

# National Parks Conservation Association Et Al

Exhibits

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

IN THE MATTER OF AN ]  
ADMINISTRATIVE ORDER AGAINST: ]  
 ] SECOND REVISION:  
TransAlta Centralia Generation LLC ] ORDER NO. 6426  
 ]  
\_\_\_\_\_ ]

TO: Mr. Mickey Dreher TransAlta Centralia Generation LLC  
913 Big Hanaford Road  
Centralia, WA 98531

This is an Administrative Order requiring your company to comply with WAC 173-400-151 by taking the actions that are described below. Chapter 70.94 RCW authorizes the Washington State Department of Ecology’s Air Quality Program (Ecology) to issue Administrative Orders to require compliance with the requirements of Chapter 70.94 RCW and regulations issued to implement it.

Ecology has determined that portions of your facility are subject to the provisions of the state visibility protection program (WAC 173-400-151), which is implemented consistent with the requirements of the federal visibility protection program (40 CFR Part 51, Subpart P). The rules require that the State determine what technologies and level of emission control constitute Best Available Retrofit Technology (BART) for the eligible emission units at your facility. The rules also require the installation and use of those emission controls on the BART-eligible emission units. The emission controls are to be installed as expeditiously as possible, but in no event may the State allow them to start operation later than five years after the State’s Regional Haze SIP amendment is approved by the United States Environmental Protection Agency (EPA).

**FINDINGS**

- A. The TransAlta Centralia Generation LLC (“TransAlta”) Centralia Power Plant is a coal fired power plant larger than 750 MW output subject to BART. The power plant is comprised of two identical coal fired units referred to as BW21 and BW22.
- B. BART emission limitations for sulfur dioxide and particulate matter were determined by the Environmental Protection Agency in 2003. The Centralia Power Plant’s Operating Permit incorporates the BART emission limitations determined by EPA.
- C. BART for nitrogen oxides at the Centralia Power Plant is based on:
  - a. Utilization of the selective non-catalytic reduction (SNCR) for nitrogen oxides control as appropriate.
  - b. Low NO<sub>x</sub> burners with separated and close coupled over fire air systems (aka LNC3).

- c. Utilization of the Combustion Optimization System with Neural Network on BW22 as appropriate.
  - d. Use and installation of additional boiler heat recovery equipment and boiler tube cleaning equipment to maximize the extraction of fuel energy into boiler steam.
- D. RCW 80.80.040 was amended in 2011 (Chapter 180, Laws of 2011) adding greenhouse gas emission requirements applicable to this facility that reduce the remaining useful life of each coal fired unit at the plant to approximately 8 and 13 years, starting from June 2011. The greenhouse gas emission requirements are:
- a. Amendments to Chapter 80.80, Revised Code of Washington passed in 2011 require both coal fired units at the Centralia Power Plant to comply with the greenhouse gas emission performance standard requirements of Revised Code of Washington 80.80.040. One unit is required to comply by December 31, 2020. The other unit is required to comply by December 31, 2025.
  - b. The requirement to meet the greenhouse gas emission performance standard does not apply if the Department of Ecology determines that a state or federal requirement requires the installation of selective catalytic reduction (SCR) for nitrogen oxides control on the coal units.

Additional information and analysis is available in the BART Determination Support Document for the Centralia Power Plant, by the Washington State Department of Ecology, November 2008 (revised April 2010 and May 2011); and the BART Analysis for the Centralia Power Plant, June 2008 and the BART Analysis Supplement, December 2008, and supplemental information dated March 2010; and Chapter 180, Laws of 2011.

**YOU ARE ORDERED:** To install and operate in accordance with the following conditions:

### **BART Emission Limitations**

#### 1. Nitrogen Oxides emissions

- 1.1. Emissions of nitrogen oxides from the two coal-fired utility steam generating units (known as BW21 and BW22) at the Centralia Power Plant are limited, from the date of issuance of this Order, to:
  - 1.1.1. 0.21 lb/MMBtu on the unit that does not have the Combustion Optimization System with Neural Network installed. This is a 30 operating day rolling average and includes all emissions during unit start-up and shut-down.
  - 1.1.2. 0.18 lb/MMBtu on the unit that does have the Combustion Optimization System with Neural Network. This is a 30 operating day rolling average and includes all emissions during unit start-up and shut-down.

- 1.1.3. 0.18 lb/MMBtu on the unit that continues coal fired power generation starting January 1, 2021.
  - 1.2. The 30 day rolling average will be determined per Condition 5.
  - 1.3. TransAlta may use a variety of means as necessary to control emissions of nitrogen oxides to meet the prescribed NOx limit for BW21 and BW22 including the Combustion Optimization System with Neural Network, the SNCR, Low NOx Burners, boiler control, variety (source) of coal, or any combination thereof. Compliance with the nitrogen oxides emission limitation will be determined by use of a continuous emission monitoring system meeting the requirements of 40 CFR Part 75.
2. Ammonia emissions
- 2.1. Starting no later than the effective date of this order, emissions of ammonia from the two coal-fired utility steam generating units at the Centralia Power Plant are limited to a maximum of:
    - 2.1.1. 10 parts per million, dry volume (ppmdv). This is a 30 operating day rolling average of both units averaged together.
    - 2.1.2. In the event that during a given day, only one unit is operated, the average of both units will be the calendar day average of the operating boiler. The emission rate of zero for the unit that did not operate must not be included in calculating the average emissions.
  - 2.2. The injection rate of urea (as the source of ammonia) to meet the nitrogen oxides emission in Section 1.1.1 and 1.1.2 is solely determined by TransAlta.

### **Schedule for Compliance**

3. Coal units BW21 and BW22 will permanently cease coal-fired power generation operations as follows:
  - 3.1. One of the units must cease no later than December 31, 2020.
  - 3.2. The other unit must cease no later than December 31, 2025.
  - 3.3. The unit that continues coal-fired power generation operations starting January 1, 2021, must comply with section 1.1.3.
  - 3.4. Conditions 3.1 and 3.2 do not apply in the event the Department of Ecology determines as a requirement of state or federal law or regulation that the selective catalytic reduction technology must be installed on either coal fired unit.

[First amendment of the December 23, 2011, Memorandum of Agreement between the State of Washington and TransAlta Centralia Generation LLC, dated July 13, 2017.]

## **Monitoring and Recordkeeping Requirements**

### **4. Ammonia**

TransAlta is required to meet the nitrogen oxides emission limits of 1.1.1 and 1.1.2. Ammonia monitoring is only required when urea injection is used to meet those limits. The entirety of Section 4 applies in any calendar year (CY) in which urea injection is used by TransAlta to meet the emission limits of 1.1.1 or 1.1.2. TransAlta is not required to perform any of the monitoring and recordkeeping requirements in Section 4 if urea is not injected in the CY.

4.1. Ammonia emissions for compliance will be monitored by means of periodic emissions testing utilizing Bay Area Air Quality Management District (BAAQMD) Method ST1B or Environmental Protection Agency Conditional Test Method 027 (CTM-027). The sampling point will be in the stack following the wet scrubber. Stack testing shall occur on the following frequency:

4.1.1. Testing shall occur once each calendar year if the ammonia feed-rate exceeds 1.5 gpm during that calendar year. Testing will be performed while the SNCR is in operation and the feed-rate is above 1.5 gpm during testing, with no consecutive tests less than 80 or more than 110 calendar days apart.

4.1.2. If two consecutive tests are each more than the ammonia limitation (in 2.1.1), then the testing frequency decreases to once every six calendar months, provided the nitrogen oxides emission limit is complied with during the test.

4.1.3. If, after there are three consecutive tests less than the ammonia limitation, the next two consecutive tests are less than 50% of the ammonia emission limitation, then the testing frequency reduces to once annually, provided the nitrogen oxides emission limit is complied with during the tests.

4.1.4. The ammonia concentration measured during the periodic emissions testing is the 30 operating day rolling average value used for compliance starting on the date of the completion of the test until the completion of the next required periodic emission test.

### **5. Nitrogen oxides monitoring and averaging**

5.1. For any hour in which coal is combusted in a unit, the owner/operator of that unit shall calculate the hourly nitrogen oxides concentration in lb/MMBtu at the CEMS installed in accordance with the requirements of 40 CFR Part 75. The 30-day average lb/MMBtu rate is calculated by summing the hourly emissions in pounds (unit lb/MMBtu multiplied

by unit heat input) from that operating unit and dividing that by the sum of the hourly heat inputs in million Btu for that operating unit. At the end of that boiler's operating day, the owner/operator shall calculate and record a new 30-day rolling average emission rate in lb/MMBtu from all valid hourly data for that boiler's operating day and the previous 29 successive boiler operating days.

- 5.2. An hourly average nitrogen oxides emission rate is valid only if the minimum number of data points, as specified in 40 CFR Part 75, is acquired as necessary to calculate nitrogen oxides emissions and heat rate.
- 5.3. Data reported to meet the requirements of this section shall not include data substituted using the missing data substitution procedures of subpart D of 40 CFR part 75, nor shall the data have been bias adjusted according to the procedures of 40 CFR part 75.
- 5.4. A boiler operating day is a 24-hour period between 12 midnight and the following midnight during which coal is combusted at any time in the boiler. It is not necessary for coal to be combusted for the entire 24-hour period.

### **Reporting Requirements**

6. A letter reporting achievement of each compliance date in the schedule in Condition 3 must be submitted to the Washington State Governor, Ecology, and SWCAA within 30 days of achieving the milestone.
7. A letter reporting TransAlta used urea injection must be sent to Ecology and SWCAA within 30 days of the first urea injection occurring during each calendar year. The letter must contain, at a minimum, the dates of urea injection, urea concentration, and the urea injection rate. No letter is required for any calendar year in which no urea injection occurred.
8. Emissions above the emission limitations in this order due to malfunctions must, at a minimum, be documented in writing and submitted to SWCAA and Ecology with 30 days after the end of each calendar quarter. Additional recordkeeping and notifications related to excess emissions may also be required by SWCAA or Ecology regulation. Excess emissions that TransAlta believes are unavoidable must be documented as required in WAC 173-400-107 (or section 109 after that section is approved into the Washington SIP) and SWCAA's unavoidable excess emissions requirements.
9. Emission monitoring data will be reported to Ecology and to the SWCAA.
  - 9.1. Continuous emission monitoring reports will be submitted within 30 days after the end of each calendar quarter. The reports must contain the following information:

- 9.1.1. The 30 operating day rolling average pound nitrogen oxides/MMBtu for each operating day in the reporting period. The 30 day rolling average nitrogen oxides emission rate shall be reported as lb/MMBtu, with at least two significant figures;
- 9.1.2. The cumulative short tons of nitrogen oxides per unit and for both units combined that has been emitted during the current calendar year. The cumulative tons shall be rounded to the nearest ton;
- 9.1.3. The results of Section 4 testing for ammonia emissions, if they are required, shall be submitted within 45 days of completion of the test.

9.2. The emission monitoring report will be sent to SWCAA and Ecology electronically in a format acceptable to SWCAA.

Failure to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order. Ecology shall enforce the terms of this Order only until such time as SWCAA incorporates the terms of the Order into the Centralia Power Plant's Air Operating Permit or except as provided by RCW 70.94.785.

You have a right to appeal this Order. To appeal you must:

- File your appeal with the Pollution Control Hearing Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

If you appeal you must:

- Include a copy of this document with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

To file your appeal with the Pollution Control Hearing Board:

Mail appeal to:

The Pollution Control  
Hearings Board  
PO Box 40903  
Olympia, WA 98504-0903

OR

Deliver your appeal in  
person to:

The Pollution Control  
Hearings Board  
1111 Israel Rd. SW, STE  
301  
Tumwater, WA 98501

To serve your appeal on the Department of Ecology:

Mail appeal to:

Department of Ecology  
Appeals Coordinator  
PO Box 47608  
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

Department of Ecology  
Appeals Coordinator  
300 Desmond Drive SE  
Lacey, WA 98503

And send a copy of your appeal packet to:

Philip Gent  
Department of Ecology  
Air Quality Program  
PO Box 47600  
Olympia, WA 98504-7600

For additional information, go to the Environmental Hearings Office website at <http://www.eho.wa.gov>.

To find laws and agency rules, go to the Washington State Legislature website at <http://www1.leg.wa.gov/CodeReviser>.

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Chapter 43.21B RCW.

DATED this 29th day of July, 2020 at Olympia, Washington.



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Martha Hankins  
Manager, Policy and Planning Section  
Department of Ecology  
Air Quality Program





DEPARTMENT OF  
**ECOLOGY**  
State of Washington

## **Technical Support Document for Second BART (Best Available Retrofit Technology) Order Revision**

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*TransAlta Centralia  
Generation Plant*

July 2020

## Publication and Contact Information

For more information, contact:

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## ADA Accessibility

To request ADA accommodation, email [phil.gent@ecy.wa.gov](mailto:phil.gent@ecy.wa.gov) or call 360-407-6810, 711 (relay service), or 877-833-6341 (TTY).

**Technical Support Document for Second BART (Best Available Retrofit Technology) Order Revision**

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*TransAlta Centralia  
Generation Plant*

Air Quality Program  
Washington State Department of Ecology  
Olympia, Washington

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# Executive Summary

TransAlta requested a revision to their existing BART order to mitigate fouling of their electrostatic precipitators (ESPs) with ammonia sulfate. In 2019, TransAlta experienced emission opacity readings that would have exceeded the opacity limits if TransAlta had not reduced plant capacity to compensate. The proposed mitigation is for TransAlta to install and operate a Combustion Optimization System with Neural Network (Neural Net) and have a lower nitrogen oxides (NOx) emission limit on the unit that is operational beyond 2020.

TransAlta was previously required to install Selective Non-Catalytic Reduction (SNCR) for control of nitrogen oxides emitted from their Centralia Power Plant. As a condition of the BART order issued to the facility, an optimization study was required to be performed and the results of that study implemented by the facility. After conducting the optimization study, TransAlta discovered that the ESPs were fouled from ammonia use required in the current BART order (Revision 1).

Southwest Clean Air Agency agreed to use enforcement discretion in 2019 on the urea injection rate while TransAlta was tuning the Neural Net. At the end of Calendar Year 2019, TransAlta had enough data to agree that the Neural Net system would be able to meet a 0.18 lb/MMBtu emission standard. TransAlta submitted a request to revise their BART order in January 2020.

TransAlta, Southwest Clean Air Agency, and Ecology agreed on the conditions for Revision 2 for the BART order to include lower nitrogen oxides limits, changes to the use and monitoring of ammonia, and removal of the requirement to analyze the coal sulfur and nitrogen content.

## Reason for this Revision

Trans Alta requested a revision to their existing BART order to mitigate fouling of their electrostatic precipitators (ESPs) with ammonia sulfate. The proposed mitigation is for TransAlta to install in one boiler unit a Combustion Optimization System with Neural Network (Neural Net) in order to reduce the urea injection rate (the source of the ammonia). The other boiler unit is currently slated to cease coal-fired power generation on December 31, 2020 and is not scheduled to have the Neural Net installed. Ecology and Southwest Clean Air Agency are willing to accept a lower urea injection rate if TransAlta is willing to accept a lower nitrogen oxides emission limit. Ecology has determined that the nitrogen oxides reduction resulting from lowering the emission limit to 0.18 lb/MMBtu nitrogen oxides will be slightly beneficial for the environment and reduce regional haze.

Ecology will modify the BART order by:

- Lowering the nitrogen oxides emission limit on one unit to 0.18 lb/MMBTU
- Requiring the unit that continues to provide coal-fired power production after 2020 to meet the 0.18 lb/MMBtu nitrogen oxides.
- Changing the language to “Permanently cease coal-fired power generation operations of one Boiler in 2020 and the other Boiler in 2025, which dates are prior to the 2035 end of their expected useful lives” to match the new language in the MOA.
- Removing the requirement to sample the coal for nitrogen and sulfur content.
- Removing the requirement to report to Southwest Clean Air Agency results of coal test.
- Removing the requirement of a specific urea injection rate to allow TransAlta to inject urea as required (or if required) to meet the new emission standard.
- Changing the requirement for ammonia emission monitoring only to require monitoring when using a urea injection rate of greater than 1.5 gallons per minute

Ecology is also modifying the compliance schedule to eliminate the requirement to demolish the coal units to align the BART order’s language with language in the Memorandum of Understanding (MOA) between the State of Washington and TransAlta.

## **SNCR and Other Related Changes**

The requirement to install SNCR along with the requirement to meet Washington's greenhouse gas emission performance standard was enacted by the legislature in 2010. The legislative requirement resulted in the first BART order revision. This first revision was finalized in December 2011 and approved by EPA December 16, 2012.

Originally, Revision 2 was intended to incorporate the results of the SNCR Optimization Study required by Condition 5 of the First Revision of the amended 2012 BART order. The study was to demonstrate the proper use of ammonia in controlling emissions of nitrogen oxides generated by the combustion of coal in the TransAlta boilers. Goals of the study were to determine how low nitrogen oxides emissions could be attained while meeting an ammonia slip limit of 10 ppm.

TransAlta completed the required ammonia injection optimization testing in two phases. The first phase was completed and the required report submitted in September 2014. Ecology and Southwest Clean Air Agency requested additional testing. This additional testing was performed and updated test results were submitted in August 2016. The updated test results were accepted by Ecology and Southwest Clean Air Agency on November 7, 2016. Ecology's letter accepting the final report included a requirement for urea injection in Unit 1 at 1.2 gallons per minute and 2.0 gallons/minute in unit 2. The prescribed urea injection level was constant for all power generation levels.

Condition 5 of the First Revision of the BART order required TransAlta to submit a request to revise the BART order to reflect the results of the study. In a letter dated November 28, 2016, TransAlta requested specific revisions to the BART order to reflect the findings of the study.

Before Ecology was able to take action on TransAlta's request, TransAlta started a third optimization study in response to a compliance order with Southwest Clean Air Agency. The intent of the third optimization study was to fine-tune certain plant operating parameters and verify the result of the second optimization study. The results of the third study would augment or replace the results of the previous studies. An initial SNCR optimization test plan was submitted to Ecology by email on February 6, 2019.

In the summer of 2019, TransAlta experienced emission opacity readings that would have exceeded the opacity limits if TransAlta had not reduced plant capacity to compensate. During a maintenance shut-down of the facility, the electrostatic precipitators (ESPs) were examined. The ESPs had a visual fouling of all interior components, which dramatically reduced their efficiency. Samples of the material in the ESPs were analyzed and identified as ammonia sulfate. The source of ammonia in the system was from the reactions of urea in the SNCR system.



To decrease the ammonia slip in the SNCR, TransAlta installed a computerized emission control system called a Combustion Optimization System with Neural Network program (Neural Net). The Neural Net is able to monitor and adjust more system variables at the same time than the manual control system. TransAlta notified Ecology and Southwest Clean Air Agency by email on July 8, 2019 of the installation of the Neural Net and the start of tuning the system.

TransAlta submitted a request on January 30, 2020 to modify Revision 1 of the BART order. The modification proposes the installation of the Neural Net and eliminates the mandatory urea injection requirements.

Revision 2 incorporates those changes and removes outdated requirements.

## **Compliance schedule related change**

On July 13, 2017, the Memorandum of Agreement (MOA) between the State of Washington and TransAlta was amended. Subsection D(5) of the Recitals was modified. The 2011 MOA stated, “permanently cease power generation...” The 2017 MOA amendment reads:

(5) permanently cease coal-fired power generation operations of one Boiler in 2020 and the other Boiler in 2025, which dates are prior to the 2035 end of their expected useful lives, in each case pursuant to the terms and subject to the conditions of this MOA.

The change in the MOA does not require decommissioning of the units as envisioned (but not explicitly required) in 2011 with the passage of Chapter 180 (see Laws of 2011 - ESSB 5769 in 2011, codified in several locations). The change in the order reflects the pertinent portions of this law as codified in Chapters 80.80 and 80.82 RCW.

Ecology used the 2011 expectation that the plant would close to comply with the greenhouse gas emissions performance standard in RCW 80.08.040(3). Ecology also used the planned closure of the plant in the 2011 Regional Haze State Implementation Plan to project visibility benefits from the plant meeting the standard according to the schedule in the law. If power generation of the coal plant is replaced with a different form of combustion power generation (e.g., natural gas), the impact to regional haze would have to be analyzed separate from this BART order modification.

If TransAlta decides to switch to non-coal power generation, a Notice of Construction application would need to be submitted to Southwest Clean Air Agency by the company. Ecology would require the company to do, at a minimum, emissions modeling that would be required under the BART process to quantify the visibility impacts resulting from the operation as a natural gas boiler plant (EGU). This is similar to what we would require of a new power plant to determine if it meets the requirements of WAC 173-400-117, special protection requirements for federal Class I areas.

# Basis for Decision

## SNCR related changes and optimization study

As directed by BART order revision 1 and RCW 80.80.040, TransAlta installed an SNCR system to reduce nitrogen oxides emissions from the boilers. The installation was based on a design study by the system vendor, NALCO-NOx Mobotec.

NALCO/Mobotec took system measurements adequate to model the combustion process and optimize the locations of ammonia injection into the boilers. Modeling indicated that due to the configuration of the boilers, the lowest nitrogen oxides emission rate anticipated would be approximately 0.195 lb/MMBtu, assuming that modifications to optimize combustion in the fireboxes for Powder River Basin (PRB) sub-bituminous coal were completed.

Only Unit 2 (aka BW22) was modified for optimizing the combustion of PRB coals. These modifications, proposed in 2007, are known as the Flex Fuels Project. Unit 1 (aka BW21) is not modified and the company indicates that it is unlikely that the modifications will be installed on this unit.

The installed SNCR system includes three levels of injection lances in each boiler. The actual lances used depends on the firing rate. In general, to avoid making nitrogen oxides by oxidizing ammonia, the higher lances are used at high firing rates and the lower lances are used at low firing rates.

Ammonia is supplied by using urea. Urea is received as a 40 percent by weight urea solution. The urea is supplied to the lances via a variable speed pump that can supply up to 6 gallons per minute of the 40 percent urea solution to an eductor system. The water provides some cooling to the hot flue gas and carries the urea well beyond the lance ports allowing the nitrogen oxides reduction to occur over more volume of the boiler. At maximum injection rates, the system is capable of injecting ammonia at approximately the stoichiometric rate for the SNCR reaction at maximum heat input.

The modeling by NALCO/Mobotec on maximum reduction of nitrogen oxides has proven to be accurate in practice. Boiler/SNCR system modeling indicated that the maximum expected nitrogen oxides reduction would give an emission rate of 0.195 lb/MMBtu. Testing indicates that on Unit 2, the maximum reduction is to 0.19 lb/MMBtu and for Unit 1, 0.20 lb/MMBtu.

The initial reduction testing (reported in the September 2014 Optimization Study report) indicated that at low injection rates, the installed SNCR systems did not reduce nitrogen oxides beyond the levels being achieved by the use of the installed combustion controls. There was no significant nitrogen oxides reduction when the SNCR and combustion controls were both operated concurrently. The 2014 Optimization Study report indicated that the combination of SNCR and combustion control could achieve 0.21 lb nitrogen oxides/MMBtu. The current

nitrogen oxides emission limit has been set to the achievable emission level of 0.21 lb nitrogen oxides/MMBtu.

