber. SO2 is captured through a chemical reaction with the calcium in the limestone.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

Limestone feed is trimmed by the CEMS system based on stack SO2 levels. CEMS data are recorded continuously and maintained for 5 years.

Emissions data

Pollutant	Inlet	Outlet	Removal Efficiency (%)
SO2	1.56 lb/MMBTU	0.156 lb/MMBTU	90%

Section C - Air Cleaning Device (Continued)

10. Costs

Indicate cost associated with air cleaning device and its operating cost (attach documentation if necessary)

Device	Direct Cost	Indirect Cost	Total Cost	Operating Cost

11 MISCELLANEOUS

Describe in detail the removal, handling and disposal of dust, effluent, etc. from the air cleaning device including proposed methods of controlling fugitive emissions.

Ash is beneficially used to reclaim mine lands.

Attach manufacturer's performance guarantees and/or warranties for each of the major components of the control system (or complete system).

Attach the maintenance schedule for the control equipment and any part of the process equipment that, if in disrepair, would increase air contaminant emissions.

Section D - Additional Information

Will the construction, modification, etc. of the sources covered by this application increase emissions from other sources at the facility? If so, describe and quantify.
No

If this project is subject to any one of the following, attach a demonstration to show compliance with applicable standards

a. Prevention of Significant Deterioration permit (PSD), 40 CFR Part 52? ☐ YES ☒ NO

b. New Source Review, 25 Pa. Code Chapter 127, Subchapter E? ☐ YES ☒ NO

c. New Source Performance Standards, 40 CFR Part 60? ☐ YES ☒ NO
(If Yes, which subpart) Not an NSPS modification

d. National Emissions Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61? ☐ YES ☒ NO
If Yes, which subpart) _____

e. Maximum Achievable Control Technology (MACT), 40 CFR Part 63? ☒ YES ☐ NO
(If Yes, which subpart) UUUUU

Attach a demonstration showing that the emissions from any new source will be the minimum attainable through the use of best available technology (BAT).

Please see narrative. No modifications are being proposed

Provide emission increases and decreases in allowable (or potential) and actual emissions within the last 5 years for applicable PSD pollutant(s) if the facility is an existing major facility (for PSD purposes)

None

Section D - Additional Information (Continued)

Indicate emission increases and decreases in tons per year (tpy), for volatile organic compounds (VOCs) and nitrogen oxides (NOx) for NSR applicability since January 1, 1991 or other applicable dates (See other applicable date in instructions). The emissions increases include all emissions including stack, fugitive, material transfer, other emission generating activities, quantifiable emissions from the exempted source(s), etc.

Permit number (if applicable)	Date issued	Indicate ***Yes*** or ***No*** if emission increases and decreases were used previously for netting	Source I.D. or Name	**VOC**s		**NOx**	
				Emission increases in potential to emit (tpy)	Creditable emission decreases in actual emissions (tpy)	Emission increases in potential to emit (tpy)	Creditable emission decreases in actual emissions (tpy)

If the source is subject to 25 Pa. Code Chapter 127, Subchapter E, New Source Review requirements,

a. Identify Emission Reduction Credits (ERCs) for emission offsets or demonstrate ability to obtain suitable ERCs for emission offsets.

b. Provide a demonstration that the lowest achievable emission rate (LAER) control techniques will be implemented (if applicable).

c. Provide an analysis of alternate sites, sizes, production processes and environmental control techniques demonstrating that the benefits of the proposed source outweigh the environmental and social costs (if applicable).

Attach calculations and any additional information necessary to thoroughly evaluate compliance with all the applicable requirements of 25 Pa. Code Article III and applicable requirements of the Clean Air Act and regulations adopted there under. The Department may request additional information to evaluate the application such as a stand by plan, a plan for air pollution emergencies, air quality modeling, etc.

Please see narrative

Section E - Compliance Demonstration

Note: Complete this section if the facility is not a Title V facility. Title V facilities must complete Addendum A.

Method of Compliance Type: Check all that apply and complete all appropriate sections below.

☐ Monitoring ☐ Testing ☐ Reporting
☐ Recordkeeping ☐ Work Practice Standard

Monitoring:

a. Monitoring device type (stack test, CEM etc.):

b. Monitoring device location:

c. Describe all parameters being monitored along with the frequency and duration of monitoring each parameter:

Testing:

a. Reference Test Method Citation:

b. Reference Test Method Description:

Recordkeeping:

Describe the parameters that will be recorded and the recording frequency:

Reporting:

a. Describe the type of information to be reported and the reporting frequency:

b. Reporting start date:

Work Practice Standard: Describe each

Section F - Flue and Air Contaminant Emission

1. Estimated Maximum Emissions*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	specify units	lbs/hr	tons/yr.	
PM	Both Boilers	16.44	63	Existing permit limit
PM_{10}	Both Boilers	13.54	59	Req. permit limit
SO_x	Both Boilers	317.5	603.5	Req. permit limit
CO	Both Boilers	1,882.6	381.0	Req. permit limit
NO_x	Both Boilers	202.4	587	Req. permit limit
VOC	Both Boilers	4.84	21.2	Existing permit limit
Others: (e.g., HAPs)	-----	-----	-----	-----
HCl	Both Boilers	13.1	57.3	Stack Test
HF	Both Boilers	2.7	11.6	Stack Test

* These emissions must be calculated based on the requested operating schedule and/or process rate e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput. Describe how the emission values were determined. Attach calculations.

2. Stack and Exhauster

Stack Designation/Number S01

List Source(s) or source ID exhausted to this stack:	% of flow exhausted to stack: 100
031, 032	

Stack height above grade (ft.) 350 Grade elevation (ft.) 1060	Stack diameter (ft) or Outlet duct area (sq. ft.) 7.6 ft	Weather Cap ☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

150

Does stack height meet Good Engineering Practice (GEP)?

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions. N/A

Location of Stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	40	51	21	75	52	40

Stack Exhaust

Volume 200,000 ACFM Temperature 350 °F Moisture 6 %

Exhauster (attach fan curves) _____ in. of water _____ HP @ _____RPM.

** If the datum and collection method information and codes differ from those provided on the General Information Form - Authorization Application, provide the additional required by that form on a separate sheet.

Section G - Attachments

Number and list all attachments submitted with this application below:

Appendix A -- GIF
Appendix C -- Compliance Review From
Appendix D -- Municipal Notification
Appendix E -- Addendum A

Panther Creek Power Operating, LLC

Appendix C - Compliance Review Form

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

AIR POLLUTION CONTROL ACT COMPLIANCE REVIEW FORM

Fully and accurately provide the following information, as specified. Attach additional sheets as necessary.

Type of Compliance Review Form Submittal (check all that apply)

☐ Original Filing
☒ Amended Filing

Date of Last Compliance Review Form Filing: 11/20/2012

Type of Submittal

☒ New Plan Approval ☐ New Operating Permit ☐ Renewal of Operating Permit
☐ Extension of Plan Approval ☐ Change of Ownership ☐ Periodic Submission (@ 6 mos)
☐ Other: _____

SECTION A. GENERAL APPLICATION INFORMATION

Name of Applicant/Permittee/("applicant")
(non-corporations-attach documentation of legal name)
Panther Creek Power perating, LLC

Address 4 Dennison Road
Nesquehoning, PA 18240

Telephone 570-645-8731 **Taxpayer ID#** 45-5062056

Permit, Plan Approval or Application ID# 13-00003

Identify the form of management under which the applicant conducts its business (check appropriate box)

☐ Individual ☐ Syndicate ☐ Government Agency
☐ Municipality ☐ Municipal Authority ☐ Joint Venture
☐ Proprietorship ☐ Fictitious Name ☐ Association
☐ Public Corporation ☐ Partnership ☒ Other Type of Business, specify below: LLC
☐ Private Corporation ☐ Limited Partnership

Describe below the type(s) of business activities performed.

1) Electrical Steam Generating Unit

.2) Generate electricity to the PJM Grid through a solid fuel fired boler and steam turbine

SECTION B. GENERAL INFORMATION REGARDING "APPLICANT"

If applicant is a corporation or a division or other unit of a corporation, provide the names, principal places of business, state of incorporation, and taxpayer ID numbers of all domestic and foreign parent corporations (including the ultimate parent corporation), and all domestic and foreign subsidiary corporations of the ultimate parent corporation with operations in Pennsylvania. Please include all corporate divisions or units, (whether incorporated or unincorporated) and privately held corporations. (A diagram of corporate relationships may be provided to illustrate corporate relationships.) Attach additional sheets as necessary.

Unit Name	Principal Places of Business	State of Incorporation	Taxpayer ID	Relationship to Applicant
Panther Creek Power Operating, LLC	4 Dennison Road, Nesquehoning, PA 18240	DE	45-5062056	Applicant

SECTION C. SPECIFIC INFORMATION REGARDING APPLICANT AND ITS "RELATED PARTIES"

Pennsylvania Facilities. List the name and location (mailing address, municipality, county), telephone number, and relationship to applicant (parent, subsidiary or general partner) of applicant and all Related Parties' places of business, and facilities in Pennsylvania. Attach additional sheets as necessary.

Unit Name	Street Address	County and Municipality	Telephone No.	Relationship to Applicant
Panther Creek Power Operating	4 Dennison Road, Nesquehoning, PA 18240	Carbon/Nesquehoning	570-645-8731	Applicant

Provide the names and business addresses of all general partners of the applicant and parent and subsidiary corporations, if any.

Name	Business Address
Olympus Power Funding, LLC	67 Park Place East, Morristown, NJ 07960

List the names and business address of persons with overall management responsibility for the process being permitted (i.e. plant manager).

Name	Business Address
Matthew J. Cochran	4 Dennison Road, Nesquehoning, PA 18240

Plan Approvals or Operating Permits. List all plan approvals or operating permits issued by the Department or an approved local air pollution control agency under the APCA to the applicant or related parties that are currently in effect or have been in effect at any time 5 years prior to the date on which this form is notarized. This list shall include the plan approval and operating permit numbers, locations, issuance and expiration dates. Attach additional sheets as necessary.

Air Contamination Source	Plan Approval/ Operating Permit#	Location	Issuance Date	Expiration Date
Panther Creek Units #1 and #2	13-00003 Title V Operating Permit	Nesquehoning Borough, Carbon County	Nov. 26, 2003	Nov 30, 2008

Compliance Background. (Note: Copies of specific documents, if applicable, must be made available to the Department upon its request.) List all documented conduct of violations or enforcement actions identified by the Department pursuant to the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. Attach additional sheets as necessary. See the definition of "documented conduct" for further clarification. Unless specifically directed by the Department, deviations which have been previously reported to the Department in writing, relating to monitoring and reporting, need not be reported.

Date	Location	Plan Approval/ Operating Permit#	Nature of Documented Conduct	Type of Department Action	Status: Litigation Existing/Continuing or Corrected/Date	Dollar Amount Penalty
01/22/16	Nesquehoning	13-00003	CEMS Exceedanes	CACP	CACP	$1671
10/27/15	Nesquehoning	13-00003	Co Excursion	CACP	CACP	$600
07/28/14	Nesquehoning	13-00003	NOx Exceedance	CACP	Corrected	$
10/23/13	Nesquehoning	13-00003	NOx Exceedance	CACP	Corrected	$
8/13/12	Nesquehoning	13-00003	NOx exceedance	CACP	Corrected/8/13/12	$300
1/30/12	Nesquehoning	13-00003	NOx exceedance	CACP	Added new alarms to system 1/2012	$300
						$
						$
						$
						$

List all incidents of deviations of the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. This list must include items both currently known and unknown to the Department. Attach additional sheets as necessary. See the definition of "deviations" for further clarification.

Date	Location	Plan Approval/ Operating Permit#	Nature of Deviation	Incident Status: Litigation Existing/Continuing Or Corrected/Date
None				

<u>CONTINUING OBLIGATION</u>. Applicant is under a continuing obligation to update this form using the Compliance Review Supplemental Form if any additional deviations occur between the date of submission and Department action on the application.

VERIFICATION STATEMENT
Subject to the penalties of Title 18 Pa.C.S. Section 4904 and 35 P.S. Section 4009(b)(2), I verify under penalty of law that I am authorized to make this verification on behalf of the Applicant/Permittee. I further verify that the information contained in this Compliance Review Form is true and complete to the best of my belief formed after reasonable inquiry. I further verify that reasonable procedures are in place to ensure that "documented conduct" and "deviations" as defined in 25 Pa Code Section 121.1 are identified and included in the information set forth in this Compliance Review Form.
 Signature — October 28, 2016 Date
Matthew J. Cochran Name (Print or Type)
Asset Manager Title

Panther Creek Power Operating, LLC

Appendix D - Municipal Notification

OES
Osman Environmental Solutions, LLC

September 16, 2016

CERTIFIED MAIL
7016 0910 0002 1089 9027

Mayor Samuel Kitchko
Borough of Nesquehoning
114 W. Catawissa Street
Nesquehoning, PA 18240

RE: Panther Creek Power Operating, LLC -- Application for Plantwide Applicability Limit (PAL) Permit

Dear Mayor Kitchko:

On behalf of Panther Creek Power Operating, LLC, (Panther Creek), Osman Environmental Solutions is informing Carbon County that an application for a Plantwide Applicability Limit or "PAL" is going be submitted to the Pennsylvania Department of Environmental Protection (DEP). A PAL permit limits facility emissions to historical actual emissions levels as well as to the emissions limits already established in the air quality Title V operating permit. By accepting limits that reflect actual historical emissions as limits, Panther Creek can operate with certain flexibilities that are critical to Panther Creek because of the current PJM wholesale electric market conditions.

There are no physical changes, modifications or changes in methods of operation to the Panther Creek facility associated with this application.

If you would like to discuss this permit with Panther Creek personnel, please contact Matt Cochran at mcochran@olympuspower.com or at 862-222-6525.

If you would like to review the application and submit comments on that air permit application, you can contact Mr. Mark Wejkszner, Air Quality Program Manager, Department of Environmental Protection, 2 Public Square, Wilkes-Barre, PA 18701-1915. There is a 30-day comment period which begins with your receipt of this letter.

Additionally, please feel free to contact me directly if you would like additional information on this application.

Sincerely,

Fred P. Osman P.E., BCEE, President

4708 Rock Ledge Drive, Harrisburg, PA 17110 717-234-3610 fredosman@osmanenvironmental.com

OES
Osman Environmental Solutions, LLC

September 16, 2016

CERTIFIED MAIL
7016 0910 0002 1089 9027

The Honorable Wayne E. Nothstein, Chairman
Carbon County Commissioners
P.O Box 129
Jim Thorpe, PA 18229

RE: Panther Creek Power Operating, LLC -- Application for Plantwide Applicability Limit (PAL) Permit

Dear Commissioner Nothstein:

On behalf of Panther Creek Power Operating, LLC, (Panther Creek), Osman Environmental Solutions is informing Carbon County that an application for a Plantwide Applicability Limit or "PAL" is going be submitted to the Pennsylvania Department of Environmental Protection (DEP). A PAL permit limits facility emissions to historical actual emissions levels as well as to the emissions limits already established in the air quality Title V operating permit. By accepting limits that reflect actual historical emissions as limits, Panther Creek can operate with certain flexibilities that are critical to Panther Creek because of the current PJM wholesale electric market conditions.

There are no physical changes, modifications or changes in methods of operation to the Panther Creek facility associated with this application.

If you would like to discuss this permit with Panther Creek personnel, please contact Matt Cochran at mcochran@olympuspower.com or at 862-222-6525.

If you would like to review the application and submit comments on that air permit application, you can contact Mr. Mark Wejkszner, Air Quality Program Manager, Department of Environmental Protection, 2 Public Square, Wilkes-Barre, PA 18701-1915. There is a 30-day comment period which begins with your receipt of this letter.

Sincerely,

Fred P. Osman P.E., BCEE,
President

4708 Rock Ledge Drive, Harrisburg, PA 17110 717-234-3610 fredosman@osmanenvironmental.com

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NESQUEHONING, PA 18240

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Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.70 $0.00
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ $0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.47
Total Postage and Fees	$6.47

0106 15
HARRISBURG PA
SEP 16 2016
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09/16/2016

Mayor Samuel Kitchko
Borough of Nesquehoning
114 W. Catawissa Street
Nesquehoning, PA 18240

or Instructions

PS Form 3811, July 2015 PSN 7530-02-000-9053

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mayor Samuel Kitchko
Borough of Nesquehoning
114 W. Catawissa Street
Nesquehoning, PA 18240

2. Article Number (Transfer from service label)

7016 0750 0000 2084 9577

9590 9402 1612 6053 6977 03

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Shawn Conklin ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
Shawn Conklin 9-19-2016

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

NESQUEHONING PA 18240
SEP 19 2016
USPS

3. Service Type
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JIM THORPE, PA 18229

OFFICIAL USE

Certified Mail Fee	$3.30
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.70 $0.00
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ $0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.47
Total Postage and Fees	$6.47

0106 15
HARRISBURG PA
SEP 16 2016
USPS
Postmark Here
09/16/2016

The Honorable Wayne E. Nothstein
Chair, Carbon Co. Commissioners
P.O Box 129
Jim Thorpe, PA 18229

or Instructions

PS Form 3811, July 2015 PSN 7530-02-000-9053

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Honorable Wayne E. Nothstein,
Chair, Carbon Co. Commissioners
P.O. Box 129
Jim Thorpe, PA 18229

2. Article Number (Transfer from service label)

7016 0750 0000 2084 9010

9590 9402 1612 6053 6976 80

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
Mary Ebbert 9-15-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
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☒ Adult Signature Restricted Delivery
☐ Certified Mail®
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☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)

Domestic Return Receipt

Panther Creek Power Operating, LLC

Appendix E – Addendum A

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

Addendum A: Source Applicable Requirements

Describe and cite all applicable requirements pertaining to this source.
Note: A Method of Compliance Worksheet (Addendum 1) must be completed for each requirement listed.

Citation Number	Citation Limitation	Limitation Used
127 Subchapter D	PSD	PTE < BAE + Significance Levels
127 Subchapter E	NSR	PTE < BAE + Significance Levels

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

Addendum 1
Method Of Compliance Worksheet

SECTION 1. APPLICABLE REQUIREMENT

Federal Tax Id:	45-5062056	**Firm Name:**	Panther Creek Power Operating, LLC
Plant Code:	01	**Plant Name:**	Panther Creek

Applicable Requirement for: (please check only one box below)

☒ **The entire site**

☐ **A group of sources, Group ID:**

☐ **A single source, Unit ID:**

☐ **Alternative Scenario, Scenario Name:**

Citation #: 127 Subchapter D - PSD

Compliance Method based upon: ☒ **Applicable Requirement** ☐ **Gap Filling Requirement**

Method of Compliance Type: (Check all that applies and complete all appropriate sections below)

☒ **Monitoring** ☒ **Testing** ☒ **Reporting**

☒ **Record Keeping** ☒ **Work Practice Standard**

Section 2: Monitoring

1. **Monitoring device type (stack test, CEM, etc.):** CEMs
2. **Monitoring device location:** Common Stack

Describe all parameters being monitored along with the frequency and duration of monitoring each parameter:

CO, NOx, SO2, and CO2.

3. **How will data be reported:** In quarterly CEMS reports

Section 3: Testing

1. Reference Test Method Description:	PM, PM10, PM2.5, Lead, Fluorides, H2SO4
2. Reference Test Method Citation:	Method 5/Method 202, Method 29, Method 13A, Method 8

Section 4: Record Keeping

Describe what parameters will be recorded and the frequency of recording:

CEMs lbs/hr for CO, NOx, SO2. lb/MMBTU heat input by hour. Running 12 month total emissions for PM, PM10, PM2.5, CO, NOx, SO2, H2SO4, Fluorides, Lead, and CO2e.

Section 5: Reporting

Describe what is to be reported and the frequency of reporting:

Annual total emissions for all pollutants

1. Reporting start date:	Ongoing

Section 6: Work Practice Standard

Describe any work practice standards:

Running 12 month emissions for the facility will be maintained below the limits in the plan approval issued.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

Addendum 1
Method Of Compliance Worksheet

SECTION 1. APPLICABLE REQUIREMENT

Federal Tax Id: 45-5062056 **Firm Name:** Panther Creek Power Operating, LLC

Plant Code: 01 **Plant Name:** Panther Creek

☒ **The entire site**

☐ **A group of sources, Group ID:**

☐ **A single source, Unit ID:**

☐ **Alternative Scenario, Scenario Name:**

Citation #: 127 Subchapter E - NSR

Compliance Method based upon: ☒ **Applicable Requirement** ☐ **Gap Filling Requirement**

Method of Compliance Type: (Check all that applies and complete all appropriate sections below)

☒ **Monitoring** ☐ **Testing** ☒ **Reporting**

☒ **Record Keeping** ☒ **Work Practice Standard**

Section 2: Monitoring

4. Monitoring device type (stack test, CEM, etc.): CEMs

5. Monitoring device location: Common Stack

Describe all parameters being monitored along with the frequency and duration of monitoring each parameter:

NOx

6. How will data be reported:

Section 3: Testing

3. Reference Test Method Description:

4. Reference Test Method Citation:

Section 4: Record Keeping

Describe what parameters will be recorded and the frequency of recording:

Running 12 month total emissions for NOx

Section 5: Reporting

Describe what is to be reported and the frequency of reporting:

Annual total emissions
for NOx.

2. Reporting start date: Ongoing

Section 6: Work Practice Standard

Describe any work practice standards:

Running 12 month emissions for the facility will be maintained below the limits in the plan approval issued.

Attachment B

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

November 30, 2016

Mr Matthew Cochran
Panther Creek Power , LLC
4 Dennison Road
Nesquehoning, PA 18240

Re: Acceptance Letter
Panther Creek Power, LLC
Plan Approval Application No. 13-00003A
APS ID# 928431, AUTH ID#1160873
Nesquehoning Borough, Carbon County

Dear Mr. Cochran:

The Department of Environmental Protection (DEP) has reviewed the above referenced application for completeness. The completeness review is the first step in a series of reviews conducted by DEP.

The Department has determined that the application package contains sufficient detail to enable DEP to conduct the technical review, and has been accepted for that purpose. This is not a final action by the Department on this application. The completeness review is the first in a series of reviews conducted by DEP. The application will now move to the technical review stage of the permit review process. To follow your application through the review process please visit eFACTS on the Web at: http://www.ahs2.dep.state.pa.us/eFactsWeb/default.aspx.

I hope you find this information helpful in understanding the permit review process. If you have additional questions about your application, please contact me at 570-826-2524 and refer to Application No. 13-00003A.

Sincerely,

Neal Elko
Air Quality Program

cc: Nesquehoning Borough
Carbon County
Fred Osman, Consultsant

Attachment C

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Technical Review Memo

SUBJECT: Title V Facility Plantwide Applicability Limit Review Memo
Panther Creek Power Operating, LLC
Nesquehoning Borough, Carbon County
Application No. 13-00003A
APS:928431 Auth Id: 1160873

To: Mark J Wejkszner, P.E.
Program Manager
Air Quality Program

From: Neal J Elko
New Source Review
Air Quality Program

Through: Raymond Kempa, P.E.
Environmental Group Manager
Air Quality Program

On November 2, 2016, the Department received a complete application requesting Plantwide Applicability Limits (PALs) for the regulated New Source Review (NSR) pollutants from the Panther Creek Power Operating, LLC. The company operates an electric generating unit under Title V OP # 13-00003 in Nesquehoning Borough, Carbon County.

Administrative/Notifications

Application Received:	November 2, 2016
GIF:	Received with this application.
Compliance History:	Received with this application.
Site Location:	4 Dennison Road, Nesquehoning, PA18240
Coordination involvement:	None Required
Application Fee:	$5,300.00, received with application.
Municipal Notification:	Submitted with the application**.**

Application Acceptance/Administrative Completeness Letter sent on 11/30/16.

Application received notification was published in the Pennsylvania Bulletin on 12/17/16, to allow an additional 30-day comment period for the public or other agencies to respond. No comments have been received from the public or other agencies.

General Information

Panther Creek Power Operating, LLC (PC) operates an electric utility steam generating unit that is located in Nesquehoning Borough, Carbon County. The facility consists of two existing, permitted, circulating fluidized bed (CFB) combustors, each having a rated Heat Input of 600 *MMBTU/hr.*, and associated equipment. This application seeks a plant-wide applicability permit for the entire facility. The facility operates pursuant to Title V Operating Permit (TVOP) No. 13-00003 issued by the Department. As part of this application, the PC asked the Department to establish plantwide applicability limits (PALs) for pollutants regulated under NSR. The pollutants included PM, PM10, PM2.5, SO2, NOX, CO, Pb, Fluorides minus hydrogen fluoride (HF), sulfuric acid (H2SO4), and greenhouse gases (GHGs). There are no physical

modifications or changes in the method of operation that are specifically associated with or proposed in this PAL application.

PALs for PSD Pollutants
Pursuant to 40 CFR §81.339, Carbon County is classified as attainment or unclassifiable with regard to the National Ambient Air Quality Standards (NAAQS) for PM_{10}, $PM_{2.5}$, NOx, SO_2, CO, and Pb. PC is classified as an existing major stationary source with respect to the PSD rules since it is a facility with a combination of fossil fuel-fired boilers capable of firing more than 250 MMBtu per hour of heat input with the PTE of several regulated NSR pollutants at rates greater than 100 TPY. Emissions of attainment pollutants and attainment pollutant precursors (i.e., PM_{10}, $PM_{2.5}$, NOx, SO_2, CO, and Pb) as well as other regulated NSR pollutants (i.e., Fluorides (Not Including HF) and H_2SO_4) are regulated under the Federal PSD regulations, incorporated by reference into the Pennsylvania SIP at 25 Pa Code §127.83. Therefore, in Pennsylvania, PALs for all regulated NSR pollutants except for VOC as a precursor pollutant for ozone are established using the Federal PSD regulations codified at 40 CFR §52.21.

PALS for NNSR Pollutants
All counties including Carbon in Pennsylvania are in the Northeast Ozone Transport Region (OTR) and are minimally classified and managed as moderate ozone nonattainment areas. Emissions of NOx and volatile organic compounds (VOC) are regulated under the Pennsylvania NNSR regulations as precursors to the formation of ground level ozone.

Pursuant to 25 Pa Code § 127.201 (c), PC is classified as an existing major stationary source with respect to the NOx NNSR rules because PTE for NOx is greater than 100 tons per year. As such, PC is subject to the requirements applicable to a major source located in a moderate nonattainment area and is proposing a PAL for NOx pursuant to Pennsylvania's PAL regulations codified at 25 Pa Code §127.218. PC is not classified as an existing major stationary source with respect to the VOC NNSR rules because PTE for VOC is less than 50 tons/yr. Consequently, a PAL for VOC is not established as part of this application and VOC emissions are not addressed further.

PAL Applicability:
40 CFR §52.21(aa)(l) and 25 Pa Code § 127.218(a) provide language pertaining to the applicability of PALs. PC will continue to comply with all applicable Federal or State requirements, emissions limitations, and work practice requirements that were established prior to the effective date of the PAL, excluding emissions and production limitations that were used to avoid applicability of the major NSR programs.

Setting the PAL Level
The procedures at 40 C.F.R 52.21(aa) (6) require that PAL levels be established by summing the baseline actual emissions (as defined in 40 C.F.R. 52.21(b)(48)) for each emissions unit at the facility and then adding the significance level for the PAL pollutant.

When determining the baseline actual emissions for units at the facility, the owner or operator may choose any consecutive 24-month period that occurred within the 10-year period (5-year period for electric utility steam generating units) immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received. A different 24-month period may be used for each PAL pollutant. Baseline actual emissions for the PAL must include fugitive emissions and emissions from startups, shutdowns, and malfunctions, but are adjusted downward for any periods of non-compliance during the 24-month period. Emissions units that were permanently shut down after the 24-month period are subtracted from the PAL, and emissions units that began actual

construction after the 24-month period must add the full potential to emit (PTE) of the unit in lieu of baseline actual emissions.

PC PAL Level Calculations

Table below lists the existing emission units at the facility.

Table 1: Emissions Units and Size

Source ID	Source	PM Status	PM_{10} Status	$PM_{2.5}$ Status	SO_2 Status	NO_X Status	CO Status	PB Status	HF Status	H_2SO_4 Status	CO_2e Status
031	Pyropower Unit #1	Significant	Significant	Significant	Major	Major	Major	Small	Significant	Small	Significant
032	Pyropower Unit #2	Significant	Significant	Significant	Major	Major	Major	Small	Significant	Small	Significant
DFP	Diesel Fire Pump	Small	Small	Small	Small	Small	Small	Small	Small	Small	
ALS	Ash Loading System	Small	Small	Small							
ASL	Ash Silo	Small	Small	Small							
BAC	Bottom Ash Conveyor	Small	Small	Small							
CC	Culm Crusher	Small	Small	Small							
CT	Cooling Tower	Small	Small	Small							
FFS1	FFS1 Fly Ash Filter Separator #1	Small	Small	Small							
FFS2	FFS2 Fly Ash Filter Separator #2	Small	Small	Small							
FS	Fuel Silo/Reversing Conveyor	Small	Small	Small							
FTD	Fuel Truck Dump/Reclaim Hoppers	Small	Small	Small							
FTR	Fuel Truck Unloading	Small	Small	Small							
LBN	Lime Bin	Small	Small	Small							
LSB	Limestone Bin	Small	Small	Small							
PKH	Portable Kerosene Heaters (6)	Small	Small	Small	Small	Small	Small	Small	Small	Small	
RDW	Roadways										
SAB	Soda Ash Bin	Small	Small	Small							
SP1	Daily Use Refuse Storage Pile										
SP2	Strategic Reserve Coal Refuse										
	ENTIRE FACILITY	Significant	Significant	Significant	Major	Major	Major	Small	Significant	Small	significant

Table 2: List of Emission Units and Applicable Requirements

Source ID	Source	Requirements
031, 032	Pyropower Unit #1 and #2	Opacity 10%/30%. Daily Fuel Sampling. CEMS: CO, NO_x S02 Hg. O_2, HI. COMS. FF -Delta P, inlet T. Records of special operations. Daily insp., VE's. Good APC practices. 60 Subpart Da; 63 Subpart UUUUU; Acid Rain; CSAPR; RACT2; GHG reporting.
DFP	Diesel Fire Pump	§123.13. §123.21. #2 Fuel Only. RACT2. 500 hrs. Daily Records. Good APC Practices. Fuels S limit.
ALS	Ash Loading System	Delta p monitor. Covered Trucks. 0.02 gr/dscf; inspect control devices, log results; daily VE.
ASL	Ash Silo	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
BAC	Bottom Ash Conveyor	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
CC	Culm Crusher	Subpart Y. Daily insp. Enclosed conveyors and transfer points. Wet culm to prevent fugitives.
CT	Cooling Tower	No applicable requirements
FFS1	FFS1 Fly Ash Filter Separator #1	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
FFS2	FFS2 Fly Ash Filter Separator #2	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
FS	Fuel Silo/Reversing Conveyor	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
FTD	Fuel Truck Dump	Sweep and treat roads Prohibit fug. Emis.
FTR	Fuel Truck Unloading	Prohibit fug. Emis.
LBN	Lime Bin	0.04 gr/dscf; control fugitives. Prohibit fug. Emis
LSB	Limestone Bin	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
PKH	Portable Kerosene Heaters (6)	Fuel use records. RACT. Prohibit tug. Emis
RDW	Roadways	Sweep and treat roads Prohibit fug. Emis
RH	Reclaim Hoppers	0.02 gr/dscf; inspect control devices, log results; daily VE. Prohibit fug. Emis
SAB	Soda Ash Bin	0.04 gr/dscf; control fugitives. Prohibit fug. Emis
SP1	Daily Use Refuse Storage Pile	Sweep and treat roads Prohibit fug. Emis
SP2	Strategic Reserve Coal Refuse	Sweep and treat roads Prohibit fug. Emis

Baseline Actual Emissions

PC has utilized the 24-month period from January 2011 through December 2012 as the baseline period for PM, PM10, PM2.5, SOx, NOx and CO2e pollutants. PC has utilized the 24-month period from January 2012 through December 2013 as the baseline period for H2SO4. PC has utilized the 24-month period from January 2013 through December 2014 as the baseline period for CO and HF. PC has utilized the 24-month period from January 2014 through December 2015 as the baseline period for lead. The emissions units that were included in development of the PAL levels are still in operation at the Facility and are existing sources as defined in 40 CFR §52.21 and 25 Pa Code §121.1 during the selected baseline period. No emissions units were permanently shut down after the 24-month period used to determine baseline actual emissions for all existing emissions units. Consequently, pursuant to 40 CFR §52.21(aa) and 25 Pa Code §127.218, PC utilized the actual emissions as reported in PC's historical AIMS reports as the BAE rates, with the following exceptions:

- GHGs were not reported in 2011. PC calculated 2011 C02(e) by taking the average emission factor in lbs C02(e)/MMBTU heat input observed over the past 4 years (241 lbs/MMBTU) and multiplying that by the heat input in 2011 PM is not required to be reported in the AIMS reports.

• PM emissions were retroactively calculated for affected emissions units using the best available emissions factors for each source.

•PC realized certain auxiliary source emissions were not reported during the baseline years. PC recalculated those emissions, paid emissions fees on them, including a 50% penalty for late reporting, and accumulated interest. These emissions were included in the final baseline and the sources have been added to the permit to ensure they are reported in the future for comparison to the PALs.

Baseline Emissions in TPY

Table 3: Baseline Actual Emissions (Tons per Year)
Panther Creek Facility

Year	2015	2014	2013	2012	2011
PM	79.13	85.98	77.64	86.85	90.76
PM10	64.68	69.24	56.27	69.63	72.62
PM2.5	21.96	24.45	22.61	25.23	25.87
S02	410.4	520.30	506.70	556.20	571.10
NOx	378.50	499.70	486.00	542.50	551.20
CO	257.89	291.40	270.70	267.70	287.30
VOC	2.90	3.70	3.60	3.80	4.00
Lead	0.008	0.009	0.009	0.010	0.010
Fluorides (not including HF)	7.10	9.10	8.90	8.10	8.50
Sulfuric Acid Mist	0.60	0.60	0.60	15.70	Not reported/Not Used
C02(e)	789,668.29	990,603.00	957,837.68	1,013,421.08	1,069,014.21

Table 4: Selected Consecutive 24-month periods/Pollutant (Tons per Year)
Panther Creek Facility

	PM	PM_{10} Filt+Conde	$PM_{2.5}$ Filt+Conde	SO_2	NO_X	CO	Pb	Fluorides not including HF	H_2So_4	CO_2e
2011 TPY	90.76	72.62	25.87	571.10	551.20		0.0102			1,069,014.21
2012 TPY	86.85	69.63	25.23	556.20	542.50		0.0099		15.70	1.013,421.08
2013 TPY						270.70		8.90	0.60	
2014 TPY						291.40		9.10		
Baseline Average	**88.81**	**71.12**	**25.55**	**563.65**	**546.85**	**281.05**	**0.01**	**9.00**	**8.15**	**1,041,217.64**

Pollutant	**Max 24-month Annual** Average	**Years Established**	**Significance Limit**	**Requested Permit Limit**
PM	88.81	2012-2011	25	113.81
PM10	71.12	2012-2011	15	86.12
PM2.5	25.55	2012-2011	10	35.55
S02	563.65	2012-2011	40	603.65
NOx	546.85	2012-2011	40	586.85
CO	281.05	2014-2013	100	381.05
VOC	4	2014-2013	Non-Attainm.	
Lead	0.010	2012-2011	0.60	0.610
Fluorides	9.00	2014-2013	3	12.00
H2S04 Mist	8.15	2013-2012	7	15.15
C02(e)	1,041,217.64	2012-2011	75,000	1,116,217.64

Table 5: Proposed Permit Limits
Panther Creek Facility

Pollutant	Requested PAL Permit Limit (TPY) Running 12- Mo. Average
PM Filterable	113.81
PM10 Filt+Conde	86.12
PM2.5 Filt+Conde	35.55
SO2	603.65
NOx	586.85
CO	381.05
Fluorides (Not Including HF)	3.0
H_2SO_4	15.15
PB	0.03
CO_2e	1,116,217.64

PC calculated the proposed PAL levels in accordance with 25 Pa Code §127.218 for "nonattainment" pollutants and precursors and 40 CFR §52.21(aa)(1) through (15) for all other regulated NSR pollutants.

Each PAL limit was calculated by the methodology described in 40 CFR §52.21 (aa)(6) or 25 Pa Code 127.218(f), as appropriate**.**

The PAL level was set at the threshold where GHGs become subject to regulation for an existing major stationary source under the current regulations, i.e., at 75,000 TPY CO_2e above baseline actual emissions.

Compliance & Monitoring Requirements
Upon issuance of the PAL, PC will demonstrate compliance with the PALs TPY limits for the pollutants. For each month during the first 11 months from the PAL effective date, PC shall show that the sum of the preceding monthly emissions from the PAL effective date for each emissions unit under the PAL is less than the PAL. The PAL permit also must include the calculation procedures that PC must use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total.

Emissions Calculation Methods
The following tables shows the factors for calculating emissions of the PAL pollutants for each type of emissions unit at the Facility. Pursuant to 40 CFR §52.21 (aa)(4)(i)(a) and 25 Pa Code § 127.218(c)(1), for each month during the first 11 months from the PAL effective date, the owner or operator of the major facility shall show that the sum of the preceding months emissions from the PAL effective date for each emissions unit under the PAL is less than the PAL.

Table 6: Panther Creek Boiler Emission Factors

Pollutant	2015	2014	2013	2012	2011
PM	Stack Test MATS 2015	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010
PM_{10}	Stack Test MATS 2015	Stack Test ICT 2010	Stack Test ICT 2010	Stack Test ICT 2010	Stack Test ICT 2010
$PM_{2.5}$	Stack Test MATS 2015	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010
CO	CEMs	CEMs	CEMs	CEMs	CEMs
NO_X	CEMs	CEMs	CEMs	CEMs	CEMs
SO_2	CEMs	CEMs	CEMs	CEMs	CEMs
H_2SO_4	Stack Test 2013	Stack Test 2013	Stack Test 2013	Stack Test 1999	Not reported or used
HF	Stack Test 2013	Stack Test 2013	Stack Test 2013	Stack Test 1999	Stack Test 1999
Pb	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010	Stack Test ICR 2010
CO_2	CEMs	CEMs	CEMs	CEMs	CEMs
CH_4	40 CFR Part 98	40 CFR Part 98	40 CFR Part 98	40 CFR Part 98	40 CFR Part 98
N_2O	40 CFR Part 98	40 CFR Part 98	40 CFR Part 98	40 CFR Part 98	40 CFR Part 98

Table 7: Other Minor Facility Emission Factors

In addition to the boiler emissions, the facility also reports emissions from the following sources:

• Diesel Fire Pump	• Fuel Silo Revering Conveyor
• Ash Loading	• Lime Bin
• Ash Silo	• Reclaim Hopper
• Bottom Ash System	• Soda Ash Bin
• Fly ash Filter Separators (2)	• Limestone Silo

These emissions are all estimated using EPA FIRE factors or AP-42 factors. Apart from the insignificant emissions from the fire pump (less than 0.1 TPY for any pollutant), the other emissions sources only emit particulate and are de minimis sources with each source emitting less than 0.6 TPY and all sources combined emitting under 3.0 TPY of total particulate.

PC will use stack test emissions results (lb/hr or lb/MMBtu) and either monthly operating hours or monthly heat input, as appropriate, converted to tons (ton/month).

PC will use CEMS measurements, totaled monthly (lb/month) converted to tons (ton/month).

GHGs calculated using monthly heat input or default high heating values (HHVs) of the fuel and using default emissions factors as defined in 40 CFR Part 98 Subpart C, converted to tons (ton/month).

Use of U.S. EPA fuel-specific emissions factors and fuel usage records (kgal/month), converted to tons (ton/month). (AP-42 Section 1.5).

Use of U.S. EPA fuel-specific emissions factors and heat input (MMBtu/month) calculated from BTU/gal and fuel usage, converted to tons (ton/month). (AP-42 Sections 3.3 and 3.4)

Use of maximum flowrate (scfm), stack test emissions results (gr/dscf), and monthly operating hours, converted to tons (ton/month).

Use of mileage traveled and U.S. EPA specific roadway emissions factors (lb/vehicle mile traveled (VMT)) converted to tons (ton/month). (AP-42 Section 13.2.1)

Monitoring, Testing, Recordkeeping, and Reporting Requirements

Once the PAL level is determined for a PAL pollutant, the PAL permit includes monitoring, testing, recordkeeping, and reporting requirements in order to demonstrate compliance with the PAL level.

The owner or operator must show that the sum of the monthly emissions from each emissions unit for the previous 12-consecutive months is less than the PAL. In order to adequately demonstrate compliance, the PAL monitoring system, at a minimum, must use one of the four general monitoring approaches listed at 40 C.F.R. 52.21(aa)(12)(ii): 1) Mass balance calculations for activities using coatings or solvents; 2) Continuous Emissions Monitoring Systems (CEMS); 3) Continuous Parametric Monitoring Systems (CPMS) or Predictive Emissions Monitoring Systems (PEMS); or 4) Emissions factors. The owner or operator may also employ an alternative monitoring approach that meets 40 C.F.R. 52.21(aa)(12)(i)(*a*) if approved by the Department.

The PAL regulations at 40 C.F.R. 52.21(aa)(12)(iii) through (ix) provide further detail on the minimum requirements of the PAL monitoring system for each of the four methods described above. These provisions also require testing to validate emissions factors used for significant emissions units within 6 months of issuance of the PAL and re-validation of data used to establish the PAL pollutant once every 5 years. Additional recordkeeping and reporting requirements in the PAL provisions include the requirement for the owner or operator to maintain all records necessary to determine compliance with the PAL requirements for 5 years from the date of the record, including a copy of the PAL application and each annual title V compliance certification. The owner or operator must also submit semi-annual reports that include a list of all emissions units modified or adding during the preceding reporting period, a deviation report, and any results of a re-validation test or method within three months of completion.

PAL Lifetime, Reopening, Renewal, and Expiration

Once a PAL is issued, it is valid for a ten-year period, beginning on the effective date of the permit. Reopening of the PAL permit must be done in accordance with 40 C.F.R. 52.21(aa)(8), as well as the public participation requirements of 40 C.F.R. 52.21(aa)(5), with the exception of corrections of typographical/calculation errors that do not increase the PAL level.

In order to renew the PAL, the owner or operator must submit an application which includes the information an initial application for a PAL must contain (list of emissions units designated as small, significant, or major, baseline actual emissions, calculations for compliance purposes, etc.) as well as a new proposed PAL level, the sum of the PTE of all emissions units under the PAL, and supporting information. The application must be submitted at least six months prior to, but not earlier than 18 months from, the date of permit expiration. If the permit is not renewed in accordance with procedures in 40 C.F.R. 52.21(aa) (10), the permit expires.

NO_x Monitoring

PC is using a NO_x CEMS to calculate NO_x emissions from the boilers. The CEMS must comply with applicable Performance Specifications found in 40 C.F.R. part 60, Appendix B and sample, analyze and record data at least every 15 minutes while the emissions unit is operating. The PAL permit is also requiring that the CEMS comply with all applicable requirements of 40 C.F.R. 60.13.

GHG (CO2e) Monitoring

PC is required to monitor the fuel throughput for the boilers on a continuous basis. CO_2, CH_4, and N_2O emissions from the boiler will be calculated monthly using the methods as stated in tables above. The resultant emissions for each GHG pollutant listed above will be multiplied by their global warming potential and summed to calculate CO_2e emissions for any given month

Emissions Units Added After the PAL

In order to accurately calculate plantwide emissions at the facility, any new or modified emissions units must also have associated monitoring that meets one of the four general monitoring approaches listed in 40 C.F.R. 52.21(aa)(12) and in the application of the PAL permit. In order to assure that these monitoring requirements are being met, PC must submit semi-annual reports to the Department that list any new or modified emissions units since submittal of the last report. These reports must identify which of the four general monitoring approaches are being used to calculate emissions, and must include emissions factors, fuel use data, manufacturer's specification, or any other information that is or will be used to account for emissions from the new or modified units. Failure to use a monitoring system that meets the requirements of 40 C.F.R. 52.21(aa)(12) renders the PAL invalid.

Applicable Requirements

PAL permit application is required to include a listing of which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit [40 CFR §52.21(aa)(3) and 25 Pa Code §127.218(b)]. Potentially applicable regulations include the following:

- New Source Review
- Standards of Performance for New Stationary Sources
- National Emission Standards for Hazardous Air Pollutants
- Compliance Assurance Monitoring
- Title V Greenhouse Gas Tailoring Rule
- Cross State Air Pollution Rule, also known as the Transport Rule
- Acid Rain Program
- Commonwealth of Pennsylvania Regulations

New Source Review

PC is applying for PALs for regulated NSR pollutants. Neither PSD nor NNSR will be triggered by this action as no modification of an existing emissions unit, change in the method of operation, or installation of a new emissions unit is proposed. The regulations governing PALs for facilities located in areas designated as attainment with the NAAQS are part of the Federal PSD regulations at 40 CFR §52.21. Therefore, PALs for all regulated NSR pollutants except those for which an area is nonattainment in Pennsylvania are established using the Federal NSR PAL regulations. Pennsylvania has established PAL rules for nonattainment pollutants and precursors as part of the Pennsylvania NNSR rules that are similar to the Federal PAL rules. Carbon County is managed as a moderate ozone nonattainment area pursuant to the Pennsylvania SIP-approved NNSR program; therefore, a PAL for the ozone precursor NOx has been established using Pennsylvania's PAL regulations at 25 Pa Code §127.218.

Standards of Performance for New Stationary Sources
The proposed PAL permit will not result in additional NSPS being applicable to the Facility or trigger additional requirements related to the NSPS identified in Table below.

NSPS Applicability

40 CFR, Part 60, Subpart Da	Standards of Performance for Electric Utility Steam Generating Units
40 CFR, Part 60, Subpart Y	Standards of Performance for Coal Preparation and Processing Plants
40 CFR, Part 60, Subpart UUUUU	Emission Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units

National Emission Standards for Hazardous Air Pollutants
There are no NESHAP promulgated under 40 CFR Part 61 that apply to the facility. The applicability of 40 CFR Part 63 NESHAP to PC operations is summarized in table below. The proposed PAL permit will not result in additional NESHAP being applicable to the facility or trigger additional requirements related to the NESHAP identified in table below.

40 CFR, Part 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR, Part 63, Subpart UUUUU	National Emission Standard for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

Compliance Assurance Monitoring
The facility is subject to the requirements of 40 CFR Part 64 and will continue to be after incorporation of the changes proposed herein. Also, the facility will continue to operate in compliance with the requirements of 40 CFR Part 64 and the approved facility CAM plans.

Greenhouse Gas Tailoring Rule
There are currently no PSD or Title V GHG requirements that are applicable to the facility. PC is electing to include a request for a PAL for GHG as part of this application.

Cross State Air Pollution Rule

PC is subject to and complies with applicable CSAPR requirements. The proposed PAL permit will not alter the current applicability of CSAPR to the facility.

Acid Rain Program
PC is subject to and complies with applicable ARP requirements. The proposed PAL permit will not alter the current applicability of ARP to the facility.

Commonwealth of Pennsylvania Regulations:
The applicability of the various 25 Pa Code regulations to PC operations is summarized in Table below.

25 Pa Code, Chapter 123	Standards for Contaminants
25 Pa Code, Chapter 129.93	Standards for Sources - Stationary Sources of NOx and VOCs
25 Pa Code, Chapter 129.96 - 129.100	Standards for Contaminants - Additional RACT Requirements for Major Sources of NOx and VOCs

Conclusion
The Department is proposing to issue a PAL permit for the PC. The Department believes that the proposed action will comply with the requirements at 40 C.F.R. 52.21(aa) & 25 PA Code, chapter 12, section 217.218. The Department has made this determination based on the information supplied by the applicant and our review of the analyses contained in the permit application and other relevant information contained in our administrative record. The Department will make this proposed permit and this technical review memo including other relevant information contained in the application available to the public for review and make a final decision after considering any public comments on our proposal.

Attachment D

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

PLAN APPROVAL

Issue Date: Effective Date:

Revision Date: Expiration Date:

Revision Type: Modification

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to construct, install, modify or reactivate the air emission source(s) more fully described in the site inventory list. This Facility is subject to all terms and conditions specified in this plan approval. Nothing in this plan approval relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each plan approval condition is set forth in brackets. All terms and conditions in this permit are federally enforceable unless otherwise designated as "State-Only" requirements.

Plan Approval No. 13-00003A

Federal Tax Id - Plant Code: 45-5062056-1

Owner Information

Name: PANTHER CREEK POWER OPR LLC
Mailing Address: 4 DENNISON RD
NESQUEHONING, PA 18240-2242

Plant Information

Plant: PANTHER CREEK POWER OPR LLC/NESQUEHONING
Location: 13 Carbon County 13917 Nesquehoning Borough
SIC Code: 4911 Trans. & Utilities - Electric Services

Responsible Official

Name: MATTHEW J COCHRAN
Title: ASSET MANAGER
Phone: (570) 645 - 8721 Email: matt.cochran@strongholddigital.com

Plan Approval Contact Person

Name: CLIFF HEISTAND
Title: ENVIRONMENTAL MANAGER
Phone: (570) 645 - 8721 Ext.203 Email: cheistand@panthercreekenergy.com

[Signature] _____
MARK J. WEJKSZNER, NORTHEAST REGION AIR PROGRAM MANAGER

Plan Approval Description

This plan approval establishes plantwide applicability limits (PALs) for the following pollutants: PM, PM10, PM2.5, SO2, NOX, CO, Pb, Fluorides minus hydrogen fluoride (HF), sulfuric acid (H2SO4), and greenhouse gases (GHGs). There are no physical modifications or changes in the method of operation that are specifically associated with or proposed in this PAL application.

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Note: These same sub-sections are repeated for each source!

Section E. Source Group Restrictions

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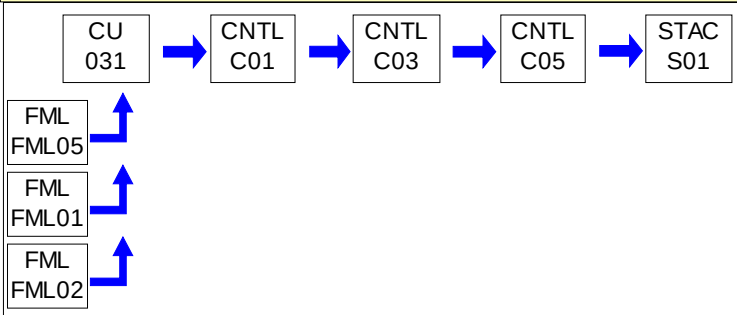
SECTION A. Plan Approval Inventory List

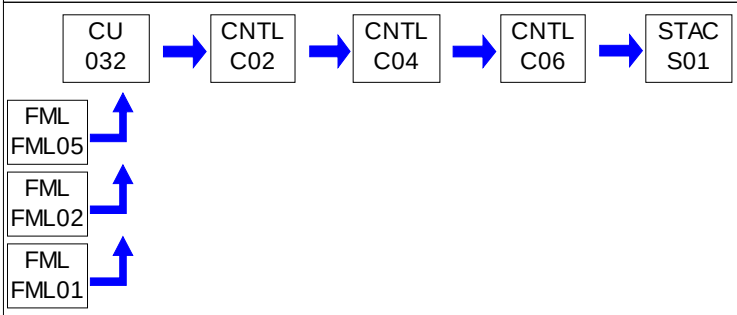
Source ID	Source Name	Capacity/Throughput	Fuel/Material
031	PYROPOWER UNIT 1	600.000 MMBTU/HR	
032	PYROPOWER UNIT 2	600.000 MMBTU/HR	
DFP	DIESEL FIRE PUMP	2.100 MMBTU/HR	
ALS	ASH LOADING SYSTEM		
ASL	ASH SILO		
BAC	BOTTOM ASH CONVEYOR		
CC	CULM CRUSHER		
CT	COOLING TOWER		
FFS1	FLY ASH FILTER SEPARATOR #1		
FFS2	FLYASH FILTER SEPARATOR #2		
FS	FUEL SILO/REVERSING CONVEYOR		
FTD	FUEL TRUCK DUMP/RECLAIM HOPPER		
FTR	FUEL TRUCK UNLOADING		
LBN	LIME BIN		
LSB	LIMESTONE BIN		
PKH	PORTABLE KEROSENE HEATERS (6)		
RDW	ROADWAYS		
SAB	SODA ASH BIN		
SP1	DAILY USE COAL REFUSE STORAGE PILE		
SP2	STRATEGIC RESERVE COAL REFUSE STORAGE PILE		
C01	BRANDT BAGHOUSE #1		
C02	BRANDT BAGHOUSE #2		
C03	PYROPOWER NO.1 LIMESTONE INJECTION		
C04	PYROPOWER NO.2 LIMESTONE INJECTION		
C05	PYROPOWER NO.1 THERMAL DENOX		
C06	PYROPOWER NO.2 THERMAL DENOX		
C07	RECLAIM HOPPER FABRIC FILTER		
C08	FUEL SILO FABRIC FILTER		
C09	BOTTOM ASH CONVEYOR FABRIC FILTER		
C10	LIMESTONE BIN FABRIC FILTER		
C11	LIMESTONE BIN FABRIC FILTER		
C12	ASH SILO FABRIC FILTER		
C13	SODA ASH BIN FABRIC FILTER		
C13	SODA ASH BIN FABRIC FILTER		
C14	LIME BIN FABRIC FILTER		
C15	ASH LOADING SYSTEM ROTOCLONE		
FML01	WINTER CULM PILE		
FML02	NO.2 FUEL OIL STORAGE - 50,000 GALLONS		
FML03	DIESEL FIRE PUMP STORAGE		
FML05	ACTIVE CULM PILE		
S01	STACK - PYROPOWER #1 & #2		
S03	STACK - ASH SILO		
S04	STACK - BOTTOM ASH CONVEYOR		

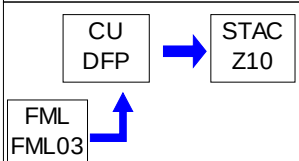
SECTION A. Plan Approval Inventory List

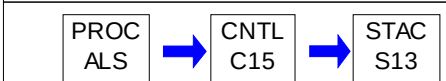
Source ID	Source Name	Capacity/Throughput	Fuel/Material
S05	STACK - FLY ASH SEPARATOR		
S06	STACK - FLYASH SEPARATOR #2		
S07	STACK - FUEL SILOS/CONVEYOR FABR		
S08	STACK - LIME BIN FABRIC		
S09	STACK - LIMESTONE BIN #1		
S10	STACK - LIMESTONE BIN #2		
S13	STACK - ASH LOADING SYSTEM		
Z01	ROADWAYS		
Z02	TRUCK UNLOADING		
Z04	WINTER STORAGE PILE		
Z05	FUEL TRUCK DUMP		
Z09	CULM CRUSHER FUGITIVE		
Z10	DIESEL FIRE PUMP STACK		
ZCT	COOLING TOWER STACK		

PERMIT MAPS

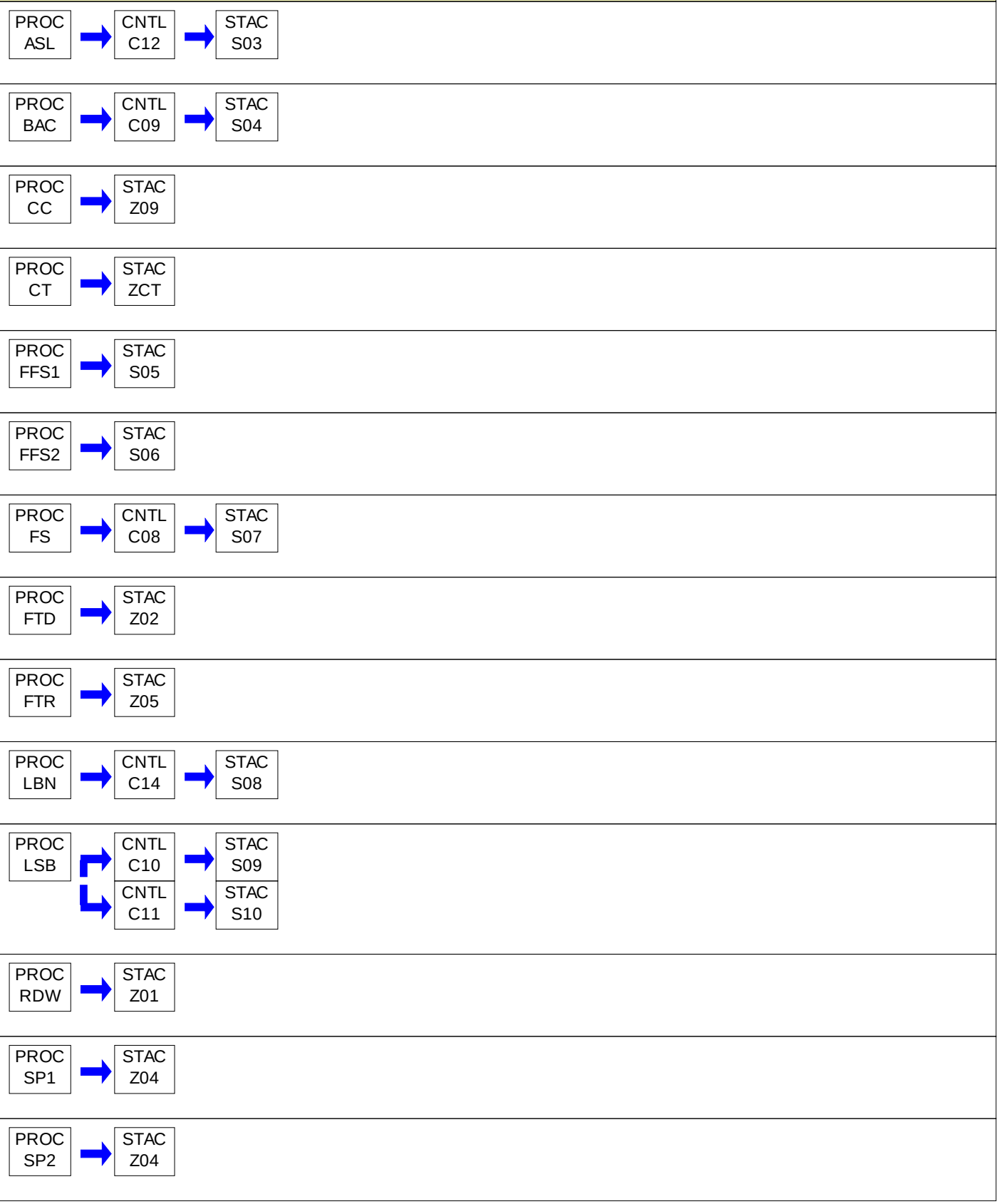








PERMIT MAPS


PROC ASL
CNTL C12
STAC S03
PROC BAC
CNTL C09
STAC S04
PROC CC
STAC Z09
PROC CT
STAC ZCT
PROC FFS1
STAC S05
PROC FFS2
STAC S06
PROC FS
CNTL C08
STAC S07
PROC FTD
STAC Z02
PROC FTR
STAC Z05
PROC LBN
CNTL C14
STAC S08
PROC LSB
CNTL C10
STAC S09
CNTL C11
STAC S10
PROC RDW
STAC Z01
PROC SP1
STAC Z04
PROC SP2
STAC Z04

SECTION B. General Plan Approval Requirements

#001 [25 Pa. Code § 121.1]

Definitions

Words and terms that are not otherwise defined in this plan approval shall have the meanings set forth in Section 3 of the Air Pollution Control Act (35 P.S. § 4003) and 25 Pa. Code § 121.1.

#002 [25 Pa. Code § 127.12b (a) (b)]

Future Adoption of Requirements

The issuance of this plan approval does not prevent the future adoption by the Department of any rules, regulations or standards, or the issuance of orders necessary to comply with the requirements of the Federal Clean Air Act or the Pennsylvania Air Pollution Control Act, or to achieve or maintain ambient air quality standards. The issuance of this plan approval shall not be construed to limit the Department's enforcement authority.

#003 [25 Pa. Code § 127.12b]

Plan Approval Temporary Operation

This plan approval authorizes temporary operation of the source(s) covered by this plan approval provided the following conditions are met.

(a) When construction, installation, modification, or reactivation is being conducted, the permittee shall provide written notice to the Department of the completion of the activity approved by this plan approval and the permittee's intent to commence operation at least five (5) working days prior to the completion of said activity. The notice shall state when the activity will be completed and when the permittee expects to commence operation. When the activity involves multiple sources on different time schedules, notice is required for the commencement of operation of each source.

(b) Pursuant to 25 Pa. Code § 127.12b (d), temporary operation of the source(s) is authorized to facilitate the shakedown of sources and air cleaning devices, to permit operations pending the issuance of a permit under 25 Pa. Code Chapter 127, Subchapter F (relating to operating permits) or Subchapter G (relating to Title V operating permits) or to permit the evaluation of the air contaminant aspects of the source.

(c) This plan approval authorizes a temporary operation period not to exceed 180 days from the date of commencement of operation, provided the Department receives notice from the permittee pursuant to paragraph (a), above.

(d) The permittee may request an extension of the 180-day shakedown period if further evaluation of the air contamination aspects of the source(s) is necessary. The request for an extension shall be submitted, in writing, to the Department at least 15 days prior to the end of the initial 180-day shakedown period and shall provide a description of the compliance status of the source, a detailed schedule for establishing compliance, and the reasons compliance has not been established. This temporary operation period will be valid for a limited time and may be extended for additional limited periods, each not to exceed 180 days.

(e) The notice submitted by the permittee pursuant to subpart (a) above, prior to the expiration of the plan approval, shall modify the plan approval expiration date on Page 1 of this plan approval. The new plan approval expiration date shall be 180 days from the date of commencement of operation.

#004 [25 Pa. Code § 127.12(a) (10)]

Content of Applications

The permittee shall maintain and operate the sources and associated air cleaning devices in accordance with good engineering practice as described in the plan approval application submitted to the Department.

#005 [25 Pa. Code §§ 127.12(c) and (d) & 35 P.S. § 4013.2]

Public Records and Confidential Information

(a) The records, reports or information obtained by the Department or referred to at public hearings shall be available to the public, except as provided in paragraph (b) of this condition.

(b) Upon cause shown by the permittee that the records, reports or information, or a particular portion thereof, but not emission data, to which the Department has access under the act, if made public, would divulge production or sales figures or methods, processes or production unique to that person or would otherwise tend to affect adversely the

SECTION B. General Plan Approval Requirements

competitive position of that person by revealing trade secrets, including intellectual property rights, the Department will consider the record, report or information, or particular portion thereof confidential in the administration of the act. The Department will implement this section consistent with sections 112(d) and 114(c) of the Clean Air Act (42 U.S.C.A. § § 7412(d) and 7414(c)). Nothing in this section prevents disclosure of the report, record or information to Federal, State or local representatives as necessary for purposes of administration of Federal, State or local air pollution control laws, or when relevant in a proceeding under the act.

#006 [25 Pa. Code § 127.12b]

Plan Approval terms and conditions.

[Additional authority for this condition is derived from 25 Pa. Code Section 127.13]

(a) This plan approval will be valid for a limited time, as specified by the expiration date contained on Page 1 of this plan approval. Except as provided in § § 127.11a and 127.215 (relating to reactivation of sources; and reactivation), at the end of the time, if the construction, modification, reactivation or installation has not been completed, a new plan approval application or an extension of the previous approval will be required.

(b) If construction has commenced, but cannot be completed before the expiration of this plan approval, an extension of the plan approval must be obtained to continue construction. To allow adequate time for departmental action, a request for the extension shall be postmarked at least thirty (30) days prior to the expiration date. The request for an extension shall include the following:

(i) A justification for the extension,
(ii) A schedule for the completion of the construction

If construction has not commenced before the expiration of this plan approval, then a new plan approval application must be submitted and approval obtained before construction can commence.

(c) If the construction, modification or installation is not commenced within 18 months of the issuance of this plan approval or if there is more than an 18-month lapse in construction, modification or installation, a new plan approval application that meets the requirements of 25 Pa. Code Chapter 127, Subchapter B (related to plan approval requirements), Subchapter D (related to prevention of significant deterioration of air quality), and Subchapter E (related to new source review) shall be submitted. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified.

#007 [25 Pa. Code § 127.32]

Transfer of Plan Approvals

(a) This plan approval may not be transferred from one person to another except when a change of ownership is demonstrated to the satisfaction of the Department and the Department approves the transfer of the plan approval in writing.

(b) Section 127.12a (relating to compliance review) applies to a request for transfer of a plan approval. A compliance review form shall accompany the request.

(c) This plan approval is valid only for the specific source and the specific location of the source as described in the application.

#008 [25 Pa. Code § 127.12(4) & 35 P.S. § 4008 & § 114 of the CAA]

Inspection and Entry

(a) Pursuant to 35 P.S. § 4008, no person shall hinder, obstruct, prevent or interfere with the Department or its personnel in the performance of any duty authorized under the Air Pollution Control Act.

(b) The permittee shall also allow the Department to have access at reasonable times to said sources and associated air cleaning devices with such measuring and recording equipment, including equipment recording visual observations, as the Department deems necessary and proper for performing its duties and for the effective enforcement of the Air Pollution Control Act and regulations adopted under the act.

SECTION B. General Plan Approval Requirements

(c) Nothing in this plan approval condition shall limit the ability of the Environmental Protection Agency to inspect or enter the premises of the permittee in accordance with Section 114 or other applicable provisions of the Clean Air Act.

#009 [25 Pa. Code 127.13a]

Plan Approval Changes for Cause

This plan approval may be terminated, modified, suspended or revoked and reissued if one or more of the following applies:

(a) The permittee constructs or operates the source subject to the plan approval in violation of the act, the Clean Air Act, the regulations promulgated under the act or the Clean Air Act, a plan approval or permit or in a manner that causes air pollution.

(b) The permittee fails to properly or adequately maintain or repair an air pollution control device or equipment attached to or otherwise made a part of the source.

(c) The permittee fails to submit a report required by this plan approval.

(d) The Environmental Protection Agency determines that this plan approval is not in compliance with the Clean Air Act or the regulations thereunder.

#010 [25 Pa. Code §§ 121.9 & 127.216]

Circumvention

(a) The permittee, or any other person, may not circumvent the new source review requirements of 25 Pa. Code Chapter 127, Subchapter E by causing or allowing a pattern of ownership or development, including the phasing, staging, delaying or engaging in incremental construction, over a geographic area of a facility which, except for the pattern of ownership or development, would otherwise require a permit or submission of a plan approval application.

(b) No person may permit the use of a device, stack height which exceeds good engineering practice stack height, dispersion technique or other technique which, without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise be in violation of this plan approval, the Air Pollution Control Act or the regulations promulgated thereunder, except that with prior approval of the Department, the device or technique may be used for control of malodors.

#011 [25 Pa. Code § 127.12c]

Submissions

Reports, test data, monitoring data, notifications shall be submitted to the:

Regional Air Program Manager
PA Department of Environmental Protection
(At the address given on the plan approval transmittal letter or otherwise notified)

#012 [25 Pa. Code § 127.12(9) & 40 CFR Part 68]

Risk Management

(a) If required by Section 112(r) of the Clean Air Act, the permittee shall develop and implement an accidental release program consistent with requirements of the Clean Air Act, 40 CFR Part 68 (relating to chemical accident prevention provisions) and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (P.L. 106-40).

(b) The permittee shall prepare and implement a Risk Management Plan (RMP) which meets the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68 and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act when a regulated substance listed in 40 CFR § 68.130 is present in a process in more than the listed threshold quantity at the facility. The permittee shall submit the RMP to the Environmental Protection Agency according to the following schedule and requirements:

(1) The permittee shall submit the first RMP to a central point specified by the Environmental Protection Agency no later than the latest of the following:

SECTION B. General Plan Approval Requirements

(i) Three years after the date on which a regulated substance is first listed under § 68.130; or,
(ii) The date on which a regulated substance is first present above a threshold quantity in a process.

(2) The permittee shall submit any additional relevant information requested by the Department or the Environmental Protection Agency concerning the RMP and shall make subsequent submissions of RMPs in accordance with 40 CFR § 68.190.

(3) The permittee shall certify that the RMP is accurate and complete in accordance with the requirements of 40 CFR Part 68, including a checklist addressing the required elements of a complete RMP.

(c) As used in this plan approval condition, the term "process" shall be as defined in 40 CFR § 68.3. The term "process" means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances or any combination of these activities. For purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.

#013 [25 Pa. Code § 127.25]

Compliance Requirement

A person may not cause or permit the operation of a source subject to § 127.11 (relating to plan approval requirements), unless the source and air cleaning devices identified in the application for the plan approval and the plan approval issued to the source, are operated and maintained in accordance with specifications in the application and conditions in the plan approval issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.

SECTION C. Site Level Plan Approval Requirements

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(Authorization for this condition is also derived from 40 CFR 52.21 (aa) and 25 Pa. Code Section 127.218)

1. The Plantwide Applicability Limits (PALs) for regulated NSR pollutants PM- filterable particulate, PM10- filterable and condensable particulate, PM2.5- filterable and condensable particulate, SO2, NOx, CO, Pb, Flourides minus HF, H2S04 and greenhouse gases (GHGs) and Non Attainment Pollutant NOX are established for the following sources at the facility:

AIMS Source ID #	Emission Source
031	PYROPOWER UNIT 1
032	PYROPOWER UNIT 2
DFP	DIESEL FIRE PUMP
ALS	ASH LOADING SYSTEM
ASL	ASH SILO
BAC	BOTTOM ASH CONVEYOR
CC	CULM CRUSHER
CT	COOLING TOWER
FFS1	FLY ASH FILTER SEPARATOR #1
FFS2	FLY ASH FILTER SEPARATOR #2
FS	FUEL SILO/REVERSING CONVEYOR
FTD	FUEL TRUCK DUMP/RECLAIM HOPPER
FTR	FUEL TRUCK UNLOADING
LBN	LIME BIN
LSB	LIMESTONE BIN
PKH	PORTABLE KEROSENE HEATERS
RDW	ROADWAYS
SAB	SODA ASH BIN
SP1	DAILY USE COAL REFUSE STORAGE PILE
SP2	STRATEGIC RESERVE COAL REFUSE STORAGE PILE

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

1. Pursuant to the requirements of 40 CFR § 52.21 (aa)(1), 40 C.F.R. 52.21(aa)(4) and 25 Pa. Code §127.218 (f), the following Plantwide Applicability Limit (PAL) is established for emissions of pollutants from the sources listed above at the facility.

PAL Pollutant	Emission Limitation TPY (12- month rolling sum)
PM Filterable	113.81
PM10 Filt + Condensable	86.12
PM2.5 Filt + Condensable	35.55
SO2	603.65
NOx	586.85
CO	381.05
Fluorides (not including HF)	3.0
H2SO4	15.15
Pb	0.03
CO2e	1,116,217.64

i. Emissions shall include fugitive emissions, to the extent quantifiable, from all emissions units that emit or have the potential to emit the pollutant under the PAL limitations. (40 C.F.R. 52.21(aa)(4)(i)(d)), 25 Pa. Code §127.218 (g)

ii. Emission calculations for compliance purposes must include emissions from startups, shutdowns, and malfunctions. (40 C.F.R. 52.21(aa)(7)(iv)) &.25 Pa. Code §127.218 (g)

SECTION C. Site Level Plan Approval Requirements

iii. The effective date of the PAL corresponds to the effective date on the cover page.(40 C.F.R. 52.21(aa)(7)(ii) & 25 Pa. Code §127.218 (g))

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 (g)(10).

The emissions from any new source, that requires a Plan Approval, shall be the minimum attainable through the use of Best Available Technology (BAT). A physical change or change in method of operation at an existing emissions unit will not be subject to BAT requirements of 25 Pa. Code Chapter 127 unless the emissions unit is modified so that the fixed capital cost of new components exceeds fifty percent of the fixed capital cost that would be required to construct a comparable entirely new emissions unit.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The issuance of this Plan Approval does not prevent the future adoption by the Department of any rules, regulations or standards, or the issuance of orders necessary to comply with the requirements of the Federal Clean Air Act or the Pennsylvania Air Pollution Control Act, or to achieve or maintain ambient air quality standards. The issuance of this Plan Approval shall not be construed to limit the Department's enforcement authority.

 # 005 [25 Pa. Code §139.1]

Sampling facilities.

Upon the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance by the Department of tests on such source. The Department will set forth, in the request, the time period in which the facilities shall be provided as well as the specifications for such facilities.

 # 006 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218.

In accordance with 40 CFR 52.21 (aa)(9) & 25 Pa. Code §127.218 (j), a PAL permit which is not renewed in accordance with the procedures in 40 CFR 52.21 (aa)(9) (i) through (v) & 25 Pa. Code §127.218 (g) expires at the end of the PAL effective period and the following requirements apply:

(i) Each emissions unit (or each group of emissions units) that existed under the PAL shall comply with an allowable emission limitation under a revised permit established according to the procedures in paragraphs (aa)(9)(i)(a) and (b) of this section.

(a) Within the time frame specified for PAL renewals in paragraph (aa)(10)(ii) & 25 Pa. Code §127.218 (j), the major stationary source or GHG-only source shall submit a proposed allowable emission limitation for each emissions unit (or each group of emissions units, if such a distribution is more appropriate as decided by the Department) by distributing the PAL allowable emissions for the major stationary source or GHG-only source among each of the emissions units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period, as required under paragraph (aa)(10)(v) & 25 Pa. Code §127.218 (j), such distribution shall be made as if the PAL had been adjusted.

(b) The Department shall decide whether and how the PAL allowable emissions will be distributed and issue a revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as the Department determines is appropriate.

(ii) Each emissions unit(s) shall comply with the allowable emission limitation on a 12-month rolling basis. The Department may approve the use of monitoring systems (source testing, emission factors, etc.) other than CEMS, CERMS, PEMS, or CPMS to demonstrate compliance with the allowable emission limitation.

(iii) Until the Department issues the revised permit incorporating allowable limits for each emissions unit, or each group of

SECTION C. Site Level Plan Approval Requirements

emissions units, as required under paragraph (aa)(9)(i)(b) & 25 Pa. Code §127.218 (j), the source shall continue to comply with a source-wide, multi-unit emissions cap equivalent to the level of the PAL emission limitation.

(iv) Any physical change or change in the method of operation at the major stationary source or GHG-only source will be subject to major NSR requirements if such change meets the definition of major modification in paragraph (b)(2) of this section.

(v) The major stationary source or GHG-only source owner or operator shall continue to comply with any State or Federal applicable requirements (BACT, RACT, NSPS, etc.) that may have applied either during the PAL effective period or prior to the PAL effective period except for those emission limitations that had been established pursuant to paragraph (r)(4) of this section, but were eliminated by the PAL in accordance with the provisions in paragraph (aa)(1)(ii)(c) & 25 Pa. Code §127.218 (j).

 # 007 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218.

In accordance with 40 CFR 52.21 (aa)(11) & 25 Pa. Code §127.218 (l)

(i) The Department may increase a PAL emission limitation only if the major stationary source or GHG-only source complies with the following:

(a) The owner or operator of the major stationary source or GHG-only source shall submit a complete application to request an increase in the PAL limit for a PAL major modification. Such application shall identify the emissions unit(s) contributing to the increase in emissions so as to cause the major stationary or GHG-only source's emissions to equal or exceed its PAL.

(b) As part of this application, the major stationary source or GHG-only source owner or operator shall demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s) exceeds the PAL. The level of control that would result from BACT equivalent controls on each significant or major emissions unit shall be determined by conducting a new BACT analysis at the time the application is submitted, unless the emissions unit is currently required to comply with a BACT or LAER requirement that was established within the preceding 10 years. In such a case, the assumed control level for that emissions unit shall be equal to the level of BACT or LAER with which that emissions unit must currently comply.

(c) The owner or operator obtains a major NSR permit for all emissions unit(s) identified in paragraph (aa)(11)(i)(a) of this section, regardless of the magnitude of the emissions increase resulting from them (that is, no significant levels apply). These emissions unit(s) shall comply with any emissions requirements resulting from the major NSR process (for example, BACT), even though they have also become subject to the PAL or continue to be subject to the PAL.

(d) The PAL permit shall require that the increased PAL level shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.

(ii) The Department shall calculate the new PAL as the sum of the allowable emissions for each modified or new emissions unit, plus the sum of the baseline actual emissions of the significant and major emissions units (assuming application of BACT equivalent controls as determined in accordance with paragraph 52.21 (aa)(11)(i)(b) & 25 Pa. Code §127.218 (l)(2)), plus the sum of the baseline actual emissions of the small emissions units.

(iii) The PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements of paragraph 52.21 (aa)(5) & 25 Pa. Code §127.218 (l) (3).

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 # 008 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

(a) In accordance with the plantwide applicability (PAL) provisions of 40 CFR 52.21(AA)(7) & 25 Pa. Code §127.218(g), if the permittee applies to renew the PAL in accordance with 40 CFR 52.21(AA)(10) & 25 Pa. Code §127.218(k) before the end of the PAL effective period, the PAL permit does not expire at the end of the PAL effective period. The PAL permit remains in effect until the Department issues a revised PAL permit.

(b) In accordance with the plantwide applicability (PAL) provisions of 40 CFR 52.21(AA)(7) & 25 Pa. Code §127.218(g), upon expiration of the PAL permit, the permittee is subject to the requirements of 40 CFR 52.21(AA)(9) & 25 Pa. Code §127.218(j).

 # 009 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 (a)(4).

In accordance with 25 Pa. Code Section 127.218 (a)(4).& 40 CFR 52.21 (AA)(1)(iii), the permittee shall continue to comply with applicable Federal or State requirements, emissions limitations and work practice requirements that were established prior to the PAL effective date.

II. TESTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

All data used to establish the site specific PAL pollutants emissions factors must be re-validated through performance testing or other scientifically valid means approved by the Department. The performance testing only applies to the CFB Boiler and must occur at least once every 5 years after issuance of the PAL. (40 C.F.R. 52.21(aa)(12)(ix), & 25 Pa. Code §127.218 (m)).

 # 011 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The Permittee shall have conducted or will conduct performance tests (as described in 40 CFR § 60.8) on CFB Boiler for PM emissions to establish site specific emission factors for the unit. The Permittee shall use the most recent HF performance test for the CFB Boiler to estimate Flouride emissions, not including HF, in accordance with the procedure in condition #16.

 # 012 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Department reserves the right to require stack testing to establish site-specific emissions factors for units added or modified after issuance of this permit.

 # 013 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

If requested by the Department, the permittee shall perform a stack test, in accordance with the provisions of the most current publication of the DEP Source Testing Manual and 25 Pa. Code, Chapter 139 of the Rules and Regulations of the Department of Environmental Protection, at such locations and intervals of time as the department may reasonably prescribe and to provide the department with the results of such testing.

 # 014 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

All sampling, testing and analyses performed in compliance with the requirements of any section of this permit shall be done in accordance with General Title V Requirement #021.

SECTION C. Site Level Plan Approval Requirements

III. MONITORING REQUIREMENTS.

 # 015 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Fuel Usage Data

A. If fuel usage data which is monitored continuously is missing or invalid (as determined through review of plant records), data shall be filled for each day of missing/invalid data. If less than 10 percent of days for a given month have missing data, the missing days shall be filled using the average of the days immediately preceding and following the missing period. If 10 percent or more of days for a given month are missing data, the data shall be filled using the maximum daily fuel usage recorded during that month and the missing data will be reported as a deviation.

B. If fuel usage data which is monitored monthly is missing, data shall be filled for the entire missing month with the maximum monthly fuel usage for the given unit during the preceding 12-month period. The missing data will be reported as a deviation.

 # 016 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

In order to demonstrate compliance with the PAL limitations for the pollutant, the owner or operator shall use following emissions factors or methods to calculate emissions from the affected sources.

1.Pyropower Units #1 & #2 (Source ID 031)

PM Filterable: Use of most recent stack test emissions results (lb/MMBtu or lb/hr) and either monthly operating hours or monthly heat input, as appropriate, converted to tons (ton/month).

PM10 filt shall be calculated as, 1 x PM filterable (as reported in most recent Method 5 test program or MATS FPM test program) or using the most recent Method 201A test.

PM2.5 filt shall be calculated as, 0.41 x PM filterable (as reported in most recent Method 5 test program or MATS FPMtest program, or using the most recent Method 201A test.

PM Conde - shall be calculated using most recent Method 202 Stack Test Results.

SO2 shall be calculated by using CEMS measurements, totaled monthly (lb/month) converted to tons (ton/month).

NOX shall be calculated using CEMS measurements, totaled monthly (lb/month) converted to tons (ton/month).

CO shall be calculated using CEMS measurements, totaled monthly (lb/month) converted to tons (ton/month).

Fluorides minus HF shall be calculated by multiplying the most recent stack test for HF by the factor 0.00157% as derived from the DOE study, “A Study of Toxic Emissions from a Coal-Fired Power Plant Utilizing an ESP While Demonstrating the ICCT-CT-121 FGD Project, Final Report”.

H2SO4 emissions shall be calculated using SO2 CEMS data and the H2SO4 fractional emissions factors from AP-42, Table 1.1-3, footnote b, which equates to H2SO4 being 1.13% of the SO2 emissions, or alternatively, as the most recent stack test for H2SO4.

Pb emissions shall be calculated using emission factor derived from site-specific most recent stack test data.

CO2e emissions shall be calculated using Global warming potentials of CO2 = 1, CH4 = 25, and N2O = 298 as per 40CFR Part 98 Equation A-I.

CO2 emissions shall be calculated using CEMS measurements, totaled monthly.

CH4 GHGs emissions shall be calculated using monthly heat input or default high heating values (HHVs) of the fuel and using default emissions factors as defined in 40 CFR Part 98 Subpart C, converted to tons (ton/month).

SECTION C. Site Level Plan Approval Requirements

N2O GHGs emissions shall be calculated using monthly heat input or default high heating values (HHVs) of the fuel and using default emissions factors as defined in 40 CFR Part 98 Subpart C, converted to tons (ton/month).

In the event of missing data from any CEMS, Part 75 data substitution procedures will be used for replacing the missing data.

2. Diesel Fire Pump (Source DFP)

PM10 AP-42 Section 3.3

PM = PM10

PM2.5 = PM10

All other Non GHG pollutants - AP-42 Section 3.3

GHG Pollutants - 40 CFR Part 98, Subpart C

3. Ash Loading System (Source ID ALS)

PM = ALS EMISSION FACTOR X TONS OF ASH ENTERING PUGMILL

ALS EMISSION FACTOR = .0097 LBS PM EMITTED FROM ROTOCLONE PER TON OF ASH ENTERING PUGMILL

PM10 = PM

PM2.5 = 0.5 X PM10

4. Ash Silo (Source ID ASL)

PM = ASL operating hours x .02 gr PM/scf x 1849 scfm x 60 ÷ 7000 = lbs PM

PM10 = PM

PM2.5 = 0.5 X PM10

5. Bottom Ash Conveyor (Source ID BAC)

PM = BAC operating hours x .02 gr PM/scf x 2400 scfm x 60 ÷ 7000 = lbs PM

PM10 =0.38 X PM

PM2.5 = 0.04 X PM10

6. Culm Crusher

PM = 5.0E-04 times % of fuel crushed times total fuel processed (tons) = lbs. PM

PM10 = 0.4 X PM

PM2.5 =0.02 X PM

7. Fly Ash Separators #1 and #2 (Source ID FFS1)

PM = Fly Ash Separator operating hours x .02 gr PM/scf x 3360 scfm x 60 ÷ 7000 = lbs PM

SECTION C. Site Level Plan Approval Requirements

PM10 = PM

PM2.5 =0.5 X PM

8. Fuel Silo/Reversing Conveyor

PM =- 1.41E-07 lb/ton of fuel processed (AP-42 factors with 99.9% control)

PM10 = 0.33 X PM

PM2.5 = 0.10 X PM

9. Fuel Truck Dump/Reclaim Hopper

PM = 0.0085 lb/ton of fuel processed (AP-42 factors with 99.9% control)

PM10 = 0.56 X PM

PM2.5 = 0.05 X PM

10. Fuel Truck Unloading

PM = 0.00166 lbs/ton of fuel unloaded (AP-42 13.2.4)

PM10 = 0.47 X PM

PM2.5 = 0.07 X PM

11. Lime bin

PM = 0.04 gr/hr times flow (1,000 scfm) = 0.343 lbs/hr times hours of filling

PM10 = PM

PM2.5 = 0.5 PM

12. Limestone bin

PM = 10 gr/dscf times flow (2,400 scfm) (1-99.99% control) =0.021 lbs./hr times hours of filling.

PM10 = PM

PM2.5 = 0.5 PM

13. Roadways

PM, PM10, and PM2.5 – Use AP-42 Section 13.2.1 and 13.2.2 for paved and unpaved roads

14. Cooling Tower

PM = AP-42 Section 13.4

PM10 = 0.5 X PM

PM2.5 = 0.01 X PM

SECTION C. Site Level Plan Approval Requirements

15. Soda Ash Bin

PM = 0.04 gr/dscf times flow (1,000 scfm) =0.343 lbs./hr times hours of filling.

PM10 = PM

PM2.5 = 0.5 PM

16. Daily Use Coal Refuse Storage Pile

PM, PM10, and PM2.5 – Use AP-42 Section 13.2.5.

17. Strategic Reserve Coal Pile

PM, PM10, and PM2.5 – Use Western Regional Air Partnership's Fugitive Dust Handbook, Section 9.3, alternate method 9/7/2006

 # 017 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

1. The company must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods is specified in this permit. (40 C.F.R. 52.21(aa)(12)(vii) & 25 PA Code, Section 127.218((m)(10)). Part 75 Data Substitution is specifically approved for this purpose.

2. The company shall report unauthorized, accidental or emergency releases of air pollutants; malfunctions of equipment, the maintenance of which is necessary to meet plan approval requirements or emission limitations; instances of exceeding permit terms or conditions or regulatory requirements found during routine plant maintenance, whether or not the Department is aware of the situation; instances of exceeding permit terms or conditions or regulatory requirements recorded by continuous monitoring equipment; or other departures from the requirements of the act, regulations adopted under the act, terms or conditions of operating permits or plan approvals, or Department orders within one (1) hour of having knowledge of the occurrence of such an event. The reporting of such an event shall include the probable cause of the event(s) and corrective actions or preventive measures taken in order to address the event(s). A written report describing the event and the preventative or corrective actions taken to address the event shall be submitted to the Department within five (5) working days following the event. The Department may take enforcement action for any violations of the applicable provisions of the Air Pollution Control Act, regulations adopted under the Act, terms or conditions of operating permits or plan approvals and Department orders. This reporting requirement in no way supersedes or eliminates any other applicable federal or state reporting requirements.

3. Any changes in the location of the aforementioned source, or any changes in the process or control equipment would be considered a modification and would require the submittal of an amended application for plan approval in accordance with the provisions of 25 Pa. Code 127.11 and 127.12.

4. Any deviation shall be reported as per the requirements of 40 CFR 52.21(14)(ii) & 25 PA Code, Section 127.218 (o)(3).

5. Pursuant to the requirement of 40 CFR 52.21(14)(iii) & 25 Pa Code, Section 127.218 (o)(4), the company shall submit to the Department the results of any revalidation test or method within three (3) months after completion of such test or method.

6. Any notification as a result of any condition herein should be directed to:

Air Quality Program Manager
Department of Environmental Protection
2 Public Square
Wilkes-Barre, PA 18701-1915

SECTION C. Site Level Plan Approval Requirements

 # 018 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

Monitoring and related recordkeeping and reporting requirements.

At least weekly, visual emission checks of each emission point subject to an opacity limit (excluding sources monitored by an Opacity CEM) shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the unit has visible emissions using 40 CFR 60 Appendix A, Method 22. If sources of visible emissions are identified during the survey, or at any other time, the permittee shall conduct a 40 CFR 60 Appendix A, Method 9 evaluation within one month. A Method 9 evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operating at normal operating conditions. A record of each visible emission check required above shall be maintained on site for a period of no less than five (5) years. Said record shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer.

The permittee shall monitor visible emissions from sources subject to an opacity limit (excluding sources covered by an Opacity CEM) in accordance with the following procedures, test methods and frequencies:

(a) EPA Method 9 shall be used to determine opacity. Prior notification and a pre-test plan are not required to be submitted for each test or survey conducted.

(b) The permittee shall use the following monitoring schedule for conducting the visible emissions tests required by this condition:

i. The initial monitoring frequency for performing visible emission tests is once per week.

ii. If the tests conducted during six (6) consecutive weeks of operation show opacity within the applicable limits, the tests need only be done once per month;

iii. If the tests conducted during four (4) consecutive months of operation show opacity within the applicable limits, the tests need only be done once per quarter;

iv. If an exceedance occurs, the tests for the exceeding monitoring point will start over with weekly checks according to the monitoring frequency above.

(c) All visible emissions tests shall be conducted during operating conditions that have the potential to create visible emissions.

(d) If the observer is unable to conduct the tests due to unit downtime, visual interference's caused by other visible emission sources (e.g. fugitive emissions during high wind conditions), or due to weather conditions such as fog, heavy rain, or snow, the observer shall note such conditions on the data observation sheet and make at least three (3) attempts to conduct the tests at approximately 2-hour intervals throughout the day. The permittee shall attempt to make the observations daily until a valid observation period is completed.

(e) A record of each visible emission test required above shall be maintained on site for a period of no less than five (5) years. Said record shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the test, what action(s), if any, was/were taken, and the name of the observer.

 # 019 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall conduct weekly inspections of the facility perimeter, during daylight hours when the plant is in operation, to determine the presence of fugitive emissions visible beyond the boundaries of the facility.

 # 020 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

In accordance with the plantwide applicability (PAL) provisions of 40 CFR 52.21(AA)((7) & (12) & 25 Pa. Code §§127.218(g)

SECTION C. Site Level Plan Approval Requirements

and (m), the permittee shall calculate the total emissions from the facility on a monthly basis and a 12-month rolling sum for PAL pollutants.

 # 021 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 (m).

In accordance with the provision of 40 CFR 52.21(AA)(12)(ii) & 25 PA Code section 127.218 (m)(5) the following are acceptable general monitoring approaches when conducted in accordance with the minimum requirements in the following paragraphs:

(i) Mass balance calculations for activities using coatings or solvents.