Ecology and Southwest Clean Air Agency required TransAlta to complete additional urea injection studies to determine the effects of injection rates of up to 6 gpm of 40 percent urea solution on nitrogen oxides reduction. Two test series on each boiler were done at 2 boiler operating rates:

- A series of 15-minute tests at an operating rate of 686 MW, gross, and
- A series of 15-minute and 4 hours tests were done at an operating rate of 600 MW, gross.

## **Conclusions of TransAlta's optimization study**

In conclusion, the 2014 and 2016 test results indicate that the injection rates developed by NALCO/Mobotec as their optimum injection rates are very close to what has been demonstrated in the most current study. TransAlta presented rationale for why the emission limits in the BART order should not be adjusted downward.

TransAlta's rationale included a conclusion that the effectiveness of the SNCR system is affected by numerous operational parameters. The plant operators have control over some, while others are out of their control. Operating parameters include market driven operating rates, fuel blend, physical condition of the boiler and auxiliary equipment, fuel staging at burners, air flow distribution, burner tilt, soot blowing intervals, tube fouling, water wall slagging, and temperature in the convective pass of the boiler. TransAlta argued that because the uncertainties listed above, the BART order should not be adjusted.

## **Ecology's evaluation of the optimization data**

Test results indicate that a small reduction in average nitrogen oxides emissions may be achievable. The actual reduction depends on several operating parameters. Ecology has evaluated the possibility of reducing the 30-day average limitation from 0.21 to 0.20 lb/MMBtu. We note that if both units operated at full rate for every hour of the year (i.e., the potential to emit), a 0.01 lb/MMBtu reduction equates to about 590 tons per year out of a potential to emit rate of 12,900 tons.

TransAlta's current permits require the operation of the SNCR system with urea injection and emission limits of 0.21 lb/MMBtu. The urea injection rate is creating ammonia slip. The ammonia generation is reacting with sulfur to create ammonia sulfate that is plating the surfaces in the ESPs. This creates conditions where the facility has to run at a reduced rate to continuing meeting emission requirements.

## Neural Net

TransAlta initial proposal was to substitute the Neural Net to reduce the urea injection rate for each unit. Ecology and Southwest Clean Air Agency were willing to accept a lower urea injection rate, but wanted TransAlta to meet the short-term emission values of 0.18 lb/MMBtu for the unit with the Neural Net installed on it. In July 2019, TransAlta did not know the effectiveness of the Neural Net system. TransAlta requested a delay in agreement until more testing was done.

Southwest Clean Air Agency agreed to use enforcement discretion in 2019 on the urea injection rate while TransAlta was tuning the Neural Net. At the end of Calendar Year 2019, TransAlta had enough data to agree that the Neural Net system would be able to meet a 0.18 lb/MMBtu emission standard. TransAlta submitted a request to revise their BART order in January 2020.

The main elements of the request are to:

- Install the Neural Net on Unit 2.
- Change the emission standard on Unit 2 to 0.18 lb/MMBtu from 0.21 lb/MMBtu.
- Allow TransAlta to use all methods and options they have available in any combination to meet the 0.18 lb/MMBtu standard.
- Change the ammonia monitoring requirements to reflect both historical readings and the change in urea injection rates.
- Remove the testing of coal for nitrogen and sulfur content as the facility would have to meet emission standards regardless of the coal used.
- Remove the reporting requirements for the coal nitrogen and sulfur content, as the test would no longer be performed.
- Change the permit language to reflect the new MOA language.

## Compliance schedule related changes

The requirements of Chapter 80.80 RCW that sets the compliance schedule simply requires that to continue operation as a baseload power plant after the schedule in RCW 80.80.040(3)(c) and the BART order, each boiler must meet the greenhouse gas emission performance standard in effect on the day after the compliance dates. The standard is set by Washington Department of Commerce based on the emissions of combined cycle combustion turbines offered for sale and installed in the United States. This standard is currently 970 pounds of greenhouse gases/MWh. The standard is currently under review by Commerce for potential revision downward.

To continue operation after 2020 and 2025 with emissions above the greenhouse gas emission performance standard would require the plant owners to take an enforceable limit that keeps

operations annually below a 60 percent capacity factor to avoid being classified as a baseload power plant under Chapter 80.80 RCW.

## **Ecology Analysis**

The change in MOA language does not exclude the possibility that TransAlta could retrofit the facility to natural gas and continue operation. As the current BART order revision request does not address the future operation of the plant after 2025, any changes of this nature will require a separate action on the part of TransAlta. Until such time, it is assumed that TransAlta will cease all power generation activities by 2025.

Chapter 80.82 RCW was enacted in the same legislation that enacted special requirements for the Centralia Power Plant in Chapter 80.80 RCW. This law was drafted with the explicit understanding that the coal units would be decommissioned and demolished rather than repowered.

Ecology is aware that if TransAlta repowers the units on natural gas the visibility improvements anticipated by the current BART order and state implementation plan limits would not be met. Repowering would change the emission reduction used in determining the 2028 further progress goals for the nearby Class I Areas (Mt. Rainier and Olympic National Parks, and the Goat Rocks and Alpine Lakes Wilderness Areas) under the 2021 Regional Haze State Implementation Plan.

## **Proposed revision to emission limit in BART order**

Ecology has determined that the small nitrogen oxides reduction resulting from lowering the emission limit to 0.18 lb/MMBtu nitrogen oxides will be slightly beneficial for the environment and reduce regional haze.

Ecology has determined that a change in ammonia monitor is applicable with the change from a mandatory urea injection rate to a rate dependent on meeting a specific nitrogen oxides emission standard. TransAlta historic ammonia emission sampling at their current urea injection rate has never indicated excessive ammonia emissions. A large part in this finding is that the SNCR is upstream in the emission pathway from the wet scrubber. Free ammonia in the exhaust stream would be absorbed by the slurry stream in the wet scrubber, as ammonia is hydrophilic. These two factors allow for modification of the ammonia monitoring.

Ecology will modify the BART order by:

- Lowering the nitrogen oxides emission standard on the second unit to 0.18 lb/MMBTU
- Requiring the unit that continues to provide coal-fired power production after 2020 to meet the 0.18 lb/MMBtu nitrogen oxides.

- Change the language to “permanently cease coal-fired power generation operations of one Boiler in 2020 and the other Boiler in 2025, which dates are prior to the 2035 end of their expected useful lives.” This to match the new language in the MOA.
- Remove the requirement to sample the coal for nitrogen and sulfur content.
- Remove the requirement to report to Southwest Clean Air Agency results of coal test.
- Removing the requirement a specific urea injection rate to allow TransAlta to inject urea as required (or if required) to meet the new emission standard.
- Change the requirement for ammonia emission monitoring to reflect monitoring when using a urea injection rate of greater than 1.5 gallons per minute.

## **Proposed revision to compliance schedule in BART order**

Ecology is proposing to modify the compliance schedule for coal units BW21 and BW22 to permanently cease coal-fired power generation operations by 2020 and 2025. This much more closely matches the requirement in the underlying state law.

Any request to repower one or both units at the Centralia plant would require that the impact of repowering on visibility be modeled. The modeling would have to meet both the requirements of BART modeling and satisfy the requirement of WAC 173-400-117. Since TransAlta has not requested repowering at this time, this issue will not be addressed in this BART order revision.

## **References**

TransAlta’s SNCR Optimization Study Report, September 20, 2014

TransAlta’s SNCR Optimization Study Report, August 15, 2016

Ecology’s SNCR Optimization Study Report acceptance letter dated November 7, 2016

Letter to Nancy Pritchett and Uri Papish, dated November 28, 2016

Southwest Clean Air Agency Regulatory Order #16-3202, issued December 13, 2016

TVW recording of March 15, 2011 House Environment Committee

Emission calculation

**Appendix:**  
**Response to Comment**

**From:** [Gent, Philip \(ECY\)](#)  
**To:** [emissol@emissol.com](mailto:emissol@emissol.com)  
**Subject:** Response to submitted comment on TransAlta's proposed BART Revision  
**Date:** Monday, July 27, 2020 4:39:00 PM

---

To whom it may concern,

You submitted a comment in regards to a proposed revision to the TransAlta Centralia Generation LLC ("TransAlta") Centralia Power Plant's Best Available Retrofit Technology (BART) Order on 5/19/2020 at 1420. Below you will find your submitted comment and Ecology's response to your comment.

### **Submitted Comment**

"Neural Network (NN) is a complex method and requires substantial testing, development and validation in order to make it work for any given environment. We trust the applicant has gone thru its due process for this development and demonstration. It is imperative that sufficient evidence is provided, showing a certain NN algorithm has been developed and specifically shown to work for the said environment in the powerplant."

### **Response to comment**

Thank you for your comment. TransAlta along with Neuendorfer and Griffin Open Systems installed a temporary neural network interfacing with the plant distributed control system starting July 8, 2019. The system had no control elements and was only learning and modeling the systems. Griffin engineers built a model to perform predictive modeling and started to collect tuning data.

The neural network interface continued to collect tuning data and in October, 2019, TransAlta Corporate approved and issued an authorization for expenditure for the entire neural network installation. The installation plan was to have the neural network operational the first week of November. The actual transition time took longer than planned and the commission date was extended to December 19, 2019.

The months of installation and modification of the neural network in order to reduce and optimize NOx emissions gave TransAlta the confidence to request a change to their existing BART Order. From the time of control system commissioning (December 19, 2019 being the day Griffin and Neuendorfer left the site) until the unit came offline for the spring outage on February 11, 2020, average NOx emissions have been below 0.18 lb/MMBtu. As the request to lower the NOx emission limit came from the Permittee (TransAlta), it is incumbent on TransAlta to meet the limits.

No change was made to the BART Order as a result of this comment.

Philip Gent, PE  
Senior Engineer  
Policy & Planning Section  
Washington Department of Ecology  
(360) 407-6810  
[Philip.Gent@ecy.wa.gov](mailto:Philip.Gent@ecy.wa.gov)



CataFlex™ catalytic filter bags

# Remove pollutants and **trap** dust in one **single** step

Breakthrough catalytic filter bags trap dust,  
while removing dioxins, NO<sub>x</sub> and NH<sub>3</sub>

[www.topsoe.com](http://www.topsoe.com)

HALDOR TOPSØE 



# Are regulators putting the **squeeze** on your business?

Topsoe's CataFlex™ catalytic filter bags make compliance a whole lot more affordable

Authorities in many countries are tightening emissions standards by reducing permissible levels and adding new gases and particles to the list of regulated components. Compliance is costly, requiring substantial investments in new abatement technologies.

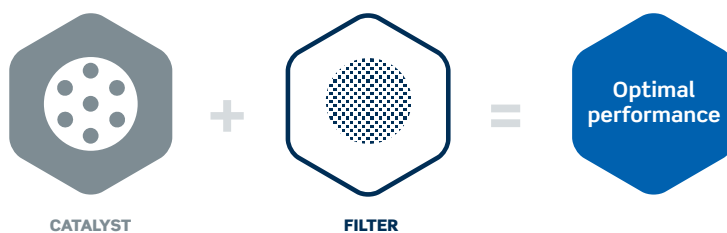
At Topsoe, we hear producers calling not just for new technologies, but for innovation that makes compliance affordable. That's what our CataFlex™ catalytic filter bags are all about.

#### Trap dust and remove pollutants

CataFlex™ are catalyst-coated filter bags designed to treat off-gases in high-dust environments found in a wide range of industries and activities, including:

- Waste incineration
- Biomass boilers
- Power plants
- Cement production
- Glass production
- Steel production

Built on decades of leadership in filtration and catalysis, these breakthrough solutions can transform the economics of meeting regulatory emissions.



*The fact that we both master catalysts and process technology gives us the "big picture" view it takes to ensure optimal performance*

# Single step **removal** of dioxins, NO<sub>x</sub> and NH<sub>3</sub>

Upgrading is easy and affordable



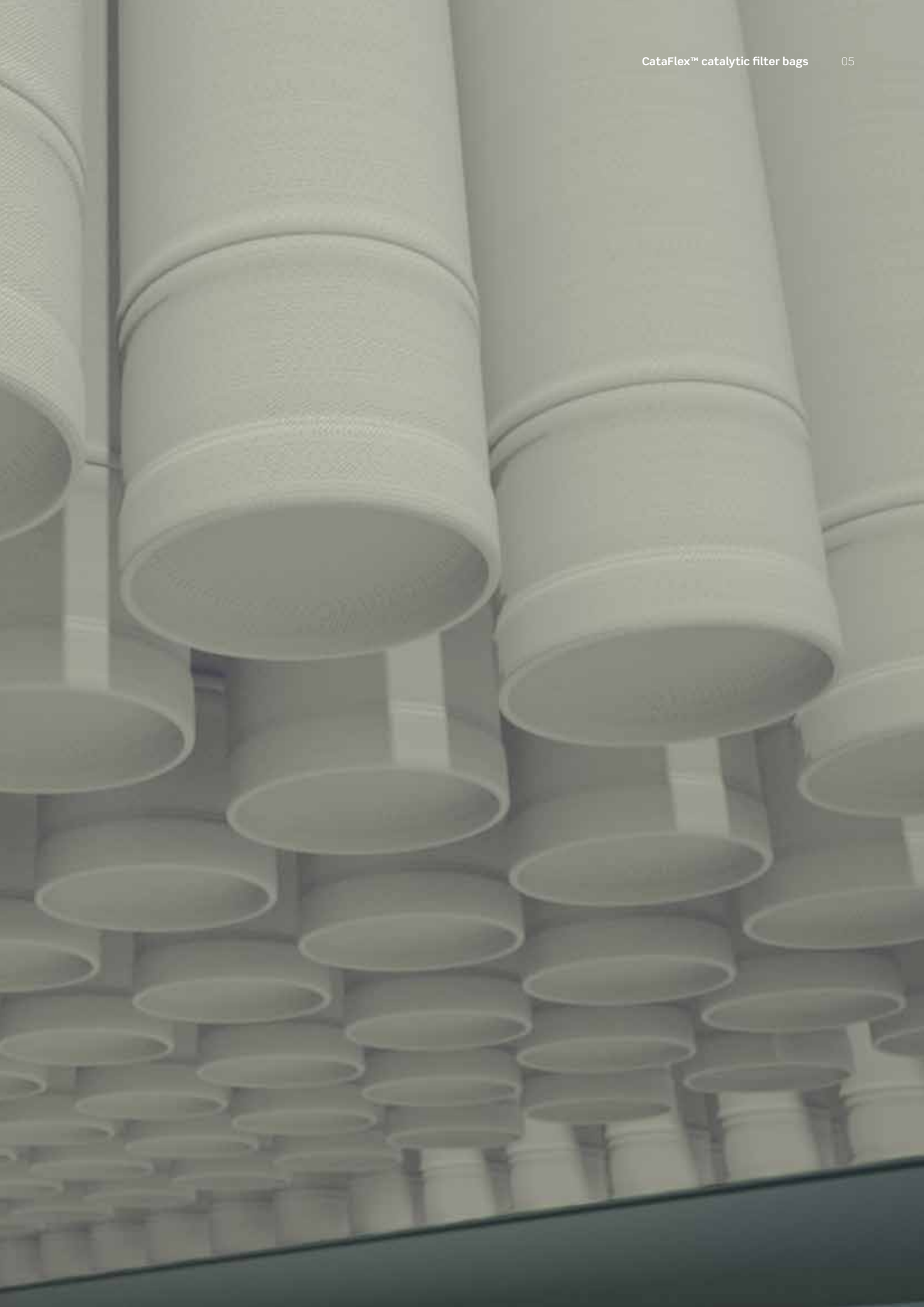
Topsoe's catalytic filter systems are designed to give any facility the option of treating off-gases along with trapping dust. CataFlex™ is the ideal choice for facilities already using a filter bag solution.

Designed for use in most industries that require flue gas cleaning, the CataFlex™ catalytic filter bag consists of a catalytic fabric layer installed inside a standard filter bag. Both the catalyst formula and the fabric material for the catalytic inner layer and the dust filtration layer are optimized according to the process requirements.

Benefits include:

- Removes dust and multiple gaseous compounds in a single step
- No need for costly, space-demanding tail-end SCR equipment
- Low pressure drop means no need for costly new ID fans or compressed air
- Accommodates operating temperatures up to 260°C (500°F)
- Bags can be inserted into existing filter houses for an affordable drop-in upgrade
- Life time and pressure drop is comparable to conventional fabric filters
- No contact between catalyst and potentially harmful particles
- Exceptional resistance to catalyst poisoning
- Length up to 10 m (32 ft)
- Longer outer bag lifetime

*CataFlex™ catalytic filter bag*



# A broad spectrum of **regulated pollutants**

While the filters trap dust, the catalyst removes  
dioxins, NO<sub>x</sub> and NH<sub>3</sub>

## Outer layer

### Dust

CataFlex™ effectively block particulates and dust particles on the outer layer which consist of a traditional dust filter bag, ensuring full compliance with the stringent emission standards.

The outer layer of a CataFlex™ filter bag is a conventional filter bag which can be made by different fabrics and with and without PTFE membrane. CataFlex™ reduces dust emissions to below 1 mg/Nm<sup>3</sup>.

## Inner layer

### Dioxins destruction

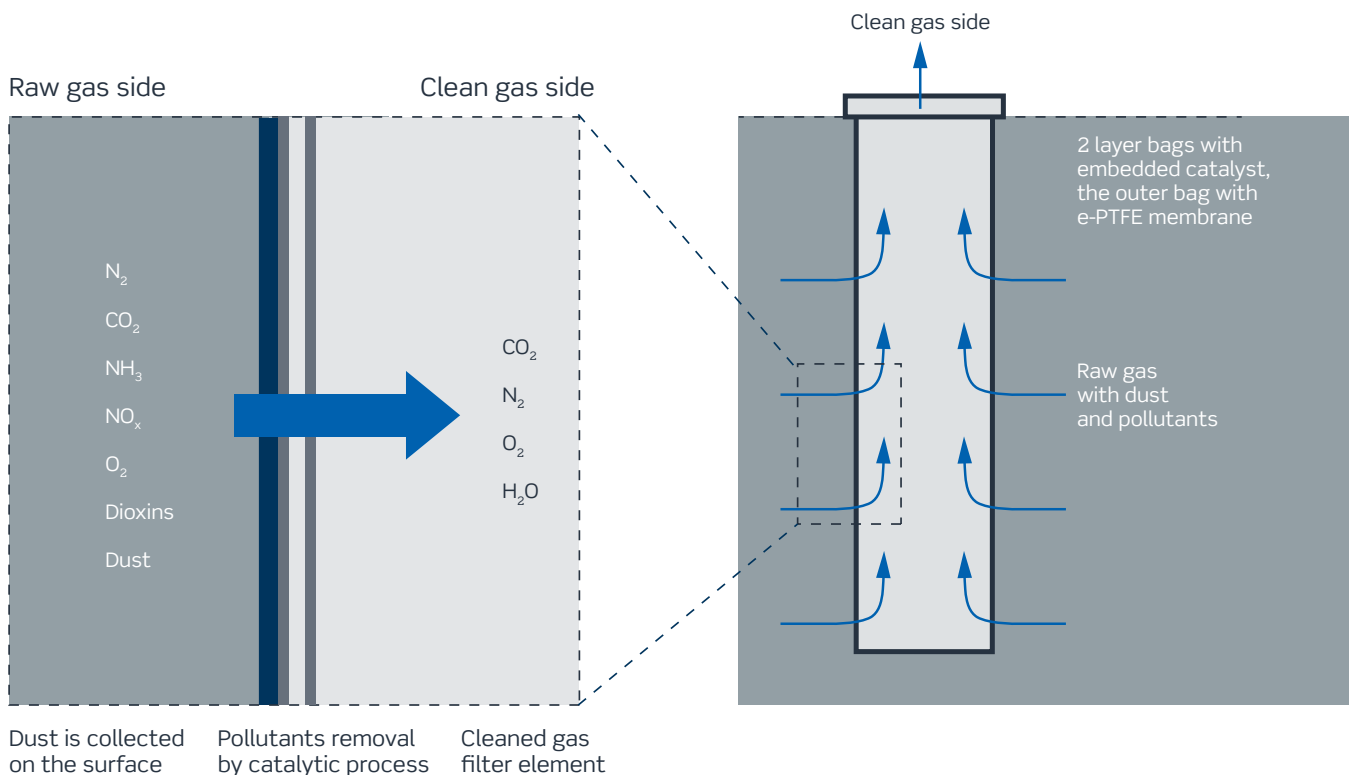
CataFlex™ ensure compliance with limits on dioxins and furans - destruction more than 99% of these by converting them into harmless compounds and reducing their concentrations to below 0.1 ng-TEQ/Nm<sup>3</sup>.

### NO<sub>x</sub>

CataFlex™ use selective catalytic reduction (SCR) to remove NO<sub>x</sub> from off-gas, either by utilizing ammonia contained in the off-gas or via ammonia injection. The NO<sub>x</sub> is converted to harmless nitrogen and water.

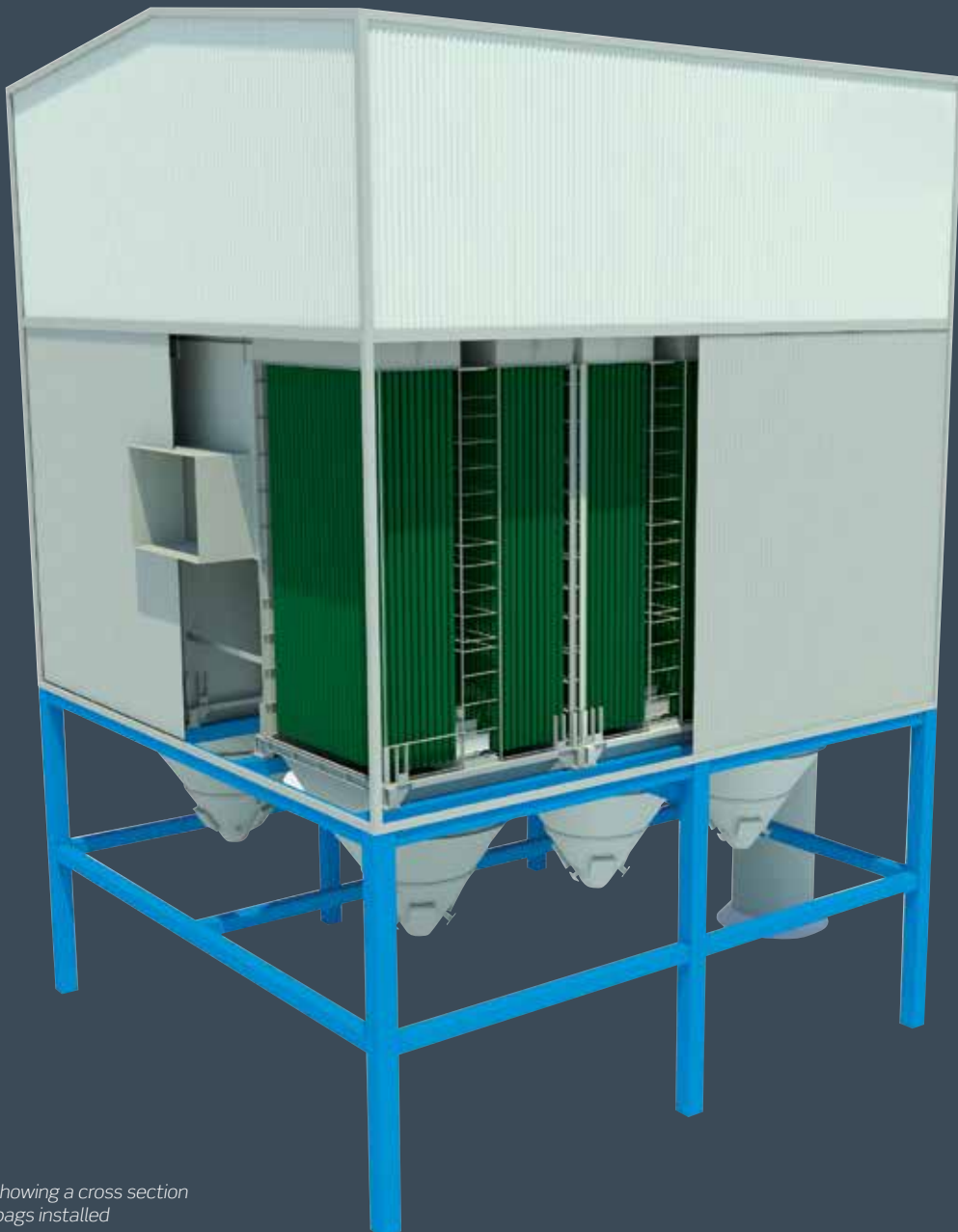
### NH<sub>3</sub>

CataFlex™ eliminates any NH<sub>3</sub> slip from upstream selective non-catalytic reduction (SNCR) of NO<sub>x</sub>. This complies with NH<sub>3</sub> regulations and makes SNCR control easier.