(ii) CEMS.

(iii) CPMS or PEMS.

(iv) Emission factors.

1. In accordance with the provision of 40 CFR 52.21 (AA)(12)(iii) & 25 PA Code section 127.218 (m)(6), an owner or operator of a major facility using mass balance calculations to monitor PAL emissions from activities using coating or solvents shall meet the following requirements:

(i) Provide a demonstrated means of validating the published content of the PAL pollutant that is contained in or created by all materials used in or at the emissions unit.

(ii) Assume that the emissions unit emits all of the PAL pollutant that is contained in or created by any raw material or fuel used in or at the emissions unit, if it cannot otherwise be accounted for in the process.

(iii) If the vendor of a material or fuel used in or at the emissions unit publishes a range of pollutant content from the material, the owner or operator shall use the highest value of the range to calculate the PAL pollutant emissions unless the Department determines, in writing, that there is site-specific data or a site-specific monitoring program to support another content within the range.

2. In accordance with the provision of 40 CFR 52.21(AA)(12)(iv) & 25 PA Code section 127.218 (m)(7), an owner or operator of a major facility using a CEMS to monitor NNSR NOX PAL emissions shall meet the following requirements:

(i) The CEMS must comply with applicable performance specifications found in 40 CFR Part 60, Appendix B (relating to performance specifications).

(ii) The CEMS must sample, analyze and record data at least every 15 minutes while the emissions unit is operating.

3. In accordance with the provision of 40 CFR 52.21 (AA(12)(v) & 25 PA Code section 127.218 (m)(8), an owner or operator of a major facility using a CPMS or PEMS to monitor PAL pollutant emissions shall meet the following requirements:

(i) The CPMS or PEMS must be calibrated based on current site-specific data demonstrating a correlation between the monitored parameters and the PAL pollutant emissions across the range of operation of the emissions unit.

(ii) Each CPMS or PEMS must sample, analyze and record data at least every 15 minutes or other less frequent interval approved in writing by the Department, while the emissions unit is operating.

4. In accordance with the provision of 40 CFR 52.21(AA)(12)(vi) & 25 PA Code section 127.218 (m)(9), an owner or operator of a major facility using emission factors to monitor PAL emissions shall:

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(i) Adjust the emission factors to account for the degree of uncertainty or limitations in the development of the factors.

(ii) Operate the emissions unit within the designated range of use for the emission factor, if applicable.

(iii) Conduct validation testing to determine a site-specific emission factor within 180 operating days of PAL permit issuance, unless the Department determines, in writing, that testing is not required.

5. In accordance with the provision of 40 CFR 52.21 (AA)(12)(vii) & 25 PA Code section 127.218 (m)(10), an owner or operator of a facility shall record and report maximum potential emissions without considering enforceable emissions limitations or operational restrictions for an emissions unit during a period of time that there is no monitoring data, unless another method for determining emissions during these periods is specified in the PAL permit. Part 75 Data Substitution is specifically approved for this purpose.

6. In accordance with the provision of 40 CFR 52.21(AA)(12)(viii) & 25 PA Code section 127.218 (m)(11), if an owner or operator of an emissions unit cannot demonstrate a correlation between the monitored parameters and the PAL pollutant emissions rate at the operating points of the emissions unit, the Department will, at the time of permit issuance, either:

(i) Establish default values for determining compliance with the PAL permit based on the highest potential emissions reasonably estimated at the operating points.

(ii) Determine that operation of the emissions unit during operating conditions when there is no correlation between monitored parameters and the PAL emissions is a violation of the PAL permit.

7. In accordance with the provision of 40 CFR 52.21(AA)(12)(iX) & 25 PA Code section 127.218 (m)(12), data used to establish the PAL must be revalidated through performance testing or other scientifically valid means approved in writing by the Department. This testing must occur at least once every 5 years after issuance of the PAL permit. This applies to CFBs only.

 # 022 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218(m)

Monitoring System for Emissions Units Added or Modified After PAL Issuance.

a. The owner or operator shall monitor emissions from emissions units added or modified after issuance of this permit in accordance with the provisions under 40 C.F.R. 52.21(aa)(12) & 25 Pa. Code Section 127.218(m).

b. The owner or operator must establish a monitoring system that accurately determines plantwide emissions for the PAL. The monitoring system must be based on sound science and meet generally acceptable scientific procedures for data quality and manipulation. Additionally, the information generated by the monitoring system must meet minimum legal requirements for admissibility in a judicial proceeding to enforce the PAL permit. Failure to use a monitoring system that meets the requirements of 40 C.F.R. 52.21(aa)(12) will render the PAL invalid. (40 C.F.R. 52.21(aa)(12)(i)(a), 40 C.F.R. 52.21(aa)(12)(i)(d))

c. The monitoring system for emissions units added or modified after issuance of the PSD PAL shall use one of the four general monitoring approaches in paragraphs (i) through (iv) of this subsection.

i. Mass balance calculations - The owner or operator using mass balance calculations to monitor PAL pollutant emissions from activities using coating or solvents shall meet the following requirements: (40 C.F.R. 52.21(aa)(12)(iii))

a. Provide a demonstrated means of validating the published content of the PAL pollutant that is contained in or created by all materials used in or at the emissions unit;

b. Assume that the emissions unit emits all of the PAL pollutant that is contained in or created by any raw material or fuel used in or at the emissions unit, if it cannot otherwise be accounted for in the process; and

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c. Where the vendor of a material or fuel, which is used in or at the emissions unit, publishes a range of pollutant content from such material, the owner or operator must use the highest value of the range to calculate the PAL pollutant emissions unless the Department determines there is site-specific data or a site- specific monitoring program to support another content within the range.

ii. CEMS - An owner or operator using CEMS to monitor PAL pollutant emissions shall meet the following requirements: (40 C.F.R. 52.21(aa)(12)(iv))

a. CEMS must comply with applicable Performance Specifications found in 40 CFR part 60, appendix B; and

b. CEMS must sample, analyze and record data at least every 15 minutes while the emissions unit is operating.

iii. CPMS or PEMS - An owner or operator using CPMS or PEMS to monitor PAL pollutant emissions shall meet the following requirements: (40 C.F.R. 52.21(aa)(12)(v))

a. The CPMS or the PEMS must be based on current site-specific data demonstrating a correlation between the monitored parameter(s) and the PSD PAL pollutant emissions across the range of operation of the emissions unit; and

b. Each CPMS or PEMS must sample, analyze, and record data at least every 15 minutes, or at another less frequent interval approved by the Director, while the emissions unit is operating.

iv. Emissions Factors - An owner or operator using emission factors to monitor PAL pollutant emissions shall meet the following requirements: (40 C.F.R. 52.21(aa)(12)(vi))

a. All emission factors shall be adjusted, if appropriate, to account for the degree of uncertainty or limitations in the factors' development;

b. The emissions unit shall operate within the designated range of use for the emission factor, if applicable; and

c. If technically practicable, the owner or operator of a significant emissions unit that relies on an emission factor to calculate PAL pollutant emissions shall conduct validation testing to determine a site-specific emission factor within 6 months of PAL permit issuance, unless the Department determines that testing is not required.

d. Notwithstanding subsection (c) of this section and 40 C.F.R. 52.21(aa)(12)(i)(b) the owner or operator may also use an alternative monitoring approach that meets subsection (b) of this section and 40 C.F.R. 52.21(aa)(12)(i)(a) if approved by the Department. (40 C.F.R. 52.21(aa)(12)(i)(c)) & 25 Pa. Code Section 127.218(m)(2).

e. The owner or operator shall submit the monitoring methods for new and modified emissions units In accordance with the provisions of this plan approval.

f. The owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods has been specified under permit. (40 C.F.R. 52.21(aa)(12)(vii)) & 25 Pa. Code Section 127.218(m)(10). Part 75 Data Substitution is specifically approved for this purpose.

g. All data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the Department. Such testing must occur at least once every 5 years after issuance of the PAL.(40 C.F.R. 52.21(aa)(12)(ix)) & 25 Pa. Code Section 127.218(m)(12). This provision only applies to the CFBs.

IV. RECORDKEEPING REQUIREMENTS.

 # 023 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

[Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 and 40 CFR Section 52.21(aa)]

SECTION C. Site Level Plan Approval Requirements

The company shall maintain an emission tracking system to document compliance with the PAL for the facility. The tracking system shall record on a monthly basis fuel usage, emission rates and total monthly emissions for the pollutants from all the sources at the facility. Compliance with the PAL shall be determined through the use of total monthly fuel usage from the fuel meter readings, CEM data, USEPA emission factors and/or use of emission limitations as specified in this Plan Approval.

 # 024 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

All records, reports and analysis results generated in compliance with the requirements of any section of this permit shall be maintained in accordance with General Title V Requirement #022, Section (b), and shall be made available to the Department upon written or verbal request at a reasonable time.

 # 025 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

FUGITIVE AND VISIBLE EMISSIONS

(a) The permittee shall, at the conclusion of each weekly inspection, record all occurrences of fugitive and/or visible emissions which deviate from the limitations in a log book.

(b) The permittee shall record any and all corrective action(s) taken to abate each recorded deviation or prevent future occurrences.

 # 026 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218.

In accordance with the plantwide applicability (PAL) provisions of 40 CFR 52.21(AA)(7) and (13), (25 Pa. Code §§127.218(g) and (n), the permittee shall maintain records of the emissions from the facility necessary to determine compliance with the PAL, including a determination of the 12-month rolling total emissions for each emissions unit. The records shall be retained for five years.

 # 027 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218.

a. The owner or operator shall retain the records required under this section and 40 C.F.R. 52.21(aa)(13) on site. Such records may be retained in an electronic format. (40 C.F.R. 52.21(aa)(7)(viii))

b. The owner or operator shall retain a copy of all records necessary to determine compliance with the requirements of this PSD PAL permit and of 40 C.F.R. 52.21(aa), including a determination of each emissions unit's 12-month rolling total emissions, for 5 years from the date of such record. (40 C.F.R. 52.21(aa)(13)(i))

c. The owner or operator shall retain a copy of the following records for the duration of the PAL effective period plus 5 years: (40 C.F.R. 52.21(aa)(13)(ii)).

i. A copy of the PAL permit application and any applications for revisions to the PAL; and

ii. Each annual certification of compliance pursuant to title V and the data relied on in certifying the compliance.

 # 028 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218(g) and (o).

In accordance with the plantwide applicability (PAL) provisions of 40 CFR 52.21(AA)(7) and (14), 25 Pa. Code §§127.218(g)

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and (o), the permittee shall submit reports of deviations and exceedances of the PAL requirements.

V. REPORTING REQUIREMENTS.

 # 029 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 and 40 CFR Section 52.21(aa)]

The owner/operator shall show that the sum of the monthly emissions from each source including emissions from startup, shutdowns and malfunctions under the PALs for the previous 12 consecutive months is less than the PAL (a 12-month sum, rolled monthly) respectively. To determine the compliance with the PALs, the calculated pollutant(s) emissions for the month shall be added to the previous 11 months calculated pollutant (s) emissions for the total facility.

 # 030 [25 Pa. Code §135.21]

Emission statements

(a) The permittee shall provide the Department with a statement of each stationary source in a form as prescribed by the Department, showing the actual emissions of oxides of nitrogen and volatile organic compounds (VOCs) from the permitted facility for each reporting period, a description of the method used to calculate the emissions and the time period over which the calculation is based.

(b) The annual emission statements are due by March 1 for the preceding calendar year and shall contain a certification by a company officer or the plant manager that the information contained in the statement is accurate. The Emission Statement shall provide data consistent with requirements and guidance developed by the EPA.

(c) The Department may require more frequent submittals if the Department determines that one or more of the following applies:

(1) A more frequent submission is required by the EPA.

(2) Analysis of the data on a more frequent basis is necessary to implement the requirements of the Air Pollution Control Act.

 # 031 [25 Pa. Code §135.3]

Reporting

(a) A person who owns or operates a source to which this chapter applies, and who has previously been advised by the Department to submit a source report, shall submit by March 1 of each year a source report for the preceding calendar year. The report shall include information for all previously reported sources, new sources which were first operated during the preceding calendar year and sources modified during the same period which were not previously reported.

(b) A person who receives initial notification by the Department that a source report is necessary shall submit an initial source report within 60 days after receiving the notification or by March 1 of the year following the year for which the report is required, whichever is later.

(c) A source owner or operator may request an extension of time from the Department for the filing of a source report, and the Department may grant the extension for reasonable cause.

 # 032 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218(m).

Pursuant to the requirements of 40 C.F.R. 52.21(aa)(12)(vii), the owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods. Part 75 Data Substitution is specifically approved for this purpose.

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 # 033 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218.

a. The owner or operator shall submit the reports required under this section and 40 C.F.R. 52.21(aa)(14) by the required deadlines. (40 C.F.R. 52.21(aa)(7)(ix))

b. The owner or operator shall submit semi-annual monitoring reports and prompt deviation reports to the Department in accordance with the title V operating permit. The reports shall meet the requirements in paragraphs (i) through (iii) of this subsection. (40 C.F.R. 52.21(aa)(14))

i. The semi-annual report shall be submitted to the Department by January 31 and August 1 of each year. The January 31 report shall be for the previous calendar year, and the August 1 report shall be for period of January 1 to June 30 of the current calendar year. The report shall contain the information required in subparagraphs (A) through (G) of this paragraph.

A. The identification of owner and operator and the permit number.

B. Total annual emissions (tons/year) based on a 12-month rolling total for each month in the reporting period recorded pursuant to subsection 6(b) of this permit and 40 C.F.R. 52.21(aa)(13)(i).

C. All data relied upon, including, but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual PAL pollutant emissions.

D. A list of new emissions units and modified emissions units that have become operational during the reporting period and a description of the monitoring method used to demonstrate compliance with the PAL limits, including the emissions factors used (if applicable), emissions calculations method, and monitoring frequency. The monitoring method must meet the requirements of this plan approval.

E. The number, duration, and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective action taken.

F. A notification of a shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of the pollutant or the number determined by methods included in this permit, as provided by 40 C.F.R. 52.21(aa)(12)(vii).

G. A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.

ii. The owner or operator shall promptly submit reports of any deviations or exceedance of the PAL requirements, including periods where no monitoring is available as indicated in this plan approval, in accordance with the reporting requirements of the Title V permit. The reports shall contain the following information:

A. The identification of owner and operator and the permit number;

B. The PAL requirement that experienced the deviation or that was exceeded;

C. Emissions resulting from the deviation or the exceedance; and

D. A signed statement by the responsible official certifying the truth, accuracy, and completeness of the information provided in the report.

iii. The owner or operator shall submit to the Department the results of any re-validation test or method within 60 days of

SECTION C. Site Level Plan Approval Requirements

completion of such test or method.

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

 # 034 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

High heat content of fuel used at the facility shall be monitored on a quarterly basis and emissions calculations for demonstrating compliance shall use the most recent test results.

A. Missing test data shall be filled using the maximum test result for a given fuel from the preceding four valid test results. In addition, the missing data will be reported as a deviation.

 # 035 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The Department shall have discretion to reopen the PAL permit for the following:

A. Reduce the PALs to reflect newly applicable Federal requirements with compliance dates after the PALs effective date (40 C.F.R 52.21(aa)(8)(b)(1))and 25 Pa. Code §127.218(i));

B. Reduce the PALs consistent with any other requirement, that is enforceable as a practical matter, and that the Department may impose on the facility under the State Implementation Plan (40 C.F.R 52.21(aa)(8)(b)(2) and 25 Pa. Code §127.218(i)) and

C. Reduce the PALs if the Department determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation, or to an adverse impact on an air quality related value that has been identified for a Federal Class I area by a Federal Land Manager and for which information is available to the general public. (40 C.F.R 52.21(aa)(8)(b)(3) and 25 Pa. Code §127.218(e)).

 # 036 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

During the PAL effective period, the Department must reopen the PAL permit to:

i. Correct typographical/calculation errors made in setting the PAL or reflect a more accurate determination of emissions used to establish the PALs. (40 C.F.R 52.21(aa)(8)(ii)(a)(1)) & 25 Pa. Code §127.218(i); and

ii. Reduce the PALs if the owner or operator creates creditable emissions reductions for use as offsets under an approved non-attainment NSR program (40 C.F.R 52.21(aa)(8)(ii)(a)(2)); and 25 Pa. Code §127.218(i) and

iii. Revise the PALs to reflect an increase in the PALs if the Department decides to increase the PALs as provided under 40 C.F.R. 52.21(aa)(11) and 25 Pa. Code §127.218(l).

A. The owner or operator shall submit a complete application to request an increase in the PALs limits for a PALs major modification. Such application shall identify the emissions unit(s) contributing to the increase in emissions so as to cause the source's emissions to equal or exceed the PALs.

B. As part of the application, the owner or operator shall demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s) exceeds the PALs. The level of control that would result from BACT equivalent controls on each significant or major emissions unit shall be determined by conducting a new BACT analysis at the time the application is

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submitted, unless the emissions unit is currently required to comply with a BACT or LAER requirement that was established within the preceding 10 years. In such a case, the assumed control level for that emissions unit shall be equal to the level of BACT or LAER with which that emissions unit must currently comply.

C. The owner or operator shall obtain a major NSR permit for all emissions unit(s), regardless of the magnitude of the emissions increase resulting from them (that is, no significant levels apply). These emissions unit(s) shall comply with any emissions requirements resulting from the major NSR process, even though they have also become subject to the PAL or continue to be subject to the PAL.

D. The increased PAL level shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the pollutant.

 # 037 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant 25 Pa. Code § 127.218(h), 40 C.F.R. 52.21(aa)(4)(i)(f), and 40 C.F.R. 52.21(aa)(8)(i)) the PALs effective period will expire ten years after the effective date shown on the title/cover page of Plan Approval 48-00021B.

 # 038 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The owner or operator must continue to comply with all other applicable Federal and State requirements, emission limitations, and work practice standards, including any obligation to obtain permits prior to constructing, modifying and operating any emissions unit.

 # 039 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Any physical change or change in the method of operation at the facility will not be a major modification and will not have to be approved under 40 C.F.R 52.21 and is not subject to the provisions 40 C.F.R. 52.21(r)(4) (restrictions on relaxing enforceable emission limitations that the major stationary source used to avoid applicability of the major NSR program), so long as the owner or operator maintains its total source-wide emissions of below the PAL limits established.

 # 040 [25 Pa. Code §127.512]

Operating permit terms and conditions.

1. The permittee may not construct or modify a new source at the facility unless the "new source", as defined in 25 Pa. Code§ 121.1, meets the Best Available Technology requirements established by the Department pursuant to Section 6.6 (c) of the Air Pollution Control Act and 25 Pa. Code § 127.11.

2. At no time (during or after the PAL effective period) are emissions reductions of a PAL pollutant, which occur during the PAL effective period, creditable as decreases for purposes of offsets unless the level of the PAL are reduced by the amount of such emissions reductions and such reductions would be creditable in the absence of the PAL.

 # 041 [25 Pa. Code §127.512]

Operating permit terms and conditions.

1. The company shall not impose conditions upon or otherwise restrict the Department's access to the aforementioned source(s) and/or any associated air cleaning device(s)and shall allow the Department to have access at any time to said source(s) and associated air cleaning device(s) with such measuring and recording equipment, including equipment recording visual observations, as the Department deems necessary and proper for performing its duties and for the effective enforcement of the Air Pollution Control Act.

 # 042 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218(k)

If the owner or operator submits a timely and complete application to renew the PALs in accordance with the requirements of 40 C.F.R. 52.21(aa)(10)(ii) & 25 Pa. Code Section 127.218(k), then the PAL shall not expire at the end of the PAL effective period. It shall remain in effect until a revised PAL permit is issued by the Department.

i. In accordance with the requirements of 40 C.F.R. 52.21(aa)(10)(ii) & 25 Pa. Code Section 127.218(k), the owner or

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operator shall submit a timely and complete application to the Department to request renewal of the PALs. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration.

ii. The application to renew the PAL permit shall meet the requirements of 40 C.F.R. 52.21(aa)(10)(iii) & 25 Pa. Code Section 127.218(k).

 # 043 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]

Subpart A--General Provisions

Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 (k).

In accordance with 40 CFR 52.21(AA) (10) the following requirements apply to renewal of a PAL:

(a) The Department will follow the procedures specified in 40 CFR 52.21 (AA)(5) & 25 Pa. Code Section 127.218 (e) in approving a request to renew a PAL permit for a major facility, and will provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comment in accordance with the applicable public notice requirements in 25 Pa. Code Sections 127.44, 127.424 and 127.521. During the public review, a person may propose a PAL level for the major facility for consideration by the Department.

(b) An owner or operator of a major facility shall submit a timely application to the Department to request renewal of a PAL permit. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months prior to the date of permit expiration. If the owner or operator of a major facility submits a complete application to renew the PAL permit within this time period, the PAL continues to be effective until the revised permit with the renewed PAL is issued.

(c) The application to renew a PAL permit must contain the following information:

(1) The information required in 25 Pa. Code Section, 127.218(b)(1)--(3) & 40 CFR 52.21 (AA)(3)

(2) A proposed PAL level

(3) The sum of the potentials to emit of the emissions units under the PAL

(4) Other information the owner or operator wishes the Department to consider in determining the appropriate level at which to renew the PAL.

(d) The Department will consider the options in subparagraphs (i) and (ii) in determining whether and how to adjust the PAL. In no case may the adjustment fail to comply with subparagraphs (iii) and (iv).

(i) If the emissions level calculated in accordance with 40 CFR 52.21 (AA)(6) & 25 Pa. Code Section 127.218 (f), referring to the established PAL, is equal to or greater than 80% of the PAL level, the Department may renew the PAL at the same level without considering the factors set forth in subparagraph (ii).

(ii) The Department may set the PAL at a level that it determines to be more representative of the facility's baseline actual emissions or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the facility's voluntary emissions reductions or other factors specifically identified by the Department in its written rationale.

(iii) If the potential to emit of the major facility is less than the PAL, the Department will adjust the PAL to a level no greater than the potential to emit of the facility.

(iv) The Department will not approve a renewed PAL level higher than the current PAL unless the major facility has complied with 40 CFR 52.21 (AA)(11) & 25 Pa. Code 127.218 (l).

(e) If the compliance date for a State or Federal requirement that applies to the facility occurs during the PAL effective period and the Department has not already adjusted for this requirement, the PAL must be adjusted at the time of the PAL permit

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renewal or Title V permit renewal, whichever occurs first.

 # 044 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]
Subpart A--General Provisions
Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218 (j)

If the PAL authorized by this permit is not renewed in accordance with the procedures in this plan approval and 40 C.F.R. 52.21(aa)(10) & 25 Pa Code Section 128.218(k), the PAL shall expire at the end of the PAL effective period and the requirements in 40 C.F.R 52.21(aa)(9)(i) through (v) & 25 PA Code, Section 127.218 (j) shall apply.

 # 045 [40 CFR Part 52 Approval And Promulgation of Implementation Plans §40 CFR 52.21 (aa)]
Subpart A--General Provisions
Actual PALs

Authority for this permit condition is also derived from 25 Pa. Code Section 127.218(g).

In accordance with the plantwide applicability (PAL) provisions of 40 CFR 52.21(AA)(7) & 25 Pa. Code §127.218(g), the emissions from a new source that requires a plan approval shall be the minimum attainable through the use of Best Available Technology. A physical change or change in the method of operation of an existing emissions unit will not be subject to BAT requirements unless the emissions unit is modified so that the fixed capital cost of new components exceeds 50% of the fixed capital cost that would be required to construct an entirely new emissions unit.

VIII. COMPLIANCE CERTIFICATION.

No additional compliance certifications exist except as provided in other sections of this plan approval including Section B (relating to Plan Approval General Requirements).

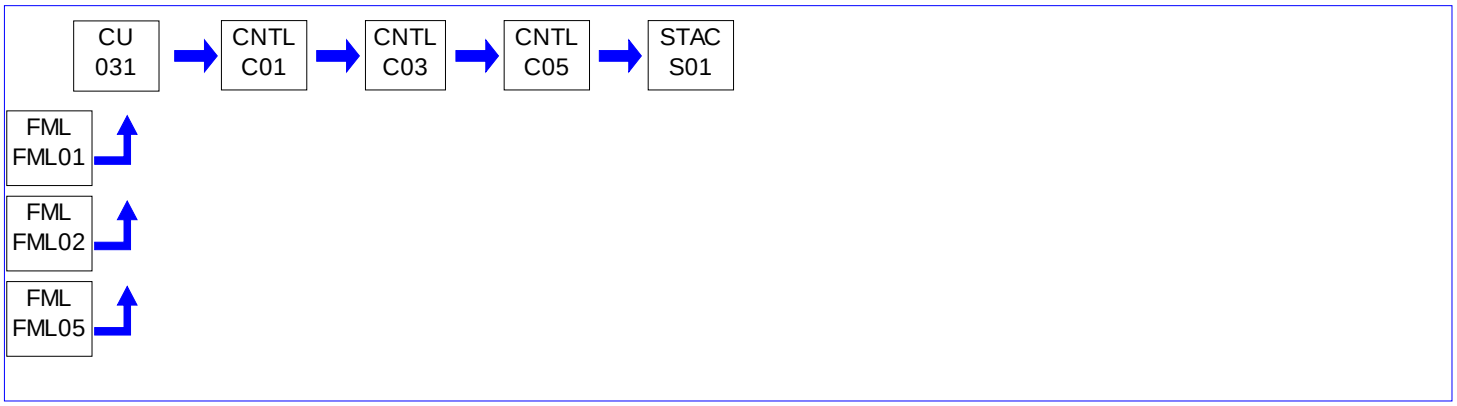
IX. COMPLIANCE SCHEDULE.

No compliance milestones exist.

SECTION D. Source Level Plan Approval Requirements

Source ID: 031 Source Name: PYROPOWER UNIT 1

Source Capacity/Throughput: 600.000 MMBTU/HR



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

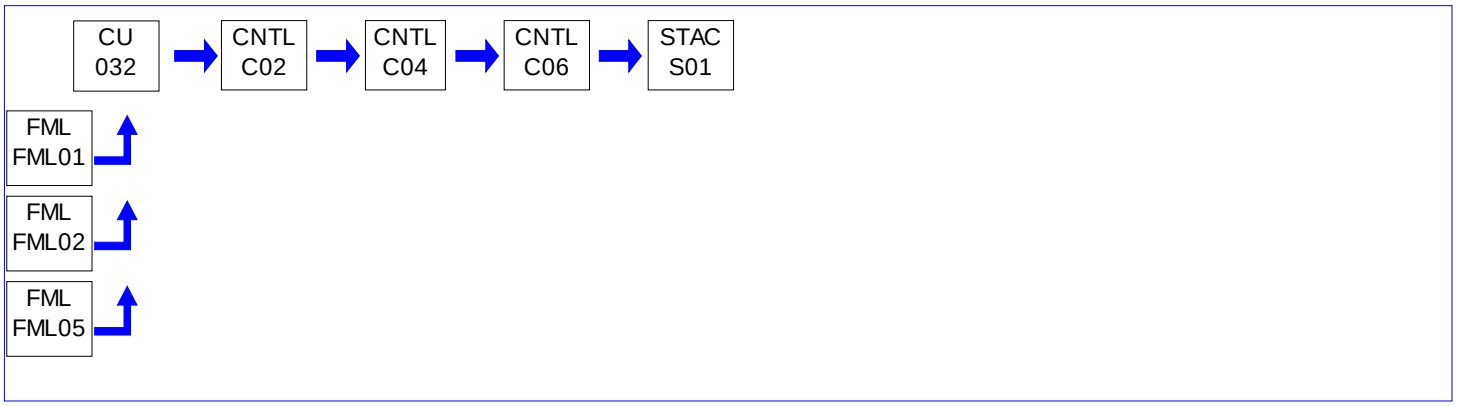
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: 032 Source Name: PYROPOWER UNIT 2

Source Capacity/Throughput: 600.000 MMBTU/HR



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: DFP Source Name: DIESEL FIRE PUMP

Source Capacity/Throughput: 2.100 MMBTU/HR



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: ALS Source Name: ASH LOADING SYSTEM

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

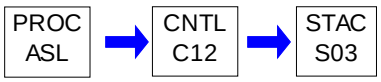
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: ASL Source Name: ASH SILO

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

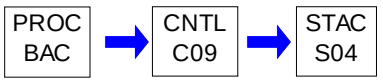
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: BAC Source Name: BOTTOM ASH CONVEYOR

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

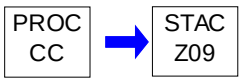
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: CC Source Name: CULM CRUSHER

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

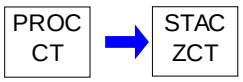
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: CT Source Name: COOLING TOWER

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

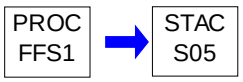
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: FFS1 Source Name: FLY ASH FILTER SEPARATOR #1

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

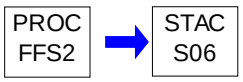
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: FFS2 Source Name: FLYASH FILTER SEPARATOR #2

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

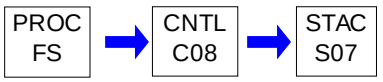
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: FS Source Name: FUEL SILO/REVERSING CONVEYOR

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

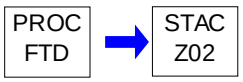
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: FTD Source Name: FUEL TRUCK DUMP/RECLAIM HOPPER

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

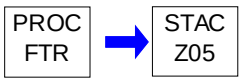
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: FTR Source Name: FUEL TRUCK UNLOADING

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

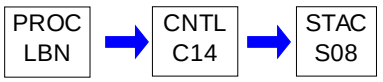
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: LBN Source Name: LIME BIN

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

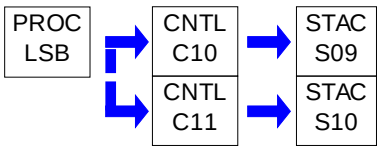
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: LSB Source Name: LIMESTONE BIN

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: PKH Source Name: PORTABLE KEROSENE HEATERS (6)

Source Capacity/Throughput:

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

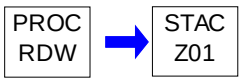
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: RDW Source Name: ROADWAYS

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: SAB Source Name: SODA ASH BIN

Source Capacity/Throughput:

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

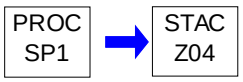
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: SP1 Source Name: DAILY USE COAL REFUSE STORAGE PILE

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

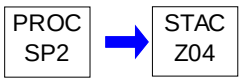
VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION D. Source Level Plan Approval Requirements

Source ID: SP2 Source Name: STRATEGIC RESERVE COAL REFUSE STORAGE PILE

Source Capacity/Throughput:



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

SECTION E. Source Group Plan Approval Restrictions.

SECTION F. Alternative Operation Requirements.

No Alternative Operations exist for this Plan Approval facility.

SECTION G. Emission Restriction Summary.

No emission restrictions listed in this section of the permit.

SECTION H. Miscellaneous.

****** End of Report ******

Attachment E

U.S. EPA, Clean Air Markets Program Data										
Panther Creek Annual Emissions 2011-22										
Facility Name	Unit ID	Year	Operating Time Count	Steam Load (1000 lb)	SO2 Mass (short tons)	SO2 Rate (lbs/mmBtu)	NOx Mass (short tons)	NOx Rate (lbs/mmBtu)	Heat Input (mmBtu)	Primary Fuel Type
Panther Creek Energy Facility	1	2011	8681	3308559.93	297.283	0.134	294.614	0.1322	4448423.291	Coal
Panther Creek Energy Facility	1	2012	8246	3166787.21	275.745	0.1297	272.2	0.1277	4265864.439	Coal
Panther Creek Energy Facility	1	2013	7474	2825210.97	250.31	0.1267	242.041	0.1222	3960258.968	Coal
Panther Creek Energy Facility	1	2014	8129	2937626.69	260.81	0.1272	252.128	0.122	4120526.22	Coal
Panther Creek Energy Facility	1	2015	6973	2252659.7	195.37	0.1265	182.846	0.1165	3088068.676	Coal
Panther Creek Energy Facility	1	2016	1977	645990.17	52.683	0.1275	50.853	0.1202	837210.83	Coal
Panther Creek Energy Facility	1	2017	1371	447939.4	39.05	0.1317	34.639	0.1131	599075.259	Coal
Panther Creek Energy Facility	1	2018	2294	710440.46	57.113	0.1343	52.89	0.1213	862681.626	Coal
Panther Creek Energy Facility	1	2019	1642	536206.62	39.107	0.1373	39.772	0.1304	590684.877	Coal
Panther Creek Energy Facility	1	2020	1053	286019.84	15.839	0.136	14.659	0.1181	237430.428	Coal
Panther Creek Energy Facility	1	2021	1951	615201.73	53.554	0.1347	54.665	0.1286	846450.246	Coal
Panther Creek Energy Facility	1	2022	7261	2446194.38	171.931	0.0953	188.217	0.1005	3734270.642	Coal
					221%		**244%**			
Panther Creek Energy Facility	2	2011	8626	3246548.97	286.113	0.1293	272.925	0.123	4429363.965	Coal
Panther Creek Energy Facility	2	2012	8295	3140011.53	280.511	0.1326	270.354	0.1272	4246619.213	Coal
Panther Creek Energy Facility	2	2013	7314	2761360.65	256.48	0.1267	243.841	0.1197	4065641.073	Coal
Panther Creek Energy Facility	2	2014	7946	2785610.66	259.493	0.1268	247.534	0.1203	4100626.288	Coal
Panther Creek Energy Facility	2	2015	7269	2271865.71	214.916	0.1289	195.888	0.1162	3332657.437	Coal
Panther Creek Energy Facility	2	2016	1994	611143.11	51.521	0.1202	51.987	0.1199	856191.908	Coal
Panther Creek Energy Facility	2	2017	1314	412871.02	29.983	0.1056	34.93	0.1205	569239.234	Coal
Panther Creek Energy Facility	2	2018	2374	715471.7	63.529	0.1272	60.809	0.1185	1009233.457	Coal
Panther Creek Energy Facility	2	2019	1410	452587.64	39.873	0.13	40.062	0.1279	614962.581	Coal
Panther Creek Energy Facility	2	2020	1084	285230.92	23.743	0.1337	20.349	0.1117	351733.185	Coal
Panther Creek Energy Facility	2	2021	2009	619450.97	48.416	0.1149	51.688	0.116	869479.576	Coal
Panther Creek Energy Facility	2	2022	7472	2458350.45	218.659	0.1076	171.033	0.0832	4034846.924	Coal
					352%		**231%**			

Attachment F

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

TITLE V/STATE OPERATING PERMIT

Issue Date: November 27, 2018 Effective Date: November 27, 2018

Expiration Date: November 27, 2023

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to operate the air emission source(s) more fully described in this permit. This Facility is subject to all terms and conditions specified in this permit. Nothing in this permit relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each permit condition is set forth in brackets. All terms and conditions in this permit are federally enforceable applicable requirements unless otherwise designated as "State-Only" or "non-applicable" requirements.

TITLE V Permit No: 13-00003

Federal Tax Id - Plant Code: 45-5062056-1

Owner Information

Name: PANTHER CREEK POWER OPR LLC
Mailing Address: 4 DENNISON RD
NESQUEHONING, PA 18240-2242

Plant Information

Plant: PANTHER CREEK POWER OPR LLC/NESQUEHONING
Location: 13 Carbon County 13917 Nesquehoning Borough
SIC Code: 4911 Trans. & Utilities - Electric Services

Responsible Official

Name: MATTHEW J COCHRAN
Title: ASSET MANAGER
Phone: (570) 645 - 8721

Permit Contact Person

Name: CLIFF HEISTAND
Title: ENVIRONMENTAL MANAGER
Phone: (570) 645 - 8731

[Signature] _____

MARK J. WEJKSZNER, NORTHEAST REGION AIR PROGRAM MANAGER

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C-II: Testing Requirements
C-III: Monitoring Requirements
C-IV: Recordkeeping Requirements
C-V: Reporting Requirements
C-VI: Work Practice Standards
C-VII: Additional Requirements
C-VIII: Compliance Certification
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Section D. Source Level Title V Requirements

D-I: Restrictions
D-II: Testing Requirements
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SECTION A. Table of Contents

Note: These same sub-sections are repeated for each source!

Section E. Source Group Restrictions

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Section G. Emission Restriction Summary

Section H. Miscellaneous

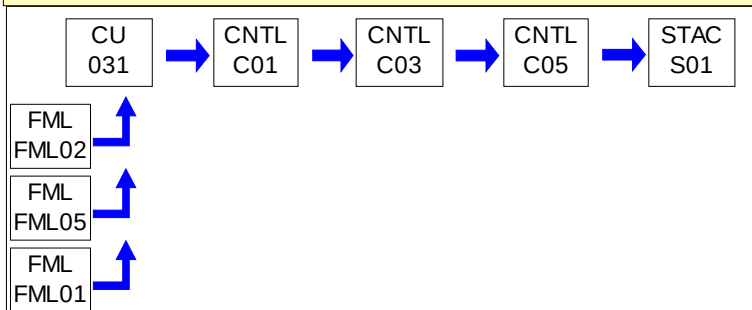
SECTION A. Site Inventory List

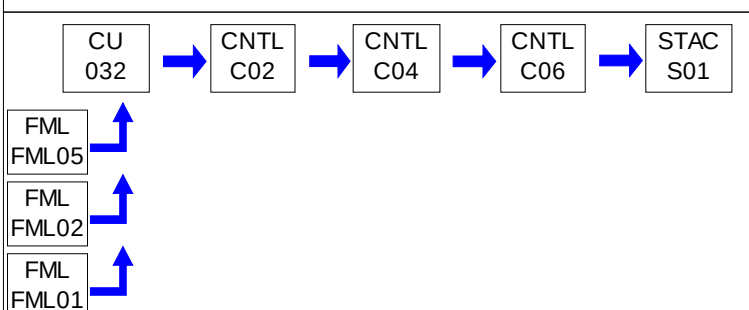
Source ID	Source Name	Capacity/Throughput	Fuel/Material
031	PYROPOWER UNIT 1	600.000 MMBTU/HR	
032	PYROPOWER UNIT 2	600.000 MMBTU/HR	
DFP	DIESEL FIRE PUMP	2.100 MMBTU/HR	
ALS	ASH LOADING SYSTEM		
ASL	ASH SILO		
BAC	BOTTOM ASH CONVEYOR		
CC	CULM CRUSHER		
FFS1	FLY ASH FILTER SEPARATOR #1		
FFS2	FLYASH FILTER SEPARATOR #2		
FS	FUEL SILO/REVERSING CONVEYOR		
FTD	FUEL TRUCK DUMP		
FTR	FUEL TRUCK UNLOADING		
LBN	LIME BIN		
LSB	LIMESTONE BIN		
RDW	ROADWAYS		
RH	RECLAIM HOPPER		
SAB	SODA ASH BIN		
SP1	DAILY USE COAL REFUSE STORAGE PILE		
SP2	STRATEGIC RESERVE COAL REFUSE STORAGE PILE		
C01	BRANDT BAGHOUSE #1		
C02	BRANDT BAGHOUSE #2		
C03	PYROPOWER NO.1 LIMESTONE INJECTION		
C04	PYROPOWER NO.2 LIMESTONE INJECTION		
C05	PYROPOWER NO.1 THERMAL DENOX		
C06	PYROPOWER NO.2 THERMAL DENOX		
C07	RECLAIM HOPPER FABRIC FILTER		
C08	FUEL SILO FABRIC FILTER		
C09	BOTTOM ASH CONVEYOR FABRIC FILTER		
C10	LIMESTONE BIN FABRIC FILTER		
C11	LIMESTONE BIN FABRIC FILTER		
C12	ASH SILO FABRIC FILTER		
C13	SODA ASH BIN FABRIC FILTER		
C14	LIME BIN FABRIC FILTER		
C15	ASH LOADING SYSTEM ROTOCLONE		
FML01	WINTER CULM PILE		
FML02	NO.2 FUEL OIL STORAGE - 50,000 GALLONS		
FML03	DIESEL FIRE PUMP STORAGE		
FML05	ACTIVE CULM PILE		
S01	STACK - PYROPOWER #1 & #2		
S03	STACK - ASH SILO		

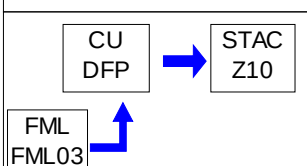
SECTION A. Site Inventory List

Source ID	Source Name	Capacity/Throughput	Fuel/Material
S04	STACK - BOTTOM ASH CONVEYOR		
S05	STACK - FLY ASH SEPARATOR		
S06	STACK - FLYASH SEPARATOR #2		
S07	STACK - FUEL SILOS/CONVEYOR FABR		
S08	STACK - LIME BIN FABRIC		
S09	STACK - LIMESTONE BIN #1		
S10	STACK - LIMESTONE BIN #2		
S11	STACKS (4) - RECLAIM HOPPER		
S12	SODA ASH BIN STACK		
S13	STACK - ASH LOADING SYSTEM		
Z01	ROADWAYS		
Z02	TRUCK UNLOADING		
Z03	ACTIVE STORAGE PILE		
Z04	WINTER STORAGE PILE		
Z05	FUEL TRUCK DUMP		
Z09	CULM CRUSHER FUGITIVE		
Z10	DIESEL FIRE PUMP STACK		

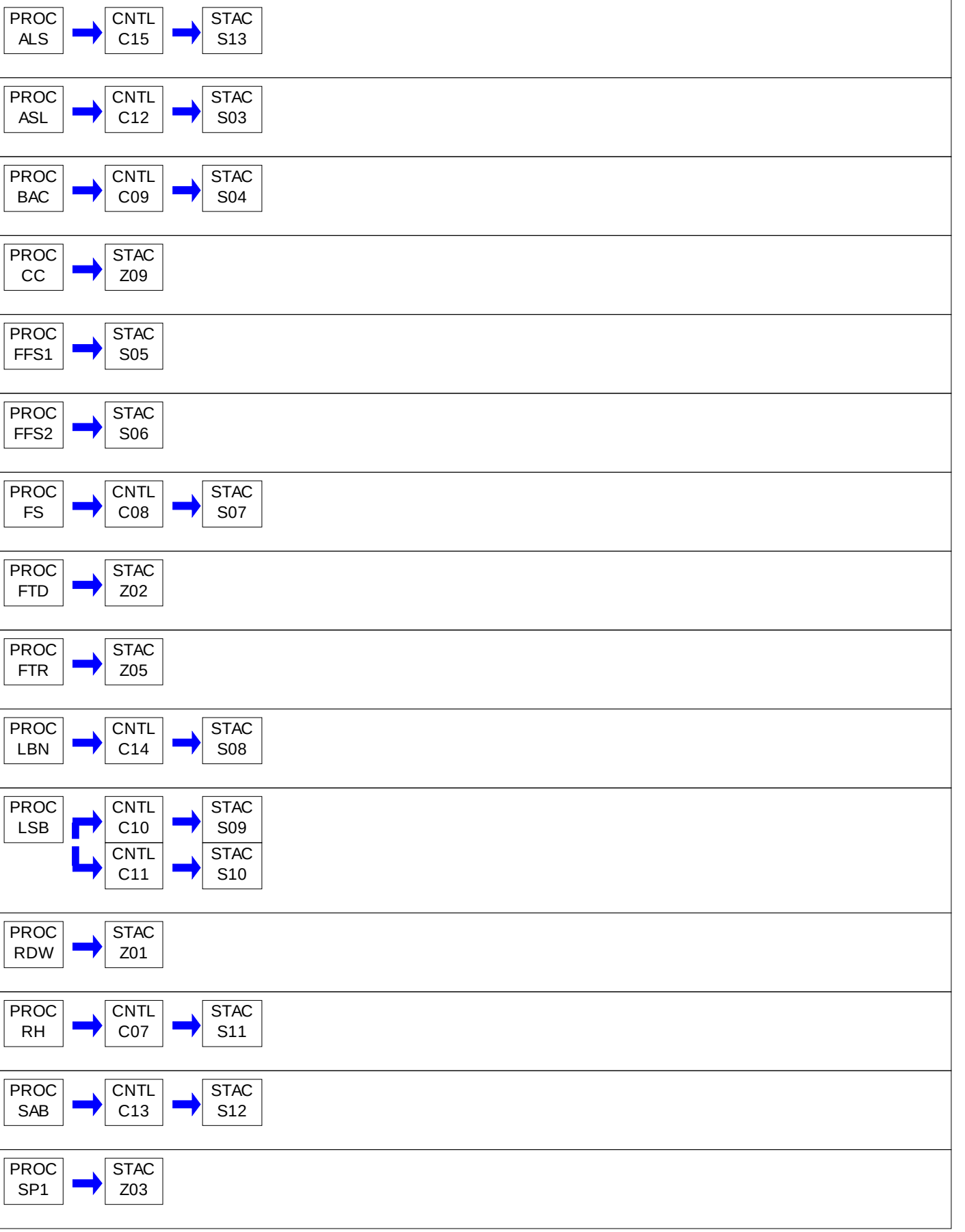
PERMIT MAPS



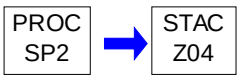




PERMIT MAPS


PROC ALS
CNTL C15
STAC S13
PROC ASL
CNTL C12
STAC S03
PROC BAC
CNTL C09
STAC S04
PROC CC
STAC Z09
PROC FFS1
STAC S05
PROC FFS2
STAC S06
PROC FS
CNTL C08
STAC S07
PROC FTD
STAC Z02
PROC FTR
STAC Z05
PROC LBN
CNTL C14
STAC S08
PROC LSB
CNTL C10
STAC S09
CNTL C11
STAC S10
PROC RDW
STAC Z01
PROC RH
CNTL C07
STAC S11
PROC SAB
CNTL C13
STAC S12
PROC SP1
STAC Z03

PERMIT MAPS



SECTION B. General Title V Requirements

#001 [25 Pa. Code § 121.1]

Definitions

Words and terms that are not otherwise defined in this permit shall have the meanings set forth in Section 3 of the Air Pollution Control Act (35 P.S. § 4003) and 25 Pa. Code § 121.1.