# Cut equipment **costs**

The Topsoe catalytic filter bag solution can help you reduce capital expenditures by up to 80% compared to competing solutions relying on separate dust removal and SCR technology.



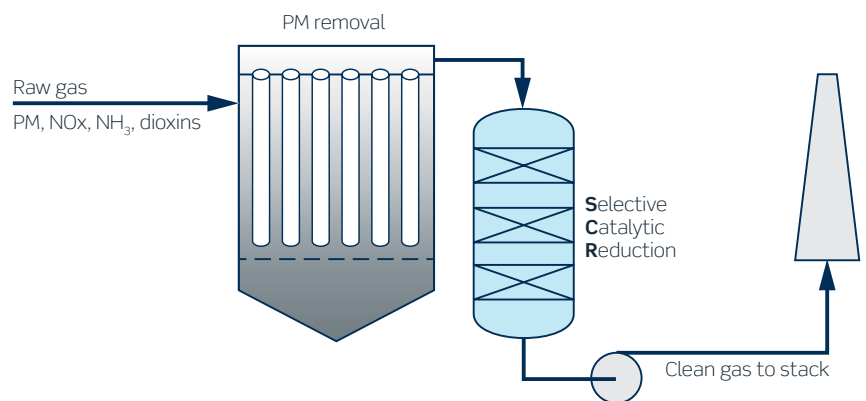
*Typical fabric filter showing a cross section with catalytic filter bags installed*



**Filtration unit and tail end removal of NOx and NH<sub>3</sub>**

Traditional solution based on separated technologies

**Non-catalytic filters**

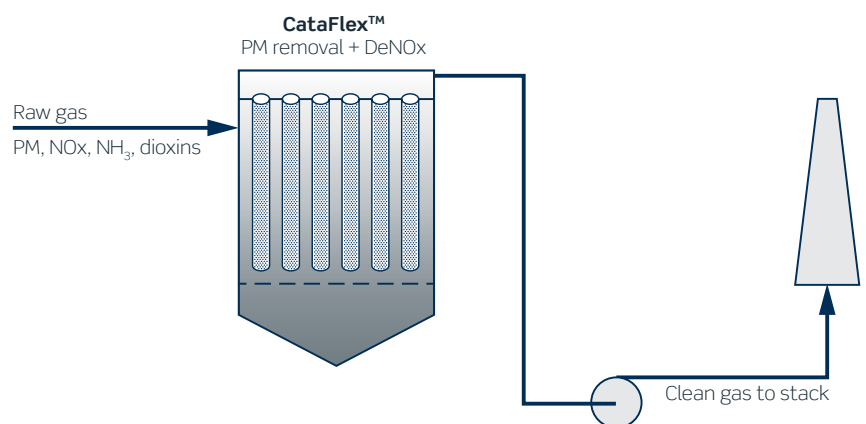


**Catalytic filtration - integrated solution**

Catalytic filter bag solution:

- Lower cost of ownership
- Less foot print
- Lower pressure drop
- Less maintenance

**Catalytic filters**



**Related technologies**

## Discover the full range of Topsoe catalysts and technologies for optimizing performance

Optimized performance often means ensuring that multiple technologies and components are tuned to each other. If you're not already using them, please consider these related offerings from Topsoe.

**S**

**Sulfur removal**

As emission regulations continue to get tighter around the world, optimal handling of sulfurous gases is becoming increasingly important. In addition to meeting regulatory requirements, we make sure our solutions also make financial sense. Due to their high availability, energy efficiency and flexibility, our sulfur removal systems deliver market-leading performance. They can even be used to convert otherwise costly waste into valuable commercial-grade sulfuric acid.

**VOC**

**VOC removal**

Regulatory pressure on VOC emissions has never been greater, and we can help you meet the challenge by removing VOCs from off-gases via low-temperature catalytic processes. Our solutions deliver reduction efficiencies exceeding 99%, without creating any secondary pollutants. Our catalysts remove VOCs from air and waste gas streams in an energy-efficient and environmentally friendly manner.



# Why partner with Haldor Topsoe

The Topsoe advantage lies not just in individual solutions, but in how our solutions work together



When you partner with Haldor Topsoe, you partner not only with the world's experts in catalysis, surface science and emissions management. You also partner with a company that takes a uniquely holistic approach to your plant and your business.

When we look at your plant, we look at the big picture - and then apply the full breadth of our expertise to deliver a thoroughly tailored solution, where individual components work together to maximize your plant's performance and your business success.

Haldor Topsoe is a world leader in catalysis and surface science. We are committed to helping our customers achieve optimal performance. We enable our customers to get the most out of their processes and products, using the least possible energy and resources, in the most responsible way. This focus on our customers' performance, backed by our reputation for reliability, makes sure we add the most value to our customers and the world.



*Get in touch today*  
[www.topsoe.com/Cataflex](http://www.topsoe.com/Cataflex)

Haldor Topsoe A/S, cvr 41853816 | GMC | 0268.2019/Rev.1

**HALDOR TOPSØE** 

# Catalytic Filter Technology Provides Important Flexibility for Controlling PM, NO<sub>x</sub>, SO<sub>x</sub>, O-HAPS

Catalyst-embedded ceramic filters offer a way to remove NO<sub>x</sub> at lower temperatures, while simultaneously removing PM, SO<sub>x</sub>, and HCl. The technology also removes organic hazardous air pollutants, THC, dioxins, and mercury.

Applications include the Cement NESHAP; Boiler MACT; incinerator CISWI MACT; Hazardous Waste MACT; glass furnaces; ceramics manufacturing, including fracking proppants, kilns, and thermal oxidizer clean-up.

Typically, PM is removed to ultralow levels ( $\leq 5$  mg per Nm<sup>3</sup>, 0.002 grains per dscf); other pollutants are eliminated at levels  $>90\%$ .

## Filter Types: Standard and Catalyst

Standard UltraTemp filters remove PM or PM plus acid gases and metals, including mercury; UltraCat catalyst filters remove those, plus O-HAPS, dioxins and NO<sub>x</sub>.

Catalyst filters feature the same fibrous construction as the standard version, but have nanobits of catalyst embedded throughout the filter walls. Distribution across the entire wall thickness, as opposed to just a catalyst layer, creates a very large catalytic surface area. The walls that contain the catalyst are about 3/4 inches thick. Ammonia is injected upstream of the filters and reacts with the NO<sub>x</sub> at the surface of the micronized catalyst to destroy the compound (Figure 1). An analysis comparing the effectiveness of this nanocatalyst with that of conventional catalysts was summarized in a paper by Schoubye and Jensen of Haldor Topsoe A/S:

“The catalyst particles are micro-porous, and, due to their small size, they catalyze the gas-phase reactions without diffusion restriction (i.e., almost 100% utilization of the catalyst’s intrinsic activity), as opposed to pellet or monolithic catalysts. In industry, conventional catalyst types

typically operate with 5-15% catalyst effectiveness in the SCR of NO<sub>x</sub> by NH<sub>3</sub> and with even lower catalyst utilization in dioxin destruction.”

Another remarkable feature is low temperature activation. Substantial NO<sub>x</sub> removal is initiated at 350°F, with over 90% removal as the temperature exceeds 450°F.

## System Design Criteria

Filters are placed in a housing module configured like a reverse pulse jet baghouse. Polluted airstream enters the bottom of the housing. Process PM and reacted acid gas sorbent PM are captured on the filter surfaces, while NO<sub>x</sub> and injected aqua ammonia are transformed to nitrogen gas and water vapor. O-HAPS (Cement NESHAP) and dioxins are broken down without ammonia additions. Cleaned air passes through the center of the filter tubes and out of the space above (Figures 1-3).

The modular housing design allows filters to be configured for the largest gas flow volumes. The system’s modular nature also provides redundancy so a single module can be taken offline while the other modules receive the flow.

Placing multiple plenums in parallel provides redundancy. If one plenum is taken offline for service, others treat the entire flow at a temporarily higher pressure with no change in performance.

Particulate is captured on the face of the filter and does not penetrate the filter. At start-up, the pressure drop is 6” w.g. Over the filter’s life, the pressure undergoes a gradual increase, averaging 3% annually. Filter life is generally over 10 years. Conventional reverse pulse jet methods are used for filter cleaning.

## Standard Filter: Typical Pollutant Control

**Particulate:** The typical level of particulate at the outlet of the ceramic filters is  $\leq 0.002$  grains/dscf (5 mg/Nm<sup>3</sup>).

With the exception of mercury, heavy metals are captured at the same rates as other particulate ( $> 99\%$ ).

**SO<sub>2</sub>, SO<sub>3</sub>, HCl, other acid gases:** Ceramic filters use dry injection of calcium or sodium-based sorbents for acid gas removal. Injected in the duct upstream of the filter modules, the additional sorbent particulate is captured with its pollutant gas. The reaction of the sorbent with the acid gas creates a solid particle that is captured on the filters alongside the unreacted sorbent and process particulate. The reaction occurs within the duct prior to the filter and on the cake on the filter surface.

The sorbent cake on the filters increases exposure of the SO<sub>2</sub> or HCl, and increases removal rate. For a given removal efficiency, filters require significantly less sorbent than ESPs, which minimizes sorbent costs.

With sorbent injection, SO<sub>2</sub> removal is above 90%. SO<sub>3</sub> and HCl are preferentially removed at higher rates than SO<sub>2</sub>. Sorbent injection of

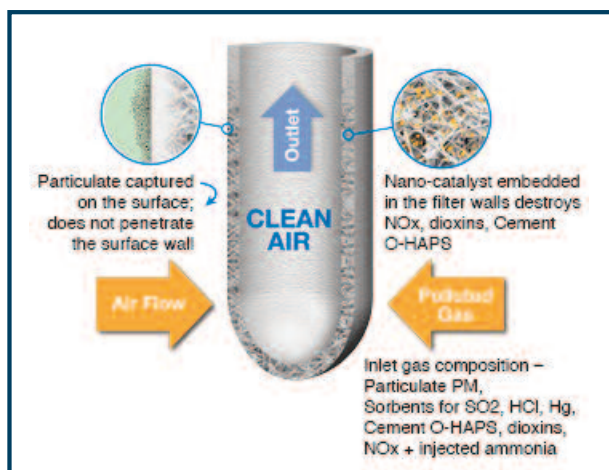
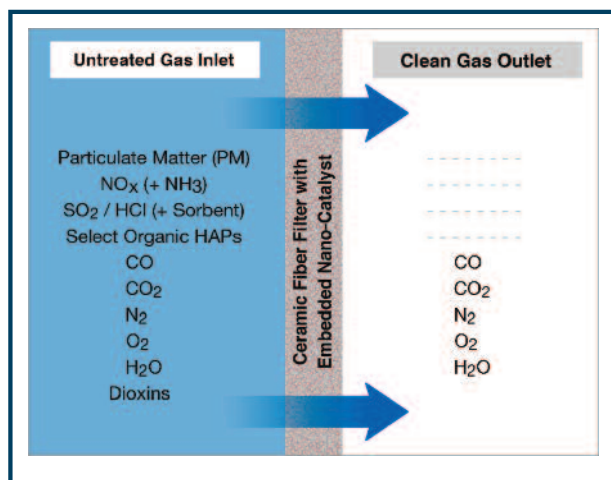


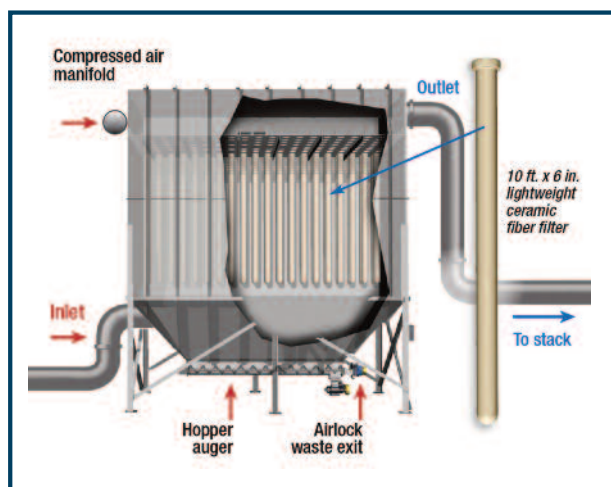
Figure 1. Catalytic filter schematic.

**Sponsored Content Provider:** Tri-Mer Corp. is an Owosso, Michigan-based manufacturer of air pollution control systems. Tri-Mer is the largest supplier of catalytic ceramic filter systems in the world; with a larger installed base than all other suppliers combined. Inquiries are welcomed (989) 723-7838, or [www.tri-mer.com](http://www.tri-mer.com).

powdered activated carbon is an option for mercury control. The mercury chemistry and temperature of the application determine the formulation of PAC used and the resulting effectiveness.



**Figure 2.** Catalyst filters simultaneously treat multiple pollutants.



**Figure 3.** A single housing module containing 3m filter elements.

surface, and gas-phase poisons. A common problem with “honeycomb block” SCR is that the catalyst becomes blinded and poisoned, reducing effectiveness and necessitating replacement. Ceramic catalyst filters address these issues. Particles, including solid-phase metals, are captured on the surface of the filters.

The filter catalyst is distributed throughout the filter walls and is protected inside the filter. This virtually eliminates particulate-type interactions and extends catalyst life. Regarding gas phase, the proprietary catalyst formulation is engineered for extremely low conversion of SO<sub>2</sub> to SO<sub>3</sub> and is virtually immune to HCl.

The reaction of the ammonia and NO<sub>x</sub> at the micronized catalyst surface is the same as conventional SCR, but benefits from more contact time because the gas mixture doesn’t have to diffuse in and out of the block catalyst pores.

Eliminating the diffusion restriction helps reduce the slippage of untreated gases; NO<sub>x</sub> destruction greater than 90% is common. Ammonia slip is under 10 ppmv.

**Cement O-HAP THC:** The filters destroy formaldehyde and other O-HAPs. The significant reduction of O-HAPs results in an adjustment of total allowable THC according to NESHAP. This direct approach for O-HAPs reduction is very cost effective compared to PAC injection or thermal oxidation.

Catalytic filters virtually eliminate ammonia slip if SNCR is used in the kiln. Excess ammonia slip is consumed by the filters while acting as a polishing step for NO<sub>x</sub> removal. This is an important secondary benefit when the filter system is used to collect PM, remove HCl, and/or destroy O-HAPs. Thus the need for a fabric filter baghouse or ESP is eliminated.

**Dioxins:** Dioxins are destroyed similarly by the catalytic filter.

### Operating Temperatures

For PM plus SO /HCl, the range is 300 to 1,200°F.

One important feature of the NO<sub>x</sub> filters is an operating range that is lower in temperature compared to conventional SCR. Conventional SCR requires 550°F for efficient removal, while the micronized catalyst becomes active at 350°F (Table 1).

O-HAP destruction becomes effective as temperatures approach 400°F and increases rapidly.

**Table 1.** Temperature ranges by pollutants being removed.

UltraCat Filter	Pollutants	Temp Range
Non-catalytic	PM, SO <sub>x</sub> , HCl, Hg	300°F - 1,200°F
Catalytic	PM, SO <sub>x</sub> , HCl, Hg, NO <sub>x</sub> , O-HAPs, Dioxins	350°F - 750°F

### Catalytic Filters for NO<sub>x</sub>, O-HAP THC, Dioxins

Catalytic filters have the same composition and capabilities as the non-catalytic filters for PM, acid gases and Hg. The difference is the micronized catalyst into the filter walls.

**NO<sub>x</sub>:** All catalysts can be compromised by particulate blinding of the catalyst surface, chemical interactions with particulate on the

### Proven Solution

Ceramic filters have been used by the U.S. military at munitions destruction facilities for 20 years; hundreds of ceramic filter systems are operating worldwide. With the additional capability of NO<sub>x</sub> control, ceramic filter systems are the technology of choice for many applications.

**Disclaimer:** The views expressed are those of the individual company or organization and do not represent an official position of the Association. A&WMA does not endorse any company, product, or service published under SPONSORED CONTENT.

## Attachment 2



May 8, 2020

*Via Federal Express and Email*

Administrator Andrew Wheeler  
Office of the Administrator  
United States Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460  
Wheeler.andrew@epa.gov

**Re: Petition for Reconsideration of Guidance on Regional Haze State Implementation Plans for the Second Implementation Period**

Dear Administrator Wheeler:

### I. Introduction

National Parks Conservation Association, Sierra Club, Natural Resources Defense Council, Western Environmental Law Center, Appalachian Mountain Club, Coalition to Protect America's National Parks, and Earthjustice (hereinafter "Conservation Organizations") hereby petition<sup>1</sup> the Administrator of the United States Environmental Protection Agency ("EPA") to reconsider the entitled "Guidance on Regional Haze State Implementation Plans for the Second Implementation Period" (hereinafter "Final Guidance" or "Guidance")<sup>2</sup> and replace it with

<sup>1</sup> This Petition is filed pursuant to section 4(d) of the Administrative Procedure Act ("APA"), 5 U.S.C. § 553(e), and, to the extent it may be applicable and relevant, section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. § 7607(d)(7)(B).

<sup>2</sup> EPA issued the Final Guidance on August 20, 2019 via Memorandum from Peter Tsirigotis, Director at EPA Office of Air Quality Planning and Standards to EPA Air Division Directors.

guidance that comports with the Clean Air Act (“CAA”) and the Regional Haze Rule, and aids states in making progress towards achieving the national goal of natural visibility conditions at all Class I areas.<sup>3</sup> The Final Guidance is a significant departure from the Draft Guidance<sup>4</sup> issued in 2016 for the second planning period and contains provisions that are expressly at odds with the Clean Air Act and Regional Haze Rule. The table below summarizes how key provisions of the Final Guidance should be revised to comply with the requirements of the applicable statutes and regulations.

The Guidance unlawfully directs states on how they may exclude certain emission sources from four-factor consideration and delay or altogether avoid reducing emissions necessary to meet Congress’s mandate that the states make reasonable progress towards the national goal of restoring natural visibility to Class I area national parks and wilderness areas. 42 U.S.C. § 7491(b)(2). The Guidance not only conflicts with the text and purpose of the Clean Air Act and the Regional Haze Rule itself, but it conflicts with EPA’s 2016 Draft Guidance by arbitrarily constraining EPA review authority, diminishing the science of regional haze, and recasting technical and analytical requirements for State Implementation Plans (“SIPs”). Implementation of the Final Guidance will result in inconsistencies between SIPs, create arbitrary exceptions allowing states to avoid controlling emission sources, impede progress toward the national goal of a restoring natural visibility, and may actually degrade visibility at some Class I areas.

Section of the Petition	Summary of Issue	Applicable Regional Haze Rule or other Regulations <sup>5</sup>
III.A.	States must comprehensively identify sources of human-caused visibility-impairing emissions across source categories and cannot arbitrarily defer some sources to another implementation period.	Section 51.308(f)(3)(ii) of the Regional Haze Rule and Clean Air Act section 169A(b)
III.B.	States have only limited discretion to decide which sources they consider for reasonable progress. SIPs will be found deficient where they fail to require emission reductions that collectively make reasonable progress towards natural visibility at all Class I areas in each planning period; no backsliding is permitted.	82 Fed. Reg. at 3,088 and sections 51.308(f)(2)(i), 51.308(f)(3)(ii)(A), 51.308(f)(3)(ii)(B)
III.C.	States cannot arbitrarily circumvent a four-factor analysis for sources that intend to retire.	Sections 51.308(f)(2)(i), 51.308(f)(2)(iv)(C)

<sup>3</sup> 42 U.S.C. §§ 7491, 7492; 82 Fed. Reg. 3078 (Jan. 10, 2017); 71 Fed. Reg. 60,612 (Oct.13, 2006); 70 Fed. Reg. 39,104 (July 6, 2005); 64 Fed. Reg. 35,714 (July 1, 1999).

<sup>4</sup> Draft Guidance on Progress Tracking Metrics, Long-term strategies, Reasonable Progress Goals and Other Requirements for Regional Haze State Implementation Plans for the Second Implementation Period, (hereinafter “Draft Guidance”) 81 Fed. Reg. 44,608 (July 8, 2016).

<sup>5</sup> Clean Air Act section 110(k)(5) provides EPA the authority to review a SIP and assess the adequacy of that SIP. Therefore any aspect of this guidance that interferes with that authority is in conflict.