#002 [25 Pa. Code § 121.7]

Prohibition of Air Pollution

No person may permit air pollution as that term is defined in the act.

#003 [25 Pa. Code § 127.512(c)(4)]

Property Rights

This permit does not convey property rights of any sort, or any exclusive privileges.

#004 [25 Pa. Code § 127.446(a) and (c)]

Permit Expiration

This operating permit is issued for a fixed term of five (5) years and shall expire on the date specified on Page 1 of this permit. The terms and conditions of the expired permit shall automatically continue pending issuance of a new Title V permit, provided the permittee has submitted a timely and complete application and paid applicable fees required under 25 Pa. Code Chapter 127, Subchapter I and the Department is unable, through no fault of the permittee, to issue or deny a new permit before the expiration of the previous permit. An application is complete if it contains sufficient information to begin processing the application, has the applicable sections completed and has been signed by a responsible official.

#005 [25 Pa. Code §§ 127.412, 127.413, 127.414, 127.446(e) & 127.503]

Permit Renewal

(a) An application for the renewal of the Title V permit shall be submitted to the Department at least six (6) months, and not more than 18 months, before the expiration date of this permit. The renewal application is timely if a complete application is submitted to the Department's Regional Air Manager within the timeframe specified in this permit condition.

(b) The application for permit renewal shall include the current permit number, the appropriate permit renewal fee, a description of any permit revisions and off-permit changes that occurred during the permit term, and any applicable requirements that were promulgated and not incorporated into the permit during the permit term.

(c) The renewal application shall also include submission of proof that the local municipality and county, in which the facility is located, have been notified in accordance with 25 Pa. Code § 127.413. The application for renewal of the Title V permit shall also include submission of compliance review forms which have been used by the permittee to update information submitted in accordance with either 25 Pa. Code § 127.412(b) or § 127.412(j).

(d) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information during the permit renewal process. The permittee shall also promptly provide additional information as necessary to address any requirements that become applicable to the source after the date a complete renewal application was submitted but prior to release of a draft permit.

#006 [25 Pa. Code §§ 127.450(a)(4) & 127.464(a)]

Transfer of Ownership or Operational Control

(a) In accordance with 25 Pa. Code § 127.450(a)(4), a change in ownership or operational control of the source shall be treated as an administrative amendment if:

(1) The Department determines that no other change in the permit is necessary;

(2) A written agreement has been submitted to the Department identifying the specific date of the transfer of permit responsibility, coverage and liability between the current and the new permittee; and,

(3) A compliance review form has been submitted to the Department and the permit transfer has been approved by the Department.

SECTION B. General Title V Requirements

(b) In accordance with 25 Pa. Code § 127.464(a), this permit may not be transferred to another person except in cases of transfer-of-ownership which are documented and approved to the satisfaction of the Department.

#007 [25 Pa. Code § 127.513, 35 P.S. § 4008 and § 114 of the CAA]

Inspection and Entry

(a) Upon presentation of credentials and other documents as may be required by law for inspection and entry purposes, the permittee shall allow the Department of Environmental Protection or authorized representatives of the Department to perform the following:

(1) Enter at reasonable times upon the permittee's premises where a Title V source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit;

(2) Have access to and copy or remove, at reasonable times, records that are kept under the conditions of this permit;

(3) Inspect at reasonable times, facilities, equipment including monitoring and air pollution control equipment, practices, or operations regulated or required under this permit;

(4) Sample or monitor, at reasonable times, substances or parameters, for the purpose of assuring compliance with the permit or applicable requirements as authorized by the Clean Air Act, the Air Pollution Control Act, or the regulations promulgated under the Acts.

(b) Pursuant to 35 P.S. § 4008, no person shall hinder, obstruct, prevent or interfere with the Department or its personnel in the performance of any duty authorized under the Air Pollution Control Act.

(c) Nothing in this permit condition shall limit the ability of the EPA to inspect or enter the premises of the permittee in accordance with Section 114 or other applicable provisions of the Clean Air Act.

#008 [25 Pa. Code §§ 127.25, 127.444, & 127.512(c)(1)]

Compliance Requirements

(a) The permittee shall comply with the conditions of this permit. Noncompliance with this permit constitutes a violation of the Clean Air Act and the Air Pollution Control Act and is grounds for one (1) or more of the following:

(1) Enforcement action

(2) Permit termination, revocation and reissuance or modification

(3) Denial of a permit renewal application

(b) A person may not cause or permit the operation of a source, which is subject to 25 Pa. Code Article III, unless the source(s) and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the applications and the conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to 25 Pa. Code Chapter 127 in a manner inconsistent with good operating practices.

(c) For purposes of Sub-condition (b) of this permit condition, the specifications in applications for plan approvals and operating permits are the physical configurations and engineering design details which the Department determines are essential for the permittee's compliance with the applicable requirements in this Title V permit.

#009 [25 Pa. Code § 127.512(c)(2)]

Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

#010 [25 Pa. Code §§ 127.411(d) & 127.512(c)(5)]

Duty to Provide Information

(a) The permittee shall furnish to the Department, within a reasonable time, information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or

SECTION B. General Title V Requirements

to determine compliance with the permit.

(b) Upon request, the permittee shall also furnish to the Department copies of records that the permittee is required to keep by this permit, or for information claimed to be confidential, the permittee may furnish such records directly to the Administrator of EPA along with a claim of confidentiality.

#011 [25 Pa. Code §§ 127.463, 127.512(c)(3) & 127.542]

Reopening and Revising the Title V Permit for Cause

(a) This Title V permit may be modified, revoked, reopened and reissued or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay a permit condition.

(b) This permit may be reopened, revised and reissued prior to expiration of the permit under one or more of the following circumstances:

(1) Additional applicable requirements under the Clean Air Act or the Air Pollution Control Act become applicable to a Title V facility with a remaining permit term of three (3) or more years prior to the expiration date of this permit. The Department will revise the permit as expeditiously as practicable but not later than 18 months after promulgation of the applicable standards or regulations. No such revision is required if the effective date of the requirement is later than the expiration date of this permit, unless the original permit or its terms and conditions has been extended.

(2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator of EPA, excess emissions offset plans for an affected source shall be incorporated into the permit.

(3) The Department or the EPA determines that this permit contains a material mistake or inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

(4) The Department or the Administrator of EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(c) Proceedings to revise this permit shall follow the same procedures which apply to initial permit issuance and shall affect only those parts of this permit for which cause to revise exists. The revision shall be made as expeditiously as practicable.

(d) Regardless of whether a revision is made in accordance with (b)(1) above, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by standards or regulations.

#012 [25 Pa. Code § 127.543]

Reopening a Title V Permit for Cause by EPA

As required by the Clean Air Act and regulations adopted thereunder, this permit may be modified, reopened and reissued, revoked or terminated for cause by EPA in accordance with procedures specified in 25 Pa. Code § 127.543.

#013 [25 Pa. Code § 127.522(a)]

Operating Permit Application Review by the EPA

The applicant may be required by the Department to provide a copy of the permit application, including the compliance plan, directly to the Administrator of the EPA. Copies of title V permit applications to EPA, pursuant to 25 PA Code §127.522(a), shall be submitted, if required, to the following EPA e-mail box:

R3_Air_Apps_and_Notices@epa.gov

Please place the following in the subject line: TV [permit number], [Facility Name].

#014 [25 Pa. Code § 127.541]

Significant Operating Permit Modifications

When permit modifications during the term of this permit do not qualify as minor permit modifications or administrative amendments, the permittee shall submit an application for significant Title V permit modifications in accordance with

SECTION B. General Title V Requirements

25 Pa. Code § 127.541. Notifications to EPA, pursuant to 25 PA Code §127.522(a), if required, shall be submitted, to the following EPA e-mail box:

R3_Air_Apps_and_Notices@epa.gov

Please place the following in the subject line: TV [permit number], [Facility Name].

#015 [25 Pa. Code §§ 121.1 & 127.462]

Minor Operating Permit Modifications

The permittee may make minor operating permit modifications (as defined in 25 Pa. Code §121.1), on an expedited basis, in accordance with 25 Pa. Code §127.462 (relating to minor operating permit modifications). Notifications to EPA, pursuant to 25 PA Code §127.462(c), if required, shall be submitted, to the following EPA e-mail box:

R3_Air_Apps_and_Notices@epa.gov

Please place the following in the subject line: TV [permit number], [Facility Name].

#016 [25 Pa. Code § 127.450]

Administrative Operating Permit Amendments

(a) The permittee may request administrative operating permit amendments, as defined in 25 Pa. Code §127.450(a). Copies of request for administrative permit amendment to EPA, pursuant to 25 PA Code §127.450(c)(1), if required, shall be submitted to the following EPA e-mail box:

R3_Air_Apps_and_Notices@epa.gov

Please place the following in the subject line: TV [permit number], [Facility Name].

(b) Upon final action by the Department granting a request for an administrative operating permit amendment covered under §127.450(a)(5), the permit shield provisions in 25 Pa. Code § 127.516 (relating to permit shield) shall apply to administrative permit amendments incorporated in this Title V Permit in accordance with §127.450(c), unless precluded by the Clean Air Act or the regulations thereunder.

#017 [25 Pa. Code § 127.512(b)]

Severability Clause

The provisions of this permit are severable, and if any provision of this permit is determined by the Environmental Hearing Board or a court of competent jurisdiction, or US EPA to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

#018 [25 Pa. Code §§ 127.704, 127.705 & 127.707]

Fee Payment

(a) The permittee shall pay fees to the Department in accordance with the applicable fee schedules in 25 Pa. Code Chapter 127, Subchapter I (relating to plan approval and operating permit fees).

(b) Emission Fees. The permittee shall, on or before September 1st of each year, pay applicable annual Title V emission fees for emissions occurring in the previous calendar year as specified in 25 Pa. Code § 127.705. The permittee is not required to pay an emission fee for emissions of more than 4,000 tons of each regulated pollutant emitted from the facility.

(c) As used in this permit condition, the term "regulated pollutant" is defined as a VOC, each pollutant regulated under Sections 111 and 112 of the Clean Air Act and each pollutant for which a National Ambient Air Quality Standard has been promulgated, except that carbon monoxide is excluded.

(d) Late Payment. Late payment of emission fees will subject the permittee to the penalties prescribed in 25 Pa. Code § 127.707 and may result in the suspension or termination of the Title V permit. The permittee shall pay a penalty of fifty percent (50%) of the fee amount, plus interest on the fee amount computed in accordance with 26 U.S.C.A. § 6621(a)(2) from the date the emission fee should have been paid in accordance with the time frame specified in 25 Pa. Code § 127.705(c).

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(e) The permittee shall pay an annual operating permit administration fee according to the fee schedule established in 25 Pa. Code § 127.704(c) if the facility, identified in Subparagraph (iv) of the definition of the term "Title V facility" in 25 Pa. Code § 121.1, is subject to Title V after the EPA Administrator completes a rulemaking requiring regulation of those sources under Title V of the Clean Air Act.

(f) This permit condition does not apply to a Title V facility which qualifies for exemption from emission fees under 35 P.S. § 4006.3(f).

#019 [25 Pa. Code §§ 127.14(b) & 127.449]

Authorization for De Minimis Emission Increases

(a) This permit authorizes de minimis emission increases from a new or existing source in accordance with 25 Pa. Code §§ 127.14 and 127.449 without the need for a plan approval or prior issuance of a permit modification. The permittee shall provide the Department with seven (7) days prior written notice before commencing any de minimis emissions increase that would result from either: (1) a physical change of minor significance under § 127.14(c)(1); or (2) the construction, installation, modification or reactivation of an air contamination source. The written notice shall:

(1) Identify and describe the pollutants that will be emitted as a result of the de minimis emissions increase.

(2) Provide emission rates expressed in tons per year and in terms necessary to establish compliance consistent with any applicable requirement.

The Department may disapprove or condition de minimis emission increases at any time.

(b) Except as provided below in (c) and (d) of this permit condition, the permittee is authorized during the term of this permit to make de minimis emission increases (expressed in tons per year) up to the following amounts without the need for a plan approval or prior issuance of a permit modification:

(1) Four tons of carbon monoxide from a single source during the term of the permit and 20 tons of carbon monoxide at the facility during the term of the permit.

(2) One ton of NOx from a single source during the term of the permit and 5 tons of NOx at the facility during the term of the permit.

(3) One and six-tenths tons of the oxides of sulfur from a single source during the term of the permit and 8.0 tons of oxides of sulfur at the facility during the term of the permit.

(4) Six-tenths of a ton of PM10 from a single source during the term of the permit and 3.0 tons of PM10 at the facility during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act or 25 Pa. Code Article III.

(5) One ton of VOCs from a single source during the term of the permit and 5.0 tons of VOCs at the facility during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act or 25 Pa. Code Article III.

(c) In accordance with § 127.14, the permittee may install the following minor sources without the need for a plan approval:

(1) Air conditioning or ventilation systems not designed to remove pollutants generated or released from other sources.

(2) Combustion units rated at 2,500,000 or less Btu per hour of heat input.

(3) Combustion units with a rated capacity of less than 10,000,000 Btu per hour heat input fueled by natural gas supplied by a public utility, liquefied petroleum gas or by commercial fuel oils which are No. 2 or lighter, viscosity less than or equal to 5.82 c St, and which meet the sulfur content requirements of 25 Pa. Code § 123.22 (relating to combustion units). For purposes of this permit, commercial fuel oil shall be virgin oil which has no reprocessed, recycled or waste material added.

(4) Space heaters which heat by direct heat transfer.

SECTION B. General Title V Requirements

(5) Laboratory equipment used exclusively for chemical or physical analysis.

(6) Other sources and classes of sources determined to be of minor significance by the Department.

(d) This permit does not authorize de minimis emission increases if the emissions increase would cause one or more of the following:

(1) Increase the emissions of a pollutant regulated under Section 112 of the Clean Air Act except as authorized in Subparagraphs (b)(4) and (5) of this permit condition.

(2) Subject the facility to the prevention of significant deterioration requirements in 25 Pa. Code Chapter 127, Subchapter D and/or the new source review requirements in Subchapter E.

(3) Violate any applicable requirement of the Air Pollution Control Act, the Clean Air Act, or the regulations promulgated under either of the acts.

(4) Changes which are modifications under any provision of Title I of the Clean Air Act and emission increases which would exceed the allowable emissions level (expressed as a rate of emissions or in terms of total emissions) under the Title V permit.

(e) Unless precluded by the Clean Air Act or the regulations thereunder, the permit shield described in 25 Pa. Code § 127.516 (relating to permit shield) shall extend to the changes made under 25 Pa. Code § 127.449 (relating to de minimis emission increases).

(f) Emissions authorized under this permit condition shall be included in the monitoring, recordkeeping and reporting requirements of this permit.

(g) Except for de minimis emission increases allowed under this permit, 25 Pa. Code § 127.449, or sources and physical changes meeting the requirements of 25 Pa. Code § 127.14, the permittee is prohibited from making physical changes or engaging in activities that are not specifically authorized under this permit without first applying for a plan approval. In accordance with § 127.14(b), a plan approval is not required for the construction, modification, reactivation, or installation of the sources creating the de minimis emissions increase.

(h) The permittee may not meet de minimis emission threshold levels by offsetting emission increases or decreases at the same source.

#020 [25 Pa. Code §§ 127.11a & 127.215]

Reactivation of Sources

(a) The permittee may reactivate a source at the facility that has been out of operation or production for at least one year, but less than or equal to five (5) years, if the source is reactivated in accordance with the requirements of 25 Pa. Code §§ 127.11a and 127.215. The reactivated source will not be considered a new source.

(b) A source which has been out of operation or production for more than five (5) years but less than 10 years may be reactivated and will not be considered a new source if the permittee satisfies the conditions specified in 25 Pa. Code § 127.11a(b).

#021 [25 Pa. Code §§ 121.9 & 127.216]

Circumvention

(a) The owner of this Title V facility, or any other person, may not circumvent the new source review requirements of 25 Pa. Code Chapter 127, Subchapter E by causing or allowing a pattern of ownership or development, including the phasing, staging, delaying or engaging in incremental construction, over a geographic area of a facility which, except for the pattern of ownership or development, would otherwise require a permit or submission of a plan approval application.

(b) No person may permit the use of a device, stack height which exceeds good engineering practice stack height, dispersion technique or other technique which, without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise be in violation of this permit, the Air Pollution Control Act or the regulations promulgated thereunder, except that with prior approval of the Department,

SECTION B. General Title V Requirements

the device or technique may be used for control of malodors.

#022 [25 Pa. Code §§ 127.402(d) & 127.513(1)]

Submissions

(a) Reports, test data, monitoring data, notifications and requests for renewal of the permit shall be submitted to the:

Regional Air Program Manager
PA Department of Environmental Protection
(At the address given on the permit transmittal letter,
or otherwise notified)

(b) Any report or notification for the EPA Administrator or EPA Region III should be addressed to:

Office of Air Enforcement and Compliance Assistance (3AP20)
United States Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

(c) An application, form, report or compliance certification submitted pursuant to this permit condition shall contain certification by a responsible official as to truth, accuracy, and completeness as required under 25 Pa. Code § 127.402(d). Unless otherwise required by the Clean Air Act or regulations adopted thereunder, this certification and any other certification required pursuant to this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

#023 [25 Pa. Code §§ 127.441(c) & 127.463(e); Chapter 139; & 114(a)(3), 504(b) of the CAA]

Sampling, Testing and Monitoring Procedures

(a) The permittee shall perform the emissions monitoring and analysis procedures or test methods for applicable requirements of this Title V permit. In addition to the sampling, testing and monitoring procedures specified in this permit, the Permittee shall comply with any additional applicable requirements promulgated under the Clean Air Act after permit issuance regardless of whether the permit is revised.

(b) The sampling, testing and monitoring required under the applicable requirements of this permit, shall be conducted in accordance with the requirements of 25 Pa. Code Chapter 139 unless alternative methodology is required by the Clean Air Act (including §§ 114(a)(3) and 504(b)) and regulations adopted thereunder.

#024 [25 Pa. Code §§ 127.511 & Chapter 135]

Recordkeeping Requirements

(a) The permittee shall maintain and make available, upon request by the Department, records of required monitoring information that include the following:

(1) The date, place (as defined in the permit) and time of sampling or measurements.

(2) The dates the analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of the analyses.

(6) The operating conditions as existing at the time of sampling or measurement.

(b) The permittee shall retain records of the required monitoring data and supporting information for at least five (5) years from the date of the monitoring sample, measurement, report or application. Supporting information includes the calibration data and maintenance records and original strip-chart recordings for continuous monitoring instrumentation, and copies of reports required by the permit.

SECTION B. General Title V Requirements

(c) The permittee shall maintain and make available to the Department upon request, records including computerized records that may be necessary to comply with the reporting, recordkeeping and emission statement requirements in 25 Pa. Code Chapter 135 (relating to reporting of sources). In accordance with 25 Pa. Code Chapter 135, § 135.5, such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions. If direct recordkeeping is not possible or practical, sufficient records shall be kept to provide the needed information by indirect means.

#025 [25 Pa. Code §§ 127.411(d), 127.442, 127.463(e) & 127.511(c)]

Reporting Requirements

(a) The permittee shall comply with the reporting requirements for the applicable requirements specified in this Title V permit. In addition to the reporting requirements specified herein, the permittee shall comply with any additional applicable reporting requirements promulgated under the Clean Air Act after permit issuance regardless of whether the permit is revised.

(b) Pursuant to 25 Pa. Code § 127.511(c), the permittee shall submit reports of required monitoring at least every six (6) months unless otherwise specified in this permit. Instances of deviations (as defined in 25 Pa. Code § 121.1) from permit requirements shall be clearly identified in the reports. The reporting of deviations shall include the probable cause of the deviations and corrective actions or preventative measures taken, except that sources with continuous emission monitoring systems shall report according to the protocol established and approved by the Department for the source. The required reports shall be certified by a responsible official.

(c) Every report submitted to the Department under this permit condition shall comply with the submission procedures specified in Section B, Condition #022(c) of this permit.

(d) Any records, reports or information obtained by the Department or referred to in a public hearing shall be made available to the public by the Department except for such records, reports or information for which the permittee has shown cause that the documents should be considered confidential and protected from disclosure to the public under Section 4013.2 of the Air Pollution Control Act and consistent with Sections 112(d) and 114(c) of the Clean Air Act and 25 Pa. Code § 127.411(d). The permittee may not request a claim of confidentiality for any emissions data generated for the Title V facility.

#026 [25 Pa. Code § 127.513]

Compliance Certification

(a) One year after the date of issuance of the Title V permit, and each year thereafter, unless specified elsewhere in the permit, the permittee shall submit to the Department and EPA Region III a certificate of compliance with the terms and conditions in this permit, for the previous year, including the emission limitations, standards or work practices. This certification shall include:

(1) The identification of each term or condition of the permit that is the basis of the certification.

(2) The compliance status.

(3) The methods used for determining the compliance status of the source, currently and over the reporting period.

(4) Whether compliance was continuous or intermittent.

(b) The compliance certification shall be postmarked or hand-delivered no later than thirty days after each anniversary of the date of issuance of this Title V Operating Permit, or on the submittal date specified elsewhere in the permit, to the Department and EPA in accordance with the submission requirements specified in condition #022 of this section.

#027 [25 Pa. Code § 127.3]

Operational Flexibility

The permittee is authorized to make changes within the Title V facility in accordance with the following provisions in 25 Pa. Code Chapter 127 which implement the operational flexibility requirements of Section 502(b)(10) of the Clean Air Act and Section 6.1(i) of the Air Pollution Control Act:

(1) Section 127.14 (relating to exemptions)

SECTION B. General Title V Requirements

(2) Section 127.447 (relating to alternative operating scenarios)

(3) Section 127.448 (relating to emissions trading at facilities with federally enforceable emissions caps)

(4) Section 127.449 (relating to de minimis emission increases)

(5) Section 127.450 (relating to administrative operating permit amendments)

(6) Section 127.462 (relating to minor operating permit amendments)

(7) Subchapter H (relating to general plan approvals and operating permits)

#028 [25 Pa. Code §§ 127.441(d), 127.512(i) and 40 CFR Part 68]

Risk Management

(a) If required by Section 112(r) of the Clean Air Act, the permittee shall develop and implement an accidental release program consistent with requirements of the Clean Air Act, 40 CFR Part 68 (relating to chemical accident prevention provisions) and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (P.L. 106-40).

(b) The permittee shall prepare and implement a Risk Management Plan (RMP) which meets the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68 and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act when a regulated substance listed in 40 CFR § 68.130 is present in a process in more than the listed threshold quantity at the Title V facility. The permittee shall submit the RMP to the federal Environmental Protection Agency according to the following schedule and requirements:

(1) The permittee shall submit the first RMP to a central point specified by EPA no later than the latest of the following:

(i) Three years after the date on which a regulated substance is first listed under § 68.130; or,

(ii) The date on which a regulated substance is first present above a threshold quantity in a process.

(2) The permittee shall submit any additional relevant information requested by the Department or EPA concerning the RMP and shall make subsequent submissions of RMPs in accordance with 40 CFR § 68.190.

(3) The permittee shall certify that the RMP is accurate and complete in accordance with the requirements of 40 CFR Part 68, including a checklist addressing the required elements of a complete RMP.

(c) As used in this permit condition, the term "process" shall be as defined in 40 CFR § 68.3. The term "process" means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances or any combination of these activities. For purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.

(d) If the Title V facility is subject to 40 CFR Part 68, as part of the certification required under this permit, the permittee shall:

(1) Submit a compliance schedule for satisfying the requirements of 40 CFR Part 68 by the date specified in 40 CFR § 68.10(a); or,

(2) Certify that the Title V facility is in compliance with all requirements of 40 CFR Part 68 including the registration and submission of the RMP.

(e) If the Title V facility is subject to 40 CFR Part 68, the permittee shall maintain records supporting the implementation of an accidental release program for five (5) years in accordance with 40 CFR § 68.200.

(f) When the Title V facility is subject to the accidental release program requirements of Section 112(r) of the Clean Air Act and 40 CFR Part 68, appropriate enforcement action will be taken by the Department if:

(1) The permittee fails to register and submit the RMP or a revised plan pursuant to 40 CFR Part 68.

SECTION B. General Title V Requirements

(2) The permittee fails to submit a compliance schedule or include a statement in the compliance certification required under Condition #26 of Section B of this Title V permit that the Title V facility is in compliance with the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68, and 25 Pa. Code § 127.512(i).

#029 [25 Pa. Code § 127.512(e)]

Approved Economic Incentives and Emission Trading Programs

No permit revision shall be required under approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this Title V permit.

#030 [25 Pa. Code §§ 127.516, 127.450(d), 127.449(f) & 127.462(g)]

Permit Shield

(a) The permittee's compliance with the conditions of this permit shall be deemed in compliance with applicable requirements (as defined in 25 Pa. Code § 121.1) as of the date of permit issuance if either of the following applies:

(1) The applicable requirements are included and are specifically identified in this permit.

(2) The Department specifically identifies in the permit other requirements that are not applicable to the permitted facility or source.

(b) Nothing in 25 Pa. Code § 127.516 or the Title V permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act, including the authority of the Administrator of the EPA provided thereunder.

(2) The liability of the permittee for a violation of an applicable requirement prior to the time of permit issuance.

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act.

(4) The ability of the EPA to obtain information from the permittee under Section 114 of the Clean Air Act.

(c) Unless precluded by the Clean Air Act or regulations thereunder, final action by the Department incorporating a significant permit modification in this Title V Permit shall be covered by the permit shield at the time that the permit containing the significant modification is issued.

SECTION C. Site Level Requirements

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.1]
Prohibition of certain fugitive emissions

(a) No person may permit the emission into the outdoor atmosphere of fugitive air contaminant from a source other than the following:
(1) Construction or demolition of buildings or structures.
(2) Grading, paving and maintenance of roads and streets.
(3) Use of roads and streets. Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets.
(4) Clearing of land.
(5) Stockpiling of materials.
(6) Open burning operations.
(7) Sources and classes of sources other than those identified in paragraphs (1)-(7), for which the operator has obtained a determination from the Department that fugitive emissions from the source, after appropriate control, meet the following requirements:
(i) the emissions are of minor significance with respect to causing air pollution; and
(ii) the emissions are not preventing or interfering with the attainment or maintenance of any ambient air quality standard.

 # 002 [25 Pa. Code §123.2]
Fugitive particulate matter

A person may not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source specified in SECTION C - Condition #001, if such emissions are visible at the point the emissions pass outside the person's property.

 # 003 [25 Pa. Code §123.31]
Limitations

MALODOR EMISSIONS

The permittee may not permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source in such a manner that the malodors are detectable outside the property of the person on whose land the source is being operated.

 # 004 [25 Pa. Code §123.41]
Limitations

(a) A person may not permit the emission into the outdoor atmosphere of visible air contaminants in such a manner that the opacity of the emission is either of the following:

(1) Equal to or greater than 20% for a period or periods aggregating more than three minutes in any 1 hour.
(2) Equal to or greater than 60% at any time.

 # 005 [25 Pa. Code §123.42]
Exceptions

(a) The limitations of SECTION C - Condition #004, (resulting from fugitive emissions), shall not apply to a visible emission in any of the following instances:
(1) When the presence of uncombined water is the only reason for failure of the emission to meet the limitations.
(2) When the emission results from the operation of equipment used solely to train and test persons in observing the opacity of visible emissions.
(3) When the emission results from sources specified in SECTION C - Condition #001.

SECTION C. Site Level Requirements

II. TESTING REQUIREMENTS.

 # 006 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

All sampling, testing and analysis performed in compliance with the requirements of any section of the permit shall be done in accordance with SECTION B - General Title V Requirement #023.

 # 007 [25 Pa. Code §139.1]
Sampling facilities.

If requested by the Department, the permittee shall conduct performance (stack) tests in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department. The permittee will provide adequate sampling ports, safe sampling platforms, and adequate utilities for the performance by the Department of tests on such source(s). The Department will set forth, in the request, the time period in which the facilities shall be provided as well as the specifications for such facilities.

 # 008 [25 Pa. Code §139.11]
General requirements.

(a) The following are applicable to source tests for determining emissions from stationary sources:
(1) Performance tests shall be conducted while the source is operating at maximum routine operating conditions or under such other conditions, within the capacity of the equipment, as may be requested by the Department.
(2) The Department will consider for approval where sufficient information is provided to verify the source conditions existing at the time of the test and where adequate data is available to show the manner in which the test was conducted. Information submitted to the Department shall include, as a minimum all of the following:
(i) A thorough source description, including a description of any air cleaning devices and the flue.
(ii) Process conditions, for example, the charging rate of raw material or rate of production of final product, boiler pressure, oven temperature, and other conditions which may affect emissions from the process.
(iii) The location of the sampling ports.
(iv) Effluent characteristics, including velocity, temperature, moisture content, gas density (percentage CO, CO2, O2 and N2), static and barometric pressures.
(v) Sample collection techniques employed, including procedures used, equipment descriptions and data to verify that isokinetic sampling for particulate matter collection occurred and that acceptable test conditions were met.
(vi) Laboratory procedures and results.
(vii) Calculated results.

 # 009 [25 Pa. Code §139.2]
Sampling by others.

(a) Sampling and testing done by persons other than the Department may be accepted by the Department provided that:
(1) The Department has been given reasonable notice of the sampling and testing and has been given reasonable opportunity to observe and participate in the sampling and testing.
(2) The sampling and testing is conducted under the direct supervision of persons qualified, by training and experience, to conduct such sampling and testing.
(3) Procedures for the sampling and testing are in accord with the provisions of this chapter.
(4) The reports of the sampling and testing are accurate and comprehensive.

III. MONITORING REQUIREMENTS.

 # 010 [25 Pa. Code §123.43]
Measuring techniques

(a) Visible emissions may be measured using either of the following:

(1) A device approved by the Department and maintained to provide accurate opacity measurements.
(2) Observers, trained and qualified to measure plume opacity with the naked eye or with the aid of any devices

SECTION C. Site Level Requirements

approved by the Department.

 # 011 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

VISIBLE, FUGITIVE, AND MALODOR EMISSIONS

(a) The permittee shall conduct weekly inspections of the facility perimeter, during daylight hours when the plant is in operation, to detect visible, fugitive, and malodor emissions as follows:

(1) Visible emissions in excess of the limits stated in SECTION C - Condition #004.
(i) Visible emissions may be measured according to the methods specified in SECTION C - Condition #010, or alternatively, plant personnel who observe any visible emissions in excess of SECTION C - Condition #004 will report the incident of visible emissions to the Department within four (4) hours of each incident and make arrangements for a certified observer to verify the opacity of the emissions.

(2) The presence of fugitive emissions visible beyond the boundaries of the facility, as stated in SECTION C - Condition #002.

(3) The presence of malodor emissions beyond the boundaries of the facility, as stated in SECTION C - Condition #003.

IV. RECORDKEEPING REQUIREMENTS.

 # 012 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

All records, reports and analyses results generated in compliance with the requirements of any section of this permit shall be maintained in accordance with SECTION B - General Title V Requirement #024, and shall be made available to the Department upon written or verbal request at a reasonable time.

 # 013 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

VISIBLE EMISSIONS

(a) The permittee shall record all exceedances of visible emission limitations observed during daily inspections, (for sources not covered by the opacity COMS), on log sheets. The log sheets shall include the name of the company representative performing the inspections, any instances of exceedances of visible limitations, visible fugitive emissions limitations and malodorous air emission limitations, and the name of the manager informed if a potential exceedance is observed. The permittee shall also record any and all corrective action(s) taken to abate each recorded deviation to prevent future occurrences.

(b) The records shall be kept for a five (5) year period and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 014 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

FUGITIVE AND VISIBLE EMISSIONS

(a) On a quarterly basis, the permittee shall compile a report of all logged instances of exceedance of the visible and malodor emission limitations, (for sources not covered by the opacity COMS), that occurred during the previous three (3) months, to be submitted to the Department within thirty (30) days of the close of the calendar quarter.

SECTION C. Site Level Requirements

(b) If no exceedances were noted the report shall remain on site and made available to the Department upon request.

(c) All quarterly reports shall be submitted based on the time periods of January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. Such reports shall be submitted to the Department within thirty (30) days of the end of each quarterly reporting period.

 # 015 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

(a) The permittee shall, within forty-eight (48) hours of becoming knowledgeable, shall notify the Department at (610) 861-2070, of any malfunction of the source(s) or associated air pollution control devices, listed in this operating permit, which results in the emission of air contaminants in excess of the limitations specified in this operating permit or regulations contained in 25 Pa. Code Article III, Air Resources. Malfunctions which occur at this facility and pose(s) an imminent danger to the public health, safety, welfare and the environment, shall be reported to the Department within two (2) hours of the permittee becoming aware of the imminent danger.

(b) A written report shall be submitted to the Department within five (5) working days following the incident. The report shall describe the malfunction, the emission(s), duration, and any corrective actions taken. The Department may take enforcement action for any violations of the applicable standards.

(c) Any changes in the location of the aforementioned sources, or any changes in the process or control equipment would be considered a modification and would require the submittal of an amended application for plan approval in accordance with the provisions of 25 PA Code 127.11 and 127.12.

(d) Any notification as a result of any condition herein should be directed to:

Air Quality Program Manager
Department of Environmental Protection
2 Public Square
Wilkes-Barre, PA 18701-1915

 # 016 [25 Pa. Code §127.513]

Compliance certification.

The reporting period for the certificate of compliance required by SECTION B - Condition #026 shall be for the previous calendar year and it shall be submitted within 60 days after the specified period but no later than March 1st.

 # 017 [25 Pa. Code §135.3]

Reporting

(a) A person who owns or operates a source to which this chapter applies, and who has previously been advised by the Department to submit an Air Information Management Systems (AIMS) report, shall submit by March 1 of each year, an (AIMS) report for the preceding calendar year. The report shall include information for all previously reported sources, new sources which were first operated during the preceding calendar year and sources modified during the same period which were not previously reported.

(b) A person who receives initial notification by the Department that a source report is necessary shall submit an initial source report within 60 days after receiving the notification or by March 1 of the year following the year for which the report is required, whichever is later.

(c) A source owner or operator may request an extension of time from the Department for the filing of a source report, and the Department may grant the extension for reasonable cause.

SECTION C. Site Level Requirements

VI. WORK PRACTICE REQUIREMENTS.

 # 018 [25 Pa. Code §123.1]
Prohibition of certain fugitive emissions

(a) The permittee shall take all reasonable actions to prevent particulate matter from becoming airborne. These actions shall include, but not be limited to, the following:
(1) Use, where possible, of water or chemicals for control of dust in the demolition of buildings or structures, construction operations, the grading of roads, or the clearing of land.
(2) Application of asphalt, oil, water or suitable chemicals on dirt roads, material stockpiles and other surfaces which may give rise to airborne dusts.
(3) Paving and maintenance of roadways.
(4) Prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

 # 019 [25 Pa. Code §123.2]
Fugitive particulate matter

Ash shall be stabilized by wetting before loading into trucks. The coal refuse storage piles, culm crusher, and roadway surfaces shall be wetted with water sprays to prevent fugitive dust emissions.

 # 020 [25 Pa. Code §129.14]
Open burning operations

(a) Outside of air basins. No person may permit the open burning of material in an area outside of air basins in a manner that:
(1) The emissions are visible, at any time, at the point such emissions pass outside the property of the person on whose land the open burning is being conducted.
(2) Malodorous air contaminants from the open burning are detectable outside the property of the person on whose land the open burning is being conducted.
(3) The emissions interfere with the reasonable enjoyment of life or property.
(4) The emissions cause damage to vegetation or property.
(5) The emissions are or may be deleterious to human or animal health.

(b) Exceptions: The requirements of subsection (a) do not apply where the open burning operations result from:
(1) A fire set to prevent or abate a fire hazard, when approved by the Department and set by or under the supervision of a public officer.
(2) A fire set for the purpose of instructing personnel in firefighting, when approved by the Department.
(3) A fire set for the prevention and control of disease or pests, when approved by the Department.
(4) A fire set in conjunction with the production of agricultural commodities in their unmanufactured state on the premises of the farm operation.
(5) A fire set for the purpose of burning domestic refuse, when the fire is on the premises of a structure occupied solely as a dwelling by two families or less and when the refuse results from the normal occupancy of such structure.
(6) A fire set solely for recreational or ceremonial purposes.
(7) A fire set solely for cooking food.

(c) Clearing and grubbing wastes. The following is applicable to clearing and grubbing wastes:
(1) As used in this subsection the following terms shall have the following meanings:

Air curtain destructor -- A mechanical device which forcefully projects a curtain of air across a pit in which open burning is being conducted so that combustion efficiency is increased and smoke and other particulate matter are contained.

Clearing and grubbing wastes -- Trees, shrubs, and other native vegetation which are cleared from land during or prior to the process of construction. The term does not include demolition wastes and dirt laden roots.

(2) Subsection (a) notwithstanding, clearing and grubbing wastes may be burned in a basin subject to the following requirements:
(i) Air curtain destructors shall be used when burning clearing and grubbing wastes.

SECTION C. Site Level Requirements

(ii) Each proposed use of air curtain destructors shall be reviewed and approved by the Department in writing with respect to equipment arrangement, design and existing environmental conditions prior to commencement of burning. Proposals approved under this subparagraph need not obtain plan approval or operating permits under Chapter 127 (relating to construction modification, reactivation and operation of sources).

(iii) Approval for use of an air curtain destructor at one site may be granted for a specified period not to exceed 3 months, but may be extended for additional limited periods upon further approval by the Department.

(iv) The Department reserves the right to rescind approval granted if a determination by the Department indicates that an air pollution problem exists.

(3) Subsection (b) notwithstanding clearing and grubbing wastes may be burned outside of an air basin, subject to the following limitations:

(i) Upon receipt of a complaint or determination by the Department that an air pollution problem exists, the Department may order that the open burning cease or comply with subsection (b) of this section.

(ii) Authorization for open burning under this paragraph does not apply to clearing and grubbing wastes transported from an air basin for disposal outside of an air basin.

(4) During an air pollution episode, open burning is limited by Chapter 137 (relating to air pollution episodes) and shall cease as specified in such chapter.

VII. ADDITIONAL REQUIREMENTS.

 # 021 [25 Pa. Code §121.7]

Prohibition of air pollution.

The permittee shall not permit air pollution as that term is defined in the Pennsylvania Air Pollution Control Act (35 P.S.Sections 4001 through 4015).

 # 022 [25 Pa. Code §127.512]

Operating permit terms and conditions.

The facility is subject to all updated applicable requirements under the Cross-State Air Pollution Rule (CSAPR) which replaces the Clean Air Interstate Rule (CAIR).

 # 023 [40 CFR Part 98 Mandatory Greenhouse Gas Reporting §40 CFR 98.3]

Subpart A - General Provision

What are the general monitoring, reporting, recordkeeping and verification requirements of this part?

The permittee shall comply with the applicable Mandatory Greenhouse Gas (GHG) Reporting requirements of 40 CFR Part 98 Section 98.3 through 98.3(i)(6). The Sources subject to Part 98 are:

ID 031 - PART 98 Subpart D.
ID 032 - PART 98 Subpart D.

VIII. COMPLIANCE CERTIFICATION.

No additional compliance certifications exist except as provided in other sections of this permit including Section B (relating to Title V General Requirements).

IX. COMPLIANCE SCHEDULE.

No compliance milestones exist.

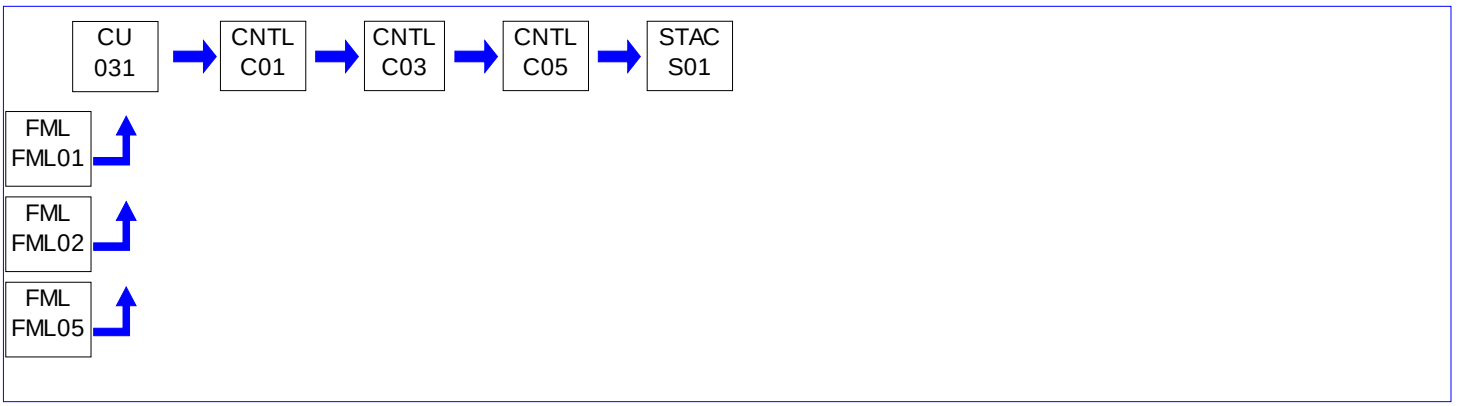
***** Permit Shield In Effect *****

SECTION D. Source Level Requirements

Source ID: 031 Source Name: PYROPOWER UNIT 1

Source Capacity/Throughput: 600.000 MMBTU/HR

Conditions for this source occur in the following groups: GROUP 01
GROUP 05
GROUP 06



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

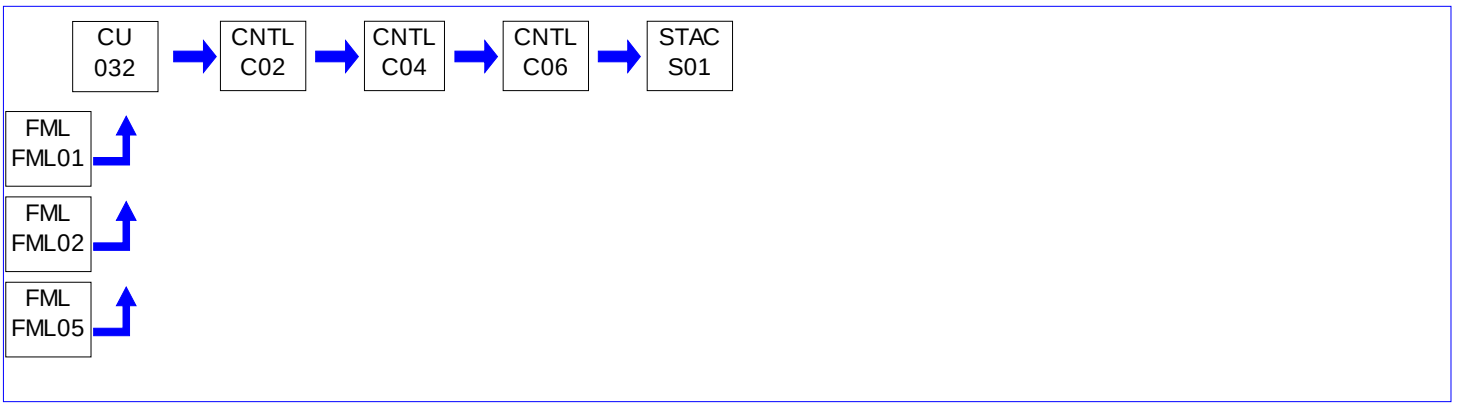
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 032 Source Name: PYROPOWER UNIT 2

Source Capacity/Throughput: 600.000 MMBTU/HR

Conditions for this source occur in the following groups: GROUP 01
GROUP 05
GROUP 06



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

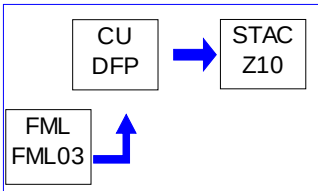
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: DFP Source Name: DIESEL FIRE PUMP

Source Capacity/Throughput: 2.100 MMBTU/HR

Conditions for this source occur in the following groups: GROUP 05



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.13]
Processes

The concentration of Particulate Matter in the emissions from Source DFP shall not exceed 0.04 grains per dry standard cubic foot, when the effluent gas volume is less than 150,000 dry standard cubic feet per minute.

 # 002 [25 Pa. Code §123.21]
General

The concentration of Sulfur Oxides (expressed as SO2) in the emissions from Source DFP shall not exceed 500 parts per million, by volume, dry basis (0.05%).

 # 003 [25 Pa. Code §127.444]
Compliance requirements.

Source DFP shall only combust diesel fuel, unless prior approval from the Department is granted for use of an alternative fuel.