III.D.	States cannot consider being under the uniform rate of progress (“URP”) when selecting sources for a four-factor analysis. The glidepath is not a safe harbor; rather a state must take measures necessary to make progress towards natural visibility at any Class I areas its emissions affect.	82 Fed. Reg. at 3,093
III.E.	Previous installation of certain types of controls does not excuse a state from considering more stringent levels of control.	Section 51.308(f)(2)(iv)(D)
III.G.	States must include both “dominant” and “non-dominant” pollutants in their analyses of controls.	82 Fed. Reg. at 3,088 and sections 51.308(f)(3)(ii)(A), 51.308(f)(3)(ii)(B), 51.308(f)(2)(i)
III.H.	States cannot eliminate volatile organic compounds (“VOCs”) and ammonia emissions from consideration.	82 Fed. Reg. at 3,088 and sections 51.308(f)(3)(ii)(A), 51.308(f)(3)(ii)(B), 51.308(f)(2)(i)
IV.A.	States must use methods permitted by statute and regulation to identify its sources that potentially affect visibility at Class I areas in other states, not merely any “reasonable method.”	82 Fed. Reg. at 3,094 and sections 51.308(f)(2)(i), 51.308(d)(3)(iv)
IV.B.	States must consider cumulative impacts of sources or groups of sources to all affected Class I areas.	Section 51.308(f)(2)(i)
V.A.	States must prioritize emissions within their borders to achieve reasonable progress.	Sections 51.308(f)(1)(vi)(B), 51.308(f)(2)(iv)(D), and Clean Air Act section 169A(b)
VI.B.	States must adhere to the accounting principles of the Control Cost Manual and should compile and make publicly available the documentation for generic cost estimates.	Section 51.308(f)(2)(i)
VII.A.	States cannot allow sources to discontinue the use of currently operating controls.	Section 51.308(f)(2) and Clean Air Act section 169A(b)(2)
VIII	States should use regional scale modeling to support their regional haze SIPs.	Section 51.308(f)(3)(ii)(A), Appendix W to Part 51
IX.A.	If a state’s reasonable progress goal (“RPG”) is above the URP, the state’s “robust demonstration” must include a consideration of specific items identified by EPA.	Section 51.308(f)(3)(ii)
X.A.	States must submit to EPA the emission inventory used in a regional haze SIP.	Section 51.308(f)(2)(iii), Clean Air Act section

		110(k)(5), and EPA's Emission Inventory Guidance <sup>6</sup>
X.B.	States must ensure that Federal Land Managers' ("FLMs") opinions and concerns are made transparent to the public, considered by the state and addressed in the SIP.	Sections 51.308(i), 51.308(f)(4) and Clean Air Act sections 169A(a) and (d)
XI.B.	Decisions on which controls to require as part of the long-term strategy cannot merely ratify past determinations.	Section 51.308(f)(2)(i)
XI.C.	EPA must ensure that long-term strategies include appropriate measures to prevent future as well as remedy existing impairment of visibility.	Clean Air Act section 169A(a)

This Petition seeks reconsideration and substantial revision of the Final Guidance so that the Guidance will direct states to deliver on the statutory objective of preventing future and remedying existing Class I area visibility impairment that results from human-caused pollution. As issued, the Final Guidance conflicts with this statutory objective, previous rulemaking and guidance; misdirects states as to how they can go about complying with their legal obligations to make reasonable progress towards restoring natural visibility to protected public lands; and otherwise fails to set expectations that comport with legal requirements for the second planning period.

In addition to the provisions noted in the table above, the Conservation Organizations incorporate several recommendations from their Comments on EPA's Draft Guidance<sup>7</sup> and request that EPA reconsider and revise the Final Guidance to direct states with regard to the following issues:

- States should ensure that modeled emissions are tied to enforceable limits for sources with appropriate averaging times that reflect year-round abilities of existing controls or operation.
- Light extinction thresholds should be tailored to Class I areas and low enough to bring in most sources of visibility-impairing pollution.
- States should include all visibility-impairing pollutants when calculating a source's annual emissions.
- States should identify and consider the best available emission control measures in the four-factor reasonable progress analysis.

<sup>6</sup> EPA, Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations (May 2017), [https://www.epa.gov/sites/production/files/2017-07/documents/ei\\_guidance\\_may\\_2017\\_final\\_rev.pdf](https://www.epa.gov/sites/production/files/2017-07/documents/ei_guidance_may_2017_final_rev.pdf).

<sup>7</sup> Conservation Organizations incorporate by reference their full Comments on the 2016 proposed Draft Guidance.

- States should analyze the climate and environmental justice impacts of measures to achieve reasonable progress.

The gains made in the first regional haze planning period established a critical, if delayed, foundation for our national parks and wilderness areas to make progress towards the natural visibility which they and their visitors and neighboring communities are due. The Final Guidance not only hinders future gains but in some cases actually jeopardizes the gains made in the first planning period. Conservation Organizations urge EPA to reconsider its Final Guidance and instead issue a revised guidance that directs states to fulfill regulatory requirements for reasonable progress in the second planning period to help attain clearer skies at America's prized national parks and wildernesses.

## II. SIP development steps

As EPA states in the Final Guidance, the key steps to developing a regional haze SIP start with identifying the twenty percent most anthropogenically impaired days and the twenty percent clearest days and determining baseline, current, and natural visibility conditions for each Class I area within the state, and then determining which Class I area(s) in other states may be affected by the state's own emissions.<sup>8</sup> States must then screen sources and conduct a four-factor analysis of which controls are required before establishing reasonable progress goals.<sup>9</sup> Once a state has determined the reasonable progress measures to require at specific sources, the state must quantify the "reasonable progress goal"—i.e., the visibility improvement that will result from implementing the controls merited by a four-factor analysis.<sup>10</sup> Additional steps include regional scale modeling of the long-term strategy to set the RPGs for 2028 and progress, degradation, and URP glidepath checks.<sup>11</sup>

Some of the most problematic provisions of the Final Guidance, which are contrary to several requirements of the Regional Haze Rule and Clean Air Act, involve the selection of sources for analysis. After discussing these provisions, this Petition discusses the determination of affected Class I areas in other states, ambient data analysis, the characterization of factors for emission control measures, decisions on what control measures are necessary to make reasonable progress, regional scale modeling of the long-term strategy to set the RPGs for 2028, progress, degradation, and URP glidepath checks, and additional requirements for regional haze SIPs. After addressing how these various provisions of the Guidance are contrary to the regulatory requirements, the Petition provides several overarching recommendations that EPA should consider when revising the Guidance, including advising states that in order for a SIP to be approvable it must result in measures to reduce visibility impairing pollution beyond those required from the past planning period and reflective of an adequate reasonable progress analysis.

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<sup>8</sup> Final Guidance at 5.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Id.* at 5-6.

III. Selection of sources for analysis

A. Selection of sources under section 51.308(f)(3)(ii)(A).

In the Final Guidance, EPA presents a statement at the beginning of the section II.B.3 that is in conflict with the Regional Haze Rule's requirements:

A key flexibility of the regional haze program is that a state is not required to evaluate all sources of emissions in each implementation period. Instead, a state may reasonably select a set of sources for an analysis of control measures. . . . Accordingly, it is reasonable and permissible for a state to distribute its own analytical work, and the compliance expenditures of source owners, over time by addressing some sources in the second implementation period and other sources in later periods.<sup>12</sup>

This statement by EPA is contrary to the requirements in section 51.308(f)(3)(ii) of the Regional Haze Rule and section 169A(b) of the Clean Air Act.

In a footnote, EPA indicates that “analysis of control measures” refers to an analysis of what emission control measures for a particular source are necessary in order to make reasonable progress and must include consideration of the four statutory factors and consideration of the five additional factors listed in 40 C.F.R. § 51.308(f)(2)(iv).<sup>13</sup> This important requirement of how sources should be selected by states for analyses is presented as if it were a secondary consideration. In other words, EPA's Guidance now advises states that they can arbitrarily delay the selection of sources for evaluation, or exclude certain sources as noted *infra*, and thereby “distribute [their] analytical work” and the “compliance expenditures of source owners” as if it is a stand-alone, top-level decision that states can make, divorced of the need to apply the four statutory factors and the five additional factors to actually make reasonable progress.

If a state were to arbitrarily “distribute its own analytical work, and the compliance expenditures of source owners, over time”<sup>14</sup> as the guidance provides, it would not be able to address section 51.308(f)(3)(ii)(B), which requires:

If a State contains sources which are reasonably anticipated to contribute to visibility impairment in a mandatory Class I Federal area in another State for which a demonstration by the other State is required under (f)(3)(ii)(A), the State must demonstrate that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to

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<sup>12</sup> *Id.* at 9.

<sup>13</sup> *Id.* at 9 n.22.

<sup>14</sup> *Id.* at 9.

include in its own long-term strategy. The State must provide a robust demonstration, including documenting the criteria used to determine which sources or groups of sources were evaluated and how the four factors required by paragraph (f)(2)(i) were taken into consideration in selecting the measures for inclusion in its long-term strategy.

A state that arbitrarily excludes sources from consideration cannot determine if it actually has “sources which are reasonably anticipated to contribute to visibility impairment in a mandatory Class I Federal area.” To satisfy that requirement, a state must first have a reasonable understanding of the emissions from all of its sources and it must have a reasoned methodology for excluding sources from a four-factor analysis (e.g., those sources are inconsequential or do not have cost-effective control options). Similarly, if a state, which arbitrarily excludes sources from evaluation, has a RPG that is above the URP, it cannot satisfy section 51.308(f)(3)(ii)(A)<sup>15</sup>, which requires that it demonstrate “there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to include in the long-term strategy.” In contrast, not only was this advice absent from EPA’s Draft Guidance, the Draft Guidance provided detailed, valid information on source selection.<sup>16</sup>

Additionally, as mentioned *infra* section IV.A, the Final Guidance also arbitrarily allows states to decide whether they contribute to out-of-state Class I areas by claiming states can use any reasonable method for quantifying the impacts of its own emissions on out-of-state Class I areas.<sup>17</sup> The Final Guidance also allows a state to disregard its impacts on an out-of-state Class I area that a neighboring state may identify as being affected by emissions from the state developing the long-term strategy.<sup>18</sup> By allowing states to arbitrarily make these determinations, EPA is attempting to slice the program into inconsequential bits and pieces that set the

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<sup>15</sup> EPA noted in the 2017 Regional Haze Rule revision:

[I]n a situation where the RPG for the most impaired days is set above the glidepath, a contributing state must make the same demonstration with respect to its own long-term strategy that is required of the state containing the Class I area, namely that there are no other measures needed to provide for reasonable progress. The intent of this proposal was to ensure that states perform rigorous analyses, and adopt measures necessary for reasonable progress, with respect to Class I areas that their sources contribute to, regardless of whether such areas are located within their borders.

82 Fed. Reg. at 3099. *See also* 81 Fed. Reg. 66,331, 66,631 (Sept. 27, 2016) (“[A]n evaluation of the four statutory factors is required . . . regardless of the Class I area’s position on the glidepath. . . . [T]he URP does not establish a ‘safe harbor’ for the state in setting its progress goals.”); 81 Fed. Reg. 295, 326 (Jan. 5, 2016) (“[T]he uniform rate of progress is not a ‘safe harbor’ under the Regional Haze Rule”); EPA, Guidance for Setting Reasonable Progress Goals under the Regional Haze Program (hereinafter “RPGs Guidance”) (June 2007) 4–1, [https://www3.epa.gov/ttn/naaqs/aqmguidance/collection/cp2/20070601\\_wehrum\\_reasonable\\_progress\\_goals\\_reghaze.pdf](https://www3.epa.gov/ttn/naaqs/aqmguidance/collection/cp2/20070601_wehrum_reasonable_progress_goals_reghaze.pdf).

<sup>16</sup> Draft Guidance at 57-83.

<sup>17</sup> Final Guidance at 8.

<sup>18</sup> *Id.* at 9.

provisions of the Final Guidance against fulfilling the requirements of the Clean Air Act and Regional Haze Rule that compel a comprehensive “regional” approach to restoring visibility. EPA should strike the above-mentioned language discussing selection of sources under section 51.308(f)(3)(ii)(A) from the Final Guidance and restore the language from the Draft Guidance.

B. States have only limited discretion to decide which sources they consider for reasonable progress.

In Section II.B.3.d of the Final Guidance, EPA states, “[t]he source-selection step is intended to add flexibility and discretion to the state planning process – ultimately, the state decides which sources to consider for reasonable progress.”<sup>19</sup> This blanket statement, written as if a state has unbounded discretion to determine which sources it evaluates under reasonable progress, is incorrect. A state cannot arbitrarily determine which sources it evaluates under the Regional Haze Rule’s reasonable progress requirements. Ultimately, a state’s source selection criteria is a part of its long-term strategy. As EPA indicated in the Regional Haze Rule revision, a state does not have discretion to arbitrarily exclude sources from a four-factor analysis. Specifically, EPA stated:

[W]e expect states to exercise reasoned judgment when choosing which sources, groups of sources or source categories to analyze. Consistent with CAA section 169A(g)(1) and our action on the Texas SIP, a state’s reasonable progress analysis must consider a meaningful set of sources and controls that impact visibility. If a state’s analysis fails to do so, for example, by arbitrarily including costly controls at sources that do not meaningfully impact visibility or failing to include cost-effective controls at sources with significant visibility impacts, then the EPA has the authority to disapprove the state’s unreasoned analysis and promulgate a [Federal Implementation Plans (“FIPs”)].<sup>20</sup>

A state with a RPG below the URP that followed this guidance and arbitrarily excluded sources from a four-factor analysis runs afoul of section 51.308(f)(3)(ii)(A), which requires a “robust demonstration” that “there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to include in the long-term strategy.” If a state that followed this guidance had emission sources that potentially affect visibility at a Class I area in another state, it would similarly be unable to satisfy the same requirement found in section 51.308(f)(3)(ii)(B). EPA should reconsider this provision, and delete it from the Final Guidance.

C. States cannot arbitrarily circumvent a four-factor analysis for sources that intend to retire.

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<sup>19</sup> Final Guidance at 20.

<sup>20</sup> 82 Fed. Reg. at 3088.

In Section II.B.3.d of the Final Guidance, EPA also states “[i]f a source is expected to close by December 31, 2028, under an enforceable requirement, a state may consider that to be sufficient reason to not select the source at the source selection step.”<sup>21</sup> EPA goes on to extend this deadline by adding an indeterminate grace period: “The year 2028 is not a bright line for these considerations, so a state may be able to justify not selecting a source for analysis of control measures because there is an enforceable requirement for the source to cease operation by a date after 2028.”<sup>22</sup> EPA further advises states that consideration of source retirement and replacement schedules required by Section 51.308(f)(2)(iv)(C) are automatically considered if a state decides to not subject sources which will retire by 2028 to a four-factor analysis.<sup>23</sup>

This is a departure from EPA’s long-standing requirement in the regional haze program and is in conflict with basic requirements of the Regional Haze Rule. Remaining useful life is one of the four statutory factors that a state must consider when selecting the sources for which it will determine what control measures are necessary to make reasonable progress.<sup>24</sup>

The Clean Air Act does not define the phrase “remaining useful life.” However, EPA, in regulations and guidance, has clarified the meaning of the phrase. EPA has consistently stated that the potential retirement of a facility can be used to shorten a source’s remaining useful life only if the retirement is federally enforceable.<sup>25</sup> Thus, in order to affect the remaining useful life, a retirement commitment must be included in a pre-existing document that can be enforced in federal court, such as a consent decree entered by a federal court, or a state must incorporate the retirement date into its SIP. If a potential retirement is not federally enforceable, it cannot be relied upon to shorten the remaining useful life of a source.

EPA’s 2007 Guidance on reasonable progress incorporates and refers to the best available retrofit technology (“BART”) Guidelines,<sup>26</sup> which instruct states on how to calculate the remaining useful life of a source. EPA defines a source’s “remaining useful life” as the difference between the date that controls would be installed and “the date the facility permanently stops

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<sup>21</sup> Final Guidance at 20.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 22.

<sup>24</sup> *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (“[A]n agency rule would be arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem.”); *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209, 1216 (D.C. Cir. 2004) (“A statutorily mandated factor, by definition, is an important aspect of any issue before an administrative agency, as it is for Congress in the first instance to define the appropriate scope of an agency’s mission.”).

<sup>25</sup> *E.g.*, 83 Fed. Reg. 62,204, 62,232 (Nov. 30, 2018) (“We are proposing to agree with Arkansas’ cost analysis for dry scrubbers and switching to low sulfur coal for Independence Units 1 and 2, and with the state’s decision to assume a 30-year capital cost recovery period in the cost analysis. It is appropriate to assume a 30-year capital cost recovery period in the cost analysis since Entergy’s plans to cease coal combustion at the Independence facility are not state or federally-enforceable.”); 83 Fed. Reg. 43,586, 43,604 (Aug. 27, 2018) (Considering the retirement of certain units where there was evidence that the units had actually been retired at the time of the rulemaking and that the plant had requested cancellation of its air permit).

<sup>26</sup> RPGs Guidance at 5-3. There is no conflict with the 2007 Guidance’s interpretation of “remaining useful life” and the Final Guidance. *See* Final Guidance at 34.

operations.”<sup>27</sup> If the remaining useful life affects the selection of controls, “this date should be assured by a federally- or State-enforceable restriction preventing further operation.”<sup>28</sup> EPA discusses a situation where a source “intends to shut down a source by a given date, but wishes to retain the flexibility to continue operating beyond that date in the event.”<sup>29</sup> In that instance, EPA instructs a state to include in its SIP the controls that would be required if the source continues to operate past the planned retirement date.<sup>30</sup> “The source would not be allowed to operate after the 5–year mark without such controls.”<sup>31</sup>

Allowing states to avoid a four-factor analysis based on alleged intent to retire would render the other statutory factors meaningless and violate the requirements of the Regional Haze Rule.<sup>32</sup> Many states have already begun analyzing their sources to determine which should be brought forward for a four-factor analysis. Consequently, a source that retires by December 31, 2028 (or later), has at least eight years of potential emission reductions. Even considering this shortened remaining useful life, cost-effective controls, which often can be installed in months, can frequently be justified. For instance, a source could simply switch to a lower sulfur content coal or fuel oil, which would require little to no installation time and may be quite cost-effective. Despite EPA’s advice, any source that demonstrably or potentially impacts visibility at a Class I area and would otherwise be subject to a four-factor analysis under section 51.308(f)(2)(i), regardless of its retirement date, must undergo a real analysis to determine if cost-effective controls are available.<sup>33</sup> EPA should revise the Final Guidance to reiterate that only enforceable retirements may alter the remaining useful life and otherwise require that states subject sources that intend to retire to a four-factor analysis if a state selects the source for analysis of emission control measures.

D. States cannot consider being under the URP when selecting sources for a four-factor analysis.

In Section II.B.3.e of the Final Guidance, EPA makes two flawed statements regarding a state’s RPG that were not present in the Draft Guidance. First, EPA states “[t]he fact that visibility conditions in 2028 will be on or below the URP glidepath is not a sufficient basis by itself for a state to select no sources for analysis of control measures; however, the state may

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<sup>27</sup> 40 C.F.R. pt. 51, App. Y § (IV)(D)(4)(k)(2).

<sup>28</sup> *Id.*

<sup>29</sup> *Id.* § (IV)(D)(4)(k)(3).

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> The United States Court of Appeals for the Fifth Circuit recently found that EPA must consider statutory factors listed in a similar provision of the Clean Water Act when revising best available technology (“BAT”) limits. *See Southwestern Elec. Power Co. v. EPA*, 920 F.3d 999, 1026-27 (5th Cir. 2019).

<sup>33</sup> EPA’s draft guidance also allowed for states to forgo a four-factor analysis on sources secured by an enforceable commitment to retire by 2028. We disagree with that position for the reason expressed above. However, EPA tempered its reasoning in its draft guidance by stating that its position rested on the fact that due to the shortened second planning period (unlike future planning periods), there would be a shorter interval for states to install controls. Also, EPA did not state that states could extend source retirements beyond 2028 as it does in the final guidance.



consider this information when selecting sources.”<sup>34</sup> EPA then cites to the 2017 Regional Haze Rule revisions; however, those citations make it absolutely clear that states cannot in fact follow this guidance:

We disagree that the states should be able to reevaluate whether a control measure is necessary to make reasonable progress based on the RPGs. The CAA requires states to determine what emission limitations, compliance schedules and other measures are necessary to make reasonable progress by considering the four factors. The CAA does not provide that states may then reject some control measures already determined to be reasonable if, in the aggregate, the controls are projected to result in too much or too little progress.<sup>35</sup>

Consequently, states have no path available to them to “consider this information when selecting sources.”

Similarly, EPA’s later advice that “[r]ather, that fact [that a state’s RPG is below the URP] would serve to demonstrate that, after a state has gone through its source selection and control measure analysis, it has no ‘robust demonstration’ obligation per 40 CFR 51.308(f)(3)(ii)(A) and/or (B)”<sup>36</sup> is potentially at odds with the Regional Haze Rule. In the above cited portion of the 2017 Regional Haze Rule revision, EPA actually stated, “if a state has reasonably selected a set of sources for analysis and has reasonably considered the four factors in determining what additional control measures are necessary to make reasonable progress, then the state’s analytical obligations are complete if the resulting RPG for the most impaired days is below the URP line.”<sup>37</sup> A state’s “robust demonstration” obligation does not end because it has merely “gone through its source selection and control measure analysis.” Rather, as EPA actually explained, the state must have “reasonably selected a set of sources for analysis and has reasonably considered the four factors in determining what additional control measures are necessary to make reasonable progress.”<sup>38</sup> EPA must reconsider this provision, and delete it from the Final Guidance.

- E. Previous installation of certain types of controls does not excuse a state from considering more stringent levels of control.

In section II.B.3.f of the Final Guidance, EPA discusses circumstances under which a state can choose not to select a source that has previously installed controls for a four-factor analysis.<sup>39</sup> Much of this information conflicts with previous guidance and the Regional Haze

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<sup>34</sup> Final Guidance at 22.

<sup>35</sup> 82 Fed. Reg. at 3093. *See also* 81 Fed. Reg. at 66,631; 81 Fed. Reg. at 326; RPGs Guidance at 4-1.

<sup>36</sup> Final Guidance at 22.

<sup>37</sup> 82 Fed. Reg. at 3093.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.* In comparison to the blanket exemptions in EPA’s Final Guidance, the Draft Guidance only considered exempting power plant units, “in certain limited situations,” with “highly effective control technology within the 5 years prior to submission of the SIP, such as year-round operation of flue gas desulfurization (FGD) with an

Rule. First, EPA states, “[i]n general, if post-combustion controls were selected and installed fairly recently . . . to meet a [Clean Air Act] requirement, there will be only a low likelihood of a significant technological advancement that could provide further reasonable emission reductions having been made in the intervening period.”<sup>40</sup> EPA presents no basis for making this conclusion.

There are many instances in which post-combustion controls have been installed in which those controls do not operate at peak efficiency. This includes controls that are not operated continuously, controls that were never designed to operate at peak efficiency (e.g., undersized sulfur dioxide (“SO<sub>2</sub>”) scrubber or selective catalytic reduction (“SCR”) systems) and partially bypassed controls (e.g., SO<sub>2</sub> scrubber or SCR systems). In fact, EPA has made it a point in past actions to ensure that existing controls are examined to determine if they can be cost-effectively upgraded. For instance, the 2005 BART revision to the Regional Haze Rule devotes several paragraphs to specific potential scrubber upgrades it recommends be examined.<sup>41</sup>

EPA also demonstrated that scrubber upgrades to a number of coal-fired power plants utilizing outdated and inefficient scrubber systems were highly cost-effective, and could achieve removal efficiencies of ninety-five percent which is near the ninety-eight to ninety-nine percent removal efficiencies of newly-installed scrubber systems.<sup>42</sup> In fact, as EPA notes in its 2017 Regional Haze Rule revision, EPA disapproved Texas’ four-factor analysis in part because “it did not include scrubber upgrades that would achieve highly cost-effective emission reductions that would lead to significant visibility improvements.”<sup>43</sup> Consequently, EPA’s blanket guidance that examination of potential upgrades to recently installed post-combustion controls is unlikely necessary is demonstrably false. Even if, considering the entire universe of potential post-combustion control upgrades, the vast majority cannot be cost-effectively upgraded to result in significant visibility benefits, which is unlikely, there is no justification in the Regional Haze Rule to skip an examination of the remaining units.

EPA goes on to present examples of pollutant-specific controls that have been installed due to a requirement outside of the regional haze program for which it “believes it may be reasonable for a state not to select a particular source for further analysis.”<sup>44</sup> This list includes new source performance standard (“NSPS”) controls installed since July 31, 2013; best available control technology (“BACT”) or lowest achievable emission rate (“LAER”) controls installed since July 31, 2013; power plants with FGD controls that meet the 2012 model attainment test systems (“MATS”) standard; particulate matter (“PM”) controls under National Emission

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effectiveness of at least 90 percent or year-round operation of selective catalytic reduction with an effectiveness of at least 90 percent.” EPA specifically requested comment “on whether to include this additional screening mechanism and if so, then what criteria may be appropriate for its inclusion.”

<sup>40</sup> *Id.*

<sup>41</sup> See 70 Fed. Reg. 39,103, 39,171 (July 6, 2005).

<sup>42</sup> See 81 Fed. Reg. at 305.

<sup>43</sup> See 82 Fed. Reg. at 3088.

<sup>44</sup> Final Guidance at 23.

Standards for Hazardous Air Pollutants (“NESHAP”) since July 31, 2013; boilers that have installed an FGD or SCR system that operates year round and has a total efficiency of ninety percent; and any BART-eligible unit that has installed BART controls.<sup>45</sup> EPA reasons that due to their recent installation and the similarity of the requirements for those programs, it is unlikely that a four-factor analysis will result in additional cost-effective controls.<sup>46</sup> But, as EPA notes in its 2005 BART revision to the Regional Haze Rule, it reviewed some of these standards and concluded they may not be the most stringent available.<sup>47</sup> Furthermore, the 2017 revision to the Regional Haze Rule warned states that “we anticipate that a number of BART-eligible sources that installed only moderately effective controls (or no controls at all) *will need to be reassessed*. Under the 1999 [Regional Haze Rule and] 40 CFR 51.308(e)(5), BART-eligible sources are subject to the requirements of 40 CFR 51.308(d), which addresses regional haze SIP requirements for the first implementation period, in the same manner as other sources going forward.”<sup>48</sup> This is in contrast to EPA’s Final Guidance statement that “if a source installed and is currently operating controls to meet BART emission limits, it may be unlikely that there will be further available reasonable controls for such sources.”<sup>49</sup> Therefore, a state must first subject a source to a four-factor analysis under section 51.308(f)(2)(i) before it is able to determine whether there are no emission reducing options available (including upgrades to existing controls).

Regarding which control measures states should consider in assessing reasonable progress, EPA states “there is no statutory or regulatory requirement to consider all technically feasible measures or any particular measures. A range of technically feasible measures available to reduce emissions would be one way to justify a reasonable set.”<sup>50</sup> This conflicts with past guidance and with the Regional Haze Rule. Although there is no requirement that controls required under the reasonable progress requirements of the Regional Haze Rule uniformly be the most stringent available, not considering this level of control bypasses section 51.308(f)(2)(i), which requires that the state perform a four-factor analysis. A state cannot consider “the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment” unless it considers all feasible controls available, including upgrades to existing controls.

EPA acknowledged that a range of controls should be evaluated in a four-factor analysis in its Draft Guidance:

In order to define a control measure with sufficient specificity to assess its cost and potential for emission reductions, the state should specify and consider the range of control efficiencies that the measure is capable of achieving. For example, when

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<sup>45</sup> *Id.* at 23-25.

<sup>46</sup> *Id.* at 25.

<sup>47</sup> *See* 70 Fed. Reg. at 39,163-64.

<sup>48</sup> 82 Fed. Reg. at 3083 (emphasis added).

<sup>49</sup> Final Guidance at 25.

<sup>50</sup> *Id.* at 29.

evaluating a flue gas desulfurization system to reduce SO<sub>2</sub> emissions, the state should consider both a system capable of achieving a 90 percent reduction in SO<sub>2</sub> emissions as well as a more advanced system capable of achieving a 97 or 98 percent reduction. The state should not limit its analysis to either an unrealistically high and prohibitively expensive control efficiency or to a control efficiency that is substantially lower than has been achieved at other sources.<sup>51</sup>

Furthermore, EPA does not require that states secure the operation of controls with this level of efficiency through an enforceable commitment.

Just because a source has the most effective or highly effective control technology does not mean that it is required to be operated to a level reflective of its maximum pollution reduction capability. Thus, states should not be screening such sources out of review during the second implementation period. By allowing states to “screen out” and choose not to select such sources for a full four-factor analysis, EPA may be allowing states to ignore very cost-effective emission reducing options like simply requiring sources with highly effective controls to operate those controls in the most effective manner to reduce air pollutants. EPA should revise the Final Guidance to recommend that sources with existing pollution control technology evaluate options that could improve the emissions reduced through more effective use of that control technology. This could include requiring year-round operation of controls, reducing capacity, imposing more effective percent reduction requirements, requiring sources to meet more stringent emission limits, or requiring that emission limits apply on shorter averaging times to ensure continuous levels of emission reduction.

- F. States should ensure that modeled emissions are tied to enforceable limits for sources with appropriate averaging times that reflect year-round abilities of existing controls or operation.

EPA should revise the Final Guidance to recommend that wherever possible, whether they are screened in or out, states should make sure that the emissions relied upon in the state’s RPG demonstration are enforceable, and also that they reflect the lowest emission rates feasible at the facility given its existing configuration. This is particularly true for major sources that are screened out on the basis of emissions that reflect unenforceable conditions.

However, this is also true for sources that are screened out on the basis of emissions that do not reflect their full capacity for emission reductions. For example, if a source is screened out with emissions that reflect using its controls only seventy-five percent of the time, the state should nevertheless require year-round operation of the control. Requirements reflecting existing capacity for emission reductions are inherently reasonable, and represent low hanging fruit necessitating reduced resource expenditure for potentially large gain. Moreover, states routinely rely on actual emissions in assessing current visibility and using that assessment as a jumping off point to determine if additional reductions are necessary. Where a state is to rely on operational

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<sup>51</sup> Draft Guidance at 87.

realities, such reliance must be justified by enforceable emission limits. Indeed, failing to take advantage of such reasonable progress measures is an example of one of the pitfalls of using this type of a screening process in the first place. EPA should recommend that states assure reasonable progress by requiring that sources have enforceable limits or conditions reflecting their full emission reduction capacity if they are to be screened out.

G. States must include both “dominant” and “non-dominant” pollutants in their analyses of controls.

In Section II.B.3.a of the Final Guidance, EPA advises states that they can skip analyses of controls for sources with “non-dominant” pollutants. Specifically, EPA states:

When selecting sources for analysis of control measures, a state may focus on the PM species that dominate visibility impairment at the Class I areas affected by emissions from the state and then select only sources with emissions of those dominant pollutants and their precursors. Also, it may be reasonable for a state to not consider measures for control of the remaining pollutants from sources that have been selected on the basis of their emissions of the dominant pollutants.<sup>52</sup>

This position, absent from the Draft Guidance, directs states to produce deficient regional haze SIPs and is in conflict with the Regional Haze Rule’s requirements and preamble language in the 2017 Regional Haze Rule revision.

The preamble specifically states that a “reasonable progress analysis must consider a meaningful set of sources and controls that impact visibility. If a state’s analysis fails to do so, for example, by . . . *failing to include cost-effective controls at sources with significant visibility impacts*, then the EPA has the authority to disapprove the state’s unreasoned analysis and promulgate a FIP.<sup>53</sup> This provision in the Guidance would allow states to arbitrarily determine that because one pollutant has a greater impact on visibility at a Class I area(s), the state may simply ignore other visibility impacting pollutants for one or all sources in the state emitting the non-dominant pollutants, despite the availability of cost-effective controls under reasonable progress criteria. It would also allow states to conclude that when examining a source that emits multiple pollutants that contribute to haze (e.g., SO<sub>2</sub>, Nitrogen Oxide (“NO<sub>x</sub>”)), potential reductions for the non-dominant pollutant can be summarily ignored. Furthermore, EPA does not provide any metric for what it considers a “dominant” pollutant.<sup>54</sup> For instance, if a state has determined that fifty-one percent of the visibility impact at a Class I area is due to SO<sub>2</sub>, forty

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<sup>52</sup> Final Guidance at 11.

<sup>53</sup> 82 Fed. Reg. at 3088. EPA states elsewhere in its 2017 Regional Haze Rule revision, that “A state may refer to its own experience, past EPA actions, the preamble to this rule as proposed and this final rule preamble, and existing guidance documents for direction on what constitutes a reasoned determination.” 82 Fed. Reg. at 3099.

<sup>54</sup> Merriam-Webster defines dominant as “(a) commanding, controlling, or prevailing over all others,” or as “(b) very important, powerful, or successful.”

percent is due to NO<sub>x</sub>, and nine percent is due to PM, would SO<sub>2</sub> be considered dominant (and consequently the only analyzed pollutant), or must its share of the visibility impact be greater?

This provision in the Final Guidance has potentially far-reaching negative impacts on the Regional Haze Rule's requirements that states make reasonable progress, as many large sources emit multiple types of visibility impacting pollutants. Still other sources may emit significant levels of non-dominant emissions for which emission reducing control or measures may be well within the framework of the four-factor analysis. If this is not corrected, a state could assume it would be justified in concluding that state-wide, SO<sub>2</sub> is its "dominant" pollutant and forego control analysis of a large gas-fired power plant emitting thousands of tons of NO<sub>x</sub> which could also significantly impact visibility at one or more Class I areas.

The Final Guidance also directly conflicts with multiple sections of the Regional Haze Rule. For instance, a state following the guidance would not be able to determine if it was even subject to section 51.308(f)(3)(ii)(B), because by arbitrarily excluding pollutants or entire sources from review it could not determine if it "reasonably [was] anticipated to contribute to visibility impairment in a mandatory Class I Federal area in another State." Nor could that state "demonstrate that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area." Similarly, if that state's RPG was above its URP, it could not satisfy section 51.308(f)(3)(ii)(A), which requires the same demonstration. Such a state would also not be able to reasonably satisfy its state-to-state consultation requirements under section 51.308(f)(2)(i), which requires it to "evaluate and determine the emission reduction measures that are necessary to make reasonable progress" and "include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy." By severely compromising the entire foundation of a state's technical demonstration, EPA is directing states to submit deficient SIPs. For these reasons, EPA should delete the above-quoted language from the Final Guidance.

#### H. States cannot eliminate VOCs and ammonia emissions from consideration.

In Section II.B.3.a. of the Final Guidance, EPA also advises states that irrespective of their particular state emissions inventories or the acknowledged potential impacts of VOCs and ammonia on Class I areas, they can completely disregard these pollutants. Specifically, EPA states:

In the first implementation period, many states eliminated VOC and ammonia emissions from consideration based on the expectation that anthropogenic VOC emissions make only a small contribution to visibility impairment and that formation of nitrate and sulfate PM is most effectively reduced by reducing emissions of NO<sub>x</sub> and SO<sub>2</sub> rather than by anthropogenic emissions of ammonia. EPA believes that, in general, this

would also be a reasonable approach for the second implementation period.<sup>55</sup>

This position is completely absent from EPA's regulations and was not present in the Draft Guidance.

VOCs are organic chemicals emitted by products or industrial processes that when released into the atmosphere can react with sunlight and NO<sub>x</sub> to form tropospheric ("ground-level") ozone. In addition, VOCs are important precursor of Secondary Aerosol Formation ("SOA"). SOA comprises a large fraction of atmospheric aerosol mass and can have significant effects on atmospheric chemistry, visibility, human health, and climate.<sup>56</sup> A major source of VOCs in the United States is the oil and gas industry, which includes wells, gas gatherings and processing facilities, storage, and transmission and distribution pipelines. According to data from EPA and the Energy Information Agency ("EIA"), more than 20 million tons of VOCs are emitted from point and non-point sources in the oil and gas industry every year. Studies on oil and gas emissions have indicated that VOC source signatures associated with oil and gas operations can be clearly differentiated from urban sources dominated by vehicular exhaust emissions.<sup>57,58</sup> According to a recent air quality study by the National Park Service ("NPS") in Carlsbad Caverns National Park, high levels of light alkanes such as ethane, propane, butane, and pentane compounds were consistent with oil and gas emissions. However, high alkanes (">C<sub>8</sub>") and aromatics are assumed to contribute more significantly to SOA formation.<sup>59</sup>

In California alone, statewide agricultural operations produce an average of 272.12 tons per day ("tpd") of ammonia ("NH<sub>3</sub>") emissions.<sup>60</sup> Of those 272.12 tpd, 158.50 tpd is attributed to "agricultural waste" specifically from dairy cattle.<sup>61</sup> In regions such as California's heavily polluted San Joaquin Valley, ammonia concentrations are found to be much higher than NO<sub>x</sub>

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<sup>55</sup> Final Guidance at 12.

<sup>56</sup> Ziemann, Paul J., & R. Atkinson, *Kinetics, products, and mechanisms of secondary organic aerosol formation*, 41, no. 19 *Chem. Soc'y Reviews* 6582, 6582 (2012).

<sup>57</sup> See Odum J.R., T. Hoffmann, F. Bowman, D. Collins, R.C. Flagan, & J.H. Seinfeld, *Gas/Particle Partitioning and Secondary Organic Aerosol Yields*, 30 *Environ. Sci. Technol.*, 2580, 2580-2585 (1996).

<sup>58</sup> See Swarthout, R. F., Russo, R. S., Zhou, Y., Hart, A. H., and Sive, B. C., *Volatile organic compound distributions during the NACHTT campaign at the Boulder Atmospheric Observatory: Influence of urban and natural gas sources*, *J. Geophys. Res. Atmos.*, 118, 10,614–10,637, (2013), available at <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/jgrd.50722>.

<sup>59</sup> Ziemann, *supra* note 56, at 6583; see also Takekawa, Hideto, Hiroaki Minoura, and Satoshi Yamazaki, *Temperature dependence of secondary organic aerosol formation by photo-oxidation of hydrocarbons*, *Atmospheric Environment* 37, no. 24, 3413-3424 (2003).

<sup>60</sup> California Air Resources Board, 2016 SIP Emission Almanac Projection Data by EIC: Annual Average Emissions (Tons/Day) Statewide, Miscellaneous Processes 620-Farming Operations, [https://www.arb.ca.gov/app/emsinv/2017/emseic\\_query.php?F\\_YR=2012&F\\_DIV=-4&F\\_SEASON=A&SP=SIP105ADJ&SPN=SIP105ADJ&F\\_AREA=CA&F\\_EICSUM=620](https://www.arb.ca.gov/app/emsinv/2017/emseic_query.php?F_YR=2012&F_DIV=-4&F_SEASON=A&SP=SIP105ADJ&SPN=SIP105ADJ&F_AREA=CA&F_EICSUM=620).

<sup>61</sup> *Id.*

concentrations.<sup>62</sup> When mixed with the region's NOx emissions (primarily from mobile sources), this excess ammonia helps form high levels of haze causing ammonium nitrate, which accounts for the majority of PM2.5 emissions found in the San Joaquin Valley.<sup>63</sup>

The San Joaquin Valley is home to multiple communities such as Bakersfield, Fresno, and Visalia that rank amongst the very topmost polluted cities for both annual and twenty-four hour PM2.5 pollution.<sup>64</sup> The entire air basin is also listed as being in extreme nonattainment with the 1997 and 2006 PM2.5 NAAQS standards.<sup>65</sup> As it relates to regional haze pollution, the San Joaquin Valley is located directly adjacent to the Southern Sierra Nevada Mountains, home to heavily polluted Class 1 areas like Sequoia and Kings Canyon National Parks—both of which fall within the jurisdiction of the San Joaquin Valley Air District.

Despite ammonia being a major precursor to PM2.5 pollution in the region, its emissions are currently not controlled in the San Joaquin Valley under the state's various PM2.5 SIPs.<sup>66</sup> Beyond ammonia, agricultural sources in California also produce an average of 145.90 tpd of direct PM10 and 21.79 tpd of direct PM2.5 emissions.<sup>67</sup>

In its 2005 BART amendments to the Regional Haze Rule, EPA left it to the states to individually determine if these two pollutants, which EPA acknowledges can potentially impact visibility, should be addressed.<sup>68</sup> In the Draft Guidance, EPA acknowledged that much of its guidance on BART remained applicable to the second round of SIPs and included an entire appendix devoted to identifying which portions of the BART guidance remained applicable.<sup>69</sup> This appendix has been deleted in EPA's Final Guidance. By arbitrarily excluding potential visibility-impairing pollutants from review, EPA's guidance conflicts with the same sections of the Regional Haze Rule as described *supra* section III.G, primarily preamble language to the 2017 Regional Haze Rule revision and sections 51.308((f)(3)(ii)(A), 51.308((f)(3)(ii)(B), and 51.308(f)(2)(i). EPA should revise the Final Guidance to direct states to inventory and evaluate potential visibility-impairing pollutants including VOCs and ammonia and determine associated control measures necessary to make reasonable progress. .

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<sup>62</sup> San Joaquin Valley Air Pollution Control District, 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards, at 5-6, <http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf>.

<sup>63</sup> *Id.* at 3-12.

<sup>64</sup> American Lung Association, 2019 State of the Air Report: Most Polluted Cities Ranking, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/most-polluted-cities.html>.

<sup>65</sup> San Joaquin Valley Air Pollution Control District, *supra* note 62, at ES-8.

<sup>66</sup> *See generally, id.* at 4-1 through 4-34.

<sup>67</sup> *See* California Air Resources Board, *supra* note 60.

<sup>68</sup> *See* 70 Fed. Reg. 39,104, 39,112-14 (July 6, 2005). EPA stated that scientific and technical data shows “that ammonia in the atmosphere can be a precursor to the formation of particles such as ammonium sulfate and ammonium nitrate . . . [and] certain aromatic VOC emissions such as toluene, xylene, and trimethyl-benzene are precursors to the formation of secondary organic aerosol.” *Id.* at 39,114.

<sup>69</sup> Draft Guidance at Appendix D.



- I. Light extinction thresholds should be tailored to Class I areas and low enough to bring in most sources of visibility-impairing pollution.

States choosing light extinction as a metric for visibility impacts should use Class I-specific figures to identify sources for a four-factor analysis. If a threshold is applied, states must ensure that the threshold is low enough to bring in most sources harming a Class I area. In the Final Guidance, EPA recommends visibility metrics and thresholds in terms of inverse megameters of light extinction.<sup>70</sup> Although light extinction may be acceptable as a metric, states should not use a generic extinction threshold for selecting sources for consideration of pollution controls for each of the Class I areas evaluated in their regional haze SIPs. If a light extinction threshold is too high, it can significantly limit the amount of sources a state evaluates for controls to make reasonable progress.

States must make clear how each source's visibility impacts are to be determined. States must explain whether the sources' potential emissions were modeled, what visibility-impairing pollutants were modeled for each source, whether all units were modeled for all sources, whether sources were modeled for impacts on the twenty percent worst days or some other timeframe, and identify and allow public review of and comment on the technical approach that the state employed to determine source-specific visibility extinction, pursuant to 40 C.F.R. § 51.308(f)(2). Any proposed extinction threshold for defining sources to target for controls is only as good as the underlying technical analysis to define if a source exceeds the extinction threshold. States must address these requirements and justify any and all extinction thresholds that they rely on for each Class I area impacted by states' sources.

For any sources that exceed an extinction threshold but are not subject to reduction requirements, states should provide a thorough four-factor analysis of controls or provide justification as to why a four-factor analysis would not likely lead to a determination that additional controls are needed to make reasonable progress. For any sources that a state claims already has adequate controls or justifies for other reasons that a four-factor analysis of controls would not result in additional controls, the state must document in its regional haze SIP why it makes this finding. To the extent such justification is relying on other regulatory or permit requirements, the state must document those regulatory or permit requirements in detail and indicate whether such requirements are already or will be submitted to EPA as part of the SIP

- J. State's using the Q/d metric should include all visibility-impairing pollutants when calculating a source's annual emissions.

In Section II.B.3.b of the Final Guidance, EPA discusses the use of a source's annual emissions in tons divided by distance in kilometers between the source and the nearest Class I area (often referred to as Q/d) as a surrogate for source visibility impacts, along with a reasonably selected threshold for this metric.<sup>71</sup> As EPA notes, although Q/d is the least

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<sup>70</sup> Final Guidance at 19.

<sup>71</sup> Final Guidance at 13.

complicated technique, it should “be limited to source selection for the purpose of developing a list of sources for which a state may conduct a four-factor analysis” because the metric is a less reliable indicator of actual visibility impact.<sup>72</sup>

EPA should revise the Final Guidance to require states using the Q/d metric to include all visibility-impairing pollutants when determining the annual emissions being used to obtain a source or source category’s estimated visibility impacts. As discussed further *supra* section III.H, states cannot eliminate certain emissions, such as VOCs and ammonia emissions, from consideration. Additionally, EPA should recommend that states using the Q/d metric not use the Q/d threshold from the first implementation period for the second implementation period. Rather, the Q/d threshold should be lower in order to address more sources, including sources that are lower emitting and sources that are further in distance than the sources addressed in the first implementation period.

#### IV. Determination of affected Class I areas in other states

- A. States must use methods permitted by statute and regulation to identify its sources that impact visibility at Class I areas in other states, not merely any “reasonable method.”

In Section II.B.2 of the Final Guidance, EPA inserts a blanket statement that jeopardizes making progress towards the Clean Air Act Class I visibility goal and obfuscates the Regional Haze Rule’s requirements regarding how a state should identify its sources that impact the visibility at Class I areas in other states: “As an initial matter, a state has the flexibility to use any reasonable method for quantifying the impacts of its own emissions on out-of-state Class I areas, and it may use any reasonable assessment for this determination.”<sup>73</sup>

EPA does not provide any explanation or examples of what it considers “reasonable.” Thus, this statement would allow a state to use any methodology, regardless of its scientific rigor, to identify those sources. Furthermore, once having identified these sources, however loosely, the state can then “assess” those sources any way it wishes. Confusingly, EPA seems to distinguish between quantifying the impacts of these sources and assessing these impacts. This single statement would serve to hand a state seemingly unlimited discretion over a key step in preparing its SIP, in marked contrast to what it proposed.