 # 004 [25 Pa. Code §127.512]
Operating permit terms and conditions.

[Authority for this condition is also derived for 25 Pa. Code, Section 129.93]

NOx RACT for the diesel fire pump shall be regulated under the presumptive RACT emission limitations as described under 25 Pa. Code, Section 129.93(c)(5). The oil-fired engine must operate less than 500 hours in a consecutive 12 month period. Presumptive RACT shall be the maintenance and operation of the source in accordance with the manufacturers specifications.

 # 005 [25 Pa. Code §127.512]
Operating permit terms and conditions.

The permittee shall comply with all applicable requirements of 40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants for Source Categories - Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

 # 006 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6640]
Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requireme

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other

requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) NA.

(d) NA.

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand

SECTION D. Source Level Requirements

response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

 # 007 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall, on a daily basis, monitor and record the hours of operation of Source DFP to calculate the monthly hours of operation and demonstrate compliance with the 500 hour limit.

 # 008 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6625]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

What are my monitoring, installation, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O2 or CO2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS

SECTION D. Source Level Requirements

according to the requirements in § 63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in § 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in § 63.8(d). As specified in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also § 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) NA.

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) - (10) NA.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) NA.

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(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) NA.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

IV. RECORDKEEPING REQUIREMENTS.

 # 009 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6655]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(3), (b)(1) through (b)(3) and (c) of this section.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).
(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(b) - (c) NA.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;
(1) NA.
(2) An existing stationary emergency RICE.
(3) NA.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in

SECTION D. Source Level Requirements

§63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

 # 010 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6660]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

V. REPORTING REQUIREMENTS.

 # 011 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6645]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE).

(e) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(f) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 of this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status,

SECTION D. Source Level Requirements

including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

VI. WORK PRACTICE REQUIREMENTS.

 # 012 [25 Pa. Code §127.512]

Operating permit terms and conditions.

To optimize combustion efficiency, the permittee shall operate and maintain this source in accordance with the manufacturers specifications and good air pollution control practices.

 # 013 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6605]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

 # 014 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6640]

Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

Table 2d to Subpart ZZZZ of Part 63

WORK PRACTICE STANDARD:

a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;1
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

1Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

2If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

SECTION D. Source Level Requirements

[78 FR 6709, Jan. 30, 2013]

VII. ADDITIONAL REQUIREMENTS.

 # 015 [25 Pa. Code §127.512]
Operating permit terms and conditions.

Source ID DFP is a Caterpillar engine, 2.1 MMBtu rated heat input, Model #3208 (196 hp), #2 fuel oil fired, installed 1/12/87.

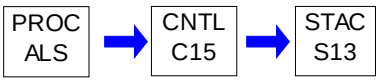
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: ALS Source Name: ASH LOADING SYSTEM

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

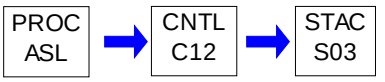
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: ASL Source Name: ASH SILO

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

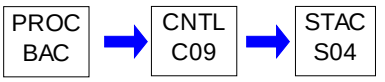
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: BAC Source Name: BOTTOM ASH CONVEYOR

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

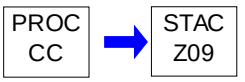
No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: CC Source Name: CULM CRUSHER

Source Capacity/Throughput:



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.252]

Subpart Y - Standards of Performance for Coal Preparation Plants

Standards for particulate matter.

The permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, any gases which exhibit 20 percent opacity or greater.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 002 [25 Pa. Code §127.512]

Operating permit terms and conditions.

(a) To comply with SECTION C - Condition #001, the permittee shall perform the following requirements:

(1) The permittee shall, on a daily basis, perform a visual inspection of the coal conveyors and crushers to determine that visible emissions are minimized.

(2) The permittee shall maintain enclosures on all conveyors, coal unloading bins, transfer points, crushers and breakers.

 # 003 [25 Pa. Code §127.512]

Operating permit terms and conditions.

To comply with SECTION C - Conditions #001 and #002, the permittee shall have the conveyors enclosed and the culm

SECTION D. Source Level Requirements

wetted to prevent fugitive dust emissions.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

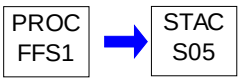
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: FFS1 Source Name: FLY ASH FILTER SEPARATOR #1

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

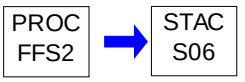
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: FFS2 Source Name: FLYASH FILTER SEPARATOR #2

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

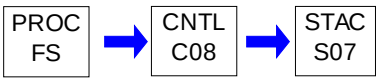
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SECTION D. Source Level Requirements

Source ID: FS Source Name: FUEL SILO/REVERSING CONVEYOR

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

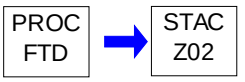
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SECTION D. Source Level Requirements

Source ID: FTD Source Name: FUEL TRUCK DUMP

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 03



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

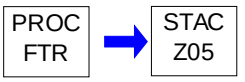
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: FTR Source Name: FUEL TRUCK UNLOADING

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

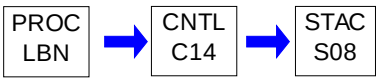
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SECTION D. Source Level Requirements

Source ID: LBN Source Name: LIME BIN

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 04



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

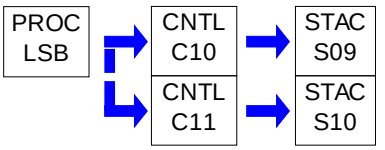
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SECTION D. Source Level Requirements

Source ID: LSB Source Name: LIMESTONE BIN

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

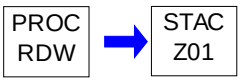
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SECTION D. Source Level Requirements

Source ID: RDW Source Name: ROADWAYS

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 03



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

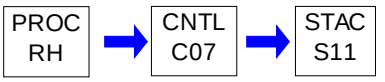
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: RH Source Name: RECLAIM HOPPER

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 02



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

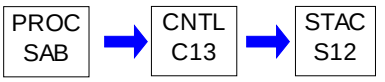
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: SAB Source Name: SODA ASH BIN

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 04



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

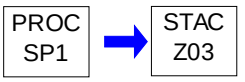
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: SP1 Source Name: DAILY USE COAL REFUSE STORAGE PILE

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 03



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

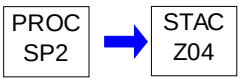
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: SP2 Source Name: STRATEGIC RESERVE COAL REFUSE STORAGE PILE

Source Capacity/Throughput:

Conditions for this source occur in the following groups: GROUP 03



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: GROUP 01

Group Description: Fluidized Bed Boilers

Sources included in this group

ID	Name
031	PYROPOWER UNIT 1
032	PYROPOWER UNIT 2

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.40a]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Applicability and designation of affected facility.

[Authority for this condition is derived from 25 Pa Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2). This condition also assures compliance with NSPS Subpart Da]

[Also, these conditions were derived from determinations made from 25 Pa. Code, Section 129.91 - 129.95 and from the RACT 1 Operating Permit issued December 2, 1996].

Source ID Nos. 031 and 032 are subject to 40 CFR Part 60, Subpart Da - New Source Performance Standards for Electric Utility Steam Generating Units. The permittee shall comply with all applicable requirements of this Subpart.

The emission restrictions for NOx and SO2 in the RACT Permit issued December 2, 1996 are more stringent emission limits than NSPS 40 CFR 60, Subpart Da, and 40 CFR Part 63, Subpart UUUU, therefore the more stringent standards stated in the RACT Permit apply.

(1) Pursuant to the Best Available Control Technology provisions of 25 PA Code 127.83 (40 CFR 52.21(j)(2)), NOx 1-hour average emission limits for each Fluidized Bed Boiler (CFB) during all operations except during those Special Operating Conditions described in No. (3) of this Condition are limited to 0.15 lb/MMBtu heat input and 72.5 lb/hr.

(2) Pursuant to the Best Available Control Technology provisions of 25 PA Code 127.83 (40 CFR 52.21 (j)(2)), the following emission limits have been established for each Fluidized Bed Boiler (CFB). The following emission limits for filterable Particulate Matter, filterable PM10, and VOC's apply at all times. The following emission limits for CO and SO2 apply during all operations except during those Special Operating Conditions described in No.(3) of this Condition.

Pollutant	Allowable lbs./MMBtu Heat Input	Allowable (lbs./hour)
Filterable Particulate	0.017	8.22
Filterable PM-10	0.014	6.77
SO2 (24-hour daily avg. max.)	0.156	75.4
CO (1-hour average)	0.180	87.0
VOC (1-hour average)	0.005	2.42

(3) The following provisions shall govern emissions of NOx, CO and SO2 during Special Operating Conditions.

(a) Special Operating Conditions are defined as those periods (including periods of startup, shutdown, process recovery, generation curtailment, and utility emergency conditions) when the bed temperature of a circulating fluidized bed (CFB) combustion unit is less than 1,400 F (as recorded on the facilities Distributed Control System). For purposes of this definition, the bed temperature of a unit shall be measured as the average over a 15-minute increment (4 increments per hour).

(b) Where only one CFB Combustion unit is in a Special Operating Condition:

(i) The CFB unit which is not in Special Operating Condition shall individually remain subject to the emission limitations set forth in GROUP 01, Condition #001(1) and (2);

SECTION E. Source Group Restrictions.

(ii) The CFB combustion unit which is in Special Operating Condition shall not be subject to the emission limits set forth in GROUP 01, Condition #001(1) and (2); and

(iii) The combined emissions from the two CFB combustion units shall be subject to the following alternative emission limitations:

Pollutant	Combined Limit for Both Boilers (lbs./Hour)
SO2 (3-hour rolling average)	317.5
SO2 (24-hour average)	100.0
CO (1-hour average)	1,882.6
CO (8-hour average)	1,882.6
NOx (1-hour average)	202.4

(c) Where both CFB combustion units are in a Special Operating Condition:

(i) The two CFB combustion units shall not be subject to the emission limits set forth in GROUP 01, Condition #001(1) and (2);

(ii) The combined emissions from the two CFB combustion units shall be subject to the following alternative emission limitations:

Pollutant	Combined Limit For Both Boilers (lbs./Hour)
SO2 (3-hour rolling average)	215.9
SO2 (24-hour average)	79.4
CO (1-hour average)	1,882.6
CO (8-hour rolling average)	1,882.6
NOx (1-hour average)	80.2

(4) Total emissions from the two CFB combustion units shall not exceed the following values on a 12-Month Rolling Total;

Pollutant	Total Annual Emissions (Tons/Yr)
SO2	660.5
CO	762.1
NOx	635.1

(5) Visible air contaminants shall not be emitted in such a manner that the opacity of the emissions is equal to or greater than 10% for a period or periods aggregating more than 3 minutes in any one hour; or equal to or greater than 30% at any time.

 # 002 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.43a]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Standard for sulfur dioxide.

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility which combusts solid fuel or solid-derived fuel and for which construction, reconstruction, or modification commenced before or on February 28, 2005, except as provided under paragraphs (c), (d), (f) or (h) of this section, any gases that contain SO2 in excess of:

(1) 520 ng/J (1.20 lbs./MMBtu) heat input and 10 percent of the potential combustion concentration (90 percent reduction);

(2) 30 percent of the potential combustion concentration (70 percent reduction), when emissions are less than 260 ng/J (0.60 lbs./MMBtu) heat input;

SECTION E. Source Group Restrictions.

(3) 180 ng/J (1.4 lbs./MWh) gross energy output; or

(4) 65 ng/J (0.15 lbs./MMBtu) heat input.

[72 FR 32722, June 13, 2007, as amended at 77 FR 9450, Feb. 16, 2012]

 # 003 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.44a]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978
Standard for nitrogen oxides.

(a) Except as provided in paragraph (h) of this section, on and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility for which construction, reconstruction, or modification commenced before July 10, 1997 any gases that contain NOX (expressed as NO2) in excess of the applicable emissions limit in paragraphs (a)(1) and (2) of this section.

(1) The owner or operator shall not cause to be discharged into the atmosphere any gases that contain NOx in excess of the emissions limit listed in the following table as applicable to the fuel type combusted and as determined on a 30-boiler operating day rolling average basis.

Fuel type	Emission limit for heat input	
	ng/J	lbs./MMBtu
Gaseous fuels:		
Coal-derived fuels	210	0.50
All other fuels	86	0.20
Liquid fuels:		
Coal-derived fuels	210	0.50
Shale oil	210	0.50
All other fuels	130	0.30
Solid fuels:		
Coal-derived fuels	210	0.50
Any fuel containing more than 25%, by weight, coal refuse	(1)	(1)
Any fuel containing more than 25%, by weight, lignite if the lignite is mined in North Dakota, South Dakota, or Montana, and is combusted in a slag tap furnace2	340	0.80
Any fuel containing more than 25%, by weight, lignite not subject to the 340 ng/J heat input emission limit2	260	0.60
Subbituminous coal	210	0.50
Bituminous coal	260	0.60
Anthracite coal	260	0.60
All other fuels	260	0.60

1 Exempt from NOX standards and NOX monitoring requirements.

2 Any fuel containing less than 25%, by weight, lignite is not prorated but its percentage is added to the percentage of the predominant fuel.

SECTION E. Source Group Restrictions.

 # 004 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10005]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What are my initial compliance requirements and by what date must I conduct them?

(a) General requirements. For each of your affected EGUs, you must demonstrate initial compliance with each applicable emissions limit in Table 1 or 2 of this subpart through performance testing. Where two emissions limits are specified for a particular pollutant (e.g., a heat input-based limit in lb/MMBtu and a gross output-based limit in lb/MWh), you may demonstrate compliance with either emission limit. For a particular compliance demonstration, you may be required to conduct one or more of the following activities in conjunction with performance testing: collection of data, e.g., hourly gross output data (megawatts); establishment of operating limits according to §63.10011 and Tables 4 and 7 to this subpart; and CMS performance evaluations. In all cases, you must demonstrate initial compliance no later than the date in paragraph (f) of this section for tune-up work practices for existing EGUs; the date that compliance must be demonstrated, as given in §63.9984 for other requirements for existing EGUs; and in paragraph (g) of this section for all requirements for new EGUs.

(1) To demonstrate initial compliance with an applicable emissions limit in Table 1 or 2 to this subpart using stack testing, the initial performance test generally consists of three runs at specified process operating conditions using approved methods. If you are required to establish operating limits (see paragraph (d) of this section and Table 4 to this subpart), you must collect all applicable parametric data during the performance test period. Also, if you choose to comply with an electrical output-based emission limit, you must collect hourly electrical load data during the test period.

(2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (i.e., an Hg, HCl, or HF CEMS, or a sorbent trap monitoring system) or an SO2 or PM CEMS, the initial performance test shall consist of 30- or, for certain coal-fired existing EGUs that use emissions averaging for Hg, 90-boiler operating days. If the CMS is certified prior to the compliance date (or, if applicable, the approved extended compliance date), the test shall begin with the first operating day on or after that date, except as otherwise provided in paragraph (b) of this section. If the CMS is not certified prior to the compliance date, the test shall begin with the first operating day after certification testing is successfully completed. In all cases, the initial 30- or 90- operating day averaging period must be completed on or before the date that compliance must be demonstrated (i.e., 180 days after the applicable compliance date).

(i) The CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO2 emissions limit in Table 1 or 2 to this subpart.

(ii) You must collect hourly data from auxiliary monitoring systems (i.e., stack gas flow rate, CO2, O2, or moisture, as applicable) during the performance test period, in order to convert the pollutant concentrations to units of the standard. If you choose to comply with a gross output-based emission limit, you must also collect hourly gross output data during the performance test period.

(iii) For a group of affected units that are in the same subcategory, are subject to the same emission standards, and share a common stack, if you elect to demonstrate compliance by monitoring emissions at the common stack, startup and shutdown emissions (if any) that occur during the 30-(or, if applicable, 90-) boiler operating day performance test must either be excluded from or included in the compliance demonstration as follows:

(A) If one of the units that shares the stack either starts up or shuts down at a time when none of the other units is operating, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations;

(B) If all units that are currently operating are in the startup or shutdown mode, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; or

(C) If any unit starts up or shuts down at a time when another unit is operating, and the other unit is not in the startup or shutdown mode, you must include all pollutant emission rates measured during the startup or shutdown period in the compliance demonstrations.

(b) Performance testing requirements. If you choose to use performance testing to demonstrate initial compliance with the applicable emissions limits in Tables 1 and 2 to this subpart for your EGUs, you must conduct the tests according to §63.10007 and Table 5 to this subpart. For the purposes of the initial compliance demonstration, you may use test data and results from a performance test conducted prior to the date on which compliance is required as specified in §63.9984, provided that the following conditions are fully met:

(1) For a performance test based on stack test data, the test was conducted no more than 12 calendar months prior to the date on which compliance is required as specified in §63.9984;

(2) For a performance test based on data from a certified CEMS or sorbent trap monitoring system, the test consists of all valid CMS data recorded in the 30 boiler operating days immediately preceding that date;

SECTION E. Source Group Restrictions.

(3) The performance test was conducted in accordance with all applicable requirements in §63.10007 and Table 5 to this subpart;
(4) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (e.g., stack flow rate, diluent gas concentrations, hourly gross outputs) is available for the entire performance test period; and
(5) For each performance test based on stack test data, you certify, and keep documentation demonstrating, that the EGU configuration, control devices, and fuel(s) have remained consistent with conditions since the prior performance test was conducted.
(6) For performance stack test data that are collected prior to the date that compliance must be demonstrated and are used to demonstrate initial compliance with applicable emissions limits, the interval for subsequent stack tests begins on the date that compliance must be demonstrated.

(c) Operating limits. In accordance with §63.10010 and Table 4 to this subpart, you may be required to establish operating limits using PM CPMS and using site-specific monitoring for certain liquid oil-fired units as part of your initial compliance demonstration.

(d) CMS requirements. If, for a particular emission or operating limit, you are required to (or elect to) demonstrate initial compliance using a continuous monitoring system, the CMS must pass a performance evaluation prior to the initial compliance demonstration. If a CMS has been previously certified under another state or federal program and is continuing to meet the on-going quality-assurance (QA) requirements of that program, then, provided that the certification and QA provisions of that program meet the applicable requirements of §§63.10010(b) through (h), an additional performance evaluation of the CMS is not required under this subpart.
(1) For an affected coal-fired, solid oil-derived fuel-fired, or liquid oil-fired EGU, you may demonstrate initial compliance with the applicable SO2, HCl, or HF emissions limit in Table 1 or 2 to this subpart through use of an SO2, HCl, or HF CEMS installed and operated in accordance with part 75 of this chapter or appendix B to this subpart, as applicable. You may also demonstrate compliance with a filterable PM emission limit in Table 1 or 2 to this subpart through use of a PM CEMS installed, certified, and operated in accordance with §63.10010(i). Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS data, expressed in units of the standard (see §63.10007(e)), meets the applicable SO2, PM, HCl, or HF emissions limit in Table 1 or 2 to this subpart. Use Equation 19-19 of Method 19 in appendix A-7 to part 60 of this chapter to calculate the 30-boiler operating day average emissions rate. (Note: For this calculation, the term Ehj in Equation 19-19 must be in the same units of measure as the applicable HCl or HF emission limit in Table 1 or 2 to this subpart).
(2) For affected coal-fired or solid oil-derived fuel-fired EGUs that demonstrate compliance with the applicable emission limits for total non-mercury HAP metals, individual non-mercury HAP metals, total HAP metals, individual HAP metals, or filterable PM listed in Table 1 or 2 to this subpart using initial performance testing and continuous monitoring with PM CPMS:
(i) You must demonstrate initial compliance no later than the applicable date specified in §63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs.
(ii) You must demonstrate continuous compliance with the PM CPMS site-specific operating limit that corresponds to the results of the performance test demonstrating compliance with the emission limit with which you choose to comply.
(iii) You must repeat the performance test annually for the selected pollutant emissions limit and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.
(3) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or 2 of this subpart using Hg CEMS or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in §63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. Initial compliance is achieved if the arithmetic average of 30- (or 90-) boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to this subpart), meets the applicable Hg emission limit in Table 1 or 2 to this subpart.
(4) For affected liquid oil-fired EGUs that demonstrate compliance with the applicable emission limits for HCl or HF listed in Table 1 or 2 to this subpart using quarterly testing and continuous monitoring with a CMS:
(i) You must demonstrate initial compliance no later than the applicable date specified in §63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs.
(ii) You must demonstrate continuous compliance with the CMS site-specific operating limit that corresponds to the results of the performance test demonstrating compliance with the HCl or HF emissions limit.
(iii) You must repeat the performance test annually for the HCl or HF emissions limit and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(e) Tune-ups. All affected EGUs are subject to the work practice standards in Table 3 of this subpart. As part of your initial

SECTION E. Source Group Restrictions.

compliance demonstration, you must conduct a performance tune-up of your EGU according to §63.10021(e).

(f) For an existing EGU without a neural network, a tune-up, following the procedures in §63.10021(e), must occur within 6 months (180 days) after April 16, 2015. For an existing EGU with a neural network, a tune-up must occur within 18 months (545 days) after April 16, 2016. If a tune-up occurs prior to April 16, 2015, you must keep records showing that the tune-up met all rule requirements.

(g) If your new or reconstructed affected source commenced construction or reconstruction between May 3, 2011, and July 2, 2011, you must demonstrate initial compliance with either the proposed emission limits or the promulgated emission limits no later than 180 days after April 16, 2012 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(1) For the new or reconstructed affected source described in this paragraph (g), if you choose to comply with the proposed emission limits when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limits within 3 years after April 16, 2012 or within 3 years after startup of the affected source, whichever is later.

(2) If your new or reconstructed affected source commences construction or reconstruction after April 16, 2012, you must demonstrate initial compliance with the promulgated emission limits no later than 180 days after startup of the source.

(h) Low emitting EGUs. The provisions of this paragraph (h) apply to pollutants with emissions limits from new EGUs except Hg and to all pollutants with emissions limits from existing EGUs. You may pursue this compliance option unless prohibited pursuant to §63.10000(c)(1)(i).

(1) An EGU may qualify for low emitting EGU (LEE) status for Hg, HCl, HF, filterable PM, total non-Hg HAP metals, or individual non-Hg HAP metals (or total HAP metals or individual HAP metals, for liquid oil-fired EGUs) if you collect performance test data that meet the requirements of this paragraph (h), and if those data demonstrate:

(i) For all pollutants except Hg, performance test emissions results less than 50 percent of the applicable emissions limits in Table 1 or 2 to this subpart for all required testing for 3 consecutive years; or

(ii) For Hg emissions from an existing EGU, either:

(A) Average emissions less than 10 percent of the applicable Hg emissions limit in Table 2 to this subpart (expressed either in units of lb/TBtu or lb/GWh); or

(B) Potential Hg mass emissions of 29.0 or fewer pounds per year and compliance with the applicable Hg emission limit in Table 2 to this subpart (expressed either in units of lb/TBtu or lb/GWh).

(2) For all pollutants except Hg, you must conduct all required performance tests described in §63.10007 to demonstrate that a unit qualifies for LEE status.

(i) When conducting emissions testing to demonstrate LEE status, you must increase the minimum sample volume specified in Table 1 or 2 nominally by a factor of two.

(ii) Follow the instructions in §63.10007(e) and Table 5 to this subpart to convert the test data to the units of the applicable standard.

(3) For Hg, you must conduct a 30- (or 90-) boiler operating day performance test using Method 30B in appendix A-8 to part 60 of this chapter to determine whether a unit qualifies for LEE status. Locate the Method 30B sampling probe tip at a point within 10 percent of the duct area centered about the duct's centroid at a location that meets Method 1 in appendix A-1 to part 60 of this chapter and conduct at least three nominally equal length test runs over the 30- (or 90-) boiler operating day test period. You may use a pair of sorbent traps to sample the stack gas for a period consistent with that given in section 5.2.1 of appendix A to this subpart. Collect Hg emissions data continuously over the entire test period (except when changing sorbent traps or performing required reference method QA procedures). As an alternative to constant rate sampling per Method 30B, you may use proportional sampling per section 8.2.2 of Performance Specification 12 B in appendix B to part 60 of this chapter.

(i) Depending on whether you intend to assess LEE status for Hg in terms of the lb/TBtu or lb/GWh emission limit in Table 2 to this subpart or in terms of the annual Hg mass emissions limit of 29.0 lb/year, you will have to collect some or all of the following data during the 30-boiler operating day test period (see paragraph (h)(3)(iii) of this section):

(A) Diluent gas (CO2 or O2) data, using either Method 3A in appendix A-3 to part 60 of this chapter or a diluent gas monitor that has been certified according to part 75 of this chapter.

(B) Stack gas flow rate data, using either Method 2, 2F, or 2G in appendices A-1 and A-2 to part 60 of this chapter, or a flow rate monitor that has been certified according to part 75 of this chapter.

(C) Stack gas moisture content data, using either Method 4 in appendix A-1 to part 60 of this chapter, or a moisture monitoring system that has been certified according to part 75 of this chapter. Alternatively, an appropriate fuel-specific default moisture value from §75.11(b) of this chapter may be used in the calculations or you may petition the Administrator under §75.66 of this chapter for use of a default moisture value for non-coal-fired units.

SECTION E. Source Group Restrictions.

(D) Hourly gross output data (megawatts), from facility records.

(ii) If you use CEMS to measure CO2 (or O2) concentration, and/or flow rate, and/or moisture, record hourly average values of each parameter throughout the 30-boiler operating day test period. If you opt to use EPA reference methods rather than CEMS for any parameter, you must perform at least one representative test run on each operating day of the test period, using the applicable reference method.

(iii) Calculate the average Hg concentration, in µg/m3 (dry basis), for the 30- (or 90-) boiler operating day performance test, as the arithmetic average of all Method 30B sorbent trap results. Also calculate, as applicable, the average values of CO2 or O2 concentration, stack gas flow rate, stack gas moisture content, and gross output for the test period. Then:

(A) To express the test results in units of lb/TBtu, follow the procedures in §63.10007(e). Use the average Hg concentration and diluent gas values in the calculations.

(B) To express the test results in units of lb/GWh, use Equations A-3 and A-4 in section 6.2.2 of appendix A to this subpart, replacing the hourly values “Ch”, “Qh”, “Bws” and “(MW)h” with the average values of these parameters from the performance test.

(C) To calculate pounds of Hg per year, use one of the following methods:

(1) Multiply the average lb/TBtu Hg emission rate (determined according to paragraph (h)(3)(iii)(A) of this section) by the maximum potential annual heat input to the unit (TBtu), which is equal to the maximum rated unit heat input (TBtu/hr) times 8,760 hours. If the maximum rated heat input value is expressed in units of MMBtu/hr, multiply it by 10-6 to convert it to TBtu/hr; or

(2) Multiply the average lb/GWh Hg emission rate (determined according to paragraph (h)(3)(iii)(B) of this section) by the maximum potential annual electricity generation (GWh), which is equal to the maximum rated electrical output of the unit (GW) times 8,760 hours. If the maximum rated electrical output value is expressed in units of MW, multiply it by 10-3 to convert it to GW; or

(3) If an EGU has a federally-enforceable permit limit on either the annual heat input or the number of annual operating hours, you may modify the calculations in paragraph (h)(3)(iii)(C)(1) of this section by replacing the maximum potential annual heat input or 8,760 unit operating hours with the permit limit on annual heat input or operating hours (as applicable).

(4) For a group of affected units that vent to a common stack, you may either assess LEE status for the units individually by performing a separate emission test of each unit in the duct leading from the unit to the common stack, or you may perform a single emission test in the common stack. If you choose the common stack testing option, the units in the configuration qualify for LEE status if:

(i) The emission rate measured at the common stack is less than 50 percent (10 percent for Hg) of the applicable emission limit in Table 1 or 2 to this subpart; or

(ii) For Hg from an existing EGU, the applicable Hg emission limit in Table 2 to this subpart is met and the potential annual mass emissions, calculated according to paragraph (h)(3)(iii) of this section (with some modifications), are less than or equal to 29.0 pounds times the number of units sharing the common stack. Base your calculations on the combined heat input capacity of all units sharing the stack (i.e., either the combined maximum rated value or, if applicable, a lower combined value restricted by permit conditions or operating hours).

(5) For an affected unit with a multiple stack or duct configuration in which the exhaust stacks or ducts are downstream of all emission control devices, you must perform a separate emission test in each stack or duct. The unit qualifies for LEE status if:

(i) The emission rate, based on all test runs performed at all of the stacks or ducts, is less than 50 percent (10 percent for Hg) of the applicable emission limit in Table 1 or 2 to this subpart; or

(ii) For Hg from an existing EGU, the applicable Hg emission limit in Table 2 to this subpart is met and the potential annual mass emissions, calculated according to paragraph (h)(3)(iii) of this section, are less than or equal to 29.0 pounds. Use the average Hg emission rate from paragraph (h)(5)(i) of this section in your calculations.

(i) Liquid-oil fuel moisture measurement. If your EGU combusts liquid fuels, if your fuel moisture content is no greater than 1.0 percent by weight, and if you would like to demonstrate initial and ongoing compliance with HCl and HF emissions limits, you must meet the requirements of paragraphs (i)(1) through (5) of this section.

(1) Measure fuel moisture content of each shipment of fuel if your fuel arrives on a batch basis; or

(2) Measure fuel moisture content daily if your fuel arrives on a continuous basis; or

(3) Obtain and maintain a fuel moisture certification from your fuel supplier.

(4) Use one of the following methods to determine fuel moisture content:

(i) ASTM D95-05 (Reapproved 2010), “Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation,” or

(ii) ASTM D4006-11, “Standard Test Method for Water in Crude Oil by Distillation,” including Annex A1 and Appendix A1.

(5) Use one of the following methods to obtain fuel moisture samples:

(i) ASTM D4177-95 (Reapproved 2010), “Standard Practice for Automatic Sampling of Petroleum and Petroleum

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Products," including Annexes A1 through A6 and Appendices X1 and X2, or
(ii) ASTM D4057-06 (Reapproved 2011), "Standard Practice for Manual Sampling of Petroleum and Petroleum Products," including Annex A1.
(6) Should the moisture in your liquid fuel be more than 1.0 percent by weight, you must
(i) Conduct HCl and HF emissions testing quarterly (and monitor site-specific operating parameters as provided in §63.10000(c)(2)(iii) or
(ii) Use an HCl CEMS and/or HF CEMS.

(j) Startup and shutdown for coal-fired or solid oil derived-fired units. You must follow the requirements given in Table 3 to this subpart.

(k) You must submit a Notification of Compliance Status summarizing the results of your initial compliance demonstration, as provided in §63.10030.

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23403, Apr. 19, 2012; 78 FR 24084, Apr. 24, 2013; 79 FR 68789, Nov. 19, 2014; 81 FR 20181, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

 # 005 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR subpart 63.10000]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits and operating limits in this subpart. These limits apply to you at all times except during periods of startup and shutdown; however, for coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGUs, you are required to meet the work practice requirements, items 3 and 4, in Table 3 to this subpart during periods of startup or shutdown.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(c)(1) For coal-fired units, IGCC units, and solid oil-derived fuel-fired units, initial performance testing is required for all pollutants, to demonstrate compliance with the applicable emission limits.
(i) For a coal-fired or solid oil-derived fuel-fired EGU or IGCC EGU, you may conduct initial performance testing in accordance with §63.10005(h), to determine whether the EGU qualifies as a low emitting EGU (LEE) for one or more applicable emission limits, except as otherwise provided in paragraphs (c)(1)(i)(A) and (B) of this section:
(A) Except as provided in paragraph (c)(1)(i)(C) of this section, you may not pursue the LEE option if your coal-fired, IGCC, or solid oil-derived fuel-fired EGU is equipped with a main stack and a bypass stack or bypass duct configuration that allows the effluent to bypass any pollutant control device.
(B) You may not pursue the LEE option for Hg if your coal-fired, solid oil-derived fuel-fired EGU or IGCC EGU is new.
(C) You may pursue the LEE option provided that:
(1) Your EGU's control device bypass emissions are measured in the bypass stack or duct or your control device bypass exhaust is routed through the EGU main stack so that emissions are measured during the bypass event; or
(2) Except for hours during which only clean fuel is combusted, you bypass your EGU control device only during emergency periods for no more than a total of 2 percent of your EGU's annual operating hours; you use clean fuels to the maximum extent possible during an emergency period; and you prepare and submit a report describing the emergency event, its cause, corrective action taken, and estimates of emissions released during the emergency event. You must include these emergency emissions along with performance test results in assessing whether your EGU maintains LEE status.
(ii) For a qualifying LEE for Hg emissions limits, you must conduct a 30-day performance test using Method 30B at least

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once every 12 calendar months to demonstrate continued LEE status.

(iii) For a qualifying LEE of any other applicable emissions limits, you must conduct a performance test at least once every 36 calendar months to demonstrate continued LEE status.

(iv) If your coal-fired or solid oil derived fuel-fired EGU or IGCC EGU does not qualify as a LEE for total non-mercury HAP metals, individual non-mercury HAP metals, or filterable particulate matter (PM), you must demonstrate compliance through an initial performance test and you must monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a PM CEMS, or, for an existing EGU, compliance performance testing repeated quarterly.

(v) If your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), you may demonstrate initial and continuous compliance through use of an HCl CEMS, installed and operated in accordance with Appendix B to this subpart. As an alternative to HCl CEMS, you may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. If your EGU uses wet or dry flue gas desulfurization technology (this includes limestone injection into a fluidized bed combustion unit), you may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO2) CEMS installed and operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO2 emissions limit.

(vi) If your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with appendix A to this subpart.

(A) You may choose to use separate sorbent trap monitoring systems to comply with this subpart: One sorbent trap monitoring system to demonstrate compliance with the numeric mercury emissions limit during periods other than startup or shutdown and the other sorbent trap monitoring system to report average mercury concentration during startup periods or shutdown periods.

(B) You may choose to use one sorbent trap monitoring system to demonstrate compliance with the mercury emissions limit at all times (including startup periods and shutdown periods) and to report average mercury concentration. You must follow the startup or shutdown requirements that follow and as given in Table 3 to this subpart for each coal-fired,liquid oil-fired, or solid oil-derived fuel-fired EGU.

(2) NA.

(d)(1) If you demonstrate compliance with any applicable emissions limit through use of a continuous monitoring system (CMS), where a CMS includes a continuous parameter monitoring system (CPMS) as well as a continuous emissions monitoring system (CEMS), you must develop a site-specific monitoring plan and submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation (where applicable) of your CMS. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under §63.8(f). This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and CPMS prepared under appendix B to part 60 or part 75 of this chapter, and that meet the requirements of §63.10010. Using the process described in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in this paragraph of this section and, if approved, include those in your site-specific monitoring plan. The monitoring plan must address the provisions in paragraphs (d)(2) through (5) of this section.

(2) The site-specific monitoring plan shall include the information specified in paragraphs (d)(5)(i) through (d)(5)(vii) of this section. Alternatively, the requirements of paragraphs (d)(5)(i) through (d)(5)(vii) are considered to be met for a particular CMS or sorbent trap monitoring system if:

(i) The CMS or sorbent trap monitoring system is installed, certified, maintained, operated, and quality-assured either according to part 75 of this chapter, or appendix A or B to this subpart; and (ii) The recordkeeping and reporting requirements of part 75 of this chapter, or appendix A or B to this subpart, that pertain to the CMS are met.

(3) If requested by the Administrator, you must submit the monitoring plan (or relevant portion of the plan) at least 60 days before the initial performance evaluation of a particular CMS, except where the CMS has already undergone a performance evaluation that meets the requirements of §63.10010 (e.g., if the CMS was previously certified under another program).

(4) You must operate and maintain the CMS according to the site-specific monitoring plan.

(5) The provisions of the site-specific monitoring plan must address the following items:

(i) Installation of the CMS or sorbent trap monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device). See §63.10010(a) for further details. For PM CPMS installations, follow the procedures in §63.10010(h).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.

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(iii) Schedule for conducting initial and periodic performance evaluations.
(iv) Performance evaluation procedures and acceptance criteria (e.g., calibrations), including the quality control program in accordance with the general requirements of §63.8(d).
(v) On-going operation and maintenance procedures, in accordance with the general requirements of §§63.8(c)(1)(ii), (c)(3), and (c)(4)(ii).
(vi) Conditions that define a CMS that is out of control consistent with §63.8(c)(7)(i) and for responding to out of control periods consistent with §§63.8(c)(7)(ii) and (c)(8).
(vii) On-going recordkeeping and reporting procedures, in accordance with the general requirements of §§63.10(c), (e)(1), and (e)(2)(i), or as specifically required under this subpart.

(e) As part of your demonstration of continuous compliance, you must perform periodic tune-ups of your EGU(s), according to §63.10021(e).

(f) Except as provided under paragraph (n) of this section, you are subject to the requirements of this subpart for at least 6 months following the last date you met the definition of an EGU subject to this subpart (e.g., 6 months after a cogeneration unit provided more than one third of its potential electrical output capacity and more than 25 megawatts electrical output to any power distributions system for sale). You may opt to remain subject to the provisions of this subpart beyond 6 months after the last date you met the definition of an EGU subject to this subpart, unless your unit is a solid waste incineration unit subject to standards under CAA section 129 (e.g., 40 CFR part 60, subpart CCCC (New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration Units, or subpart DDDD (Emissions Guidelines (EG) for Existing Commercial and Industrial Solid Waste Incineration Units). Notwithstanding the provisions of this subpart, an EGU that starts combusting solid waste is immediately subject to standards under CAA section 129 and the EGU remains subject to those standards until the EGU no longer meets the definition of a solid waste incineration unit consistent with the provisions of the applicable CAA section 129 standards.

(g) Except as provided under paragraph (n) of this section, if your unit no longer meets the definition of an EGU subject to this subpart you must be in compliance with any newly applicable standards on the date you are no longer subject to this subpart. The date you are no longer subject to this subpart is a date selected by you, that must be at least 6 months from the date that your unit last met the definitionof an EGU subject to this subpart or the date you begin combusting solid waste, consistent with §63.9983(d). Your source must remain in compliance with this subpart until the date you select to cease complying with this subpart or the date you begin combusting solid waste, whichever is earlier.

(h)(1) If you own or operate an EGU that does not meet the definition of an EGU subject to this subpart on April 16, 2015, and you commence or recommence operations that cause you to meet the definition of an EGU subject to this subpart, you are subject to the provisions of this subpart, including, but not limited to, the emission limitations and the monitoring requirements, as of the first day you meet the definition of an EGU subject to this subpart. You must complete all initial compliance demonstrations for this subpart applicable to your EGU within 180 days after you commence or recommence operations that cause you to meet the definition of an EGU subject to this subpart.
(2) You must provide 30 days prior notice of the date you intend to commence or recommence operations that cause you to meet the definition of an EGU subject to this subpart. The notification must identify:
(i) The name of the owner or operator of the EGU, the location of the facility, the unit(s) that will commence or recommence operations that will cause the unit(s) to meet the definition of an EGU subject to this subpart, and the date of the notice;
(ii) The 40 CFR part 60, part 62, or part 63 subpart and subcategory currently applicable to your unit(s), and the subcategory of this subpart that will be applicable after you commence or recommence operation that will cause the unit(s) to meet the definition of an EGU subject to this subpart;
(iii) The date on which you became subject to the currently applicable emission limits;
(iv) The date upon which you will commence or recommence operations that will cause your unit to meet the definition of an EGU subject to this subpart, consistent with paragraph (f) of this section.

(i)(1) If you own or operate an EGU subject to this subpart and cease to operate in a manner that causes your unit to meet the definition of an EGU subject to this subpart, you must be in compliance with any newly applicable section 112 or 129 standards on the date you selected consistent with paragraphs (g) and (n) of this section.
(2) You must provide 30 days prior notice of the date your EGU will cease complying with this subpart. The notification must identify:
(i) The name of the owner or operator of the EGU(s), the location of the facility, the EGU(s) that will cease complying with this subpart, and the date of the notice;

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(ii) The currently applicable subcategory under this subpart, and any 40 CFR part 60, part 62, or part 63 subpart and subcategory that will be applicable after you cease complying with this subpart;
(iii) The date on which you became subject to this subpart;
(iv) The date upon which you will cease complying with this subpart, consistent with paragraph (g) of this section.

(j) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart.

(k) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart. All calibration and drift checks must be performed as of the date your source ceases to be or becomes subject to this subpart. You must also comply with provisions of §§63.10010, 63.10020, and 63.10021 of this subpart. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS, if applicable. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with CAA section 112 monitoring requirements or monitoring requirements under this subpart.

(l) On or before the date an EGU is subject to this subpart, you must install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM or non-mercury HAP metals during startup periods and shutdown periods. You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods.

(m) Should you choose to rely on paragraph (2) of the definition of “startup” in §63.10042 for your EGU, on or before the date your EGU is subject to this subpart, you must installverify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM or non-mercury HAP metals controls during startup periods and shutdown periods required to comply with §63.10020(e).
(1) You may rely on monitoring system specifications or instructions or manufacturer's specifications when installing, verifying, operating, maintaining, and quality assuring each monitoring system.
(2) You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods.

(n) NA.

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23402, Apr. 19, 2012; 78 FR 24084, Apr. 24, 2013; 79 FR 68788, Nov. 19,2014; 81 FR 20180, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

 # 006 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR subpart 63.9991]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What emission limitations, work practice standards, and operating limits must I meet?

(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section. You must meet these requirements at all times.
(1) You must meet each emission limit and work practice standard in Table 1 through 3 to this subpart that applies to your EGU, for each EGU at your source, except as provided under §63.10009.
(2) You must meet each operating limit in Table 4 to this subpart that applies to your EGU.

(b) As provided in §63.6(g), the Administrator may approve use of an alternative to the work practice standards in this section.

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(c) You may use the alternate SO2 limit in Tables 1 and 2 to this subpart only if your EGU:
(1) Has a system using wet or dry flue gas desulfurization technology and an SO2 continuous emissions monitoring system (CEMS) installed on the EGU; and
(2) At all times, you operate the wet or dry flue gas desulfurization technology and the SO2 CEMS installed on the EGU consistent with §63.10000(b).

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23402, Apr. 19, 2012; 81 FR 20180, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

 # 007 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR subpart 63.9991]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units
What emission limitations, work practice standards, and operating limits must I meet?

TABLE 2 TO SUBPART UUUUU OF PART 63—EMISSION LIMITS FOR EXISTING EGUs

As stated in §63.9991, you must comply with the applicable emission limits, work practice standards, and requirements as appropriate (e.g., specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart.

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

II. TESTING REQUIREMENTS.

 # 008 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

The permittee shall comply with the performance testing requirements of 40 CFR Subpart UUUUUU Table 5.

Every two (2) years, the permittee shall conduct source testing on the exhaust (STACS01) of SOURCE ID NOs 031 and 032 to determine the post-control emissions of particulate matter (filterable and condensable). (Note: if a permit limit exists for PM-10 and/or PM-2.5, the Department may require additional testing for PM-10 and/or PM-2.5 compliance demonstration). Filterable particulate matter emissions only will be used to demonstate. Sampling conducted per 40 CFR Subpart UUUUU will also meet this requirement.

The permittee shall conduct such additional stack testing (on NOx, SOx, and other pollutants), as may reasonably be requested by the Department.

All testing shall be conducted in accordance with the Department's Source Testing Manual or other test methods approved by the Department prior to testing, shall be used to quantify emissions.

At least sixty (60) calendar days prior to commencing an emission testing program required by this permit, a test protocol shall be submitted to the Department's Division of Source Testing and Monitoring and the Northeast Regional Office for review and approvalf Source Testing and Monitoring and the appropriate Regional Office for review and approval if changes are proposed to the Department-approved protocol. The test protocol shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.

At least fifteen (15) calendar days prior to commencing an emission testing program required by this permit, written notification of the date and time of testing shall be provided to the Department's appropriate Regional Office. Written

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notification shall also be sent to the Department's Bureau of Air Quality, Division of Source Testing and Monitoring. The notification shall not be made without prior receipt of a protocol acceptance letter from the Department. The Department is under no obligation to accept the results of any testing performed without adequate advance written notice to the Department of such testing. In addition, the emissions testing shall not commence prior to receipt of a protocol acceptance letter from the Department.

A complete test report shall be submitted to the Department no later than sixty (60) calendar days after completion of the on-site testing portion of an emission test program.

A complete test report shall include a summary of the emission results on the first page of the report indicating if each pollutant measured is within permitted limits and a statement of compliance or non-compliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:

a. A statement that the owner or operator has reviewed the report from the emissions testing body and agrees with the findings;
b. Permit number(s) and condition(s) which are the basis for the evaluation;
c. Summary of results with respect to each applicable permit condition; and
d. Statement of compliance or non-compliance with each applicable permit condition.

All submittals shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual or the applicable federal regulation.

All submittals, besides notifications, shall be accomplished through PSIMS*Online available through https://www.depgreenport.state.pa.us/ecomm/Login.jsp when it becomes available. If internet submittal cannot be accomplished, one copy of the submittal shall be sent to the Pennsylvania Department of Environmental Protection, Bureau of Air Quality, Division of Source Testing and Monitoring, 400 Market Street, 12th Floor Rachael Carson State Office Building Harrisburg, PA 17105-8468 with deadlines verified through document postmarks. In a like manner, one copy of the submittal shall be sent to the appropriate Regional Office.