As EPA states in its 2017 Regional Haze Rule revision:

On July 8, 2016, we released Draft Guidance that discusses how states can determine which Class I areas they “may affect” and therefore must consider when selecting sources for inclusion in a four-factor analysis. The Draft Guidance discusses various approaches that states used during the first implementation

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<sup>72</sup> *Id.*

<sup>73</sup> Final Guidance at 8.

period, provides states with the flexibility to choose from among these approaches in the second implementation period, and recommends that states adopt “a conservative . . . approach to determining whether their sources may affect visibility at out-of-state Class I areas.”<sup>74</sup>

Indeed, EPA’s Draft Guidance did provide actual guidance to the states on this issue:

Once contributions by sources, groups of sources or geographic areas have been quantified in some manner, the EPA recommends that states adopt a conservative (more protective approach of visibility) approach to determining whether their sources may affect visibility at out-of-state Class I areas. For example, states could consider all Class I areas for which the state contributes at least one percent to anthropogenic light extinction from all U.S. sources on any day within the 20 percent most impaired days. States may choose a different threshold to determine which out-of-state Class I areas may be affected by the States sources, but must provide an adequate explanation of why the threshold is sufficiently protective of visibility.<sup>75</sup>

EPA followed this statement with more than twelve pages of highly technical guidance detailing approaches it deemed acceptable.<sup>76</sup> The Final Guidance deletes most of this and provides a summary approach void of technical rigor or analytical teeth. The Regional Haze Rule makes plain that a state’s long-term strategy, including its application of the four statutory factors, be comprised of a robust initial step—the assessment of the state’s emission sources on downwind states’ Class I areas. However, by diminishing actual guidance and inventing this undefined and ambiguous standard, EPA creates confusion and ambiguity for states, leaving states to determine reasonability on a SIP-by-SIP basis. EPA should restore the discussion and directives to states from the Draft Guidance.

#### B. Application of a threshold for cumulative impacts to multiple Class I areas.

EPA should reconsider and revise the Final Guidance to recommend that states quantitatively document the results of the screening process for each Class I area rather than presenting only the impacts at the most affected or nearest Class I area. This allows the public to know the scope of the source’s impacts and assures that the SIP comports with the letter and spirit of the regional haze program, a program grounded in the fact that regional haze is a regional problem and that Class I area impacts are felt typically by a multitude of sources’ pollution that defy state boundaries.

EPA should also make clear that states must consider cumulative impacts of sources or groups of sources to all affected Class I areas. A source’s cumulative impacts across Class I

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<sup>74</sup> 82 Fed. Reg. at 3094.

<sup>75</sup> Draft Guidance at 58.

<sup>76</sup> Draft Guidance at 58-70.

areas provides a valuable screen to identify sources for further analysis. As EPA conceded and the court found in *Nat'l Parks Conservation Ass'n v. EPA*, in considering the visibility improvement expected from the use of controls, states must take into account the visibility impacts at all impacted Class I areas rather than focusing solely on the benefits at the most impacted areas.<sup>77</sup> This must include sources that have relatively small impacts in isolation but larger cumulative impacts either in the aggregate or across Class I areas.

V. Ambient data analysis

A. States must prioritize emissions within their borders to achieve reasonable progress.

International emissions contribute to visibility impacts. Rather than encouraging states to pursue an adjustment to the end goal of natural visibility due to international emissions, EPA should be directing states to focus on the emissions within their borders for which requirements would help achieve reasonable progress. We encourage EPA to work with states, FLMs, stakeholders, and other countries to develop emissions inventories for cross-border pollution as well as scientifically valid methods for assessing long range emissions transport. However, the development of accurate accounting and modeling should not come with the expense of postponing or ignoring domestic emission-reducing measures. EPA's updated 2028 modeling<sup>78</sup> attempts to incorporate international emissions, but the agency itself makes clear that the science upon which the modeling rests is questionable.<sup>79</sup> EPA should reconsider and revise its Guidance to clarify that assessing international emissions is a work in progress and opportunity for partnership across a broad set of stakeholders, but the mandate of the Clean Air Act compels states to take measures to make reasonable progress by reducing emissions in their borders, not look to analysis to excuse doing so because other nations also contribute to regional haze.

We also urge EPA to revise the Final Guidance to clarify that affected states also have an obligation to take appropriate action to address international emissions.<sup>80</sup> Although EPA and the states are not required to "compensate" for international emissions, it is well within EPA and the states' rights and obligations to formally request reductions from international sources where appropriate, or to take permitting actions in the United States that will lead to emission reductions in other countries.

For example, Mexico's Carbon I and II power plants, which are less than twenty miles from the Texas border, are responsible for significant levels of pollution across several of the border states. Despite noting the significant impact of Mexican sources on its Class I areas, and

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<sup>77</sup> *Nat'l Parks Conservation Ass'n v. EPA*, 803 F.3d 151, 165 (3d Cir. 2015).

<sup>78</sup> EPA, Availability of Modeling Data and Associated Technical Support Document for the EPA's Updated 2028 Visibility Air Quality Modeling (Sept. 19, 2019), [https://www.epa.gov/sites/production/files/2019-10/documents/updated\\_2028\\_regional\\_haze\\_modeling-tsd-2019\\_0.pdf](https://www.epa.gov/sites/production/files/2019-10/documents/updated_2028_regional_haze_modeling-tsd-2019_0.pdf) ("Updated 2028 Modeling").

<sup>79</sup> *Id.* at 67.

<sup>80</sup> 64 Fed. Reg. 35,714, 35,755 (July 1, 1999) ("The States retain a duty to work with EPA in helping the Federal government use appropriate means to address international pollution transport concerns.").

requesting federal efforts to reduce impacts from international emissions,<sup>81</sup> Texas approved water discharge and mining permits for a coal mine in Maverick County. Rejecting these permits instead would have prevented the Mexican company Dos Republicas from mining high-sulfur coal that is transported and burned at the Carbon I & II facilities. EPA should remove its false implication that international emissions are entirely “uncontrollable” and should instead make clear that states must demonstrate that they are doing what is within their control to address international emissions—both generally and in particular.

EPA also discusses an “adjustment” to the URP for prescribed wildland fires. Wildfires, particularly in the West, have grown hotter, bigger, and more frequent with climate change. We recognize the role of prescribed fire in both managing fire size due to climate impacts and in restoration of natural ecosystems—which can, if effective, reduce the size and scale of fires later. There are, as a result of increased prescribed fire, potential benefits to both short- and long-term air quality. In planning for prescribed wildland fires, states should consider effects on visibility, alongside health and other concerns, including potential control measures and the potential benefits. A State cannot adjust a URP based on prescribed fires unless these fires actually result in visibility impairment on the “most-impaired” days. The Final Guidance should be clear that analysis of and planning for prescribed wildland fires need to be tailored to the planning period basis and would not automatically apply to the next planning period.

## VI. Characterization of factors for emission control measures

### A. States should identify and consider the best available emission control measures in the four-factor reasonable progress analysis.

In Section II.B.4.a of the Final Guidance, EPA advises states that they have the flexibility to reasonably determine which control measures to evaluate, and the agency lists examples of types of emission control measures states may consider.<sup>82</sup> EPA should reconsider its approach to ensure that the best controls for a source or source category are identified, evaluated, and the appropriate option determined. Identification of all available control measures is an important first step to ensure the best controls or emission reduction measures emerge from a four-factor analysis. However, EPA should revise the Final Guidance to ensure evaluation of the best control options.

#### 1. EPA should reiterate and expand upon Step 1 of the BART-Guidelines regarding the identification of all available emission control techniques.

EPA should encourage states to consider various sources of information and types of emissions control techniques in developing its long-term strategy. Specifically, EPA should make clear that states must look to new source review control technology determinations, including major source BACT and LAER determinations, as well as state minor source BACT

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<sup>81</sup> Texas Revisions to the State Implementation Plan (SIP) Concerning Regional Haze, at ES-2 (Feb. 25, 2009).

<sup>82</sup> Final Guidance at 29-30.

determinations. EPA should also recommend that states evaluate technologies that were considered in applicable new source performance standards, as well as those emission controls that were required in applicable new source performance standards.<sup>83</sup> EPA should also recommend that states consider the control techniques evaluated and required for similar source BART determinations.

In addition, EPA should recommend that states consider BACT determinations and other new source control requirements that states have adopted in minor new source review permits. Several states have minor source BACT provisions which may provide useful information for control technology considerations, and/or states have adopted targeted emission control requirements for source categories that do not have parallel federal requirements.<sup>84</sup>

Further, EPA should recommend that states investigate controls for source categories evaluated in reasonably available control measures (“RACM”)/ reasonably available control technology (“RACT”) and best available control measures (“BACM”)/BACT determinations for nonattainment areas, a good starting point for information for control techniques available for a particular source category. States should also be encouraged to consult vendors or vendor groups such as the Institute of Clean Air Companies for control techniques for sources or source categories.

States should consider inherently lower-emitting processes, by themselves, and in combination with add-on controls. A state should not reject a combination of control measures altogether when the control measures could also be applied independently, unless the state is instead focusing on a control measure that is more effective at reducing emissions than the individual control measures.

In general, EPA should provide flexibility for states to consider innovative technologies tied to quantifiable and enforceable emission reduction requirements and to consider control techniques that some could view as “redefining the source” such as a change in fuel form. The BART Guidelines seemed to limit such controls from consideration for BART. Setting aside whether this was appropriate for BART determinations, States should not be constrained when evaluating measures to consider for the long-term strategy to make reasonable progress towards the national visibility goal.

In evaluating measures for the long-term strategy, states may need to address sources that were constructed many decades ago and/or sources to which pollution controls have not typically

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<sup>83</sup> As EPA acknowledges in the BART guidelines, the NSPS standards do not always require the most stringent level of available control technology for a source category. 40 C.F.R. Part 51, Appendix Y, Section IV.D.2. In some cases, EPA evaluates more stringent controls in an NSPS proposed rulemaking, but ultimately requires a less stringent control to set the NSPS standard. EPA should make clear that NSPS standards are likely insufficient for purposes of reasonable progress determinations because the standards will not be reflective of the reduction measures available and otherwise meeting the four factors as SIPs are being advanced.

<sup>84</sup> See, e.g., Colorado Regulation No. 7 – Control of Ozone via Ozone Precursors and Control of Hydrocarbon via Oil and Gas Emissions, <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=8546&fileName=5%20CCR%201001-9>.

been applied. There may be little experience with applying pollution controls to such sources. However, the lack of information on “available” control technologies should not be used as a justification to eliminate a source from consideration of controls (or to only evaluate less effective controls). In such cases, States should be encouraged to consider innovative technologies, technologies that may not have historically been applied to the source type but could be transferred to the source type, emission unit replacement with more energy efficient/less polluting technology, and other such measures in evaluating how to best reduce haze-forming pollution from the source or source type.

2. EPA should advise states how to determine “available” and “technically feasible” control techniques for long-term strategy measures.

EPA should elaborate on how to determine whether a control technique is considered “available” or “technically feasible” for a source or source category. Section IV(D)(1) of the BART Guidelines<sup>85</sup> states in part that that “available retrofit control options are those with a practical potential for application to the emissions unit . . .” and “technologies which have not yet been applied to (or permitted for) full scale operations need not be considered available; we do not expect the source owner to purchase or construct a process or control device that has not already been demonstrated in practice.” EPA should recommend that states take a broader view in determining what control strategies are “available” for a source or source category, especially if traditional pollution controls had not been historically applied to that source category. In such cases, states may need to examine more innovative options for pollution control at such sources or source categories, including the consideration of promising pollution control options that have not already been demonstrated in practice but which offer quantifiable emission reductions.

Section IV(D)(1) of the BART Guidelines includes provisions to determine whether a control option is “technically feasible.” Those provisions, as well as the discussion on available technologies, generally track guidance on evaluations for BACT determinations set out in EPA’s New Source Review Workshop Manual.<sup>86</sup>

Sources often make availability or technical infeasibility arguments to avoid having to consider a pollution control, pointing out that that the control has not been used on the specific type of coal the source utilizes or on the particular size plant. Given that states may be having to determine controls for sources or source categories that have not been traditionally controlled in the long-term strategies, EPA should encourage states in such situations to fully evaluate controls that can be transferred from other source categories or that can be altered to accommodate the specific source or source category in question. EPA should recommend in such situations that states consult with, for example, environmental consultants, research technical journals, or air pollution control conference articles. States should also consider technologies demonstrated outside of the United States. EPA’s New Source Review Workshop Manual describes how to

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<sup>85</sup> 40 C.F.R. § Pt. 51, App. Y.

<sup>86</sup> U.S. EPA, New Source Review Workshop Manual, at B.17-B.21 (Draft Oct. 1990).

identify all control options “with potential application to the source and pollutant under evaluation.”<sup>87</sup>

In summary, EPA should reconsider and revise the Final Guidance to elaborate on how states should evaluate available and technically feasible control techniques with the goal of ensuring that all potential controls with a practical application to a source or source category are considered in the development of the long-term strategy.

B. Cost analyses for the long-term strategy.

1. States must adhere to the accounting principles of the Control Cost Manual.

EPA should require states to follow the accounting principles and generic factors of EPA’s Control Cost Manual because states and EPA have historically determined whether the costs of control measures are “reasonable” based on the costs that other similar sources determined in other regulatory actions including permits.<sup>88</sup> If EPA does not require all states to use the same accounting principles, it will be extremely difficult to compare costs of control between sources to evaluate whether the controls are cost effective.

2. States should compile and make publicly available the documentation for generic cost estimates.

EPA’s Final Guidance suggests that states may reduce time and effort in determining control costs by using generic cost estimates or estimation algorithms, such as the Control Strategy Tool.<sup>89</sup> However, we request that EPA require the documentation for such generic cost estimates to be compiled and made publicly available. As stated in Sierra Club and National Parks Conservation Association’s comments on EPA’s proposed revisions to the Control Cost Manual, the Integrated Planning Model’s SCR cost database is based on Sargent & Lundy’s confidential database and the underlying data and methods used to develop the regression equations have not been publicly reviewed and analyzed.<sup>90</sup> Given that the cost estimates may be a primary basis for rejecting a control measure, the underlying data for such cost estimates must be publicly available.

C. EPA should reconsider and revise the Final Guidance regarding how to address energy and non-air quality environmental impacts of control measures.

EPA should state that the third factor of energy and non-air quality environmental impacts should generally be based on the same methodology laid out in the BART Guidelines. Section 8.1.1 of the BART Guidelines indicates that states must consider the energy and non-air quality environmental impacts as part of the cost analyses. With respect to taking into account non-air quality environmental impacts, we agree in general to take into account such impacts in

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<sup>87</sup> *Id.* at B.10-B.11.

<sup>88</sup> Final Guidance at 31.

<sup>89</sup> *Id.* at 32.

<sup>90</sup> See September 10, 2015 Comment Letter from Sierra Club and National Parks Conservation Association to U.S. EPA, Docket ID No. EPA-HQ-OAR-2015-0341, at 8.



the cost analysis if the costs can be quantified. Otherwise, such impacts may need to be discussed qualitatively and weighed in the four-factor analysis.

EPA should also revise the Final Guidance and recommend that states analyze the climate and environmental justice impacts of regional haze SIPs. Although the Regional Haze Rule does not define “non-air quality environmental impacts,” the BART Guidelines, which inform a state’s reasonable progress analysis, explain that the term should be interpreted broadly.<sup>91</sup> Climate change<sup>92</sup> and environmental justice<sup>93</sup> impacts are the types of non-air quality impacts that states should consider when they determine reasonable progress measures for specific sources. Incorporating climate change and environmental justice impacts into the regional haze analysis will further states’ climate and environmental justice policy goals, and it will also help states ensure that their actions related to regional haze planning support their other work on climate and environmental justice issues. Most of the same sectors and sources implicated under the regional haze program are also implicated in climate and environmental justice initiatives. As a result, when states determine “the emissions reduction measures that are necessary to make reasonable progress,” they should assess how those measures will either reduce or exacerbate greenhouse gas emissions and/or environmental justice impacts on nearby disproportionately burdened communities.

VII. Decisions on what control measures are necessary to make reasonable progress

A. States cannot allow sources to discontinue the use of currently operating controls.

In Section II.B.5.e of the Final Guidance, EPA advises states how currently controlled sources may be able to discontinue those controls under reasonable progress:

It is also possible that a source may be operating an emission control device but could remain in compliance with applicable emission limits if it stopped operation of the device. The state may reasonably consider based on appropriate factors whether continued operation of that device is necessary to make reasonable progress, such that the regional haze SIP submission for the second implementation period must make such operation of the device (or attainment of an equivalent level of emission control) enforceable.<sup>94</sup>

Suggesting to states that they may discontinue the use of controls that are already operating is antithetical to the regional haze program. Rather, EPA should revise the Final Guidance to require states to evaluate more effective operation of existing controls, including year-round

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<sup>91</sup> 40 C.F.R. pt. 51, App. Y at § (IV)(D)(4)(i), (IV)(D)(4)(j).

<sup>92</sup> See, e.g., 74 Fed. Reg. 66,496 (Dec. 15, 2009) (EPA endangerment finding); Intergovernmental Panel on Climate Change, Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2015), <https://www.ipcc.ch/report/ar5/syr/>.

<sup>93</sup> See EPA, Learn about Environmental Justice, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> (last visited April 24, 2020); Exec. Order No. 12,898, Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (Feb. 11, 1994).

<sup>94</sup> Final Guidance at 43.

operation requirements. Further, the Clean Air Act is clear that visibility is not a factor in determining reasonable progress measures required at a source.

In evaluating controls for a source that already had a control installed, such as a wet or dry scrubber for SO<sub>2</sub> or SCR or selective non-catalytic reduction (“SNCR”) for NO<sub>x</sub>, states must be required to evaluate whether these controls can be more effectively operated. Companies tend to operate their air pollution control systems to the level needed to ensure compliance with applicable emission limits rather than to the maximum emission reduction capability of the pollution control technology. For example, there are electrical generating units (“EGUs”) that are only operating their installed SCR or SNCR systems during the ozone season to meet limits under the Cross State Air Pollution Rule (“CSAPR”). Indeed, in projecting operations and emissions scenarios for evaluating the CSAPR program, EPA included assumptions for dispatchable SCR, SNCR, and also scrubbers, which reflected the fact that no emission limits or consent decrees required continuous operation of the pollution controls installed at many EGUs. EPA should thus recommend that states, at a minimum, require year-round operation of existing scrubbers, SCRs, SNCRs, or other controls as one of the control options considered.

Additionally, there are numerous examples of scrubbers, SCRs, and SNCRs that, when operated, are not operated to achieve the maximum emission reductions that could be accommodated within the existing control technology at a particular unit, primarily because the applicable emission limitation does not require operation of those pollution controls to achieve the maximum emission reductions. As mentioned *supra* section III.E, states should consider sources that already have in place the most stringent controls available for additional control in the development of the long-term strategy during the second implementation period.

EPA should revise the Final Guidance to recommend that sources with existing pollution control technology evaluate options that could improve the emissions reduced through more effective use of that control technology. This could include requiring year-round operation of controls, imposing more effective percent reduction requirements, requiring sources to meet more stringent emission limits, and requiring that emission limits apply on shorter averaging times to ensure continuous levels of emission reduction.

#### VIII. Regional scale modeling of the long-term strategy to set the RPGs for 2028

##### A. States should use regional scale modeling to support their regional haze SIPs.

In Section II.B.6 of the Final Guidance, EPA advises states that they are not required to use regional scale modeling to support their regional haze SIPs. Specifically, under Step 6, EPA states that a state must:

Determine the visibility conditions in 2028 that will result from implementation of the LTS and other enforceable measures to set the RPGs for 2028. Typically, a state will do

this through regional scale modeling, *although the Regional Haze Rule does not explicitly require regional scale modeling.*<sup>95</sup>

Were a state to forego estimating source or source categories emitting visibility-impairing pollutants, as the guidance provides, it would not be able to satisfy a number of basic requirements of the Regional Haze Rule. Estimating the visibility impacts from a collection of sources is a prerequisite of establishing a state's RPG. As EPA explains in its 2017 Regional Haze Rule revision, this is a key first step in a state setting its RPG: "the 2007 guidance clearly describes the goal-setting process as starting with the evaluation of control measures. First, we recommended that states '[i]dentify the key pollutants and sources and/or source categories that are contributing to visibility impairment at each Class I area.'"<sup>96</sup> If a state did not estimate the visibility impacts from source or source categories, it could not satisfy the requirement in Section 51.308(f)(3)(ii)(A) that it demonstrate, "there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area." Indeed, this misplaced advice is not even internally consistent with other sections of the Final Guidance, which cover many techniques for estimating the visibility impacts of sources or source categories. Estimating the collective visibility impacts of sources or source categories to determine the RPG is a fundamental requirement of the regional haze program.

In fact, there is no known substitute for the use of photochemical air quality models to project the visibility impact from thousands of individual sources, influenced by complex meteorological fields and atmospheric chemical interactions at a Class I area, ten years into the future, as EPA makes clear in Appendix W to Part 51.<sup>97</sup> The use of air quality models has been a cornerstone of the technical demonstration of the regional haze program (and many other air programs) since its inception. Almost every EPA Regional Haze Rule revision and guidance either discusses the use of air quality models or assumes their use. In fact, EPA recently updated its modeling guidance for regional haze.<sup>98</sup> The very first sentence of the section specifically devoted to regional haze is: "[t]his section focuses on the modeling analysis needed to set RPGs that reflect the enforceable emission limitations, compliance schedules, and other measures included in the long-term strategy of a regional haze SIP."<sup>99</sup> Part 51 makes it clear that air quality

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<sup>95</sup> Final Guidance, Table 1, at 6 (emphasis added).

<sup>96</sup> See 82 Fed. Reg. at 3092-93. Notably, EPA does not abandon its 2007 Guidance and in fact refers to in several places in its rule revision.

<sup>97</sup> See 40 C.F.R. Pt. 51; App. W, Section 2.0 (a), "Guideline on Air Quality Models," ("Increasing reliance has been placed on concentration estimates from air quality models as the primary basis for regulatory decisions concerning source permits and emission control requirements. In many situations, such as review of a proposed new source, no practical alternative exists."); see also *id.* at Section 1.0 (b), ("The impacts of new sources that do not yet exist, and modifications to existing sources that have yet to be implemented, can only be determined through modeling.") This is precisely the challenge of setting RPGs – accounting for modifications to potentially dozens of existing sources (e.g., installation of controls).

<sup>98</sup> Modeling Guidance for Demonstrating Air Quality Goals for Ozone, PM<sub>2.5</sub> and Regional Haze, EPA 454/R-18-009, (Nov. 2018).

<sup>99</sup> *Id.* at 143.

modeling is a necessary tool in the setting of RPGs and EPA should not imply otherwise in its guidance.

Instead of guiding states on modeling, EPA repeatedly informs states that they can use “surrogates” to estimate visibility impacts of a body of sources. Specifically, EPA states that “the Regional Haze Rule does not require states to develop estimates of individual source or source category visibility impacts, or to use an air quality model to do so. Reasonable surrogate metrics of visibility impact may be used instead.”<sup>100</sup> EPA lists a number of surrogates that can be used for this purpose, including Q/d, wind trajectories, and daily light extinctions budgets and states that states can use “other reasonable techniques.”<sup>101</sup> However, although more strongly worded in its Draft Guidance,<sup>102</sup> EPA does state in its Final Guidance, “[s]urrogate metric here refers to a quantitative metric that is correlated to some degree with visibility impacts as they would be estimated via air quality modeling.”<sup>103</sup> Consequently, although EPA tells states that modeling is unnecessary and that surrogate measures can be used, modeling is required in order to check the validity of visibility surrogates. EPA should reconsider this provision, and clarify that modeling is needed to assess the collective visibility impacts of sources or source categories to establish RPGs.

IX. Progress, degradation, and URP glidepath checks

- A. If a state’s RPG is above the URP, the state’s “robust demonstration” must include a consideration of specific items identified by EPA.

In section II.B.7.c of the Final Guidance, EPA discusses what could constitute a “robust demonstration,” required under section 51.308(f)(3)(ii)(A) when a state’s RPG is above the URP.<sup>104</sup> EPA states that a simple “narrative explanation of how the state has already conducted the source selection and control measures analyses in such a manner that addresses the requirements of 51.308(f)(3)(ii)” may suffice.<sup>105</sup> EPA then goes on to note that such a state *may* consider a long list of additional items, including reconsideration of its visibility threshold, acceptable cost threshold, additional technically feasible controls, how its determination criteria compares to that of other states, etc.<sup>106</sup>

In contrast, EPA’s Draft Guidance did not state that a simple narrative would suffice. The Draft Guidance stated that such a demonstration *should* include consideration of a similar listing

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<sup>100</sup> Final Guidance at 12.

<sup>101</sup> *Id.* at 13.

<sup>102</sup> Draft Guidance at 76 (“Before relying on Q/d as a surrogate for screening purposes, a state should investigate how well Q/d relates to visibility impacts for the 20 percent most impaired and 20 percent clearest days, in terms of both the central tendency of the relationship (e.g., the regression line) and the variability of the relationship (e.g., the error of the regression). This understanding should be developed through relevant modeling of some actual cases or model plant scenarios, or another appropriate approach.”)

<sup>103</sup> Final Guidance at 10 n.25.

<sup>104</sup> *Id.* at 50.

<sup>105</sup> *Id.*

<sup>106</sup> *Id.* at 50-51.

of items. EPA's pivot from *should* consider to *may* consider substantially misinterprets and is directly at odds with what the robust demonstration required under section 51.308(f)(3)(ii)(A) should contain.

Moreover, states should not rely on EPA's Updated 2028 Modeling<sup>107</sup> to determine which Class I areas are projected to be at or below the URP. Projected conditions for 2028 are tied to the 2064 natural conditions endpoint adjustments to account for international anthropogenic contributions, as well as wildfires. By EPA's own admission as discussed *supra* section V.A, these adjustments lack scientific validation and should not be relied on to determine whether a Class I area is on track to meet its URP in 2028.<sup>108</sup> The result of the updated modeling adjustments reduced the number of Interagency Monitoring of Protected Visual Environments ("IMPROVE") sites projected to be above the glidepath from forty-seven to eight. IMPROVE monitors are not the same as Class I areas, however many Class I areas share monitors; only ninety-nine monitoring sites (representing 142 Class I areas) were evaluated.<sup>109</sup> EPA must reconsider and revise the Final Guidance to specify what a "robust demonstration" under section 51.308(f)(3)(ii)(A) requires and that a state's demonstration should include consideration of the specific list of items identified by the agency.

X. Additional requirements for regional haze SIPs

A. States must submit to EPA the emission inventory used in a regional haze SIP.

In section II.B.8.c of the Final Guidance, regarding section 51.308(f)(6)(v) which covers the requirements for the state's emissions inventory, EPA states that "[t]he emission inventories themselves are not required SIP elements and so are not required to be submitted according [sic] the procedures for SIP revisions. The emission inventories themselves are not subject to EPA review."<sup>110</sup> This conflicts with the Regional Haze Rule, is internally inconsistent with the rule and other state requirements, and is impracticable. First, EPA's statement conflicts with several sections of the Regional Haze Rule. For instance, section 51.308(f)(2)(iii) requires that the state must document the following:

[T]he technical basis, including modeling, monitoring, cost, engineering, and emissions information, on which the State is relying to determine the emission reduction measures that are necessary to make reasonable progress in each mandatory Class I Federal area it affects. . . . The emissions information must include, but need not be limited to, information on emissions in a year at least as recent as the most recent year for which the State has submitted emission inventory information to

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<sup>107</sup> See Updated 2028 Modeling.

<sup>108</sup> *Id.* at 67.

<sup>109</sup> *Id.* at 3 n.6.

<sup>110</sup> Final Guidance at 55.

the Administrator in compliance with the triennial reporting requirements of subpart A of this part.

Here, it is clear that a state is required to document the technical basis of all aspects of its regional haze demonstration. A state's emission inventory is a foundational aspect of its technical demonstration. In fact, EPA specifically calls out "emissions information," and clarifies that the emissions information must include "information on emissions in a year at least as recent as the most recent year for which the State has submitted emission inventory information to the Administrator."<sup>111</sup>

Plainly, a state is required to submit the emission inventory it is using as part of its technical demonstration to EPA, and that inventory must include certain specified elements. Because states are already required to submit specified emission inventories to EPA as part of other requirements ("Part A"), EPA clarifies that a state may refer to that submission instead of physically including it in its SIP. However, the mere fact that EPA specifies a state may use an already prepared work product does not shield it from a review of its suitability for the task at hand.<sup>112</sup> For instance, EPA has frequently stated that states may use the technical work of RPOs in their SIPs. That position has never been interpreted to mean information is shielded from EPA review.<sup>113</sup> Indeed, EPA has a duty to review that inventory in the context of the state's regional haze SIP submission.<sup>114</sup> Thus, a state's emission inventory is an inseverable part of its regional haze SIP and subject to EPA's review.

Despite this, EPA appears to imply in its guidance that it cannot bring to the state's attention potential faults in the emission inventory a state used to support its regional haze SIP, nor even examine that inventory in the context of its review of the state's regional haze SIP. EPA should revise the Final Guidance to advise states that a state's emission inventory is a part of the state's SIP and subject to EPA's review.

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<sup>111</sup> *Id.*

<sup>112</sup> See EPA's "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA-454/B-17-002, at 11 (May 2017), ("[Inventory information provided to EPA] will allow the EPA to make a determination whether the emissions information used in Regional Haze analysis is sufficient for the purposes of the SIP.")

<sup>113</sup> For instance, in the Texas FIP, EPA observed that under the current regulation each state "must document the technical basis, including modeling, monitoring and emissions information, on which the State is relying to determine its apportionment of emission reduction obligations necessary for achieving *reasonable progress* in each mandatory Class I Federal area it affects." 79 Fed. Reg. 74,818, 74,829 (Dec. 16, 2014) (emphasis in original). While the current regulations provide that, "[s]tates may meet this requirement by relying on technical analyses developed by the regional planning organization and approved by all State participants," 40 C.F.R. § 51.308(d)(3)(iii), the Texas haze rule clarified that in situations "where a regional planning organization's analyses are limited, incomplete *or do not adequately assess the four factors*, however, then states must fill in any remaining gaps to meet this requirement." *Id.* (emphasis added).

<sup>114</sup> In the 2017 Regional Haze Rule revision, EPA makes it a point to review a number of circuit court opinions that affirm EPA's review authority, including the Eight Circuit's conclusion that EPA "must 'review the substantive content of the . . . determination.'" 82 Fed. Reg. at 3090 (quoting *Ariz. el rel. Darwin v. EPA*, 815 F.3d 519, 531 (9th Cir. 2016)).

- B. States must ensure that FLM opinions and concerns are made transparent to the public, considered by the state and addressed in the SIP.

In Section II.B.8.a of the Final Guidance, EPA provides guidance to the states regarding the FLM consultation requirements in the Regional Haze Rule, 40 C.F.R. § 51.308. Although EPA reiterates that states are required to consult with FLMs, EPA should reconsider and revise the Final Guidance to ensure that states give credence to the opinions and concerns expressed by FLMs. FLMs have affirmative duties under section 169A(a) and (d) of the Clean Air Act as well as mandates to protect and manage public lands under the Wilderness Act<sup>115</sup> and the Organics Act<sup>116</sup>. Therefore, EPA should revise the Final Guidance to direct states that to work collaboratively with FLM to develop regional haze SIPs that satisfy federal agency duties and public resource protections.

## XI. Overarching recommendations

- A. EPA should emphasize that the end result must be reasonable progress.

EPA should make clear in a revised Final Guidance that the end result of any state's implementation plan must be real, reasonable progress. Consequently, each new plan must require that states actually reduce their emissions that contribute to visibility impairment. The statute requires each haze plan to contain "emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress . . . ."<sup>117</sup> Therefore, any interpretation of the Regional Haze Rule via guidance should direct a state's long-term strategy to be more than just a hand waving exercise—each plan must require adequate emission limits and other enforceable measures to make reasonable progress.<sup>118</sup> EPA should revise the Final Guidance to explicitly provide that actually requiring emission reductions which constitute reasonable progress must be the outcome of the four-factor analysis to meet the applicable requirements; deliberation, no matter how well documented, is not enough. Emission reductions recognized through the four-factor analysis must result in emission reduction measures enforceable through a state or federal regional haze plan.

- B. Decisions on which controls to require as part of the long-term strategy cannot merely ratify past determinations.

EPA must also revise the Final Guidance to clarify that decisions on which controls to require as part of long-term strategy cannot rest solely on controls required by past SIPs and state rules. Although EPA stated in the Draft Guidance that decisions on whether controls for a source or source category are cost-effective or provide sufficient visibility improvement cannot rely solely on past decisions evaluating controls for similar sources<sup>119</sup>, that language is completely absent from the Final Guidance. EPA must revise the Final Guidance to state this point. For

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<sup>115</sup> 16 U.S.C. §§ 1131-1136.

<sup>116</sup> 54 U.S.C. § 100101.

<sup>117</sup> 42 U.S.C. § 7491(b)(2).

<sup>118</sup> *See id.*

<sup>119</sup> Draft Guidance at 97, 103.

example, costs or technologies which were previously considered unreasonable or infeasible at a later date may become more common and may nevertheless be necessary in the second or future planning periods to make reasonable progress. Likewise, making reasonable progress in the current and future planning periods will require the implementation of controls that individually account for smaller visibility impacts than those contemplated in the first planning period and in other past emission reducing rules and permits. Therefore, EPA must revise the Final Guidance to direct states to conduct new source-specific, four-factor emission reduction analyses.

C. EPA must ensure that long-term strategies include appropriate measures to prevent future as well as remedy existing impairment of visibility.

The Clean Air Act not only requires that existing visibility impairment be remedied, but that future impairment be prevented. 42 U.S.C. § 7491(a)(1). As such, it is imperative that each state's long-term strategy be required to include measures to prevent regional haze visibility impairment and that such plans take into account the effect of new sources, as well as existing sources of visibility impairment. EPA must revise its Guidance to comport with this requirement.

EPA has historically relied on the prevention of significant deterioration (“PSD”) permitting program and the visibility new source review (“NSR”) requirements mandated by 40 C.F.R. § 51.307<sup>120</sup> to address this requirement of the national visibility goal.<sup>121</sup> These provisions essentially mandate that new and modified major sources that are subject to major source permitting requirements do not adversely impact visibility in any Class I area. However, much has changed in the PSD and NSR permitting programs since 1980. The current PSD rules, as well as the major source nonattainment NSR rules, now exempt many modifications at existing major sources that were previously subject to PSD review. As a result, the PSD and visibility NSR rules do not provide as comprehensive Class I areas protections as they previously did, due to impacts from modified sources. Further, there have been significant increases in emissions near some Class I areas due to oil and gas emissions and other activities that are not adequately addressed by the PSD permitting program.

EPA must revise its Final Guidance to ensure that states prevent future impairment by analyzing new and modified emission sources and by requiring mitigation of the cumulative visibility-impairing emissions. As we discuss below, it is especially important for EPA to articulate that states consider minor, area, and other new growth, or modification of stationary sources that are not subject to the Class I area protections of the PSD permitting and visibility NSR requirements.

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<sup>120</sup> 40 C.F.R. §51.307(b)(2) and (c) provides that the PSD requirements of 40 C.F.R. §51.166(o), (p)(1) through (2), and (q) apply to new and modified major proposing to locate in nonattainment areas that may have an impact on visibility in a mandatory Class I area.

<sup>121</sup> See 45 Fed. Reg. 80,089 (Dec. 2, 1980).



1. The 2002 PSD and nonattainment NSR Rule revisions exempt many modifications from PSD permitting that could result in large, visibility-impairing emission increases from existing major sources.

EPA has historically relied on the PSD and nonattainment/visibility NSR permitting programs to meet the requirement of preventing future impairment of visibility. The PSD permitting requirements specifically provide for ensuring that a new or modified major source will not adversely impact visibility in a Class I area<sup>122</sup>, and the EPA's visibility NSR rules in 40 C.F.R. §51.307(c) require new and modified major sources proposing to locate in nonattainment areas that may impact visibility in a Class I area to meet these same requirements of the PSD program.<sup>123</sup> However, the December 2002 revisions to the PSD and nonattainment NSR permitting requirements significantly reduced the scope of modifications that would trigger PSD or nonattainment NSR as major modifications by drastically changing the methodology for determining whether a significant emission increase would occur as a result of a modification.<sup>124</sup>

Despite these significant regulatory changes which reduced the scope of modified sources subject to PSD and nonattainment NSR permitting, EPA has never re-evaluated its reliance on the major source permitting programs as sufficient to prevent future impairment of visibility. However, these rules, as revised in recent years, will likely allow significant increases<sup>125</sup> in actual emissions from existing sources to occur without any evaluation of the impacts on visibility and without even applying BACT or LAER, due to being exempt from PSD or nonattainment NSR permitting.

In summary, the PSD and nonattainment NSR rules as revised in 1992 and 2002 now exempt many modifications that would have previously been subject to major source permitting, including the visibility requirements of the PSD program and visibility NSR rules. Thus, while the rules still include vital provisions for the prevention of future visibility impairment, the PSD and visibility NSR rules are no longer adequate by themselves to ensure the prevention of future visibility impairment. In light of this, EPA should revise the Final Guidance to clarify that states may not solely rely on the PSD and visibility NSR programs to prevent future impairment of visibility. EPA must ensure that states specify requirements in their SIPs to prevent future visibility impairment from the new source growth in any state that may increase visibility-impairing pollution and thus affect Class I area visibility.

2. Minor, area, mobile, and other source emissions must be evaluated to prevent future, as well as remedy existing, impairment of visibility.

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<sup>122</sup> 40 C.F.R. §52.21(o), (p)(1) and (2), and (q).

<sup>123</sup> 40 C.F.R. §51.307(b)(2) and (c).

<sup>124</sup> 67 Fed. Reg. 80,185, 80,186-89 (Dec 31, 2002) (also known as "NSR Reform" Rule).

<sup>125</sup> See Joseph Goffman, et al., EPA's Attack on New Source Review and Other Air Quality Protection Tools (Nov. 1, 2019), <http://eelp.law.harvard.edu/wp-content/uploads/NSR-paper-EELP.pdf>.

Although the Final Guidance mentions minor, area, mobile, and other emission sources, most of the discussion addresses major stationary sources. EPA should be more explicit in its expectation that states evaluate sources and source categories that are not major stationary sources as well, including the potential for growth in emissions from these sources. For example, given the increases in emissions from oil and gas development over the last 10 years,<sup>126</sup> it is clear that the existing SIPs and FIPs do not currently include adequate mechanisms for preventing visibility impairment from these sources as production ebbs and flows with economic conditions and other factors, such as deregulation and technology. EPA must revise the Final Guidance to clarify that states need to address these sources in the aggregate, rather than source-by-source.

There are several examples of rules and programs that may be necessary in a long-term strategy to prevent future impairment of visibility in Class I areas. EPA should revise the Final Guidance to direct states to consider these examples and include them where appropriate in SIPs.

a. Methods to address visibility-impairing emissions from oil and gas development

EPA should revise the Final Guidance to explicitly note that it expects states to review area sources like oil and gas, and should provide additional guidance on how to do so. Undoubtedly, this should begin with requiring states to collect better data on the emissions from oil and gas.

In many states, emissions from oil and gas development are a significant threat to visibility and air quality in Class I areas. Such development often occurs on federal lands that are near to or abut Class I areas. For example, oil and gas development contributes to visibility impairment in public lands in Utah and Colorado where the NPS found that oil and gas development and leasing in the two states would “cause visibility impairment” at Dinosaur National Monument.<sup>127</sup> Additionally, NPS recently found impacts from oil and gas emissions at Carlsbad Caverns and San Pedro Parks Wilderness Class I areas, among others, based on 2008 emissions inventories—which do not capture more recent growth—and include only a portion of emissions from the production process.<sup>128</sup> Examples of Class I areas currently or potentially

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<sup>126</sup> “The U.S. Energy Information Administration (“EIA”) reports that oil production growth in the United States has risen by about 3 million barrels per day (from 5.8 to 8.72 Mmb/d) from January 2001 to July 2014 (EIA, 2014a). Natural gas production has increased from 53.74 to 70.46 billion cubic feet per day within this time period (EIA, 2014a). The trend is expected to continue with the number of oil and gas wells in the lower 48 states projected to increase by 84 percent between 2013 and 2040 (EIA, 2014b).” Thompson et al., Modeling to Evaluate Contribution of Oil and Gas Emissions to Air Pollution, 67 *Journal of the Air & Waste Management Association* Vol. 4, 445 (Sept. 2016), <https://doi.org/10.1080/10962247.2016.1251508>.

<sup>127</sup> Memorandum from Regional Director, Intermountain Region, National Park Service, to Planning and Environmental Coordinator, BLM 9 (2013); *see also* Memorandum from Superintendent, Dinosaur National Monument, National Park Service, to Field Office Manager, BLM Vernal Field Office 2 (Aug. 2017); Krish Vijayaraghavan et al., Ramboll Environ US Corporation, 2017); BLM, Colorado Air Resources Management Modeling Study (CARMMS): 2025 CAMx Modeling Results for the High, Low and Medium Oil and Gas Development Scenarios, 104-05 (Aug. 2017), <https://www.blm.gov/documents/colorado/public-room/data>.

<sup>128</sup> Thompson et al., *supra* note 126, at 456; *see also* Table C6, *available at* <https://www.tandfonline.com/doi/suppl/10.1080/10962247.2016.1251508?scroll=top>.

impacted by oil and gas emissions include: Theodore Roosevelt and Lostwoods (Bakken Shale in eastern Montana and North Dakota); Wind Cave and Badlands (Powder River Basin in northeast Wyoming); Bridger and Fitzpatrick Wilderness Areas (Pinedale Anticline and Jonah Fields in western Wyoming); Mesa Verde (North and South San Juan Basin); Carlsbad Caverns and Guadalupe Mountains (Permian Basin in southeastern New Mexico and western Texas); and Canyonlands and Arches (Uintah, Paradox, and Piceance Basins in Utah and Colorado).

Significant information is available to enable states and EPA to develop strategies to reduce visibility-impairing emissions from this significant source category. However, these prior analyses do not substitute for meaningful consideration of oil and gas emissions reductions sufficient to meet the Regional Haze Rule's "reasonable progress" mandate. NPCA's recent report, "Oil and Gas Sector Reasonable Progress Four-Factor Analysis for Five Source Categories" assesses emissions controls for the five primary sources of visibility-impairing (and health harming) pollution in the sector: gas-fired reciprocating internal combustion engines ("RICE"); diesel-fired RICE; gas-fired combustion turbines; gas-fired heater, boilers, and reboilers; and flaring and thermal incineration of excess gas and waste gas.<sup>129</sup> The controls and practices included in this document represent various requirements for sources across the country and should be considered by states with emissions from the oil and gas sector.

Resource Management Plans ("RMPs") or land use plans issued by federal agencies explain how the agency will manage areas of public land over a period of time, usually ten to fifteen years. RMPs and amendments to those plans are required to go through a public review process under the National Environmental Policy Act ("NEPA"), which must include an analysis of projected impacts to all resources, including air quality. Such plans would include projections of oil and gas development, among other land use projections, on federal lands. Unfortunately, numerous RMPs have not been revised for decades, and only a few consider the effect of emissions from the planning area. EPA should revise the Final Guidance to require that states consider RMPs and other land use plans in determining the appropriate measures to prevent future impairment of visibility to include in regional haze SIPs. However, if RMPs are outdated or fail to consider the effects of visibility-impairing pollution from development, EPA must also indicate that those RMPs not be relied upon.

Recent NEPA analyses conducted for projected oil and gas development in RMPs can be useful tools for obtaining data regarding anticipated growth in such emissions. However, neither NEPA assessments nor RMPs are tools for preventing future impairment from oil and gas development. First, if adverse impacts are projected, the federal agency may make recommendations on mitigation methods to avoid adverse impacts, but neither the federal agency nor the local or state air permitting agency are under any obligation to implement such mitigation measures. Second, the federal agency is often making projections of expected amounts of development and in the types and emission rates of emissions units utilized. Those projections do

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<sup>129</sup> Vicki Stamper & Megan Williams, Nat'l Parks Conservation Ass'n, Oil and Gas Sector Reasonable Progress Four-Factor Analysis for Five Source Categories: Natural Gas-Fired Engines, Natural Gas-Fired Turbines, Diesel-Fired Engines, Natural Gas-Fired Heaters and Boilers, Flaring and Incineration (Mar. 6, 2020) ("NPCA Report").

not always reflect the level of development that actually occurs, or the specific emission units and emission rates that are utilized. The Colorado Air Resources Management Modeling Study is one example of the type of information which can be developed in conjunction with the RMP process.<sup>130</sup>

In developing long-term strategies, EPA should direct states to use available information such as county-level reported emissions data and RMP and site-specific NEPA analyses, and request additional information to round out and make inventories accurate. To aid in this data gathering, EPA should direct industry to produce emissions inventories and submit them to states alongside an evaluation of emissions-reduction strategies and control technologies for this significant source of visibility impairment. Further, EPA should revise the Final Guidance to explicitly advise states on creating and making publicly available oil and gas emissions data.

States with significant oil and/or gas development should be required to consider the adoption of emission control regulations for the oil and gas development industry to reduce visibility-impairing emissions from such development.<sup>131</sup> Many states already require measures to reduce emissions from the sector. For example, California has enacted extensive air pollution requirements for oil and gas production, processing, and storage.<sup>132</sup> Colorado has also adopted emission requirements for the oil and gas industry.<sup>133</sup> Pennsylvania has also revised the state's oil and gas drilling regulations.<sup>134</sup> While these regulations may not be sufficient as to visibility impairment from the sector's emissions, the regulations provide relevant examples of states' decisions to address threats to air quality that are not covered by federal major source permitting requirements. EPA should identify the source types and associated emission-reducing measures available in the sector and use them to develop guidance to specify EPA's expectations of states in assessing these sources and requiring emission reduction measures from them. EPA must reconsider and revise the Final Guidance to require states to apply these and other control measures in their regional haze SIPs.

b. Minor New Source Review permitting programs

A state's minor NSR permitting program can be a useful tool to impose emission limitations and otherwise ensure that new source growth occurs in a manner consistent with making reasonable progress towards the national visibility goal. EPA should revise the Final Guidance to direct states to model new or modified minor NSR sources for their impacts on visibility in Class I areas. States could thus determine if the source's emissions would be consistent with making reasonable progress towards the national visibility goal, similar to the requirement in 40 C.F.R. §51.307(c) of the visibility NSR rules. Such a provision would also be

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<sup>130</sup> See BLM, Colorado Air Resources Management Modeling Study (Aug. 2017), <https://www.blm.gov/documents/colorado/public-room/data>.