The owner or operator shall ensure all federal reporting requirements contained in the applicable federal requirements are followed, including timelines more stringent than those contained herein. In the event of an inconsistency or any conflicting requirements between state and the federal, the most stringent provision, term, condition, method, or rule shall be used by default.

 # 009 [25 Pa. Code §127.512]

Operating permit terms and conditions.

[Authority for this condition is also derived from 25 Pa. Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2) for Control Technology Review].

(a) A fuel oil sample shall be collected for each delivery and analyzed to determine as follows:
(1) The heating value (Btu/lb).
(2) The percent (%) sulfur content, by weight.

(b) Testing shall be done in accordance with applicable ASTM test methods and 25 Pa. Code, Chapter 139. Measurements, records, and other data shall be maintained in accordance with SECTION B - General Title V Condition #023.

(c) Quarterly reports of test results are to be submitted to the Regional Air Quality Program Manager within 30 days of the end of the quarter.

 # 010 [25 Pa. Code §127.512]

Operating permit terms and conditions.

[Authority for this condition is also derived from 25 Pa. Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2) for Control Technology Review. This condition also assures compliance with NSPS Subpart Da and 25 Pa. Code, Chapter 139].

(a) Coal and Anthracite Culm samples shall be taken daily and analyzed to determine as follows:

(1) The percent (%) sulfur content, by weight

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(2) The heating value (Btu/lb)

(b) Testing shall be done in accordance with applicable ASTM test methods and 25 Pa. Code, Chapter 139. Measurements, records, and other data shall be maintained in accordance with SECTION B - General Title V Condition #023.

(c) Quarterly reports of test results are to be submitted to the Regional Air Quality Program Manager within 30 days of the end of the quarter.

 # 011 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10006]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

When must I conduct subsequent performance tests or tune-ups?

(a) For liquid oil-fired, solid oil-derived fuel-fired and coal-fired EGUs and IGCC units using PM CPMS to monitor continuous performance with an applicable emission limit as provided for under §63.10000(c), you must conduct all applicable performance tests according to Table 5 to this subpart and §63.10007 at least every year.

(b) For affected units meeting the LEE requirements of §63.10005(h), you must repeat the performance test once every 3 years (once every year for Hg) according to Table 5 and §63.10007. Should subsequent emissions testing results show the unit does not meet the LEE eligibility requirements, LEE status is lost. If this should occur:

(1) For all pollutant emission limits except for Hg, you must conduct emissions testing quarterly, except as otherwise provided in §63.10021(d)(1).

(2) For Hg, you must install, certify, maintain, and operate a Hg CEMS or a sorbent trap monitoring system in accordance with appendix A to this subpart, within 6 calendar months of losing LEE eligibility. Until the Hg CEMS or sorbent trap monitoring system is installed, certified, and operating, you must conduct Hg emissions testing quarterly, except as otherwise provided in §63.10021(d)(1). You must have 3 calendar years of testing and CEMS or sorbent trap monitoring system data that satisfy the LEE emissions criteria to reestablish LEE status.

(c) NA.
(d) NA.
(e) NA.

(f) Time between performance tests.

(1) Notwithstanding the provisions of §63.10021(d)(1), the requirements listed in paragraphs (g) and (h) of this section, and the requirements of paragraph (f)(3) of this section, you must complete performance tests for your EGU as follows:

(i) At least 45 calendar days, measured from the test's end date, must separate performance tests conducted every quarter;

(ii) For annual testing:

(A) At least 320 calendar days, measured from the test's end date, must separate performance tests;

(B) At least 320 calendar days, measured from the test's end date, must separate annual sorbent trap mercury testing for 30-boiler operating day LEE tests;

(C) At least 230 calendar days, measured from the test's end date, must separate annual sorbent trap mercury testing for 90-boiler operating day LEE tests; and

(iii) At least 1,050 calendar days, measured from the test's end date, must separate performance tests conducted every3 years.

(2) For units demonstrating compliance through quarterly emission testing, you must conduct a performance test in the 4th quarter of a calendar year if your EGU has skipped performance tests in the first 3 quarters of the calendar year.

(3) If your EGU misses a performance test deadline due to being inoperative and if 168 or more boiler operating hours occur in the next test period, you must complete an additional performance test in that period as follows:

(i) At least 15 calendar days must separate two performance tests conducted in the same quarter.

(ii) At least 107 calendar days must separate two performance tests conducted in the same calendar year.

(iii) At least 350 calendar days must separate two performance tests conducted in the same 3 year period.

(g) NA.
(h) NA.
(i) If you are required to meet an applicable tune-up work practice standard, you must conduct a performance tune-up according to §63.10021(e).

(1) For EGUs not employing neural network combustion optimization during normal operation, each performance tune-up

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specified in §63.10021(e) must be no more than 36 calendar months after the previous performance tune-up.
(2) NA.

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23403, Apr. 19, 2012; 78 FR 24085, Apr. 24, 2013; 81 FR 20182, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

III. MONITORING REQUIREMENTS.

 # 012 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

[Authority for this condition is also derived from 40 CFR Part 64, regarding Compliance Assurance Monitoring (CAM)]

(a) Data Representativeness
(1) The % opacity measured by the COM is proportional to the amount to particulate matter in the exhaust stream. The accuracy of the COM shall be verified by methods specified in the most recent version of the Pennsylvania Department of Environmental Protection's Continuous Source Monitoring Manual".
(2) The differential pressure across the baghouse provides a direct indication of the integrity of the baghouse and the various components involved. Further, the baghouse integrity is representative of the particulate emission rate. Pressure taps are located at the baghouse inlet and outlet. The pressure transmitter has a minimum accuracy of 0.25" of H2O.

(b) Verification of Operational Status
(1) The operation of the COM shall be verified by Continuous opacity readings updating to the CEMS DAS and control room on the COM readout, and the results of the QA/QC program.
(2) The operation of the differential pressure transmitter shall be verified by the presence of a non-zero signal on the pressure readout during operations.

(c) QA/QC Practices
(1) To assure the accuracy of readings from the COM; daily drift checks, and other QA/QC requirements by methods specified in the most recent version of the Pennsylvania Department of Environmental Protection's Continuous Source Monitoring Manual shall be completed.
(2) To assure the accuracy of readings from the differential pressure transmitter, the permittee shall perform an annual calibration of the gauge and its transmitter. The pressure taps on the inlet and outlet sides of the baghouse shall be inspected for obstructions on a quarterly basis.

(d) Data Collection Procedures & Averaging Periods
(1) An electronic data acquisition system (DAS) shall collect data points from the COM approximately every 6 seconds. These % opacity data points are reduced to 1-minute averages and then to 1-hour averages. Overall averaging period is in 1-hour blocks.
(2) An electronic record of the continuously monitored differential pressure drop is maintained, with an overall averaging period in 1-hour blocks.

 # 013 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

(a) The permittee shall use the opacity readings to obtain data and monitor the emission control equipment performance.
(b) The permittee shall use a Continuous Opacity Meter (COM) to measure opacity downstream of the baghouse.
(c) The permittee shall monitor the aforementioned performance indicators on a continuous basis.

For the purpose of determining an excursion, the permittee shall collect opacity data points over one hour blocks.

 # 014 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.13]

Subpart A - General Provisions

Monitoring requirements.

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(1) Owners and operators of all continuous emission monitoring systems installed in accordance with the provisions of this part shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

 # 015 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.49Da]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Emission monitoring.

[Authority for this condition is derived from 25 Pa Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2). This condition also assures compliance with NSPS Subpart Da]

[Also, these conditions were derived from determinations made from 25 Pa. Code, Section 129.91 - 129.95 and from the RACT 1 Operating Permit approved December 2, 1996].

(1) Oxygen, sulfur dioxide (SO2), carbon monoxide (CO), nitrogen oxides (NOx), heat input and opacity shall be monitored and recorded continuously on each CFB boiler to demonstrate compliance with the emission limits specified in this Operating Permit. Recordkeeping and Reporting procedures must be in accordance with the requirements of the Continuous Source Monitoring Manual. The following protocols shall apply to the monitoring and reporting of emissions from the CFB boilers;

(a) Whenever the oxygen (O2) level is measured at 18.5 percent or greater, the Continuous Emission Monitoring System calculation for determining compliance with the emission limitations for NOx, SO2, and CO, expressed as allowable pounds per MMBtu heat input rate and allowable pounds per hour, shall be deemed invalid.

(b) "Process Down" on a particular CFB unit for NOx, SO2, and CO emissions shall be defined as periods when no fuel is being fed to the CFB boiler unit.

(2) The continuous emission monitoring systems for sulfur dioxide, nitrogen oxide, carbon monoxide, oxygen, heat input, and opacity as approved by the Department, must be operated and maintained in accordance with the quality assurance, recordkeeping and reporting requirements of Chapter 139 or the Pennsylvania Department of Environmental Protection Rules and Regulations and the Department's Continuous Source Monitoring Manual. The required data reports shall be submitted to the Department's Central Office, in hardcopy and computer-readable-media formats as specified by the Department, within thirty (30) days following the close of each calendar quarter.

 # 016 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10010]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What are my monitoring, installation, operation, and maintenance requirements?

(a) Flue gases from the affected units under this subpart exhaust to the atmosphere through a variety of different configurations, including but not limited to individual stacks, a common stack configuration or a main stack plus a bypass stack. For the CEMS, PM CPMS, and sorbent trap monitoring systems used to provide data under this subpart, the continuous monitoring system installation requirements for these exhaust configurations are as follows:

(1) Single unit-single stack configurations. For an affected unit that exhausts to the atmosphere through a single,

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dedicated stack, you shall either install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere.

(2) Unit utilizing common stack with other affected unit(s). When an affected unit utilizes a common stack with one or more other affected units, but no non-affected units, you shall either:

(i) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the duct leading to the common stack from each unit; or

(ii) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the common stack.

(3) Unit(s) utilizing common stack with non-affected unit(s).

(i) When one or more affected units shares a common stack with one or more non-affected units, you shall either:

(A) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the ducts leading to the common stack from each affected unit; or

(B) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems described in this section in the common stack and attribute all of the emissions measured at the common stack to the affected unit(s).

(ii) If you choose the common stack monitoring option:

(A) For each hour in which valid data are obtained for all parameters, you must calculate the pollutant emission rate and

(B) You must assign the calculated pollutant emission rate to each unit that shares the common stack.

(4) Unit with a main stack and a bypass stack that exhausts to the atmosphere independent of the main stack. If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, you shall install CEMS on both the main stack and the bypass stack. If it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, you shall:

(i) Route the exhaust from the bypass through the main stack and its monitoring so that bypass emissions are measured; or

(ii) Install a CEMS only on the main stack and count hours that the bypass stack is in use as hours of deviation from the monitoring requirements.

(5) Unit with a common control device with multiple stack or duct configuration. If the flue gases from an affected unit, which is configured such that emissions are controlled with a common control device or series of control devices, are discharged to the atmosphere through more than one stack or are fed into a single stack through two or more ducts, you may:

(i) Install required CEMS, PM CPMS, and sorbent trap monitoring systems in each of the multiple stacks;

(ii) Install required CEMS, PM CPMS, and sorbent trap monitoring systems in each of the ducts that feed into the stack;

(iii) Install required CEMS, PM CPMS, and sorbent trap monitoring systems in one of the multiple stacks or ducts and monitor the flows and dilution rates in all multiple stacks or ducts in order to determine total exhaust gas flow rate and pollutant mass emissions rate in accordance with the applicable limit; or

(iv) In the case of multiple ducts feeding into a single stack, install CEMS, PM CPMS, and sorbent trap monitoring systems in the single stack as described in paragraph (a)(1) of this section.

(6) Unit with multiple parallel control devices with multiple stacks. If the flue gases from an affected unit, which is configured such that emissions are controlled with multiple parallel control devices or multiple series of control devices are discharged to the atmosphere through more than one stack, you shall install the required CEMS, PM CPMS, and sorbent trap monitoring systems described in each of the multiple stacks. You shall calculate hourly flow-weighted average pollutant emission rates for the unit as follows:

(i) Calculate the pollutant emission rate at each stack or duct for each hour in which valid data are obtained for all parameters;

(ii) Multiply each calculated hourly pollutant emission rate at each stack or duct by the corresponding hourly stack gas flow rate at that stack or duct;

(iii) Sum the products determined under paragraph (a)(6)(ii) of this section; and

(iv) Divide the result obtained in paragraph (a)(6)(iii) of this section by the total hourly stack gas flow rate for the unit, summed across all of the stacks or ducts.

(b) If you use an oxygen (O2) or carbon dioxide (CO2) CEMS to convert measured pollutant concentrations to the units of the applicable emissions limit, the O2 or CO2 concentrations shall be monitored at a location that represents emissions to the atmosphere, i.e., at the outlet of the EGU, downstream of all emission control devices. You must install, certify, maintain, and operate the CEMS according to part 75 of this chapter. Use only quality-assured O2 or CO2 data in the emissions calculations; do not use part 75 substitute data values.

(c) If you are required to use a stack gas flow rate monitor, either for routine operation of a sorbent trap monitoring system or

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to convert pollutant concentrations to units of an electrical output-based emission standard in Table 1 or 2 to this subpart, you must install, certify, operate, and maintain the monitoring system and conduct on-going quality-assurance testing of the system according to part 75 of this chapter. Use only unadjusted, quality-assured flow rate data in the emissions calculations. Do not apply bias adjustment factors to the flow rate data and do not use substitute flow rate data in the calculations.

(d) If you are required to make corrections for stack gas moisture content when converting pollutant concentrations to the units of an emission standard in Table 1 of 2 to this subpart, you must install, certify, operate, and maintain a moisture monitoring system in accordance with part 75 of this chapter. Alternatively, for coal-fired units, you may use appropriate fuel-specific default moisture values from §75.11(b) of this chapter to estimate the moisture content of the stack gas or you may petition the Administrator under §75.66 of this chapter for use of a default moisture value for non-coal-fired units. If you install and operate a moisture monitoring system, do not use substitute moisture data in the emissions calculations.

(e) If you use an HCl and/or HF CEMS, you must install, certify, operate, maintain, and quality-assure the data from the monitoring system in accordance with appendix B to this subpart. Calculate and record a 30-boiler operating day rolling average HCl or HF emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all the valid hourly HCl or HF emission rates in the preceding 30 boiler operating days (see section 9.4 of appendix B to this subpart).

(f)(1) If you use an SO2 CEMS, you must install the monitor at the outlet of the EGU, downstream of all emission control devices, and you must certify, operate, and maintain the CEMS according to part 75 of this chapter.
(2) For on-going QA, the SO2 CEMS must meet the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO2 CEMS has a span value of 30 ppm or less.
(3) Calculate and record a 30-boiler operating day rolling average SO2 emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all of the valid hourly SO2 emission rates in the 30 boiler operating day period.
(4) Use only unadjusted, quality-assured SO2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO2 data and do not use part 75 substitute data values. For startup or shutdown hours (as defined in §63.10042) the default gross output and the diluent cap are available for use in the hourly SO2 emission rate calculations, as described in §63.10007(f). Use a flag to identify each startup or shutdown hour and report a special code if the diluent cap or default gross output is used to calculate the SO2 emission rate for any of these hours.

(g) If you use a Hg CEMS or a sorbent trap monitoring system, you must install, certify, operate, maintain and quality-assure the data from the monitoring system in accordance with appendix A to this subpart. You must calculate and record a 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average Hg emission rate, in units of the standard, updated after each new boiler operating day. Each 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average emission rate, calculated according to section 6.2 of appendix A to the subpart, is the average of all of the valid hourly Hg emission rates in the preceding 30- (or, if alternate emissions averaging is used, a 90-) boiler operating days. Section 7.1.4.3 of appendix A to this subpart explains how to reduce sorbent trap monitoring system data to an hourly basis.

(h) If you use a PM CPMS to demonstrate continuous compliance with an operating limit, you must install, calibrate, maintain, and operate the PM CPMS and record the output of the system as specified in paragraphs (h)(1) through (5) of this section.
(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with §63.10000(d), and meet the requirements in paragraphs (h)(1)(i) through (iii) of this section.
(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS may be expressed as milliamps, stack concentration, or other raw data signal.
(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.
(iii) The PM CPMS must be capable, at a minimum, of detecting and responding to particulate matter concentrations of 0.5 mg/acm.
(2) For a new unit, complete the initial PM CPMS performance evaluation no later than October 13, 2012 or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than

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October 13, 2015.

(3) Collect PM CPMS hourly average output data for all boiler operating hours except as indicated in paragraph (h)(5) of this section. Express the PM CPMS output as milliamps, PM concentration, or other raw data signal value.

(4) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average PM CPMS output collected during all nonexempt boiler operating hours data (e.g., milliamps, PM concentration, raw data signal).

(5) You must collect data using the PM CPMS at all times the process unit is operating and at the intervals specified in paragraph (h)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all boiler operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of output data from the PM CPMS. You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of §63.10031(b);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. You must report any such periods in your annual deviation report;

(iii) Any data recorded during periods of startup or shutdown.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(i) If you choose to comply with the PM filterable emissions limit in lieu of metal HAP limits, you may choose to install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (i)(1) through (5) of this section. The compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2 to this subpart.

(1) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using Method 5 at Appendix A-3 to part 60 of this chapter and ensuring that the front half filter temperature shall be 160° ±14 °C (320° ±25 °F). The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).

(2) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter.

(i) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually.

(ii) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years.

(3) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) of this section.

(4) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler operating hours.

(5) You must collect data using the PM CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.

(i) You must use all the data collected during all boiler operating hours in assessing the compliance with your operating limit except:

(A) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of emissions (e.g., calibrations, certain audits). You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of §63.10031(b);

(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. You must report any such

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periods in your annual deviation report;
(C) Any data recorded during periods of startup or shutdown.
(ii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan.

(j) You may choose to comply with the metal HAP emissions limits using CEMS approved in accordance with §63.7(f) as an alternative to the performance test method specified in this rule. If approved to use a HAP metals CEMS, the compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2. If approved, you may choose to install, certify, operate, and maintain a HAP metals CEMS and record the output of the HAP metals CEMS as specified in paragraphs (j)(1) through (5) of this section.
(1)(i) Install, calibrate, operate, and maintain your HAP metals CEMS according to your CMS quality control program, as described in §63.8(d)(2). The reportable measurement output from the HAP metals CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh) and in the form of a 30-boiler operating day rolling average.
(ii) Operate and maintain your HAP metals CEMS according to the procedures and criteria in your site specific performance evaluation and quality control program plan required in §63.8(d).
(2) Collect HAP metals CEMS hourly average output data for all boiler operating hours except as indicated in section (j)(4) of this section.
(3) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average HAP metals CEMS output data collected during all nonexempt boiler operating hours data.
(4) You must collect data using the HAP metals CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.
(i) You must use all the data collected during all boiler operating hours in assessing the compliance with your emission limit except:
(A) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of emissions (e.g., calibrations, certain audits). You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of §63.10031(b);
(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of §63.10031(b);
(C) Any data recorded during periods of startup or shutdown.
(ii) You must record and make available upon request results of HAP metals CEMS system performance audits, dates and duration of periods when the HAP metals CEMS is out of control to completion of the corrective actions necessary to return the HAP metals CEMS to operation consistent with your site-specific performance evaluation and quality control program plan.

(k) If you demonstrate compliance with the HCl and HF emission limits for a liquid oil-fired EGU by conducting quarterly testing, you must also develop a site-specific monitoring plan as provided for in §63.10000(c)(2)(iii) and Table 7 to this subpart.

(l) Should you choose to rely on paragraph (2) of the definition of “startup” in §63.10042 for your EGU, you must install, verify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the PM or non-mercury metals work practice standards required to comply with §63.10020(e).
(1) You shall develop a site-specific monitoring plan for PM or non-mercury metals work practice monitoring during startup periods.
(2) You shall submit the site-specific monitoring plan upon request by the Administrator.
(3) The provisions of the monitoring plan must address the following items:
(i) Monitoring system installation;
(ii) Performance and equipment specifications;
(iii) Schedule for initial and periodic performance evaluations;
(iv) Performance evaluation procedures and acceptance criteria;
(v) On-going operation and maintenance procedures; and

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(vi) On-going recordkeeping and reporting procedures.
(4) You may rely on monitoring system specifications or instructions or manufacturer's specifications to address paragraphs (l)(3)(i) through (vi) of this section.
(5) You must operate and maintain the monitoring system according to the site-specific monitoring plan.

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23404, Apr. 19, 2012; 78 FR 24086, Apr. 24, 2013; 79 FR 68789, Nov. 19, 2014; 81 FR 20185, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

 # 017 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10020]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10000(d).

(b) You must operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. You are required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data recorded during EGU startup or shutdown in calculations used to report emissions, except as otherwise provided in §§63.10000(c)(1)(vi)(B) and 63.10005(a)(2)(iii). In addition, data recorded during monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities may not be used in calculations used to report emissions or operating levels. You must use all of the quality-assured data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments), failure to collect required data is a deviation from the monitoring requirements.

(e) Additional requirements during startup periods or shutdown periods if you choose to rely on paragraph (2) of the definition of “startup” in §63.10042 for your EGU.
(1) During each period of startup, you must record for each EGU:
(i) The date and time that clean fuels being combusted for the purpose of startup begins;
(ii) The quantity and heat input of clean fuel for each hour of startup;
(iii) The gross output for each hour of startup;
(iv) The date and time that non-clean fuel combustion begins; and
(v) The date and time that clean fuels being combusted for the purpose of startup ends.
(2) During each period of shutdown, you must record for each EGU:
(i) The date and time that clean fuels being combusted for the purpose of shutdown begins;
(ii) The quantity and heat input of clean fuel for each hour of shutdown;
(iii) The gross output for each hour of shutdown;
(iv) The date and time that non-clean fuel combustion ends; and
(v) The date and time that clean fuels being combusted for the purpose of shutdown ends.
(3) For PM or non-mercury HAP metals work practice monitoring during startup periods, you must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10010(l).
(i) Except for an EGU that uses PM CEMS or PM CPMS to demonstrate compliance with the PM emissions limit, or that has LEE status for filterable PM or total non-Hg HAP metals for non- liquid oil-fired EGUs (or HAP metals emissions for

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liquid oil-fired EGUs), or individual non-mercury metals CEMS, you must:

(A) Record temperature and combustion air flow or calculated flow as determined from combustion equations of post-combustion (exhaust) gas, as well as amperage of forced draft fan(s), upstream of the filterable PM control devices during each hour of startup.

(B) Record temperature and flow of exhaust gas, as well as amperage of any induced draft fan(s), downstream of the filterable PM control devices during each hour of startup.

(C) For an EGU with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

(D) For an EGU with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

(E) For an EGU with a wet scrubber needed for filterable PM control, record the scrubber liquid to flue gas ratio and the pressure drop across the scrubber during each hour of startup.

(ii) [Reserved]

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23404, Apr. 19, 2012; 79 FR 68790, Nov. 19, 2014; 81 FR 20187, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

IV. RECORDKEEPING REQUIREMENTS.

 # 018 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The facility shall record the results of the visual inspections of the control devices. The results of the inspections shall be recorded on a daily basis, maintained in a logbook, and made available to the Department upon request.

 # 019 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

[Additional authority for permit conditions (a)-(d) is also derived from 40 CFR §64.9]

(a) The permittee shall continuously record pressure drops and bag house inlet temperatures electronically (this data shall be maintained with an overall averaging period in 1-hour blocks), and continuously record opacity readings using the data acquisition system (DAS).

(b) The permittee shall record all excursions and corrective actions taken in response to an excursion and the time elapsed until the corrective actions have been taken.

(c) The permittee shall record all inspections, repair and maintenance performed on the monitoring equipment.

(d) The permittee shall maintain records of all monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). The permittee shall also record the dates, times and durations, possible causes and corrective actions taken for the incidents.

[Additional authority for permit condition (e) is also derived from 40 CFR §70.6(a)(3)(ii)(B)]

(e) The permittee shall keep all records for a period of five (5) years and make records available to the Department upon request.

 # 020 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.52Da]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Recordkeeping requirements.

[Authority for this condition is derived from 25 Pa Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2). This

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condition also assures compliance with NSPS Subpart Da]

[Also, these conditions were derived from determinations made from 25 Pa. Code, Section 129.91 - 129.95 and from the RACT 1 Operating Permit issued December 2, 1996].

(1) The Permittee shall maintain the following records for each unit with respect to Special Operating Conditions:

(a) The date and time of start and end of the event;
(b) The bed temperature on a 15-minute increment average basis;
(c) The timing of introduction and termination of fuel oil burners, and the total fuel oil consumed during the event; and
(d) Combined emission from both boilers for the duration of such event, based on monitoring as specified in Monitoring Requirements of this Operating Permit.

(2) The bed temperature (measured as averages over 15-minute increments) shall be continuously monitored. Bed temperatures below 1,400 F shall set a low temperature event flag in the system data for all pollutant channels. This temperature channel will not be subject to the performance specifications of the Continuous Emission Monitoring Manual.

(3) The company shall maintain a file containing all records and other data that are required to be collected pursuant to the various provisions of this Operating Permit, 25 Pa. Code Section 129.95, such that records provide sufficient data and calculations to clearly demonstrate that the requirements of 25 Pa. Code Sections 129.91-94 are met. The file shall include, but not be limited to: all air pollution control system performance evaluations and records of calibration checks, adjustments and maintenance performed on all equipment which is subject to this Operating Permit.

(4) Permittee shall comply with the recordkeeping requirements set forth in this Operating Permit and with the reporting requirements set forth in this Operating Permit with respect to operations during Special Operating Conditions.

 # 021 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.52Da]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Recordkeeping requirements.

[Authority for this condition is derived from 25 Pa Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2). This condition also assures compliance with NSPS Subpart Da]

[Also, these conditions were derived from determinations made from 25 Pa. Code, Section 129.91 - 129.95 and from the RACT 1 Operating Permit issued December 2, 1996].

(1) During each event, the start and end time, bed temperature on 15-minute intervals, fuel burner on and off times and amount of fuel consumed and CEMs data for CO, NOx, and SO2. Also, air flow monitor data shall be recorded.

(2) Oxygen, NOx, CO, and heat input shall be recorded hourly, opacity continuously, and SO2 as a 24-hour average except during Special Operating Conditions. SO2 shall also be recorded as a 3-hour rolling average and CO will also be recorded as an 8-hour rolling average.

(3) Recordkeeping for CEMs shall be as required by 25 Pa. Code 139 and the Department's Continuous Source Monitoring Manual.

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.52Da]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Recordkeeping requirements.

(a) [Reserved]

(b) The owner or operator of an affected facility subject to the opacity limits in §60.42Da(b) that elects to monitor emissions according to the requirements in §60.49Da(a)(3) shall maintain records according to the requirements specified in paragraphs (b)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

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(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (b)(1)(i) through (iii) of this section.
(i) Dates and time intervals of all opacity observation periods;
(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
(iii) Copies of all visible emission observer opacity field data sheets;
(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (b)(2)(i) through (iv) of this section.
(i) Dates and time intervals of all visible emissions observation periods;
(ii) Name and affiliation for each visible emission observer participating in the performance test;
(iii) Copies of all visible emission observer opacity field data sheets; and
(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

[74 FR 5083, Jan. 28, 2009, as amended at 77 FR 9459, Feb. 16, 2012]

 # 023 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10032]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What records must I keep?

(a) You must keep records according to paragraphs (a)(1) and (2) of this section. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also keep the records required under appendix A and/or appendix B to this subpart.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).
(2) Records of performance stack tests, fuel analyses, or other compliance demonstrations and performance evaluations, as required in §63.10(b)(2)(viii).

(b) For each CEMS and CPMS, you must keep records according to paragraphs (b)(1) through (4) of this section.
(1) Records described in §63.10(b)(2)(vi) through (xi).
(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).
(3) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).
(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in Table 7 to this subpart including records of all monitoring data and calculated averages for applicable PM CPMS operating limits to show continuous compliance with each emission limit and operating limit that applies to you.

(d) For each EGU subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (3) of this section.
(1) You must keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used.
(2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to 40 CFR 241.3(b)(1), you must keep a record which documents how the secondary material meets each of the legitimacy criteria. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR 241.3(b)(2), you must keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR 241.2. If the fuel received a non-waste determination pursuant to the petition process submitted under 40 CFR 241.3(c), you must keep a record which documents how the fuel satisfies the requirements of the petition process.
(3) For an EGU that qualifies as an LEE under §63.10005(h), you must keep annual records that document that your emissions in the previous stack test(s) continue to qualify the unit for LEE status for an applicable pollutant, and document that there was no change in source operations including fuel composition and operation of air pollution control equipment

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that would cause emissions of the pollutant to increase within the past year.

(e) If you elect to average emissions consistent with §63.10009, you must additionally keep a copy of the emissions averaging implementation plan required in §63.10009(g), all calculations required under §63.10009, including daily records of heat input or steam generation, as applicable, and monitoring records consistent with §63.10022.

(f) Regarding startup periods or shutdown periods:
(1) Should you choose to rely on paragraph (1) of the definition of "startup" in §63.10042 for your EGU, you must keep records of the occurrence and duration of each startup or shutdown.
(2) Should you choose to rely on paragraph (2) of the definition of "startup" in §63.10042 for your EGU, you must keep records of:
(i) The determination of the maximum possible clean fuel capacity for each EGU;
(ii) The determination of the maximum possible hourly clean fuel heat input and of the hourly clean fuel heat input for each EGU; and
(iii) The information required in §63.10020(e).

(g) You must keep records of the occurrence and duration of each malfunction of an operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(h) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(i) You must keep records of the type(s) and amount(s) of fuel used during each startup or shutdown.

(j) If you elect to establish that an EGU qualifies as a limited-use liquid oil-fired EGU, you must keep records of the type(s) and amount(s) of fuel use in each calendar quarter to document that the capacity factor limitation for that subcategory is met.

[77 FR 9464, Feb. 16, 2012, as amended at 79 FR 68792, Nov. 19, 2014; 81 FR 20189, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

V. REPORTING REQUIREMENTS.

 # 024 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

[Additional authority for permit condition (a) is also derived from 40 CFR §64.9 & §70.6(a)(3)(iii)(A)]

(a) The permittee shall report all excursions and corrective actions taken, the dates, times, durations and possible causes, every six (6) months.

[Additional authority for permit condition (b) is also derived from 40 CFR §64.9]

(b) The permittee shall report all monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable), their dates, times and durations, possible causes and corrective actions taken, every six (6) months.

 # 025 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.51Da]
Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978
Reporting requirements.

[Authority for this condition is derived from 25 Pa Code, Section 127.83 and 40 CFR Part 52, Section 52.21(j)(2). This

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condition also assures compliance with NSPS Subpart Da]

[Also, these conditions were derived from determinations made from 25 Pa. Code, Section 129.91 - 129.95 and from the RACT 1 Operating Permit issued December 2, 1996].

(1) The Permittee shall comply with the following reporting requirements for each unit with respect to Special Operating Conditions:

(a) For periods when a CFB combustion unit is in a Special Operating Condition, the CEM reports submitted to the Department pursuant to SECTION E - Reporting Restrictions for that unit shall be coded 0.0000813P, and emissions of SO2, NOx, and CO shall not be reported on the CEM report.

(b) Based on the records required under SECTION E - Recordkeeping Requirements, the Permittee shall separately prepare and submit an excess emissions report to the Department (addressed to the Air Quality Program Manager, Northeast Regional Office for each quarter in which any of the alternative emission limitations set forth in SECTION E - Group 01 Restrictions are exceeded. Such excess emissions report shall be submitted within thirty (30) days after each calendar quarter, and shall contain the following information for each event in which exceedance occurs:

(i) The date and time of start and end of the event;
(ii) The bed temperature on 15-minute increment average basis;
(iii) The timing of introduction and termination of fuel oil burners and the total fuel oil consumed during the event; and
(iv) Combined emission from both boilers for the duration of such event, based on monitoring as specified in SECTION E - Group 01 Monitoring requirements.

(c) All CEM reports shall be submitted to the Department within thirty (30) days after each quarter but no later than the time frame established in the Department's latest Continuous Source Monitoring Manual. The Department reserves the right to require the report submission in floppy disks or with a format acceptable to the Department.

 # 026 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.51Da]

Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978

Reporting requirements.

(a) For SO2, NOX, PM, and NOX plus CO emissions, the performance test data from the initial and subsequent performance test and from the performance evaluation of the continuous monitors (including the transmissometer) must be reported to the Administrator.

(b) For SO2 and NOX the following information is reported to the Administrator for each 24-hour period.
(1) Calendar date.
(2) The average SO2 and NOX emission rates (ng/J, lb/MMBtu, or lb/MWh) for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the emission standards; and, description of corrective actions taken.
(3) For owners or operators of affected facilities complying with the percent reduction requirement, percent reduction of the potential combustion concentration of SO2 for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the standard; and, description of corrective actions taken.
(4) Identification of the boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 75 percent of the hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.
(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, or malfunction.
(6) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted.
(7) Identification of times when hourly averages have been obtained based on manual sampling methods.
(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS.
(9) Description of any modifications to CEMS which could affect the ability of the CEMS to comply with Performance Specifications 2 or 3.

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(c) If the minimum quantity of emission data as required by §60.49Da is not obtained for any 30 successive boiler operating days, the following information obtained under the requirements of §60.48Da(h) is reported to the Administrator for that 30-day period:
(1) The number of hourly averages available for outlet emission rates (no) and inlet emission rates (ni) as applicable.
(2) The standard deviation of hourly averages for outlet emission rates (so) and inlet emission rates (si) as applicable.
(3) The lower confidence limit for the mean outlet emission rate (Eo*) and the upper confidence limit for the mean inlet emission rate (Ei*) as applicable.
(4) The applicable potential combustion concentration.
(5) The ratio of the upper confidence limit for the mean outlet emission rate (Eo*) and the allowable emission rate (Estd) as applicable.

(d) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) and conducting performance tests using Method 9 of appendix A-4 of this part shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraph (d)(1) of this section.
(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (d)(1)(i) through (iii) of this section.
(i) Dates and time intervals of all opacity observation periods;
(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
(iii) Copies of all visible emission observer opacity field data sheets.
(2) [Reserved]

(e) If fuel pretreatment credit toward the SO2 emission standard under §60.43Da is claimed, the owner or operator of the affected facility shall submit a signed statement:
(1) Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of §60.50Da and Method 19 of appendix A of this part; and
(2) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.

(f) For any periods for which opacity, SO2 or NOX emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(g) [Reserved]

(h) The owner or operator of the affected facility shall submit a signed statement indicating whether:
(1) The required CEMS calibration, span, and drift checks or other periodic audits have or have not been performed as specified.
(2) The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this part and is representative of plant performance.
(3) The minimum data requirements have or have not been met; or, the minimum data requirements have not been met for errors that were unavoidable.
(4) Compliance with the standards has or has not been achieved during the reporting period.

(i) For the purposes of the reports required under §60.7, periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standards under §60.42Da(b). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Administrator each calendar quarter.

(j) The owner or operator of an affected facility shall submit the written reports required under this section and subpart A to the Administrator semiannually for each six-month period. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period.

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(k) The owner or operator of an affected facility may submit electronic quarterly reports for SO2 and/or NOX and/or opacity in lieu of submitting the written reports required under paragraphs (b) and (i) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period.

[72 FR 32722, June 13, 2007, as amended at 74 FR 5083, Jan. 28, 2009; 77 FR 9458, Feb. 16, 2012]

 # 027 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.7]

Subpart A - General Provisions

Notification and record keeping.

(a) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

 # 028 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10030]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you startup your EGU that is an affected source before April 16, 2012, you must submit an Initial Notification not later than 120 days after April 16, 2012.

(c) As specified in §63.9(b)(4) and (b)(5), if you startup your new or reconstructed EGU that is an affected source on or after April 16, 2012, you must submit an Initial Notification not later than 15 days after the actual date of startup of the EGU that is an affected source.

(d) When you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.

(e) When you are required to conduct an initial compliance demonstration as specified in §63.10011(a), you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (7), as applicable.
(1) A description of the affected source(s) including identification of which subcategory the source is in, the design capacity of the source, a description of the add-on controls used on the source, description of the fuel(s) burned, including

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whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test.

(2) Summary of the results of all performance tests and fuel analyses and calculations conducted to demonstrate initial compliance including all established operating limits.

(3) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing; fuel moisture analyses; performance testing with operating limits (e.g., use of PM CPMS); CEMS; or a sorbent trap monitoring system.

(4) Identification of whether you plan to demonstrate compliance by emissions averaging.

(5) A signed certification that you have met all applicable emission limits and work practice standards.

(6) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a brief description of the deviation, the duration of the deviation, emissions point identification, and the cause of the deviation in the Notification of Compliance Status report.

(7) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following:

(i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting stack tests once every 3 years consistent with §63.10006(b), the date of the last three stack tests, a comparison of the emission level you achieved in the last three stack tests to the 50 percent emission limit threshold required in §63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions.

(ii) Certifications of compliance, as applicable, and must be signed by a responsible official stating:

(A) “This EGU complies with the requirements in §63.10021(a) to demonstrate continuous compliance.” and

(B) “No secondary materials that are solid waste were combusted in any affected unit.”

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23404, Apr. 19, 2012; 78 FR 24087, Apr. 24, 2013; 79 FR 68791, Nov. 19, 2014; 81 FR 20187, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

 # 029 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10031]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What reports must I submit and when?

(a) You must submit each report in Table 8 to this subpart that applies to you. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also submit the electronic reports required under appendix A and/or appendix B to the subpart, at the specified frequency.

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

VI. WORK PRACTICE REQUIREMENTS.

 # 030 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

[Additional authority for permit conditions (a)-(e) is also derived from 40 CFR §64.8]

(a) The permittee shall develop and implement a quality improvement plan (QIP) as expeditiously as practicable if any of the following occurs:

(1) Six or more excursions occur in a six-month reporting period.

(2) The Department determines after review of all reported information that the permittee has not responded acceptably to an excursion.

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(b) In general, the QIP should be developed within 60 days and the permittee shall provide a copy of the QIP to the Department. Furthermore, the permittee shall notify the Department if the period for completing the improvements contained within the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(c) In accordance with 40 CFR Part 64, §64.8, the QIP shall include procedures for evaluating the control performance problems. Based on the results of the evaluation procedures, the permittee shall modify the QIP, and provide a copy to the Department, to include procedures for conducting more frequent or improved monitoring in conjunction with one or more of the following:

(1) Improved preventative maintenance practices.
(2) Process operation changes.
(3) Appropriate improvements to control methods.
(4) Other steps appropriate to correct performance.

(d) Following implementation of a QIP, the Department will require reasonable revisions to the QIP if the plan has failed to either:

(1) Address the cause of the control device performance problem; or
(2) Provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(e) Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under any Federal, State, or Local laws or any other applicable requirements under the Clean Air Act.

[Additional authority for permit condition (f) is also derived from 40 CFR §64.9]

(f) The permittee shall record actions taken to implement the QIP during a reporting period and all related actions including, but not limited to inspections, repairs and maintenance performed on the monitoring equipment.

 # 031 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

[Additional authority for permit condition (a) is also derived from 40 CFR §64.3 & §64.6]

(a) The permittee shall adhere to the following ranges so that operation within the ranges shall provide reasonable assurance of compliance. A departure from the specified indicator range shall be defined as an excursion:

(1) The range of the pressure transmitter is 0 to 12 inches (") of H2O pressure. An excursion is defined as a pressure drop of less than 3" of H2O or a pressure drop of greater than 10" of H2O. Excursions trigger an inspection, corrective action, and a reporting requirement. Corrective actions may include bag replacement as necessary.

(2) Inlet temperature into the baghouse may not exceed the maximum allowable temperature specified by the manufacturer of the bags being used.
(3) The range of the COM is 0 to 90 percent (%) opacity. An excursion is defined as and hourly opacity average greater than 5%.

[Additional authority for permit conditions (b)-(d) is also derived from 40 CFR §64.3]

(b) The permittee shall utilize approved QA/QC practices that are adequate to ensure continuing validity of data and proper performance of the devices.

(1) The permittee shall, for the temperature and opacity measuring devices, maintain detectors or sensors at locations approved by the Department for obtaining data that are representative of the baghouse inlet temperature and exhaust gas opacity respectively.
(2) The permittee shall develop verification procedures to confirm the operational status of new or modified monitoring equipment prior to commencement of the monitoring process.
(3) The permittee shall calibrate and check the accuracy of monitoring equipment taking into account the manufacturer's

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specifications at approved time intervals.

(c) The permittee shall maintain all monitoring equipment and stock parts necessary for routine repairs onsite.

(d) The permittee shall ensure that at least 90% of the monitoring data has been properly and accurately collected.

[Additional authority for permit condition (e) is also derived from 40 CFR §64.4]

(e) The permittee shall submit an implementation plan and schedule if the monitoring of the pressure drop, temperature or opacity requires the installation, testing or other necessary activities. The schedule for completing installation and beginning operation of the monitoring may not exceed 180 days after the issuance date of this permit.

 # 032 [25 Pa. Code §127.512]

Operating permit terms and conditions.

(a) Whenever the sources are in operation, the control devices for these sources shall be in operation.

(b) On a daily basis, the control devices for the sources shall be inspected. The inspection shall consist of a visible inspection to insure compliance with SECTION C - Conditions #001 and #002.

 # 033 [25 Pa. Code §127.512]

Operating permit terms and conditions.

[These conditions were derived from determinations made from 25 Pa. Code, Section 129.91 - 129.95 and from the RACT 1 Operating Permit issued December 2, 1996].

(1) The company shall maintain and operate the boilers and SNCR NOx control devices in accordance with the manufacturer's specifications and good operating practices.

(2) The company shall operate the boilers and fabric filters in accordance with manufacturer's specifications and good operating practices to maximize control device efficiencies and minimize emissions.

(3) The boilers shall be maintained and operated according to manufacturer's specifications and good operating practices to maintain good combustion to minimize opacity.

(4) All CEM monitors shall be maintained and operated in accordance with manufacturer's specifications and quality assurance per 25 Pa. Code 139 and the Department's Continuous Source Monitoring Manual.

 # 034 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.7]

Subpart A - General Provisions

Notification and record keeping.

The owner or operator of the sources shall furnish the Administrator written notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

 # 035 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR Subpart 63.10021]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?

SECTION E. Source Group Restrictions.

(a) You must demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you, according to the monitoring specified in Tables 6 and 7 to this subpart and paragraphs (b) through (g) of this section.

(b) (b) Except as otherwise provided in §63.10020(c), if you use a CEMS to measure SO2, PM, HCl, HF, or Hg emissions, or using a sorbent trap monitoring system to measure Hg emissions, you must demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO2, O2, or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on a continuous 30-boiler operating day (or, if alternate emissions averaging is used for Hg, 90-boiler operating day) rolling average basis, updated at the end of each new boiler operating day.

Use Equation 8 to determine the 30- (or, if applicable, 90-) boiler operating day rolling average.

Where:

Heri is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days.

(c) If you use a PM CPMS data to measure compliance with an operating limit in Table 4 to this subpart, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (e.g., milliamps, PM concentration, raw data signal) on a 30 operating day rolling average basis, updated at the end of each new boiler operating day.

Use Equation 9 to determine the 30 boiler operating day average.

Where:

Hpvi is the hourly parameter value for hour i and n is the number of valid hourly parameter values collected over 30 boiler operating days.

(1) For any exceedance of the 30-boiler operating day PM CPMS average value from the established operating parameter limit for an EGU subject to the emissions limits in Table 1 to this subpart, you must:
(i) Within 48 hours of the exceedance, visually inspect the air pollution control device (APCD);
(ii) If the inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible, and return the PM CPMS measurement to within the established value; and
(iii) Within 45 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the CPMS operating limit. You are not required to conduct any additional testing for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph.
(2) PM CPMS exceedances of the operating limit for an EGU subject to the emissions limits in Table 1 of this subpart leading to more than four required performance tests in a 12-month period (rolling monthly) constitute a separate violation of this subpart.

(d) If you use quarterly performance testing to demonstrate compliance with one or more applicable emissions limits in Table 1 or 2 to this subpart, you
(1) May skip performance testing in those quarters during which less than 168 boiler operating hours occur, except that a performance test must be conducted at least once every calendar year.
(2) Must conduct the performance test as defined in Table 5 to this subpart and calculate the results of the testing in units of the applicable emissions standard; and
(3) Must conduct site-specific monitoring using CMS to demonstrate compliance with the site-specific monitoring requirements in Table 7 to this subpart pertaining to HCl and HF emissions from a liquid oil-fired EGU to ensure compliance with the HCl and HF emission limits in Tables 1 and 2 to this subpart, in accordance with the requirements of §63.10000(c)(2)(iii). The monitoring must meet the general operating requirements provided in §63.10020.

(e) Conduct periodic performance tune-ups of your EGU(s), as specified in paragraphs (e)(1) through (9) of this section. For

SECTION E. Source Group Restrictions.

your first tune-up, you may perform the burner inspection any time prior to the tune-up or you may delay the first burner inspection until the next scheduled EGU outage provided you meet the requirements of §63.10005. Subsequently, you must perform an inspection of the burner at least once every 36 calendar months unless your EGU employs neural network combustion optimization during normal operations in which case you must perform an inspection of the burner and combustion controls at least once every 48 calendar months. If your EGU is offline when a deadline to perform the tune-up passes, you shall perform the tune-up work practice requirements within 30 days after the re-start of the affected unit.

(1) As applicable, inspect the burner and combustion controls, and clean or replace any components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection period. Repair of a burner or combustion control component requiring special order parts may be scheduled as follows:

(i) Burner or combustion control component parts needing replacement that affect the ability to optimize NOX and CO must be installed within 3 calendar months after the burner inspection,

(ii) Burner or combustion control component parts that do not affect the ability to optimize NOX and CO may be installed on a schedule determined by the operator;

(2) As applicable, inspect the flame pattern and make any adjustments to the burner or combustion controls necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that burner type;

(3) As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting repair to dampers, controls, mills, pulverizers, cyclones, and sensors;

(4) As applicable, evaluate windbox pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls, and sensors;

(5) Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess O2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near failure, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary;

(6) Optimize combustion to minimize generation of CO and NOX. This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NOX optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as SCR and SNCR; CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, and adjusting combustion zone temperature profiles;

(7) While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NOX in ppm, by volume, and oxygen in volume percent, before and after the tune-up adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). You may use portable CO, NOX and O2 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual values before and after each optimization adjustment made by the system;

(8) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including:

(i) The concentrations of CO and NOX in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems;

(ii) A description of any corrective actions taken as a part of the combustion adjustment; and

(iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period; and

(9) Report the dates of the initial and subsequent tune-ups in hard copy, as specified in §63.10031(f)(5), until April 16, 2017. After April 16, 2017, report the date of all tune-ups electronically, in accordance with §63.10031(f). The tune-up report date is the date when tune-up requirements in paragraphs (e)(6) and (7) of this section are completed.

[77 FR 9464, Feb. 16, 2012, as amended at 77 FR 23404, Apr. 19, 2012; 78 FR 24086, Apr. 24, 2013; 79 FR 68791, Nov. 19, 2014; 81 FR 20187, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

SECTION E. Source Group Restrictions.

 # 036 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR subpart 63.9991]

SUBPART UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

What emission limitations, work practice standards, and operating limits must I meet?

FROM TABLE 3 - WORK PRACTICE STANDARDS

1. An existing EGU: Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in §63.10021(e).
2. NA.
3. A coal-fired, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU during startup.

a. You have the option of complying using either of the following work practice standards:

(1) If you choose to comply using paragraph (1) of the definition of "startup" in §63.10042, you must operate all CMS during startup. Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). For startup of a unit, you must use clean fuels as defined in §63.10042 for ignition. Once you convert to firing coal, residual oil, or solid oil-derived fuel, you must engage all of the applicable control technologies except dry scrubber and SCR. You must start your dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation. You must comply with all applicable emissions limits at all times except for periods that meet the applicable definitions of startup and shutdown in this subpart. You must keep records during startup periods. You must provide reports concerning activities and startup periods, as specified in §63.10011(g) and §63.10021(h) and (i).

(2) NA.

b. NA.

c. If you choose to use just one set of sorbent traps to demonstrate compliance with the applicable Hg emission limit, you must comply with the limit at all times; otherwise, you must comply with the applicable emission limit at all times except for startup and shutdown periods.

d. You must collect monitoring data during startup periods, as specified in §63.10020(a) and (e). You must keep recordsduring startup periods, as provided in §§63.10032 and 63.10021(h). You must provide reports concerning activities and startup periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.

4. A coal-fired, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU during shutdown You must operate all CMS during shutdown. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of shutdown for those pollutants for which a CMS is used. While firing coal, residual oil, or solid oil-derived fuel during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal, residual oil, or solid oil-derived fuel being fed into the EGU and for as long as possible thereafter considering operational and safety concerns. In any case, you must operate your controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart and that require operation of the control devices. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in §63.10042 and must be used to the maximum extent possible, taking into account considerations such as not compromising boiler or control device integrity.If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in §63.10042 and must be used to the maximum extent possible, taking into account considerations such as not compromising boiler or control device integrity.

Relative to the syngas not fired in the combustion turbine of an IGCC EGU during shutdown, you must either: NA.

You must comply with all applicable emission limits at all times except during startup periods and shutdown periods at which time you must meet this work practice. You must collect monitoring data during shutdown periods, as specified in§63.10020(a). You must keep records during shutdown periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. You must provide reports concerning activities and shutdown periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.

SECTION E. Source Group Restrictions.

[81 FR 20196, Apr. 6, 2016]

In the event that the Federal Subpart that is the subject of this Source Group is revised, the permittee shall comply with the revised version of the subpart, and shall not be required to comply with any provisions in this permit designated as having the subpart as their authority, to the extent that such permit provisions would be inconsistent with the applicable provisions of the revised subpart.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: GROUP 02

Group Description: Handling Systems

Sources included in this group

ID	Name
ALS	ASH LOADING SYSTEM
ASL	ASH SILO
BAC	BOTTOM ASH CONVEYOR
FFS1	FLY ASH FILTER SEPARATOR #1
FFS2	FLYASH FILTER SEPARATOR #2
FS	FUEL SILO/REVERSING CONVEYOR
FTR	FUEL TRUCK UNLOADING
LSB	LIMESTONE BIN
RH	RECLAIM HOPPER

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The sources in GROUP 02 shall be regulated under SECTION C - Condition #001 by performing a visual inspection of the sources and associated equipment.

 # 002 [25 Pa. Code §127.512]

Operating permit terms and conditions.

[Authority for this condition is also derived from 25 Pa. Code, Section 127.83 and 40 CFR 52.21 (j)(2) and the RACT 1 Operating Permit issued December 2, 1996].

The permittee shall not permit the emission into the outdoor atmosphere of particulate matter from any source contained in GROUP 02 in excess of 0.02 grains per dry standard cubic foot.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

 # 003 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

Each control device (filter) of this GROUP 02 must be equipped with a device for monitoring the pressure differential across the system and shall be monitored daily.

IV. RECORDKEEPING REQUIREMENTS.

 # 004 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The facility shall record the results of the inspections of the control devices including the pressure differentials. The results of the inspection shall be recorded on a daily basis, maintained at the site, and made available to the Department upon request.

 # 005 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

SECTION E. Source Group Restrictions.

The permittee shall maintain a record detailing any visible emission occurrences relating to GROUP 02 - Condition #003, the actions taken to correct the occurrences, and plans to prevent any future occurrences.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 006 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

(a) The permittee shall adhere to the following ranges across the pressure indicators so that operation within the ranges shall provide reasonable assurance of compliance. A departure from the specified indicator range shall be defined as an excursion:

(1) The range of the pressure transmitter is 0 to 12 inches (") of H2O pressure. An excursion is defined as a pressure drop of less than 3" of H2O or a pressure drop of greater than 9" of H2O. Excursions trigger an inspection, corrective action, and a reporting requirement.

(i) Corrective actions may include bag or filter replacement as necessary.

 # 007 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall keep on hand a sufficient quantity of spare fabric collector bags for the control devices associated with the sources of this group in order to be able to immediately replace any bags requiring replacement due to deterioration resulting from routine operation of the sources and contol devices.

 # 008 [25 Pa. Code §127.512]

Operating permit terms and conditions.

Whenever the sources contained in GROUP 02 are in operation, the control devices for these sources shall be in operation. On a daily basis, the control devices for the sources shall be inspected. The inspection shall consist of a visible inspection to insure compliance with SECTION C - Conditions #001 and #002.

 # 009 [25 Pa. Code §127.512]

Operating permit terms and conditions.

The permittee shall, on a daily basis, perform a visual inspection of the sources contained in GROUP 02 and associated equipment to verify compliance with SECTION C - Condition #001.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: GROUP 03

Group Description: Storage piles and roadways

Sources included in this group

ID	Name
FTD	FUEL TRUCK DUMP
RDW	ROADWAYS
SP1	DAILY USE COAL REFUSE STORAGE PILE
SP2	STRATEGIC RESERVE COAL REFUSE STORAGE PILE

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 001 [25 Pa. Code §127.512]

Operating permit terms and conditions.

The permittee shall comply with the requirements of SECTION C - Conditions #001 and #002 by sweeping paved roads on a daily basis. Paved roads shall be kept watered down when they are not being swept. Unpaved roads shall have gravel and calcium applied or water applied as dust suppressants when conditions merit it. Fugitive emissions will also be controlled by limiting vehicle speed.

 # 002 [25 Pa. Code §127.512]

Operating permit terms and conditions.

Fugitive dust from loading and unloading at the stockpiles are controlled using a water spray system.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: GROUP 04

Group Description: Soda ash and lime bin

Sources included in this group

ID	Name
LBN	LIME BIN
SAB	SODA ASH BIN

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.13]

Processes

The permittee shall not permit the emission into the outdoor atmosphere of particulate matter from any source contained in GROUP 04 in excess of 0.04 grains per dry standard cubic foot.

 # 002 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The sources in Group 04 shall be regulated under SECTION C - Condition #001.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: GROUP 05

Group Description: Combustion units

Sources included in this group

ID	Name
031	PYROPOWER UNIT 1
032	PYROPOWER UNIT 2
DFP	DIESEL FIRE PUMP

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

To demonstrate compliance with Group 05, Condition #002, the permittee shall comply with the following requirements:

(a) The permittee shall perform an analysis of each shipment of No.2 fuel oil and diesel fuel delivered to the facility. A representative sample shall be obtained and tested. The fuel characteristics to be determined shall include, but not limited to, the following:

(1) The heating value(Btu/lb).
(2) The percent (%) sulfur content, by weight.

Testing shall be done in accordance with 25 Pa. Code, Chapter 139.

(b) If the supplier of the oil can provide certification of the values of the fuel characteristics mentioned in section (a) (specific to each shipment of No. 2 fuel oil and diesel fuel delivered to the facility), the permittee may substitute such certifications (signed by a responsible official) for the analysis of a representative sample.

Fuel Restriction(s).

 # 002 [25 Pa. Code §123.22]

Combustion units

No person may offer for sale, deliver for use, exchange in trade or permit the use of commercial fuel oil in nonair basin areas which contains sulfur in excess of the applicable percentage by weight set forth in the following table:

Grades Commercial Fuel Oil	% Sulfur
No. 2 and Lighter (viscosity less than or equal to 5.820cSt)	0.05

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 003 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall record the results of each complete fuel oil analysis, and fuel characteristic certifications, the quantity of No. 2 fuel oil and diesel fuel used, and the hours of operation of the sources. These records shall be used, with EPA's AP-

SECTION E. Source Group Restrictions.

42 emission factors, in the calculations of sulfur emissions from the facility.

V. REPORTING REQUIREMENTS.

 # 004 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall, on a quarterly basis, compile a report of the results of all fuel analysis and fuel characteristic certifications for No. 2 fuel oil and diesel fuel delivered to the facility during the previous three (3) months. The report shall be submitted to the Department within thirty (30) days of the close of each calendar quarter.

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: GROUP 06

Group Description: RACT II REQUIREMENTS 25 PA CODE § 129.96 - 129.100

Sources included in this group

ID	Name
031	PYROPOWER UNIT 1
032	PYROPOWER UNIT 2

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §129.97]

Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule.

FOR SOURCE IDs 031 AND 032

§129.97(a) The owner and operator of a source listed in one or more of subsections (b)—(h) located at a major NOx emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) or § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):

(1) January 1, 2017, for a source subject to § 129.96(a).

(2) January 1, 2017, or 1 year after the date the source meets the definition of a major NOx emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

Source IDs 031 and 032 are subject to Presumptive RACT 2 Requirements of §129.97(g)(1)(vi)(A), §129.97(g)(1)(ii), §129.(g)(1)(vii), §129,97(g)(1)(ix) and §129.97(g)(4).

The affected units must comply with the RACT 2 limits for all of the fuels used.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 002 [25 Pa. Code §129.100]

Compliance demonstration and recordkeeping requirements.

(a) Except as provided in subsection (c), the owner and operator of an air contamination source subject to a NOx requirement or RACT emission limitation or VOC requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

(1) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.

(i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:

(A) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.

(B) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.

SECTION E. Source Group Restrictions.

(C) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.

(ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.

(iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.

(2) NA.

(3) NA.

(4) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.

(b) Except as provided in § 129.97(k) and § 129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) not later than:

(1) January 1, 2017, for a source subject to § 129.96(a) (relating to applicability).

(2) January 1, 2017, or 1 year after the date that the source meets the definition of a major NOx emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(c) An owner or operator of an air contamination source subject to this section, § § 129.96 and 129.97 and § 129.98 (relating to facility-wide or system-wide NOx emissions averaging plan general requirements) may request a waiver from the requirement to demonstrate compliance with the applicable emission limitation listed in § 129.97 if the following requirements are met:

(1) The request for a waiver is submitted, in writing, to the Department not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NOx emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The request for a waiver demonstrates that a Department-approved emissions source test was performed in accordance with the requirements of Chapter 139, Subchapter A, on or after:

(i) April 23, 2015, for a source subject to § 129.96(a). (ii) April 23, 2015, or within 12 months prior to the date that the source meets the definition of a major NOx emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(3) The request for a waiver demonstrates to the satisfaction of the Department that the test results show that the source's rate of emissions is in compliance with the source's applicable NOx emission limitation or VOC emission limitation.

(4) The Department approves, in writing, the request for a waiver.

(d) The owner and operator of an air contamination source subject to this section and § § 129.96—129.99 shall keep records to demonstrate compliance with § § 129.96—129.99 in the following manner:

(1) The records must include sufficient data and calculations to demonstrate that the requirements of § § 129.96—129.99 are met.

(2) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

(e) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable NOx emission rate threshold specified in § 129.99(b) and the requirements of § 129.97 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(f) NA.

(g) The owner or operator of a combustion unit subject to § 129.97(b) shall record each adjustment conducted under the procedures in § 129.97(b). This record must contain, at a minimum:

(1) The date of the tuning procedure.

(2) The name of the service company and the technician performing the procedure.

(3) The final operating rate or load.

SECTION E. Source Group Restrictions.

(4) The final NOx and CO emission rates.
(5) The final excess oxygen rate.
(6) Other information required by the applicable operating permit.

(h) NA.

(i) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION F. Alternative Operation Requirements.

No Alternative Operations exist for this Title V facility.

SECTION G. Emission Restriction Summary.

No emission restrictions listed in this section of the permit.

SECTION H. Miscellaneous.

(a) The Department received the operating permit application for this facility on 05/22/2008.

(b) This permit is a renewal of Operating Permit No. 13-00003 and supersedes operating permit 13-00003 issued 11/30/2003. This permit includes RACT II.

(c) This is a Title V Operating Permit facility.

(d) The following is a list of sources that have been determined by the Department to be of minor significance under 25 Pa. Code, Chapter 127, Section 127.14(a)(8) and are not regulated in this TV Operating Permit. However, this determination does not exempt the sources from compliance with all applicable air quality regulations specified in 25 Pa. Code Chapters 121-143:

(1) Sodium Hypochlorite Storage Tank.
(2) Waste Neutralization Tank.
(3) Sulfuric Acid Storage Tank.
(4) Sodium Hydroxide Storage Tank.
(5) Oily Waste Storage Tank.
(6) PH Adjustment Chemical Feed Tank.
(7) Oxygen Scavenging Feed Tank.
(8) Phosphate Chemical Feed Tank.
(9) Caustic Feed Tank.
(10) Condensate Storage Tank.
(11) Polymer Feed Tank.
(12) Turbine Lube Oil Reservoir.
(13) Raw Water/Fire Storage Tank.
(14) Domestic Water Heater Tank.
(15) Balance Polymer Portable Tank.
(16) Maintenance Activities and Equipment and Supplies.
(17) Maintenance Parts Washers.
(18) Anhydrous Ammonia Storage Tank.
(19) Deaerator Tank.
(20) No. 2 Fuel Oil Storage Tank.
(21) Evap-Kool Modular Cooling Tower - RFD approved 5/8/2006).
(22) Culm Conveyor (Bank C to Reclaim) - RFD approved.
(23) Ash Conveyor (ALS to Bank C) - RFD approved.
(24) Air Conditioning Units.
(25) Electrically Operated Equipment.
(26) Routine Office Equipment.
(27) Portable Kerosen Heaters (6).
(28) Extec Fuel Stacker. RFD approved 12-4-2011.
(29) Emergency Generator. RFD approved 12-4-2011.
(30) Conveyor Belt Heater. RFD approved 12-4-2011.
(31) Reclaim Heating Boiler. RFD approved 12-4-2011.
(32) Godwin Water Pump. RFD approved 12-4-2011.
(33) Plant Closed Cooling Tower - 4 Cells.

****** End of Report ******

December 18, 2023

Mark Wejkszner, P.E.
Northeast Region Air Quality Program Manager
Department of Environmental Protection
Wilkes-Barre Regional Office
2 Public Square
Wilkes-Barre, PA 18701-1915

Re: Panther Creek Power Operating LLC
Notice of Intent to Issue Plan Approval No. 13-00003B
Interim Comments of Earthjustice and Sierra Club

Dear Mr. Wejkszner:

Earthjustice and Sierra Club hereby submit these interim comments on the Notice of Intent to Issue Plan Approval No. 13-00003B for Panther Creek Power Operating LLC.

1. The Department arbitrarily and unreasonably denied an extension in the public comment period, while granting itself an extension for a Right-to-Know request, and ensured that important documents would not be available to commenters.

These interim comments are submitted to meet the deadlines set by the Department's notice published in the Pennsylvania Bulletin on November 18, 2023 (53 Pa.B. 7183). On November 21, 2023, Earthjustice submitted a Right-to-Know request to the Northeast Regional Office seeking the following documents relevant to the Department's proposal:

> We are requesting documents from the Northeast Regional Office of the Department of Environmental Protection regarding the Panther Creek plant, as follows:
> --All documents regarding tire-derived fuel at the Panther Creek plant since January 1, 2022. This request includes, but is not limited to, applications, correspondence, inspections, stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, and e-mails.
> --All continuous emission monitoring data from the Panther Creek plant since January 1, 2023 for sulfur dioxide and oxides of nitrogen.
>
> We are also requesting all documents regarding tire-derived fuel at the Northampton Generating Plant, Northampton, Pennsylvania since January 1, 2022. This request includes, but is not limited to, applications, correspondence, inspections, stack testing, emissions, permits, approvals, denials of applications, enforcement documents, reports, and e-mails.

Attachment A. On November 27, Earthjustice, PennFuture, and Sierra Club sought an extension in the time for comment until 20 days after the Department's final response to this Right-to-Know request, so that they could consider the responsive information in preparing comments (Attachment B).

However, rather than answer this request by releasing Department documents that could inform public comments on the Department's proposal, on December 1, 2023 the Department granted itself an extension in the time to respond, to January 2 (Attachment C). The Department then denied the extension sought by Earthjustice, PennFuture, and Sierra Club (Attachment D). The Department's actions all but guarantee that essential information that the groups would use to comment on the permit will not be available to them by the comment deadline, which the Department has described as either December 18 or 28 (53 Pa.B. 7183).

The opportunity for public comment on a plan approval, and public access to documents via the Right-to-Know Law, should work hand in hand. Public comments that have the benefit of fully understanding the basis for Department's action benefit the public and the Department alike. Instead, the Department has granted itself an extension for releasing documents while denying an extension to groups seeking to comment. These actions are contrary to the goals of public participation in both the Air Pollution Control Act and the Right-to-Know Law. Once the Department provides its response, apparently not until January, these groups will review the documents and file supplemental comments.

2. Information available to date does not provide a basis for the Department to approve the Proposed Plan Approval.[1]

These initial comments on the proposed action (namely burning of tire-derived fuels, or TDF) at the Panther Creek plant are based on available information (permit application, proposed plan approval) at the time of writing. Substantial additional and relevant information is missing in the record but has not yet been provided. This includes details of the testing that has supposedly been conducted under a temporary permit issued by the Department (see letter dated June 9, 2023 in the June 2023 plan approval application, at pdf p. 41 or 48) referenced in the Should such information become available, these comments will be updated, as necessary.

A. These comments incorporate all of the technical comments noted in the March 31, 2023 comments submitted by PennFuture, Clean Air Council, and Earthjustice to the PADEP (Attachment E) in relation to the Agency's Notice of Intent to Approve the Plan Approval 13-00003A, the air permit for the facility, which was subsequently granted by the Department effective May 25, 2023, with a Plantwide Applicability Limit (PAL) for various pollutants, as shown below (Table 3-1 from the June 2023 plan approval application at pdf p. 6 of 48).

[1] Section 2 of the comments was prepared with the assistance of Ranajit Sahu, Ph.D.

Table 3-1
Plantwide Applicability Limits (Tons per Rolling 12-Months)
Panther Creek Facility

Pollutant	Running 12-month PAL Limit (Tons)
PM_f	**113.81**
PM_{10}	**86.12**
$PM_{2.5}$	**35.55**
SO_2	**603.65**
NO_X	**586.85**
CO	**381.05**
Fluorides (not including HF)	**3.0**
H_2SO_4	**15.15**
Pb	**0.03**
$CO_2(e)$	**1,116,217.64**

B. In June 2023, the company submitted an application to supplement the combustion at the two circulating fluidized bed (CFB) units (designated as Sources 031 and 032) at the plant using TDF in addition to coal refuse (anthracitic culm) and No. 2 fuel oil as authorized under Plan Approval 13-00003A. The Application for the modification states that PAL under 13-00003A will not be exceeded as a result of this proposed use of TDF as a "supplemental fuel up to 15% by weight on a monthly basis."

The only basis for the claim that the PAL limits established under 13-00003A will not be exceeded as a result of burning the TDF at 15% by weight on a monthly basis are the following statements in the June 2023 plan approval application (at pdf p. 5 of 48):

> "TDF has long been recognized as a valuable fuel in well-controlled power plants, as well as cement plants. In a 1991 report, EPA concluded "Based on the experience and the emissions data from power plants burning tire or TDF, the use of tires and TDF as supplemental fuel is viable. In many cases, the quality of the emissions actually improves with increased use of tires or TDF as supplemental fuel.
>
> "Additionally, DEP has permitted the combustion of tires and/or TDF as a supplemental fuel at several facilities in Pennsylvania, including Northampton Generating, Hercules Cement, Lafarge, Lehigh Cement, ESSROC, and Viking Energy."

The referenced 1991 EPA Report nor any details of the emissions at the various facilities noted in the second paragraph were provided in the public record. They are the subject of outstanding records requests to the Department and have not been received at the time of this writing.

Subsequent to the submittal of the plan approval application, the Department requested additional information on the "emission factors" associated **with and without TDF** combustion.

In response, the consultant for the company provided summary results relating to the differences with and without TDF combustion for CO, NOx, SO2, and CO2 – and concluded that the differences were not statistically significant. However, **actual results of the data collected were not provided**. Importantly, for example, the quantities of TDF burned (in one or both of the CFBs) on the days counted as TDF-burning days along with the quantities of the culm or other fuels burned on the same days were not provided. Similarly, no information is provided in the non-TDF-firing days about the quantities of fuel burned. Thus, accepting the summary results of "differences" between TDF and non-TDF burning days, as the PADEP seems to have done, is simply unsupported and improper. The full details of the actual fuels and their quantities for all testing days should be provided in the public record along with all test conditions (such as the amounts of limestone used for SO2 control and the amount of ammonia used for NOx control, etc.) for there to be a meaningful comparison of the emissions with and without TDF combustion at the two CFBs at Panther Creek.

C. Specifically for SO2, per the June 2023 application, it is clear that substantially more sulfur will be introduced into the two CFB boilers as a result of the 15% by weight addition of TDF. The excerpt below (from pdf p. 22 of 48) shows the characteristics of the various fuels that will be burned, including TDF. Note the much higher levels of sulfur in TDF compared to any of the other fuels, including culm.

Section B - Combustion Unit Information (Continued)

3. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number 2	1440 GPH @ 60°F	110 X 10^3 Gal	0.04% by wt	0.001	19450Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10^3 Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Gas (other)	SCFH	X 10^6 Gal	gr/100 SCF		Btu/SCF
Coal Culm		490,600	0.41%	47%	5200-6000 btu
Other* TDF		78,000 Tons	2%	5%	15,000 BTU/lb

Burning 15% by weight of TDF at 2% sulfur will clearly release more SO2 emissions in the boilers since the sulfur content of the culm is 0.41% and the sulfur contents of the other fuels are much lower.

While the CFB boilers are equipped with SO2 CEMS and can track the SO2 emissions and perhaps control the additional SO2 that will be emitted as a result of TDF combustion by adding more limestone into the boilers (which may have been done during the test days as noted prior), the effect of the use of extra limestone (i.e., increase in particulate matter emissions, for

example) have not been addressed or quantified in any manner. Such PM (including PM2.5) emissions will increase as a result of greater limestone use. Also, the impact of additional limestone (which is used inherently as part of the bed material in the CFB units) on the operation of the units themselves (i.e., on the combustion efficiency, NOx emissions, greenhouse gas emissions, etc.) have not been addressed. The with- and without-TDF analysis did not address any of the particulate emissions.

D. The application notes that the TDF use will be limited to 15% by weight "on a monthly basis." This means, however, on a short-term basis, the amount of TDF used could be substantially greater than 15%. For example, on any given day or hour, the amount of TDF used could be far greater than 15%. The impact of these greater than 15% use of TDF (theoretically up to 100% TDF in a given hour, for example) on the emissions profile of the two CFB units has not been addressed. In fact, other than noting that the annual PAL limits will not be exceeded, with no quantification, there is literally no mention of any short-term emissions and how they will change with the introduction of TDF, unlimited in short-term time scales. This "monthly averaging" aspect cannot be reconciled with the testing that was conducted since, as noted prior, no information about how much TDF was used during testing days, is provided in the record.

Short-term emissions are important because several pollutants such as NOx, SO2, PM10, etc. have hourly or 24-hour average National Ambient Air Quality Standards. Therefore large increases in these pollutants are consequential. And, they have not been analyzed in the proposed action.

E. Finally, the application does not address how emissions of various toxic air contaminants or hazardous air pollutants (HAPs) would change as a result of burning the TDF at these two CFB units. There is substantial evidence that burning TDF can cause the emissions of various HAPs, including various metals such as antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, selenium, and zinc) and organic HAPs such as benzene, ethylbenzene, hexane, toluene, xylenes, styrene, and many others. See, for example a 1997 EPA report (i.e., one issued several years after the 1991 EPA report noted in the June 2023 plan approval application) Air Emissions From Scrap Tire Combustion, EPA-600/R-97-115, October 1997. The plan approval does not address how these air toxic compound emissions (either on a short-term or on an annual basis) will change as a result of the proposed supplemental use of TDF.

Conclusion

As noted, Earthjustice, Sierra Club, and possibly other groups will file supplemental comments after they have received and reviewed the documents to be released by the Department in response to the Right-to-Know request described above. Further, for the reasons described in Section 2 above, the information available to us to date does not provide a basis for the Department to grant the proposed plan approval.

Sincerely,

Charles McPhedran, Esq.

Earthjustice
1617 JFK Boulevard, Suite 2020
Philadelphia, PA 19103
(215) 206-0352
cmcphedran@earthjustice.org

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Sierra Club
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EXHIBIT D

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-005741	
Certified Mail #: Click here to enter text.		**Date:** 9/9/15	**Time:** 11:42 – 11:47
Address where violation occurred: 3801 E Marginal Way S.			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, **Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	AOP Term EU 3.2	Failure to maintain the kiln exhaust gas at 10% opacity or less.

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation:

On 9/9/15 11:42 – 11:47hours, Ash Grove Cement Co. kiln exhaust gas exceeded the 10% opacity limit. The actual opacity recorded for that period was 25.19%.

Issued by: Thomas Hudson Inspector **Date:** Mailed 3/31/16 AMCP **Time:**

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ No further enforcement action will be taken and no written response is required.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 3rd Ave Ste 105 Seattle, WA 98101-3317
Ph 206.343.8800 • 1.800.552.3565 • fax 206.343.7522

General Notice of Violation

No. 3- 006206

Case No.: _____ Registration No.: 11339 County: King

Violation Date: 9/10/15 Time: 12:10

Location of Violation (Address):	City/Zip:
3801 E Marginal Way S	Seattle 98134

Certified Mail No.:	Name:	Responsible Person, Title:
	Ash Grove Cement Co.	Craig Hostell, Plt Mgr.

Mailing Address:	City, State	Zip	Phone
Same			(206) 654-6225

Violation of Regulation _____, Section(s):

- ☐ 5.05(c) Failure to develop and implement an operation and maintenance plan.
- ☐ 6.03 Failure to obtain Notice of Construction Order prior to construction, installation, establishment, or modification of a new source.
- ☐ 9.11(a) Emission of air contaminant in sufficient quantities, characteristics and duration which unreasonably interferes with enjoyment of life and property.
- ☐ 9.15(a) Emission of fugitive dust without using reasonable precautions.
- ☒ 9.20 Failure to operate and maintain equipment in good working order.
- ☐ Failure to comply with Order of Approval No. _____, Condition No. _____

☒ OoA #9711 condition #5 Failure to mark acceptable range on bagHouse
☒ OoA #10742 condition #6 Failure to mark the acceptable operating range on FLS 6 TA 10 FM + FLS 25 TA 10 FM bagHouses.

Facts Alleged to Constitute a Violation:

9.20 - Magnehelic gauge input lines cut making gauge not operational.
see OoA #9711 bagHouse
OofA 9711 + 10742 see above

Corrective Action Order: You must take the corrective action described below.

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action you have taken to correct this violation and achieve compliance with Agency regulations.

☐ By: _____ you must _____

Issued by: _____ Date/Time: 9/10/15 12:10

Received by: Christopher A. Kitchen (signature) Christopher J. Kitchen (print name)

Signing this document is not an admission of guilt

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006223	
Certified Mail #: Click here to enter text.		**Date:** 8/16/16	**Time:** N/A
Address where violation occurred: 3801 E marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, **Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	AOP II.C.8 and V.N	Failure to to submit a performance test report within 60 daysof completing the test.

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation: The dioxin/furan test report (and Notification of Compliance Status report) was received electronically on 8/17/16, 62 days after the test (reff. Line # 510).

Issued by: T. Hudson **Date:** 2.3.17 **Time:**

Inspector

VII C

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006224	
Certified Mail #: Click here to enter text.		**Date:** 10/21/16	**Time:** N/A
Address where violation occurred: 3801 E marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text**, Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	AOP Term II.C.8 and V.N	Failure to to submit a performance test report within 60 daysof completing the test

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation:

This is the performance evaluation for the FTIR CEMS measuring NO_x, SO_2, CO, CO_2 and O_2. The test report was received electronically on 10/21/16, 61 days after the test (reff. Line # 519).

Issued by: T. Hudson **Date:** 2.3.17 **Time:**

Inspector

VIII. C

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339	**Violation #:** 3-006280	
Certified Mail #: Click here to enter text.	**Date:** 12/17/13	**Time:** N/A
Address where violation occurred: 3801 E marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell		**Title:** Plant Manager
Company name: Ash Grove Cement Company		**Phone:**
Mailing Address: Same as violation		
City:	**State:**	**Zip:** **E-mail:**

Violation of Regulation Text, Section(s):

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	AOP Term V.N	Failure to provide 60 days prior notice of a NESHAP (40 CFR Part 63) performance test

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation:

Ash Grove Cement did not provide 60 days prior notice of a NESHAP performance test.

Issued by: _____ **Date:** 8.6.14 **Time:** _____
Inspector

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____
Signature *Print Name* *Date*
(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006281	
Certified Mail #:		**Date:** 12/18/13	**Time:** N/A
Address where violation occurred: 3801 E marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, **Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	AOP Term EU 1.26	Emission of Dioxin/furan (D/F) emissions greater than 0.20 ng/dscm @ 7 % oxygen when the baghouse temperature is greater than 400 degrees F.

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation:

Ash Grove Cement exceeded the Dioxin/furan emissions required by AOP term EU 1.26

Issued by: _____ **Date:** 8·6·14 **Time:** _____

Inspector

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339	**Violation #:** 3-006370		
Certified Mail #:	**Date:** 12/24/13 – 5/13/14	**Time:** N/A	
Address where violation occurred: 3801 E marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Name of Responsible Person: Carey Austell		**Title:** Plant Manager	
Company name: Ash Grove Cement Company		**Phone:**	
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, Section(s):

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	AOP Term EU 1.26	Emission of Dioxin/furan (D/F) emissions greater than 0.20 ng/dscm @ 7 % oxygen when the baghouse temperature is greater than 400 degrees F.

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation:

Ash Grove Cement exceeded the Dioxin/Furan emissions limit required by AOP term EU 1.26 for 20 days during this period defined above (as documented in a letter to the Agency from Ash Grove Cement dated 8/27/14). This is a continuation of the violation # 3-006281.

7013.2630.0002.3624.6670

Issued by: _____ **Date:** 3.19.15 **Time:** _____

Inspector

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ No response to this additional Notice of Violation is required.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006371	
Certified Mail #:		**Date:** 6/3/16	**Time:** 02:54 – 02:59
Address where violation occurred: 3801 E Marginal Way S.			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, **Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☐		

Other (Order of Approval, Regulations, WAC, etc.):

☒ Failure to meet Order of Approval No. 11339, Condition No. EU 1.2

Alleged reason(s) for violation:

Ash Grove Cement allowed a kiln stack emission averaging greater than 20% opcatiy (i.e. 29%opacity) for 6 consecutive minutes on 6/3/16.

7014.0150.0000.1254.8404

Issued by: T. Hudson **Date:** 9.27.16 **Time:**

Inspector

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ The Agency acknowledges that a baghouse filter failed causing the opacity violation. The baghouse compartment was immediately taken out of service and the filter replaced. The Agency considers this violation closed and no corrective action response is required.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339	**Violation #:** 3-006376	
Certified Mail #:	**Violation Date:** 10/1/15	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell		**Title:** Plant Manager
Company name: Ash Grove Cement		**Phone:** 206 694-6225
Mailing Address: same		

City: Text	**State:** Text	**Zip:** Text	**E-mail:** Text

Violation of Regulation Text**, Section(s):**

- ☐ 5.05(c) Failure to develop and implement an operation and maintenance plan.
- ☐ 5.07(b) Failure to pay annual registration fee.
- ☐ 6.03 Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
- ☐ 9.11(a) Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
- ☐ 9.15 Emission of fugitive dust without using reasonable precautions.
- ☐ 9.20 Failure to operate and maintain equipment in good working order.

Other (Order of Approval, Regulations, WAC, etc.):

☒ Failure to meet Order of Approval No. , Condition No.
AOP terms II.B.2.ii, II.B.2.vi and II.C.4.d

Alleged reason(s) for violation:

II.B.2.ii Equipment failure during CERMS audit resulted in 3 days of invalid data so Ash Grove recorded <95% monthly data as required. II.B.2.ii failure to submit data as invalid in the monthly CEMS (line 431). II.C.4.d Failure to provide specifics regarding data recovery failure in monthly CEMs report (line 431).

Issued by: _____ **Date:** 10·7·15 **Time:** _____
Inspector

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____
Signature *Print Name* *Date*
(Signing is not an admission of guilt)

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006377	
Certified Mail #:		**Violation Date:** 8/31/15	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement			**Phone:** 206 694-6225
Mailing Address: same			
City: Text	**State:** Text	**Zip:** Text	**E-mail:** Text

Violation of Regulation Text**, Section(s):**

- ☐ 5.05(c) Failure to develop and implement an operation and maintenance plan.
- ☐ 5.07(b) Failure to pay annual registration fee.
- ☐ 6.03 Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
- ☐ 9.11(a) Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
- ☐ 9.15 Emission of fugitive dust without using reasonable precautions.
- ☐ 9.20 Failure to operate and maintain equipment in good working order.

Other (Order of Approval, Regulations, WAC, etc.):

☒ Failure to meet Order of Approval No. , Condition No.
AOP terms II.C.4

Alleged reason(s) for violation:

II.C.4 Failure to submit the July CEMS report within 30 days. The electronic report was recived on 8/31/15.

Issued by: _____ **Date:** 10·8·15 **Time:** _____
Inspector

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____
Signature *Print Name* *Date*
(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006379	
Certified Mail #:		**Date:** June 2016	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S.			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, Section(s):

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☐		

Other (Order of Approval, Regulations, WAC, etc.):

☒ Failure to meet Order of Approval No. 11339, Condition No. II.B.2.ii

Alleged reason(s) for violation:

Ash Grove Cement failed to recover valid hourly CO monitoring data for at least 95% of the the hours that the kiln operated during the month of June 2016. During this period Ash grove recovered 94.1% percent of CO data.

Issued by: T. Hudson **Date:** 9.27.16 VHH **Time:**

Inspector

7014.0150.0000.1254.8404

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006383	
Certified Mail #: Click here to enter text.	**Date:** 11/30/16	**Time:** N/A	
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Name of Responsible Person: Carey Austell		**Title:** Plant Manager	
Company name: Ash Grove Cement Company		**Phone:** 206 623-5596	
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation I , Section (s):

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.

Alleged reason(s) for violation:

Ash Grove Cement Co. failed to include the major source analysis reguired by 40 CFR 63.9(h)(2)(i)(E) in the Notifications of Compliance Status report for mercury and THC (reff. line # 532).

Issued by: **T. Hudson** **Date:** 4.7.17 **Time:** _____

Inspector

E-Certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339			**Violation #:** 3-006383
Certified Mail #: Click here to enter text.	**Date:** 11/30/17		**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:** 206 623-5596
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation I , Section (s):

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☐	40 CFR 63.9(h)(2)(i)(E)	Failure to submit complete Notifications of Compliance Status.

Alleged reason(s) for violation:

Ash Grove Cement Co. failed to include an analysis demonstrating whether the plant is a major source in the Notifications of Compliance Status for mercury and THC recently submitted. *Major source* means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants (Line # 532).

Issued by: T. Hudson **Date:** 3-30-17 **Time:**

Inspector

VM E-Certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with the subject regulation.

☒ Within 10 days of the date you receive this Notice of Violation submit the analysis demonstrating whether the plant is a major source of HAPs.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339			**Violation #:** 3-006384
Certified Mail #: Click here to enter text.	**Date:** 1/31/17		**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:** 206 623-5596
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of AOP term V.M. - Compliance Certifications

Alleged reason(s) for violation:

Ash Grove Cement Co. failed to identify the following violations cited by the Agency in the annual compliance certification report (reff. line # 530).

The report failed to identify the following AOP reporting violations:
1) The July CEMS report (#511) failed to include the "addendum report" (i.e., hours of kiln operation, date and time of startup, preheat and introduction of feed to the kiln), and the "complaint response report" (NOV 3-008295, issued 11/16/16);
2) The June CEMS report (#504) included a failure to recover at least 95% of the monthly CO CEMS data (NOV 3-006379, issued 9/27/16);
3) The D/F test report (#510, received on 8/17/16) was submitted 2 days late, in violation of AOP terms II.C.8 and V.N;
4) The NO_x test report (#519, received on 10/21/16) was submitted 1 day late, in violation of AOP terms II.C.8 and V.N;
5) Hardcopies of the stack test and RATA reports from TRC were late as follows - FTIR CEMS 46 days late, oHAP test and THC RATA37 days, PM test 36 days, Hg RATA1 day.

Issued by: T. Hudson **Date:** 3.30.17 **Time:** _____

Inspector

VM E. Certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339	**E Report Line # 529**		**Violation #:** 3-006385
Certified Mail #: Click here to enter text.	**Date:** 1/31/17		**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113		**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:** 206 623-5596
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation I , Section(s):12.03(c) Quality Assurnce and 12.03(f)(6) Data Reporting

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	12.03(c)	Failure to submit COMs audits.
☒	12.03(f)(6)	Failure to submit cylinder gas audits.

Alleged reason(s) for violation:

Ash Grove Cement failed to submit COMs audit and Hg cyclinder gas audit for the fourth quarter of 2016.

Issued by: T. Hudson **Date:** 4.21.17 **Time:** _____

Inspector

V/A E. Certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Within 10 days of the date you receive this Notice of Violation, submit the COMs audit and HG cyclinder gas audit for December 2016 .

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339	**E Report Line # 529**	**Violation #:** 3-006386	
Certified Mail #: Click here to enter text.	**Date:** 1/31/17	**Time:** N/A	
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Name of Responsible Person: Carey Austell		**Title:** Plant Manager	
Company name: Ash Grove Cement Company		**Phone:** 206 623-5596	
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation I , Section(s):12.03(f) Data Reporting

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	12.03(f)	Failure to submit data reporting documentation.

Alleged reason(s) for violation:

Ash Grove Cement failed to submit SO2 data showing compliance with 30-day rolling average for limit for December of 2016.

Issued by: T. Hudson **Date:** 4·21·17 **Time:** _____

Inspector

VM E-Certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Within 10 days of the date you receive this Notice of Violation, submit the data demonstrating compliance with the 30-day rolling average SO2 limit for December of 2016.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

Notice of Violation No. 3-006396 Cancels and replaces NOV No. 3-006383 (NOV)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339			**Violation #:** 3-006396
Certified Mail #: 9414 8901 9403 8300 2949 27	**Date:** 11/30/16		**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113		**County:** King
Name of Responsible Person: Carey Austell		**Title:** Plant Manager	
Company name: Ash Grove Cement Company		**Phone:** 206 623-5596	
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation I , Section (s):

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	40 CFR 63.9(h)(2)(i)(E)	Failure to submit complete Notification of Compliance Status.

Alleged reason(s) for violation:

Ash Grove Cement Co. failed to include an analysis demonstrating whether the plant is a major source in the Notification of Compliance Status for mercury and THC recently submitted. *Major source* means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants (E-Report Line # 532).

Issued by: T. Hudson Inspector **Date:** 9.6.17 VJA **Time:** _____

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with the subject regulation.

☒ Within 30 days of the date you receive this Notice of Violation submit the analysis demonstrating whether the facility is a major source of HAPs. Please include actual and potential to emit analysis. Failure to provide this analysis will constitute a violation of AOP Duty to provide Information term V. D. and WAC 173-401-510(2)(c)(i).

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206) 343-7522
inspection@pscleanair.org

Need technical assistance or more time to respond?
Please contact the Inspector who issued this NOV (contact information on the front page).

Want a copy of the inspection report or other records from our files?
Please contact our Records staff: (206) 689-4040 or recordsrequest@pscleanair.org

Request copies of records via our web site:
http://www.pscleanair.org/contact/Pages/records.aspx

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

You may file an appeal of the Corrective Action Order in this NOV. The Pollution Control Hearings Board (PCHB) hears appeals of orders and penalties issued by the Agency. The PCHB is independent and is not part of the Agency. The PCHB's function is to provide you a full and complete administrative hearing, as promptly as possible, followed by a fair and impartial written decision based on the facts and law.

Appeals must be sent to the PCHB and a copy of your appeal must be sent to the Agency within 30 days of your receipt of this NOV. For more information about how to file an appeal, what information must be included in an appeal, and what to expect from the appeal process, please contact the PCHB:

Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-006397 replaces and supersedes NOV 3-008295	
Certified Mail #:		**Date:** 7/31/16	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S.			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, **Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.

Other (Order of Approval, Regulations, WAC, etc.):

☒ Failure to meet Air Operating Permit No. 11339, Condition No. II.C.4.c, II.C.4.h & II.C.4.i

Alleged reason(s) for violation:

Ash Grove Cement failed to include the following information in the CEMs report for July 2016 (Line # 511), hours of kiln operation, date and time of startup, preheat and introduction of feed to the kiln and complaint response report.

Issued by: T. Hudson **Date:** 7·21·17 **Time:**

Inspector 9241·8901·9403·8301·0475·46 VA

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☐ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Ash Grove Cement does not need to send a written report. The written report previously submitted for NOV 3-008295 is sufficient.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206) 343-7522
inspection@pscleanair.org

Need technical assistance or more time to respond?
Please contact the Inspector who issued this NOV (contact information on the front page).

Want a copy of the inspection report or other records from our files?
Please contact our Records staff: (206) 689-4040 or recordsrequest@pscleanair.org

Request copies of records via our web site:
http://www.pscleanair.org/contact/Pages/records.aspx

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

You may file an appeal of the Corrective Action Order in this NOV. The Pollution Control Hearings Board (PCHB) hears appeals of orders and penalties issued by the Agency. The PCHB is independent and is not part of the Agency. The PCHB's function is to provide you a full and complete administrative hearing, as promptly as possible, followed by a fair and impartial written decision based on the facts and law.

Appeals must be sent to the PCHB and a copy of your appeal must be sent to the Agency within 30 days of your receipt of this NOV. For more information about how to file an appeal, what information must be included in an appeal, and what to expect from the appeal process, please contact the PCHB:

Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-006399

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-006399
Violation Date: 6/19/2017		**Time:** 19:00	**Certified Mail #:** 9214 8901 9403 8304 2009 93
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Joe Arsenault, Corporate Environmental Engineer			
Facility Name *(If applicable):* Ash Grove Cement Co, E Marginal			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (913) 319-6049	

Violation of Regulations, WAC, etc.:

AOP 11339 term EU 1.4 Caused or allowed the emission of an air contaminant (as determined by the COMS) from the kiln stack of greater than 5% opacity for a one hour average.

Alleged Reason(s) for Violation:

Ash Grove reported (line # 544) a 6% (1-hr avg) opacity from the kiln stack at 19:00 hours on 6/19/17. The AOP term EU 1.4 requires kiln stack emissions not to exceed 5% (1-hr avg) opacity.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

The Agency has reviewed Ash Grove Cement's explanation for the reason causing the excursion of the opacity limit and considers this matter closed. No additional information is required.

Issued By: Thomas J. Hudson **Date:** 11/30/2017

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
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Responsible Person (Name, Title): Joe Arsenault, Corporate Environmental Engineer			
Facility Name *(If applicable):* Ash Grove Cement Co, E Marginal			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (913) 319-6049	

Violation of Regulations, WAC, etc.:

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Issued By: Thomas J. Hudson **Date:** 11/30/2017

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

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GENERAL NOTICE OF VIOLATION

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Registration/Case #: 11339		**Violation #:** 3-008295	
Certified Mail #:		**Date:** 7/31/16	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S.			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, Section(s):

- ☐ 5.05(c) Failure to develop and implement an operation and maintenance plan.
- ☐ 5.07(b) Failure to pay annual registration fee.
- ☐ 6.03 Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
- ☐ 9.11(a) Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
- ☐ 9.15 Emission of fugitive dust without using reasonable precautions.
- ☐ 9.20 Failure to operate and maintain equipment in good working order.
- ☐

Other (Order of Approval, Regulations, WAC, etc.):

☒ Failure to meet Order of Approval No. 11339, Condition No. II.C.4.c, II.C.4.h & II.C.4.i

Alleged reason(s) for violation:

Ash Grove Cement failed to include the following information in the CEMs report for July 2016 (Line # 511), hours of kiln operation, date and time of startup, preheat and introduction of feed to the kiln and complaint response report. 7013.2630.0002.3720.8042

Issued by: T. Hudson Inspector **Date:** 11.16.16 **Time:** N/A.

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Within 10 days of the date you receive this Notice of Violation, submit the omitted sections of the July CEMs report as an amendment to the report.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-008300	
Certified Mail #: Click here to enter text.		**Date:** 10/31/16	**Time:** N/A
Address where violation occurred: 3801 E marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:**
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text**, Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	40 CFR 63.9(h)(3) & AOP Terms II.C.8 and V.N	Failure to submit a Notificatioin of Compliance Status, as required by 63.9(h)(3), within 60 days after of a performanace evaluation for the mercury CEMS. The test was conducted on 9/21/16 and the Notificatioin of Compliance Status was due on 11/21/16 .

Other (Order of Approval, Regulations, WAC, etc.):

☐ Failure to meet Order of Approval No. , Condition No.

Alleged reason(s) for violation:

Ash Grove Cement failed to submit a Notice of Compliance Status within 60 days of a performance evaluation (reff. line # 523).

Issued by: T. Hudson **Date:** 2.3.17 **Time:**

Inspector

VIA c

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Submit Notification of Compliance Staus within 10 days of the date you receive this Notice of Violation.

Received by:

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339		**Violation #:** 3-008301	
Certified Mail #: Click here to enter text.		**Date: 9/10/16 – 9/20/16**	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle		**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell			**Title:** Plant Manager
Company name: Ash Grove Cement Company			**Phone:** 206 623-5596
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation Text, **Section(s):**

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	40 CFR 63.1350(a)(1) & (k)	Failure to comply with the continuous emission monitoring requirements for mercury (reff. line # 523).

Alleged reason(s) for violation:

Ash Grove Cement failed to continuously monitor for mercury using a CEMS that had been demonstrated to meet Performance Specification 12A for 11 days following the compliance date of 9/9/16.

Issued by: T. Hudson **Date:** 2·3·17 **Time:**

Inspector

VM c

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☐

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION

1904 Third Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll free 800.552.3565

Registration/Case #: 11339	**Violation #:** 3-008302	
Certified Mail #: Click here to enter text.	**Date: 3/31/16, 5/1/16, 5/31/16, 7/1/16, 7/31/16, 8/31/16, 10/1/16, 10/31/16, 12/1/16 & 12/31/16**	**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Name of Responsible Person: Carey Austell		**Title:** Plant Manager
Company name: Ash Grove Cement Company		**Phone:** 206 623-5596
Mailing Address: Same as violation		
City:	**State:**	**Zip:** **E-mail:**

Violation of Regulation I , Section(s):12.03(f)

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	12.03(f)	Failure to submit monthly SO2 reports.

Alleged reason(s) for violation:

Ash Grove Cement failed to submit monthly SO2 reports for the months of February 2016 – November 2016 (EReport line # 524).

Issued by: T. Hudson **Date:** 4.21.17 **Time:** _____

Inspector

MM E-Certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Submit monthly SO2 reports for the period of 2/2016 – 11/2016 within 10 days of receiving this Notice of Violation.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

pscleanair.org
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GENERAL NOTICE OF VIOLATION

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Registration/Case #: 11339		**Violation #:** 3-008303	
Certified Mail #: Click here to enter text.	**Date:** 12/1/16 & 12/31/16		**Time:** N/A
Address where violation occurred: 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113		**County:** King
Name of Responsible Person: Carey Austell		**Title:** Plant Manager	
Company name: Ash Grove Cement Company		**Phone:** 206 623-5596	
Mailing Address: Same as violation			
City:	**State:**	**Zip:**	**E-mail:**

Violation of Regulation I , Section (s):12.03(f)

☐	5.05(c)	Failure to develop and implement an operation and maintenance plan.
☐	5.07(b)	Failure to pay annual registration fee.
☐	6.03	Failure to obtain Notice of Construction approval prior to construction, installation, establishment, or modification of a source.
☐	9.11(a)	Emission of air contaminant in quantities, characteristics, and duration, so as to be injurious or interfere with enjoyment of life/property.
☐	9.15	Emission of fugitive dust without using reasonable precautions.
☐	9.20	Failure to operate and maintain equipment in good working order.
☒	12.03(f)	Failure to submit monthly NOx reports.

Alleged reason(s) for violation:

Ash Grove Cement failed to submit monthly NOx reports for the months of October 2016 + November 2016 (EReport line # 524).

Issued by: T. Hudson **Date:** 4·21·17 **Time:** _____

Inspector

VM E-certified

CORRECTIVE ACTION ORDER: ***You must take the corrective action described below.***

☒ Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulation

☒ Submit monthly NOx reports for 10/2016 within 10 days of receiving this Notice of Violation.

Received by: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

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GENERAL NOTICE OF VIOLATION No. 3-009139

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-009139	
Violation Date: 6/16/2018	**Time:** 9 & 10am	**Certified Mail #:** 7017 2400 0000 1995 7400	
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

NC Order of Approval 7381 Cond. 5(b) Failure to to maintain NOx emissions from the main baghouse at or below 650 ppm corrected to 10% O2 on a 24-hour rolling average.

Alleged Reason(s) for Violation:

Ash Grove reported in the June 2018 CEMs report that the 24-hr average rolling NOx limit (650 ppm, Order No. 7381, Condition 5(b)) was exceeded on June 16 between 9am and 10:59am with a value of 653 ppm. A 24-hr rolling average is calculated each hour for the previous 24 hour period. This means that the 24-hour averages calculated at 9am and 10am exceeded the 650 ppm limit.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By:  **Date:** 9/20/2018

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

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Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.org

Need technical assistance or more time to respond?

Please contact the Inspector who issued this NOV (contact information on the front page).

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Request copies of records via our web site:

http://www.pscleanair.org/contact/Pages/records.aspx

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

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Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-009171

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-009171
Violation Date: 10/1/2017		**Time:** N/A	**Certified Mail #:** 9214 8901 9403 8307 3717 51
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

AOP 11339 term II(c)(4)(e) Failure to recover valid hourly operating monitoring data for at least 90% of the hours that the kiln operated each day. In addition Ash Grove failed to list the cause of the down time.

Alleged Reason(s) for Violation:

Based on review of the August 2017 CEM report received on 9/29/17, Ash Grove Cement failed to identify the cause of the 8/26/17 SO2 analyzer data recovery failure. Report of the cause of failure was due by 9/30/17.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Thomas J. Hudson **Date:** 6/27/2018

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
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- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

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Seattle, WA 98101
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inspection@pscleanair.org

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-009172

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-009172
Violation Date: 12/1/2017		**Time:** N/A	**Certified Mail #:** 9214 8901 9403 8307 9600 30
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

AOP 11339 term II(c)(4)(e) Failure to recover valid hourly operating monitoring data for at least 90% of the hours that the kiln operated each day. In addition Ash Grove failed to list the cause of the down time.

Alleged Reason(s) for Violation:

Based on review of the October 2017 CEM report received on 11/16/17, Ash Grove Cement failed to identify the cause of the 10/9/17 NOx mass analyzer data recovery failure. Report of the cause of failure was due by 12/1/17.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Thomas J. Hudson **Date:** 7/19/2018

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
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WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

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- Your address
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- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-009173

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-009173
Violation Date: 11/27/2017		**Time:**	**Certified Mail #:** 9214 8901 9403 8307 9600 30
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

PSD Permit 90-03, Amendment 3, condition 3 Failure to control CO emissions from the exhaust stack at or below 538 lbs./ hour on an eight-hour average.

NC Order of Approval # 7381 cond. 5a Failure to control CO emissions at or below 1049 ppm at 10% O2 for an 8-hour average.

Alleged Reason(s) for Violation:

On the November 2017 CEMS report (line # 566), Ash Grove Cement Company reported CO emissions for November 27, 2017 above 538 lbs./hour on an eight-hour average and CO emissions above 1049 ppm (parts per million) corrected to 10% oxygen O2 for an 8 hour average.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Thomas J. Hudson **Date:** 7/19/2018

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
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- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

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- NOV number (upper right hand corner of the NOV)
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- What you will do to prevent future violations

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-009176

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-009176
Violation Date: 12/25/2017		**Time:**	**Certified Mail #:** 9214 8901 9403 8307 9600 30
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

PSD Permit 90-03, Amendment 3, condition 3 Failure to control CO emissions from the exhaust stack at or below 538 lbs./ hour on an eight-hour average.

NC Order of Approval # 7381 cond. 5a Failure to control CO emissions at or below 1049 ppm at 10% O2 for an 8-hour average.

Alleged Reason(s) for Violation:

On the December 2017 CEMS report (line # 560), Ash Grove Cement Company's reported CO emissions for December 25, 2017 above 538 lbs./hour on an eight-hour average and CO emissions above 1049 ppm (parts per million) corrected to 10% oxygen O2 for an 8 hour average.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Thomas J. Hudson **Date:** 7/19/2018

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.org

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-009311

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-009311	
Violation Date: 1/31/2017	**Time:** N/A	**Certified Mail #:** 7017 2400 0000 9396 2406	
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Russ Simonson, Environmental Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134-1113	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

Reg I section 12.03 (f) Failure to submit a monthly report to the Agency within 30 days after the end of the month in which the data were recorded.

Alleged Reason(s) for Violation:

Notice of Violation (NOV) 3-009311 cancels the violations cited on NOV 3-006385. NOV 3-009311 replaces incorrectly cited violation of Regulation I section 12.03(c) on NOV 3-006385 with Regulation I section 12.03(f) for failure to submit the 2016 4th quarter COMs audit report (line # 529) within 30 days of recording that data.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

No additional response from Ash Grove Cement Company is required. The company's response dated May 3, 2017 is on record with the Agency.

Issued By: _____ **Date:** 2/19/2019

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
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GENERAL NOTICE OF VIOLATION No. 3-009812

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-009812
Violation Date: 1/31/2019	**Time:** 4:59 am	**Certified Mail #:** 7017 2400 0000 9396 3267
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager-Responsible Official		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225

Violation of Regulations, WAC, etc.:

AOP#11329 EU 1.4 Ash Grove shall not cause or allow the emission of any air contaminant (as determined by the COMS) from the kiln stack during any hour that averages greater than 5% opacity for a one hour average.

Reg I 9.04(c)(1) It shall be unlawful for any person to cause or allow the emission of any air contaminant during any hour that averages greater than 5% opacity.

Alleged Reason(s) for Violation:

As reported in the January 2019 CEM report, on January 31, 2019, between 4:00 am and 4:59 am, Ash Grove's one hour average opacity value was 5.95% (as determined by COMS), on emission unit 1.4, and the limit is 5% . (The opacity spiked for approximately 4 minutes, to 35% in that hour.)

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 4/12/2019

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
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Please contact our Records staff: (206) 689-4040 or recordsrequest@pscleanair.org

Request copies of records via our web site:

http://www.pscleanair.org/contact/Pages/records.aspx

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

You may file an appeal of the Corrective Action Order in this NOV. The Pollution Control Hearings Board (PCHB) hears appeals of orders and penalties issued by the Agency. The PCHB is independent and is not part of the Agency. The PCHB's function is to provide you a full and complete administrative hearing, as promptly as possible, followed by a fair and impartial written decision based on the facts and law.

Appeals must be sent to the PCHB and a copy of your appeal must be sent to the Agency within 30 days of your receipt of this NOV. For more information about how to file an appeal, what information must be included in an appeal, and what to expect from the appeal process, please contact the PCHB:

Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010096

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010096	
Violation Date: 1156-1201	**Time:** 1156	**Certified Mail #:** 7017 2400 0000 9396 7753	
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

Reg I 9.15 Emission of fugitive dust without using reasonable precautions.

Reg I 9.20 Failure to operate and maintain equipment in good working order.

Alleged Reason(s) for Violation:

I observed fugitive dust emanating from the top of the dust shuttling bin (100 ton storage silo).

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 6/19/2019

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.org

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Request copies of records via our web site:

http://www.pscleanair.org/contact/Pages/records.aspx

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- Discuss the circumstances of the violation
- Ask any questions you have
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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010102

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-010102
Violation Date: 1/13/2020		**Time:** 0800-1600	**Certified Mail #:** 7018 0680 0002 2316 9704
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

AOP 11339 Section I B. 1. EU-1.9 Requires compliance with Puget OA 11681, Condition 5(a).

OA 11681 Condition 5(a) CO emissions shall not exceed 1,049 lbs/hour at 10% O2 for an 8-hour average;

Alleged Reason(s) for Violation:

Per the January 2020 SE Monthly CEMS Report received 2/26/20, Ash Grove reported an exceedance of their 8-hour CO limit between 8AM and 4PM on January 13, 2020.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

To better inform the idea that the block averages are creating a false exceedance please submit (within 10 days of receiving this notice) the hourly data for the 13th as well as the previous week of kiln operation.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 3/6/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.gov

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pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010103

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339		**Violation #:** 3-010103
Violation Date: 1/28/2020	**Time:** 1536-1541	**Certified Mail #:** 7018 0680 0002 2316 9704	
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

AOP 11339 Section I B. 1. EU-1.2 AOP 11339 Section I B. 1. EU-1.2, which requires compliance with Puget Sound Clean Air Agency Reg. I: 9.04(c)(2).

Reg. I: 9.04(c)(2). Unlawful for any person to cause or allow the emission of any air contaminant from any equipment subject to this section during any hour that: Contains any consecutive 6-minute period averaging greater than 20%.

Alleged Reason(s) for Violation:

Per the January SE Monthly CEMS Report received 2/26/20, Ash Grove reported an opacity exceedance for one six minute period on January 28, 2020 from 3:36 PM to 3:41 PM. The exceedance is a violation of AOP 11339 Section I B. 1. EU-1.2, which requires compliance with Puget Sound Clean Air Agency Reg. I: 9.04(c)(2).

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit PM data from Jan. 1, 2020 through Jan. 27, 2020.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 3/6/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
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- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

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1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.gov

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010104

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-010104
Violation Date: 6/10/2019		**Time:** 1600-23:59	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Carey Austell, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225	

Violation of Regulations, WAC, etc.:

AOP 11339 Section 1 B.1 EU 1-9 CO emissions shall not exceed 538 lbs/hour for an 8-hour average.

Alleged Reason(s) for Violation:

As reported in the June 2019 CEM report, Ash Grove exceeded the 8-hour CO mass limit of 538 pounds on June 10th between 1600 hrs and 2359 hrs. The average was 568 pounds.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 3/17/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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Fax (206)343-7522
inspection@pscleanair.gov

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010105

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010105
Violation Date: 9/1/2019-9/30/2019	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Carey Austell, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225

Violation of Regulations, WAC, etc.:

AOP Section II.B.2.ii. Ash Grove shall recover valid hourly monitoring data for at least 95% of the hours that the kiln operates during each calendar month.

Alleged Reason(s) for Violation:

As reported in the September 2019 CEM report, the continuous emission monitoring system (CEMS) for SO2, CO and NOx for the kiln main stack data recover of valid hourly monitoring data was less than 95%, as required under AOP Section II.B.2.ii.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 4/14/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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- NOV number (upper right hand corner of the NOV)
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Fax (206)343-7522
inspection@pscleanair.gov

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Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010110

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010110
Violation Date: 05:00 to 05:11 hours and 10:18 to 10:23 hours	**Time:** 05:00	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP 11339 Section I.B.1. EU 1-2 Requires compliance with Reg. I, Section 9.04(c)(2)

Reg I 9.04(c)(2) Unlawful for any person to cause or allow the emission of any air contaminant from any equipment subject to this section during any hour that contains any consecutive 6 minute period averaging over 20% opacity.

Alleged Reason(s) for Violation:

Per the Dec. 2019 Monthly CEMS Report received 1/30/19, Ash Grove reported an opacity exceedance for three- six minute periods on Dec. 17, 2019. Two periods were from 05:00 to 05:11 hours and one from 10:18 to 10:23 hours. The exceedances are a violation of AOP 11339 Section I. 1. EU-1.2, which requires compliance with Puget Sound Clean Air Agency Reg. I: 9.04(c)(2).

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit relevant PM data from Nov. 27, 2019 through Dec. 17, 2020.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 4/9/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

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- If your violations are significant, the Agency may commence a court action against you and/or your business.
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Fax (206)343-7522
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Please contact the Inspector who issued this NOV (contact information on the front page).

Want a copy of the inspection report or other records from our files?

Please contact our Records staff: (206) 689-4040 or recordsrequest@pscleanair.gov

Request copies of records via our web site:

http://www.pscleanair.gov/contact/Pages/records.aspx

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

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Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010111

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010111
Violation Date: 12/1/2019-12/31/2019	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

Regulation I, Section 12.03(b) The owner or operator shall recover valid hourly monitoring data for at least 95% of the hours that the equipment is operated during each calendar month.

AOP Section II.B.2.ii. Ash Grove shall recover valid hourly monitoring data for at least 95% of the hours that the kiln is operated during each calendar month except for periods of monitoring system downtime.

Alleged Reason(s) for Violation:

As reported in the December 2019 CEM report: The O2, CO and NOx monitors were not in operation at least 95% of the reportable hours for the month of December 2019, as required by AOP Section II.B.2.ii, which references Regulation I, Section 12.03(b).

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 4/23/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.gov

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Request copies of records via our web site:

http://www.pscleanair.gov/contact/Pages/records.aspx

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- Ask any questions you have
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pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010112

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010112
Violation Date: 12/17/2019	**Time:** 05:00	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP 11339 Section I.B.1. EU 1-2 Requires compliance with Reg. I, Section 9.04(c)(2)

Reg I 9.04(c)(2) Unlawful for any person to cause or allow the emission of any air contaminant from any equipment subject to this section during any hour that contains any consecutive 6 minute period averaging over 20% opacity.

Alleged Reason(s) for Violation:

Per the Dec. 2019 Monthly CEMS Report received 1/30/19, Ash Grove reported an opacity exceedance for three- six minute periods on Dec. 17, 2019. Two periods were from 05:00 to 05:11 hours and one from 10:18 to 10:23 hours. The exceedances are a violation of AOP 11339 Section I. 1. EU-1.2, which requires compliance with Puget Sound Clean Air Agency Reg. I: 9.04(c)(2).

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit relevant PM data from Nov. 27, 2019 through Dec. 17, 2020.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Walter Voegtlin **Date:** 4/9/2020

Walter Voegtlin, Inspector, (206) 689-4031
WalterV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.gov

Need technical assistance or more time to respond?

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- Ask any questions you have
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pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010203

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010203
Violation Date: 12/25/2017	**Time:**	**Certified Mail #:** 7018 0680 0002 2316 8141
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Carey Austell, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225

Violation of Regulations, WAC, etc.:

PSD Permit 90-03, Amendment 3, condition 3 Failure to control CO emissions from the kiln exhaust stack at or below 538 lbs./hour on an 8-hour average.

AOP 11339 Term EU 1.9 Failure to control CO emissions from the kiln exhaust stack at or below 538 lbs./hour on an 8-hour average and failure to control CO emissions at or below 1045 parts per million (ppm) at 10% O2 for an 8-hour average.

NC Order of Approval # 7381 cond. 5a Failure to control CO emissions at or below 1045 ppm at 10% O2 for an 8-hour average.

Alleged Reason(s) for Violation:

This Notice of Violation (NOV) cancels and replaces NOV 3-009176.

In the December 2017 CEMS report (line # 560), Ash Grove Cement Company's reported CO emissions for December 25, 2017 that were above 538 lbs./hour on an eight-hour average and CO emissions above 1045 ppm corrected to 10% oxygen O2 for an 8 hour average.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

The Agency is in receipt of Ash Grove's written response (dated 8/2/18) to NOV 3-009176.

If you would like the Agency to consider additional information, please submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations within 10 days of the date you receive this Notice of Violation.

Issued By: Thomas J. Hudson **Date:** 10/29/2019

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.org

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
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- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
inspection@pscleanair.org

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- Discuss the circumstances of the violation
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pscleanair.org
Puget Sound Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-010462

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-010462
Violation Date: 1/31/2017	**Time:** N/A	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Carey Austell, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6225

Violation of Regulations, WAC, etc.:

AOP # 11339 Section II.C.4.(f) Failure to submit a complete monthly CEMS report (i.e. the COMS audit results were not included in the report).

Alleged Reason(s) for Violation:

Notice of Violation (NOV) 3-010462 cancels and replaces NOV 3-009311. Ash Grove Cement failed to submit the COMS audit results in the December 2016 monthly CEMS report (E-Report 529). The COMS audit results were due to be submitted to the Agency within 30 days after the end of the month.

However, the Agency considers the matter closed and will take no further enforcement action.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

No response is required, the Agency is in receipt of Ash Groves Cement's response letter dated 5/3/17 for NOV 3-009311.

Issued By:  **Date:** 4/9/2020

Tom Hudson, Inspector, (206) 689-4025
TomH@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

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- NOV number (upper right hand corner of the NOV)
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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000361

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A000361
Violation Date: 10/1/2021	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134-1113	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP # 11339 Section II.C.4.k Failure to include the daily oil consumption in gallons for each day of the month in a monthly CEM report filed with the Agency.

Alleged Reason(s) for Violation:

The company failed to include the daily oil consumption in gallons for each day of the month in the August 2021 monthly CEM report filed with the Agency. A complete report with the daily oil consumption was due to be filed with the Agency by 9/30/2021.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation:

1. Submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations; and
2. Include a report of the daily used oil consumption in gallons for each day of the month of August 2021.

Issued By: _____ **Date:** 10/27/2021

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

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Seattle, WA 98101
Fax (206)343-7522
Inspection@pscleanair.gov

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000362

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A000362
Violation Date: 7/1/2021	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134-1113	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP # 11339 Section II.B.2.ii Failure to recover valid hourly monitoring data for at least 95% of the hours that the kiln was operated during each calendar month (excluding periods of monitoring system downtime).

Alleged Reason(s) for Violation:

The company failed to recover valid hourly monitoring data for at least 95% of the hours that the kiln was operated during the calendar month of June 2021 (excluding periods of monitoring system downtime).

During June 2021, monitoring data for SO_2 (Corrected), CO (Corrected), and NO_x (Corrected) were recovered for 89% of the hours the kiln operated due to a failure to restock the company's vendor-managed calibration gas inventory.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 10/27/2021

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
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- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
Inspection@pscleanair.gov

Need technical assistance or more time to respond?

Please contact the Inspector who issued this NOV (contact information on the front page).

Want a copy of the inspection report or other records from our files?

Please contact our Records staff: (206) 689-4040 or RecordsRequest@pscleanair.gov

Request copies of records via our web site:

http://www.pscleanair.gov/RecordsRequest

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- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

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Olympia, WA 98504-0903
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Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000363

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A000363
Violation Date: 5/31/2021	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134-1113	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP # 11339 Section II.C.4.e Failure to include the date, time period and cause of each failure to recovery valid hourly monitoring data for at least 90% of the hours that the kiln operated each day in a monthly CEM report filed with the Agency.

Alleged Reason(s) for Violation:

The company failed to include the cause of the failure of the Stack Flow monitor to recover valid hourly monitoring data for at least 90% of the hours that the kiln operated for one day in the April 2021 CEMS report.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation,

1. submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations; and
2. Include report of date, time and reason for failure to recover at least 90% of valid hourly flow monitoring data for the day in April 2021 when less than 90% of valid hourly flow monitoring data was recovered during kiln operation.

Issued By: _____ **Date:** 10/27/2021

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
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Seattle, WA 98101
Fax (206)343-7522
Inspection@pscleanair.gov

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http://www.pscleanair.gov/RecordsRequest

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eluho@eluho.wa.gov
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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000375

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-A000375
Violation Date: 11/9/2020		**Time:** 1300	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Laura McAnany, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 623-5596	

Violation of Regulations, WAC, etc.:

AOP 11339 Sec. I.B.1.EU 1.10 NOx emissions shall not exceed 650 ppm at 10% O2 as a 24-hour rolling average.

Alleged Reason(s) for Violation:

As reported in the November 2020 CEMS report, the company caused or allowed NOx emissions to exceed 650 ppm at 10% O2 as a 24-hour rolling average on November 9th, 2020 at 1300 hrs. The average during this period was 651.3 ppm. The exceedance was caused by a large hole (4 ft. by 8 ft.) on the baghouse fan ducting leading to the kiln stack.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 12/23/2021

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
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- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
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Fax (206)343-7522
Inspection@pscleanair.gov

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000519

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-A000519
Violation Date: 11/9/2020		**Time:** 1300	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Laura McAnany, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 623-5596	

Violation of Regulations, WAC, etc.:

AOP 11339 Sec. I.B.1.EU 1.10 NOx emissions shall not exceed 650 ppm at 10% O2 as a 24-hour rolling average.

Alleged Reason(s) for Violation:

As reported in the November 2020 CEMS report, the company caused or allowed NOx emissions to exceed 650 ppm at 10% O2 as a 24-hour rolling average on November 9th, 2020 at 1300 hrs. The average during this period was 651.3 ppm. The exceedance was caused by a large hole (4 ft. by 8 ft.) on the baghouse fan ducting leading to the kiln stack.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 6/2/2022

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000950

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A000950
Violation Date: 1/4/2023 and 2/1/2023	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134-1113	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP #11339 Section II.B.2.ii Failure to recover valid hourly monitoring data for at least 95% of the hours that the kiln is operated each calendar month.

Reg I 12.03(b) Failure to recover valid hourly monitoring data for at least 95% of the hours that the equipment (required to be monitored) is operated each calendar month.

AOP 11339 Section I.B.1.EU 1.2 Causing or allowing the emission of an air contaminant from the kiln stack for a consecutive 6-minute period averaging greater than 20% opacity.

Alleged Reason(s) for Violation:

The company failed to recover valid hourly monitoring data for at least 95% of the hours that the equipment is operated during each calendar month. The company reported the deviation in the January 2023 CEMS report.

The facility experienced an O2 analyzer malfunction which prevented valid monitoring data to be recovered for the NOx, CO and SO2 emissions. The analyzer malfunction caused O2 measurements to be invalid which is used for to determine emissions. This would also effect the mass flow rate values.

On January 4th, there were emissions recorded that averaged 23% opacity from 1018 to 1024.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: Ivan Rivera **Date:** 11/13/2023

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A000954

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A000954
Violation Date: 6/1/2023	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Laura McAnany, Plant Manager		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134-1113	**Phone:** (206) 623-5596

Violation of Regulations, WAC, etc.:

AOP #11339 Section II.B.2.ii The company failed to recover valid hourly monitoring data for at least 95% of the hours that the equipment is operated during each calendar month.

Reg I 12.03(b) The facility failed to recover valid hourly monitoring data for at least 95% of the hours that the equipment is operated during each calendar month.

Alleged Reason(s) for Violation:

The company failed to recover valid hourly monitoring data for at least 95% of the hours that the Kiln was operated in May 2023. The company reported this in the CEMS report for the month.
On May 25th, the O2 analyzer failed a calibration, which was eventually corrected. This invalidated the O2 data from :00 to 1959 on May 25th. Subsequently, this resulted in valid hourly monitoring being recovered for the O2 Corrected channels for only 94% of operating hours for the month. This would effect the validity of NOx, SO2, and CO data.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 11/13/2023

Ivan Rivera, Inspector, (206) 689-4027
IvanR@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A001055

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A001055	
Violation Date: 9/26/2023	**Time:**	**Certified Mail #:** 7021 1970 0000 8937 3018	
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Laura McAnany, Plant Manager			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 623-5596	

Violation of Regulations, WAC, etc.:

AOP 11339 Sec. 1.B.1EU 1.9 CO emissions shall not exceed 1045 ppm at 10% O2 for an 8 hour average

Alleged Reason(s) for Violation:

Ash Grove Cement Company exceeded their 8 hour carbon monoxide concentration limit of 1,045 ppm for the 8 hour block average (8:00 AM to 3:59 PM) on September 26, 2023. The average carbon monoxide concentration for that period was 1,084.5 ppm corrected to 10% O2, 3.8% above the limit.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 12/4/2023

Gerard Van der Jagt, Inspector, (206) 689-4028
GerardV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

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Please include:

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- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
Inspection@pscleanair.gov

Need technical assistance or more time to respond?

Please contact the Inspector who issued this NOV (contact information on the front page).

Want a copy of the inspection report or other records from our files?

Please contact our Records staff: (206) 689-4040 or RecordsRequest@pscleanair.gov

Request copies of records via our web site:

http://www.pscleanair.gov/RecordsRequest

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

You may file an appeal of the Corrective Action Order in this NOV. The Pollution Control Hearings Board (PCHB) hears appeals of orders and penalties issued by the Agency. The PCHB is independent and is not part of the Agency. The PCHB's function is to provide you a full and complete administrative hearing, as promptly as possible, followed by a fair and impartial written decision based on the facts and law.

Appeals must be sent to the PCHB and a copy of your appeal must be sent to the Agency within 30 days of your receipt of this NOV. For more information about how to file an appeal, what information must be included in an appeal, and what to expect from the appeal process, please contact the PCHB:

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PO Box 40903
Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluho@eluho.wa.gov
http://www.eluho.wa.gov/

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A001376

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:		**Registration #:** 11339	**Violation #:** 3-A001376
Violation Date: 11/15/2023		**Time:**	**Certified Mail #:** 9214 8901 9403 8379 3547 51
Violation Location (Address): 3801 E Marginal Way S			
City: Seattle	**Zip:** 98134-1113	**County:** King	
Responsible Person (Name, Title): Marty Johnson , Seattle Plant Env. Mgr.			
Facility Name *(If applicable):* Ash Grove Cement Company			
Mailing Address: 3801 E Marginal Way S			
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (206) 694-6232	

Violation of Regulations, WAC, etc.:

AOP # 11339 Sec.II.B.2.ii Data Recovery. Ash Grove shall recover valid hourly monitoring data for at least 95% of the hours that the kiln is operated during each calendar month except for periods of monitoring system downtime, provided that Ash Grove demonstrates to the Control Officer that the downtime was not a result of inadequate design, operation, or maintenance, or any other reasonably preventable condition, and any necessary repairs to the monitoring system are conducted in a timely manner.

Reg I 12.03(b) Data Recovery. The owner or operator shall recover valid hourly monitoring data for at least 95% of the hours that the equipment (required to be monitored) is operated during each calendar month except for periods of monitoring system downtime, provided that the owner or operator demonstrates that the downtime was not a result of inadequate design, operation, or maintenance, or any other reasonably preventable condition, and any necessary repairs to the monitoring system are conducted in a timel

Alleged Reason(s) for Violation:

Ashgrove Cement Company, Inc failed to recover valid hourly monitoring data for at least 95% of the hours that the kiln was operated in November 2023.

The O_2 analyzer failed calibration on 11/15 and 11/22. On 11/15 it was determined that the O_2 analyzer was beyond repair and was replaced with a rental unit on 11/18. The rental unit also failed calibration. This rented analyzer failed in a similar matter to the 11/15 event. These failures resulted in valid hourly monitoring being recovered for the O_2 corrected channels for only 79% of operating hours for the month.

MONITOR DOWNTIME REPORT:

Analyzer	Data Availability for this Reporting Period	Data Availability Excluding Monitor Malfunctions
Opacity 6-min	98 %	98 %
Opacity 1-hr	100 %	100 %
SO_2 (O_2 Corrected)	79 %	99 %
SO_2 (Mass)	97 %	100 %
CO (O_2 Corrected)	79 %	99 %
CO (Mass)	97 %	100 %
NO_x (O_2 Corrected)	79 %	99 %
NO_x (Mass)	97 %	100 %
Stack Flow	100 %	100 %

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 9/24/2024

Gerard Van der Jagt, Inspector, (206) 689-4028
GerardV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

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1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
Inspection@pscleanair.gov

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- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

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Appeals must be sent to the PCHB and a copy of your appeal must be sent to the Agency within 30 days of your receipt of this NOV. For more information about how to file an appeal, what information must be included in an appeal, and what to expect from the appeal process, please contact the PCHB:

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PUGET SOUND
Clean Air Agency

GENERAL NOTICE OF VIOLATION No. 3-A001436

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	**Registration #:** 11339	**Violation #:** 3-A001436
Violation Date: 9/19/2024	**Time:**	**Certified Mail #:**
Violation Location (Address): 3801 E Marginal Way S		
City: Seattle	**Zip:** 98134-1113	**County:** King
Responsible Person (Name, Title): Jeff Briggs, Corporate Environmental Mgr.		
Facility Name *(If applicable):* Ash Grove Cement Company		
Mailing Address: 3801 E Marginal Way S		
City, State: Seattle, WA	**Zip:** 98134	**Phone:** (406) 491-0444

Violation of Regulations, WAC, etc.:

AOP 11339 Sec. I.B.1 - EU 1.9 PSD Permit 90-03, Ammendment 3, Cond. 3 CO emissions shall not exceed 538 lbs/hour for an 8-hour average

NC Order of Approval 7381 Cond. 5(a) CO emissions shall not exceed 1045 ppm at 10% O2 for an 8 hour average

Alleged Reason(s) for Violation:

Ash Grove Cement Company exceeded the applicable emission limits for CO on 9/19/2024 from 16:00 to 23:59. The 8 hour oxygen corrected CO was 1301 ppm, exceeding the limit of 1045 ppm.
CO mass was 664 lb/hour exceeding the limit of 538 lb/hour.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 11/4/2024

Gerard Van der Jagt, Inspector, (206) 689-4028
GerardV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS
Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

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Seattle, WA 98101
Fax (206)343-7522
Inspection@pscleanair.gov

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Want a copy of the inspection report or other records from our files?

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pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101-3317
phone 206-343-8800 / 1-800-552-3565 / fax 206-343-7522

Written Warning

No. 2-008612

Case No.	Registration No.	Violation Date / Time
N/A	11339	Violation Date: 10/1/15 Time: N/A

Location of Violation (Address):	City:	Zip:	County:
3801 E Marginal Waay S	Seattle	98134-1113	King

Facility Name (*If applicable*)	Responsible Person	Title:
Ash Grove Cement Company	Carey Austell	Plant Manager

Mailing Address (if different from Location):	City, State:	Zip:	Phone:
Same as above			

Violation of Regulation(s): Ash Grove Cement failed to submit opacity violation information (in the August 2015 CEMS report) as required by AOP terms II.C.4(a) and (b) and II.B.1.(vi).tation required

Violation Description: Ash Grove Cement failure to include the following information for the 6 minute excessive opacity reading on 8/22/15; date, time, magnitude and cause of the emission and corrective actions taken in the august 2015 CEMs report. This information was subsequently provided by Ash Grove Cement after the 30 day for the report.

If you do not take the corrective action described below to comply with the regulations of the Puget Sound Clean Air Agency, the Agency may issue a Notice of Violation that may result in a civil penalty. This Agency will contact you and/or Corporate if your corrective action for this notice was not received or was insufficient, otherwise consider this document closed.

☒ By **4/1/16**, submit a written report describing the action you have taken to correct this violation and achieve compliance with Agency regulations.

☐

Issued by: _____ Inspector

Date/Time: Mailed 3/31/16 AM6

Received by _____ *signature*

_____ *print name*

Signing this document is not an admission of guilt

pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101-3317
phone 206-343-8800 / 1-800-552-3565 / fax 206-343-7522

Written Warning

No. 2-009156

Case No. N/A | Registration No. 11339 | Violation Date: 9/29/15 | Time: N/A

Location of Violation (Address):	City:	Zip:	County:
3801 East Marginal Way South	Seattle	98134	King

Facility Name (*If applicable*)	Responsible person	Title
AshGrove Cement Company	**Carey Austell**	**Plant Manager**

Mailing Address (if different from Location):	City, State:	Zip	Phone
			206 623-5596

Violation of Regulation(s): 40 CFR Part 63 Subpart LLL,section 63.9(h)

Violation Description: The Notification of Compliance Status (NCS) report for PM required by the MACT Subpart LLL, Sections CFR 63.9(h) and 63.1354(b)(1) received electronically by the Agency on 9/28/15 (reff. Line # 487) failed to contain the PM stack test information required by Section 63.9(h).

If you do not take the corrective action described below to comply with the regulations of the Puget Sound Clean Air Agency, the Agency may issue a Notice of Violation that may result in a civil penalty. This Agency will contact you and/or Corporate if your corrective action for this notice was not received or was insufficient, otherwise consider this document closed.

☒ Within 10 days of receiveing this notification submit a written report describing the action you have taker to correct this violation and achieve compliance with Agency regulations.

☐

Issued by: _____ Inspector

Date/Time: Mailed 3/31/16 AMG

Received by _____
signature

_____
print name

Signing this document is not an admission of guilt

pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101-3317
phone 206-343-8800 / 1-800-552-3565 / fax 206-343-7522

Written Warning

No. 2-009202

Case No.	Registration No. 11339	Violation Date: 11/10/13 Time: 11:59 hours	
Location of Violation (Address): 3801 E Marginal Way S	City: Seattle	Zip: 98134-1113	County: King

Facility Name (*If applicable*) Ash Grove Cement Co.	Responsible Person Gerald Brown	Title: Environmental Mgr.	
Mailing Address (if different from Location):	City, State:	Zip:	Phone: 206 694-6221

Violation of Regulation(s): Air Operating Permit No. 11339 term E.U 1.4 issued on 5/15/2009

Violation Description: On 11/10/2013 Ash Grove Cement caused or allowed the emission of an air contaminant (as detected by the COMS) from the kiln stack at greater than 5% opacity for a one hour average.

If you do not take the corrective action described below to comply with the regulations of the Puget Sound Clean Air Agency, the Agency may issue a Notice of Violation that may result in a civil penalty. This Agency will contact you and/or Corporate if your corrective action for this notice was not received or was insufficient, otherwise consider this document closed.

☐ By **3/27/2014**, submit a written report describing the action you have taken to correct this violation and achieve compliance with Agency regulations.

☐ ____

Issued by: Thomas Hudson

Thomas Hudson, Inspector,
206 689-4025

Date/Time: VAA 3·4·14

Received by _____ _____
signature *print name*

Signing this document is not an admission of guilt

pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101-3317
phone 206-343-8800 / 1-800-552-3565 / fax 206-343-7522

Written Warning

No. 2-009332

Case No. N/A | Registration No. 11339 | Violation Date: 12/18/13 | Time: N/A

Location of Violation (Address):	City:	Zip:	County:
3801 E Marginal Waay S	Seattle	98134-1113	King

Facility Name (*If applicable*)	Responsible Person	Title:
Ash Grove Cement Company	**Carey Austell**	PLANT MANAGER

Mailing Address (if different from Location):	City, State:	Zip:	Phone:
Same as above			

Violation of Regulation(s): AOP term II.B.1(iii) Failure to perform an audit of the Continuous Opacity Monitoring System (COMS) as recommended by AOP Appendix D "Recommended Quality Assurance Procedures for Opacity Monitoring Systems".

Violation Description: **Failure to perform a COMS audit by 12/18/14. The last COMS audit was performed on 9/17/13. AOP Appendix D recommends, "...quality assurance checks once every three or four months."**

If you do not take the corrective action described below to comply with the regulations of the Puget Sound Clean Air Agency, the Agency may issue a Notice of Violation that may result in a civil penalty. This Agency will contact you and/or Corporate if your corrective action for this notice was not received or was insufficient, otherwise consider this document closed.

☒ By **Text**, submit a written report describing the action you have taken to correct this violation and achieve compliance with Agency regulations.

☐ Click here to enter text.

Issued by: _____ Date/Time: 8.7.14
Inspector

Received by _____ _____
signature *print name*

Signing this document is not an admission of guilt

pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101-3317
phone 206-343-8800 / 1-800-552-3565 / fax 206-343-7522

Written Warning

No. 2-009635

Case No. N/A | Registration No. 11339 | Violation Date: 8/8/17 | Time: 12:30

Location of Violation (Address):	City:	Zip:	County:
3801 East Marginal Way South	Seattle	98134	King

Facility Name (*If applicable*)	Responsible person	Title
Ash Grove Cement Company	Carey Austell	Plant Manager

Mailing Address (if different from Location):	City, State:	Zip	Phone
			206 623-5596

Violation of Regulation(s): Regulation I, section 9.20

Violation Description: **Failure to maintain material transfer conveyor line wind shrouds in good working order. A number of wind shrouds are missing and others appeared to be damaged to the extent that they may not work properly to prevent dust emissions during material transfer operations.**

If you do not take the corrective action described below to comply with the regulations of the Puget Sound Clean Air Agency, the Agency may issue a Notice of Violation that may result in a civil penalty. This Agency will contact you and/or Corporate if your corrective action for this notice was not received or was insufficient, otherwise consider this document closed.

☐ By, submit a written report describing the action you have taken to correct this violation and achieve compliance with Agency regulations.

☒ **By 9/1/17, please conduct an inspection of all material transport conveyor lines for missing and damaged wind shrouds. Prepare and submit a report identifying the locations of the missing and damaged conveyor shrouds. Also include a schedule for replacement/repair of the missing and damaged equipment in the report.**

Issued by: *Tom Hudson* Inspector — Date/Time: *8/11/17 15:44 hours*

Received by: Carey Austell (*signature*) — 8/14/17 (*print name*)

Signing this document is not an admission of guilt

PUGET SOUND
Clean Air Agency

WRITTEN WARNING No. 2-A000153

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Other Written Warning

Certified Mail #:				**Violation #:** 2-A000153	
Case #:	**Registration #:** 11339			**Violation Date:** 4/24/2024	
Violation Location (Address): 3801 E Marginal Way S					
City: Seattle		**Zip:** 98134-1113		**County:** King	
Responsible Person (Name, Title): Marty Johnson , Seattle Plant Env. Mgr.					
Facility Name *(If applicable):* Ash Grove Cement Company					
Mailing Address: 3801 E Marginal Way S					
City, State: Seattle, WA		**Zip:**	98134	**Phone:**	(206) 694-6232

Violation of Regulations, WAC, etc.:

Reg I 3.07(b) Failure to notify the Agency in writing at least 21 days prior to any complaince test.

40 CFR 63.1353(b)(2) Notification of perrformance test, as required by 63.7 and 63.9(e)

40 CFR 63.7(b)(1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled....

Violation Description:

Ash Grove Cement Company submitted their compliance test notification to the Agency on April 5, 2024 for the source test to be conducted on April 24, 2024. This notification period was only 19 days and does not comply with the 21 day notification period - PSCAA Reg I, Section 3.07(b)

Ash Grove Cement Company failed to submit the compliance test notification 60 days prior to the test date.
40 CFR 63.7(b)(1):

> (b) *Notification of performance test.*
>
> (1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review an approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test.

If you do not take the corrective action described below to comply with the regulations of the Puget Sound Clean Air Agency, the Agency may issue a Notice of Violation that may result in a civil penalty. This Agency will contact you and/or Corporate if your corrective action for this notice was not received or was insufficient, otherwise consider this document closed.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By:  **Date:** 4/23/2024

Gerard Van der Jagt, Inspector, (206) 689-4028
GerardV@pscleanair.gov

Received By: _____ _____ _____

Signature *Print Name* *Date*

(Signing is not an admission of guilt)

What you need to know about this Written Warning

Do not ignore this document! This Written Warning offers you an opportunity to promptly correct the violation and avoid potential civil penalties. If you fail to address this violation, a Notice of Violation (NOV) and civil penalty can be issued against you. In the case of significant violations, a civil suit may be brought against you and your business.

You must respond, promptly! Correct the problem as soon as possible. Write a letter to the Agency Inspector who issued the Written Warning by the date requested. Tell the Inspector:

- Your name;
- Name and address of the facility;
- Mailing address (if different than written on Written Warning);
- What you have corrected or a schedule for making corrections; and
- What you will do to prevent future violations.

You may also call the Inspector to schedule a conference with Agency staff to:

- Discuss any extenuating circumstances or questions you may have;
- Review your corrective actions; or
- Present information that may not have been considered when the Written Warning was issued.

If you need technical assistance, or to request an extension of time, please contact the Inspector.

You may receive a copy of the Inspection Report --
By calling our office at 206-689-4030 or by submitting online at *www.pscleanair.gov/recordsrequest*

This is a Written Warning. It cannot be appealed.