<sup>131</sup> NPCA Report at 7-10.

<sup>132</sup> California Air Resources Board, Oil & Natural Gas Production (last reviewed July 18, 2017), <https://ww3.arb.ca.gov/regact/2016/oilandgas2016/oilandgas2016.htm>.

<sup>133</sup> Colo. Regulation No. 7, Section XII, <https://www.colorado.gov/pacific/cdphe/air/oil-and-gas-compliance>.

<sup>134</sup> See Environmental Protection Performance Standards at Oil and Gas Well Sites, 46 Pa. B. 6431 (Oct. 8, 2016), <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol46/46-41/1757.html>.

consistent with section 7410(a)(2)(D)(i)(II) of the Clean Air Act, which requires SIPs to include adequate provisions prohibiting any source type from emitting any air pollutant which will interfere with measures to protect visibility. States could include criteria to ensure that the sources most likely to interfere with making reasonable progress are addressed, based on total emissions of visibility-impairing pollutants, distance to Class I areas, and/or other criteria focused on modifications at existing major sources that avoid PSD or nonattainment NSR review. EPA should instruct states to add such provisions to their minor NSR programs as necessary to ensure that their long-term strategies adequately prevent future impairment to visibility. Such provisions should also be incorporated and made enforceable through regional haze SIPs relying on such emission reductions to make reasonable progress.

States that decide to rely on minor NSR programs to prevent future impairment should be required to examine the relevant definitions and exemptions that exist in their programs to ensure that the types of sources that need to be addressed to prevent future impairment are indeed subject to the states' minor NSR programs. A state's minor NSR program also may need to be revised to include emissions from emitting units not typically covered under PSD permitting requirements, such as fugitive emissions.

Applicability at minor NSR sources should be based on projected changes in allowable or actual emissions from a baseline reflective of recent emissions. If a state is intending to rely on its minor NSR program to prevent future impairment of visibility, then the minor NSR program must be written in a manner to truly accomplish that intention. As other Clean Air Act programs fail to adequately integrate limits for new or modified sources, regional haze SIPs should be used directly for this purpose.

c. Provisions for other potential threats to visibility impairment

There are a number of source types other than those covered by a minor NSR permit program or oil and gas development that could potentially impair visibility. In recognition of this, EPA should revise its Final Guidance to recommend that states specifically include the analyses of these potential sources in their long-term strategies, and if necessary, adopt provisions to address them. For instance, if construction activities threaten future impairment, states should adopt control measures to mitigate air pollution at construction sites. As an example, the Sacramento Metropolitan Air Quality Management District applies air emissions requirements to construction sites.<sup>135</sup> California also has stricter mobile source emissions requirements (including for non-road engines) that apply under federal rules, and states with significant mobile source growth threatening future impairment could consider adopting such standards as their own.<sup>136</sup> EPA should encourage states to consider various measures to address

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<sup>135</sup> See Sacramento Metro. Air Quality Management Dist., CEQA Guide, Ch. 3: Construction-Generated Criteria Air Pollutant and Precursor Emissions (April 2019), <http://www.airquality.org/LandUseTransportation/Documents/Ch3ConstructionFinal4-2019.pdf>.

<sup>136</sup> Congress preempted states from setting emission standards for mobile sources, except that California could set its own standards with EPA's permission and other states could opt into the stricter California standards (generally for ozone SIP purposes). 42 U.S.C. § 7543(e)(2)(B)(i)-(ii).

potential future Class I visibility impairment, based on the recent or planned growth in new source emissions expected for the state, that could threaten future impairment of visibility in any Class I area.

Additionally, to the extent that states have limited information on such sources, EPA should require that states collect and submit actual emissions increase data on minor modifications at existing sources in order to gather more information on the extent of minor source growth and on new minor, area, and other source growth.

Visibility-impairing emissions need to be inventoried and modeled from many sectors in order to properly inform the next round of haze plans. Several states have started collecting and submitting oil and gas emissions data to be inventoried and modeled for purposes of regional haze. For instance, the Western Regional Air Partnership has started collecting from its oil and gas producing states emissions for their modeling inventory.<sup>137</sup> However, there are several states not in the western region of the country, such as Pennsylvania and Virginia, which are significant producers of oil and gas, and should also be collecting and submitting oil and gas emissions data.<sup>138</sup> Furthermore, as noted *supra* section III.H, there is no inventory of emissions from the agricultural sector; states should develop such inventories and submit them with their regional haze SIPs.

Emissions data from wood burning devices should be modeled. As EPA has explained, the smoke from these devices “contains harmful particle pollution, also known as fine particulate matter or PM2.5, along with other pollutants including carbon monoxide, volatile organic compounds (VOCs), black carbon, and air toxics such as benzene.”<sup>139</sup> EPA has also confirmed that residential wood combustion “accounts for 44 percent of total stationary and mobile polycyclic organic matter (POM) emissions, nearly 25 percent of all area source air toxic cancer risks and 15 percent of noncancer respiratory effects.”<sup>140</sup> Furthermore, wood burning devices are a significant source of heating for many communities near Class I areas that struggle with regional haze pollution problems. Wood burning devices materially contribute to the significant proportion of particulate matter (fine and coarse) and VOC emissions that come from residential wood combustion in Arizona, Massachusetts, Minnesota, Nevada, Washington and other states, adding to regional haze visibility problems in Class I areas around the country.

While the collection and evaluation of much of this data should inform the next round of haze plans, we note that for the oil and gas sector, this data is sufficiently available such that regulation of the sector is appropriate and much needed in this second round of regional haze

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<sup>137</sup> See Western Regional Air Partnership (“WRAP”), EGU Emissions Analysis Project, <https://www.wrapair2.org/EGU.aspx>.

<sup>138</sup> See U.S. Energy Info. Admin., Pennsylvania State Profile and Energy Estimates (last updated Aug. 15, 2019), <https://www.eia.gov/state/?sid=PA>; U.S. Energy Info. Admin., Virginia State Profile and Energy Estimates (last updated Sept. 15, 2019), <https://www.eia.gov/state/?sid=VA>.

<sup>139</sup> EPA, Fact Sheet: Overview of Final Updates to Air Emissions Requirements for New Residential Wood Heaters, at 1 (Feb 4, 2015), <https://www.epa.gov/sites/production/files/2015-02/documents/20150204fs-overview.pdf>.

<sup>140</sup> EPA, Strategies for Reducing Residential Wood Smoke, Publ’n No. EPA-456/B-13-001 at 4 (Mar. 2013), <https://www.epa.gov/sites/production/files/documents/strategies.pdf>.

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planning. EPA should specify that in order for a state to satisfy the requirements of proposed 40 C.F.R. § 51.308(f), states must consider the cumulative impacts from minor and other source growth that may affect future visibility impairment. With this information, states can determine the number and types of new source growth and magnitude of emissions that may threaten future visibility impairment, which can then assist states in developing targeted measures to prevent future visibility impairment and address regional haze from these source types. Such measures should be required to be part of the long-term strategy of the regional haze SIP.

In summary, EPA must revise the Final Guidance to require long-term strategies to include measures to ensure the prevention of future visibility impairment, as well as the remedying of existing visibility impairment in Class I areas, in accordance with the national visibility goal of the Clean Air Act. While the PSD and visibility NSR programs have some effective provisions for ensuring that new and modified sources subject to those permitting requirements do not threaten future visibility impairment, those programs are not sufficient to fully address the statutory requirement of preventing future impairment to visibility. EPA should require states to evaluate the threats to future impairment to visibility in any Class I area and to adopt provisions within regional haze SIPs to minimize emissions from such sources, and otherwise ensure that new source growth occurs in a manner consistent with making reasonable progress towards the national visibility goal.

## XII. Conclusion

The Conservation Organizations respectfully ask that EPA reconsider and revise the Final Guidance as mentioned above.

Sincerely,

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# **Statement of Basis**

## **for Ash Grove Cement Company, Inc.**

**Original Air Operating Permit was issued May 15, 2004**

**Significant Modification 1 issued 5/17/07**

**Administrative Amendment 1 Issued 7/13/07**

**Administrative Amendment 2 Issued 12/2/10**

**Administrative Amendment 3 Issued 12/23/13**

**Administrative Amendment 4 Issued 6/13/18**

This document contains the descriptions of the changes and modifications to the Air Operating Permit for Ash Grove Cement Company Inc. These changes and modifications are described in Section below entitled "Modification 1 to Operating Permit."

### **Purpose of this Statement of Basis**

This document summarizes the legal and factual basis for the permit conditions in the Ash Grove Cement Company, Inc. (hereafter referred to as Ash Grove) air operating permit to be issued under the authority of the Washington Clean Air Act, Chapter 70.94 Revised Code of Washington, Chapter 173-401 of the Washington Administrative Code and Puget Sound Clean Air Agency Regulation I, Article 7. Unlike the permit, this document is not legally enforceable. It includes references to the applicable statutory or regulatory provisions that relate to Ash Grove's emissions to the atmosphere. In addition, this statement of basis provides a description of Ash Grove's activities and a compliance history.

### **Source Description**

Ash Grove is a major cement manufacturing plant.

Ash Grove is subject to the requirement to obtain an air operating permit because it is a "major source" as defined in the federal and state operating permit regulations (Title V of the federal Clean Air Act Amendments of 1990 and its implementing regulation 40 CFR Part 70, and RCW 70.94.161 and its implementing regulation, Chapter 173-401 WAC). A major source has the potential to emit more than 100 tons per year of any criteria pollutant (such as CO, SO<sub>2</sub>, NO<sub>x</sub>, VOC, particulate matter, etc.) or 10 tons per year or more of any single hazardous air pollutant listed in Section 112(b) of the federal Clean Air Act (such as hydrochloric acid), or 25 tons per year or more of any combination of hazardous air pollutants.

Ash Grove emits more than 100 tons per year of NO<sub>x</sub> and SO<sub>2</sub> (see Attachment A, Emission Inventory).

Ash Grove, located in the Duwamish industrial area of Seattle, King County, Washington consists of a single dry kiln with a pre-calcining tower for Portland cement manufacturing. This kiln was installed approved for installation in 1990. It has a capacity to process 92 tons per hour (2200 ton per day and 750,000 ton per year) of type I, II, III clinker while burning coal, natural gas, whole tires, and a small amount of internally generated waste derived fuels approved for use.

This new kiln and associated equipment was constructed on the plant site of the former Lone Star Cement Company constructed before 1970 and at the time of the new plant construction Ash Grove used some of the remaining Lone Star equipment and air pollution control systems.

The air pollution generating and controlling equipment are contained in the Puget Sound Clean Air Agency equipment listing.

## **KILN**

The clinker is manufactured in a long rotary kiln approximately 500 feet long and approximately 15 feet in diameter with nine planetary cooler tubes attached around its lower diameter end. The rotating kiln is a dry process kiln with a slightly inclined angle to allow pre-calcined raw materials from the precalciner tower to be introduced into the upper end of the kiln and move downward toward the lower heated end as the kiln rotates. The burners are located in the slightly lower end of the kiln. Heat from burning various fuels provides the heat to finish the calcining process in the higher temperature end of the kiln. The kiln contains limestone ( $\text{CaCO}_3$ ) which decarbonates or calcines ( $\text{CO}_2$  is driven off) to lime ( $\text{CaO}$ ). Further heating of the materials traveling down the kiln allows calcium in the lime to fuse with alumina and iron which initiates the inclusion of silica into the chemical process. The reaction with silica is an exothermic reaction initiated by intense heat ( $>2500^\circ\text{F}$ ). The production of the various compounds of calcium silicates ( $\text{CaSiO}_2$ )<sub>n</sub> is called clinker burning. The melted calcium silicates forms a viscous semi-liquid material at these higher temperatures where it forms small balls called clinker, as it slides downward along the inclined rotating kiln. This kiln is rated at 92 tons per hour of clinker. The clinker transfers to the planetary coolers and is sent by elevator to the G-Cooler. The cooled clinker is conveyed for storage in the clinker silos and then to the Clinker Cooler Grinder building where it becomes ground with the addition of gypsum, limestone and flyash to produce Portland cement.

## **RAW MATERIALS**

About 168 tons/hr of raw materials are ground in the raw mill grinder and transferred to the raw mill silos. The ground raw materials are pneumatically conveyed from the storage silos to the pre-calcining tower. The raw materials include limestone, sand, clay, iron ore, iron bearing byproducts, aluminum silicates, natural gravel, fly ash, lime, gypsum, and industrial byproducts containing calcium, silica, iron, and alumina, such as bottom ash, slag and gypsum board. In general, feed stocks containing high concentrations of alkali, organic materials, and metals are avoided. No material regulated as hazardous waste under the Resource Conservation and Recovery Act (RCRA) or as a toxic substance regulated under the Toxic Substances Control Act (TSCA) is accepted as a feed material.

## **FUELS**

Fuels burned in the kiln include: petroleum coke, coal, natural gas, whole tires, and a small amount of internally generated waste lubrication oils. The fuel usage rate is defined by slurry chemistry, fuel availability, and production rate. The nominal heat for clinker production is approximately  $4.3 \times 10^6$  Btu per ton (Btu/ton). Fuels burned in the kiln provide about  $396 \times 10^6$  Btu/hr. This allows a clinker production rate of about 2200 tons per day.

## **MAIN STACK**

The kiln exhausts from its upper end in the same area where preheated materials are received from the preheat tower. The exhaust flows up through the 5 stage preheater tower as raw materials cascade down towards to kiln. The exhaust preheats and starts the process of converting the raw materials in the preheat tower. The exhaust ducts back down to ground level where it either routes through the raw mill grinder or is ducted directly to the main baghouse. The exhaust from the main baghouse is sent to the main stack on the side of the preheater tower that is about 250 feet high. Dry gas scrubbing of the exhaust is used at several locations in the exhaust stream.

The main stack is continuously monitored for opacity, SO<sub>2</sub>, NO<sub>x</sub>, CO, oxygen, temperature and stack flow rate.

Typically stack emissions are about 2 to 4% opacity, about 100 ppm (20 to 30 lb/hr) SO<sub>2</sub>, 300 to 400 ppm (300 lb/hr) NO<sub>x</sub>, about 500 to 800 ppm (250 lbs/hr) CO, about 7% oxygen, stack temperature of 350 °F and stack flow of about 170,000 to 180,000 cubic feet per minute.

## **FINISH PRODUCT**

The clinker is processed in the ball mills with gypsum to form cement at about 60 tons per hour and sent to the cement silos for storage. Cement can be shipped by truck, rail or barge.

Each of the (2) Mill Sweep Baghouses in the Finish Mill have 20,000 cfm and each of the (2) High Efficiency Separator baghouses have 77,000 cfm.

## **OTHER PROCESS CONTROL BAGHOUSES**

There are more than 60 fabric filter baghouses including the larger baghouses mentioned that control emissions plant-wide for the cement manufacturing operations. All the baghouses except the main baghouse have a particulate emission standard of 0.005 gr/dscf averaged for a 24 hour period.

## **Review of Permit Application**

An air operating permit application was received from Ash Grove on January 1, 1995. An incompleteness letter from Puget Sound Clean Air Agency was sent on August 2, 1995. Additional information was received on September 5, 1995. A Completeness Determination was made by Puget Sound Clean Air Agency on November 20, 1995, acknowledging the application met the requirements of WAC 173-401-500(7) and it was determined to be complete.

## Compliance History

### *General*

This compliance history summarizes enforcement actions noted from July 1, 1997 to the date of this initial draft air operating permit. The Puget Sound Clean Air Agency has inspected Ash Grove annually since 1997. There is one outstanding enforcement action related to asbestos and its status is discussed below.

Ash Grove Source History Table (below) shows each violation, date of violation, regulations or permit conditions cited, violation description, civil penalty number, civil penalty amount, and status. For discussion, the Notices of Violation are organized by violation type as follows:

- Fugitive dust and fallout cases.
- Continuous emission monitoring.
- Asbestos.

### *Fugitive Dust and Fallout Cases*

Fugitive dust enforcement actions consist of dates when an Agency inspector observed dust emissions emanating from plant operations. Fallout enforcement actions are those occurring when an Agency inspector verified off-site particulate nuisance impacts such as clinker fallout impacting a complainant's automobile or property. Generally, emissions were not observed at the plant at the same time off-site fallout nuisance impacts were verified. Due to the similar nature of the fugitive dust and the fallout enforcement actions they were often grouped together in settlement agreements on the condition that Ash Grove improve fugitive dust control measures.

Each settlement agreement pertaining to fugitive dust and fallout is discussed below.

An Assurance of Discontinuance (AOD) signed on December 9, 1998 resolved all of the enforcement actions from July 16, 1997 through August 14, 1998 for Civil Penalty Nos. 8760, 8761, 8801, and 8929. The AOD required Ash Grove to pay \$12,000. A condition of the AOD required Ash Grove to hire a consultant to investigate potential fugitive dust sources at the plant and to evaluate improvement projects. The study was completed on November 2, 1999, by David Maars.

The study identified three potential projects to reduce fugitive clinker emissions from the plant:

1. Isolate the head end of the pan conveyor in the g-cooler.
2. Install a baghouse to improve dust capture at the tripper car discharge in the finish mill.
3. Remove ten transfer points on the clinker silo building by converting five open belt conveyors to a drag chain conveyor system.

On March 25, 2002, Ash Grove signed the AOD for Civil Penalty No. 9352. This AOD covered six fallout nuisance notices of violations issued between February 18, 2000 and October 4, 2001. The AOD required Ash Grove to pay \$6,000 and comply with the following conditions:

1. Install water suppression systems on barge unloading, raw material conveyors, and raw material stockpiles.

2. Install a new 20,000 CFM dust collector to capture emissions from the clinker storage shed.

On August 9, 2001, Ash Grove signed an AOD for Civil Penalty No. 9120. Ash Grove agreed to pay \$2,000 and comply with the following conditions:

1. Implement an amended O&M plan for clinker storage shed dust management practices
2. Allow no unexcused violations of fugitive dust emissions from loader operations in the clinker storage shed for a period of two years after the date of the Consent Order.

### ***Continuous Emission Monitoring***

The Agency receives monthly reports from Ash Grove and documents reported violations.

Before September 1998, the Puget Sound Clean Air Agency issued notices of violation for every self-reported exceedance recorded by Ash Grove's continuous emission monitor system (CEMS).

In September 1998, a significant change occurred in the Agency's review of CEMS reports when the Agency developed an interim Civil Penalty policy. The policy was adopted by the Agency's Board of Directors through Resolution No. 962 passed January 10, 2002. This Resolution incorporates a policy based upon the EPA Draft Guidance for High Priority Violations dated July 1998 and includes; Continuous Emission Monitoring Civil Penalty Worksheet and Recommendation, and Emission Monitoring Civil Penalty Gravity Criteria.

The policy elevated chronic repeat violations to "High Priority Violations" status and directed penalties to be assessed for such violations. Pursuant to this policy, the Agency generally closes CEMS violations not meeting the high priority criteria but assesses civil penalties based on the Worksheet and Gravity Criteria for violations meeting the high priority criteria. An example of a high priority violation warranting a civil penalty would be for sulfur dioxide emissions greater than 15% above the emission standard for a period greater than 3% of the equipment operating hours during a reporting month.

Potential CEMS violations fall into the following categories: sulfur dioxide, nitrogen oxide,, carbon monoxide, opacity, and missing data. Each is discussed below. There were no carbon monoxide violations recorded during this period.

### ***Sulfur Dioxide***

From July 1997 through March 1998, the Agency issued violations to Ash Grove for excess sulfur dioxide emissions at start up and during normal operations. Ash Grove self-reported these violations in its monthly CEM reports.

Ash Grove requested a permit modification of its SO<sub>2</sub> limits at start-up and demonstrated it continued meeting Best Available Control Technology. On June 6, 2001, the Agency issued a revised Order of Approval No. 7381 issuing work practice standards for Ash Grove to control SO<sub>2</sub> emissions at startup. The SO<sub>2</sub> emission standard during normal operations remained unchanged.

Once Order of Approval No. \_\_\_\_ was changed, the Agency closed all open cases for SO<sub>2</sub> emissions at startup with a closure letter dated July 21, 1998. Enforcement actions for SO<sub>2</sub> emissions during normal operations were reviewed with the September 10, 1998 interim CEM civil penalty policy which assessed penalties for cases deemed to be significant violators per

EPA. These enforcement actions did not approach significant violator thresholds and were closed by two closure letters, both dated December 18, 1998.

### *Nitrogen Oxides*

From June 1998 to February 2000, the Agency issued violations to Ash Grove for exceeding the nitrogen oxide (NOx) 24-hour and 1-hour emission standards listed in Order of Approval No. 7381. While many unknown factors may cause these emissions, a common reason for many of these exceedances was due to burning natural gas where temperatures are higher and thermal NOx is formed. Thermal NOx is nitrogen oxide formation that occurs with nitrogen in air at high temperatures.

Ash Grove requested a permit modification of its NOx limits and demonstrated it continued meeting Best Available Control Technology. Ash Grove requested that the Agency increase the NOx emission limit and demonstrated they were meeting Best Available Control Technology limits. The Agency issued Order of Approval No. 7381 on June 6, 2001 which raised the 24-hour NOx standard from 501 ppm to 650 ppm and eliminated the 1-hour limit.

All enforcement actions have been resolved through penalty or closure. Resolutions of these enforcement actions are as follows:

- NOV No. 36679 was closed on August 8, 2002 based on the September 10, 1998 interim CEM civil penalty policy.
- NOV No. 36871 was closed on October 28, 1998 based on the September 10, 1998 interim CEM civil penalty policy.
- CP No. 8936 was cancelled on January 27, 1999 because Ash Grove later provided information that the event occurred at start-up and the WAC 173-400-107 exemption was granted.
- CP No. 8937 was issued for \$8,000 and was paid on February 19, 1999.
- NOV No. 36682 was closed on March 31, 1999 based on the September 10, 1998 interim CEM civil penalty policy.
- CP No. 8972 was issued for \$2,000 and was paid on May 10, 1999.
- CP No. 8985 was issued for \$1,000 and paid on December 7, 1999.
- CP No. 8998 was issued for \$6,000 and paid on December 28, 1999.
- NOV No. 36741 was closed on July 26, 2001 as a result of the higher limit allowed in the revised Order of Approval No. 7381.
- CP No. 9071 was cancelled on July 30, 2001 as a result of the higher limit allowed in the revised Order of Approval No. 7381.
- CP No. 9095 was resolved through an AOD signed November 1, 2000 as a result of the higher limit allowed in the revised Order of Approval No. 7381.
- CP No. 9053 was issued for \$6,000, and CP No. 9079 was issued for \$6,000. Both were paid on September 7, 2001.

○ ***Carbon Monoxide***

During the last five years there have been no carbon monoxide violations recorded by the CEMS.

***Continuous Emission Monitoring- Opacity***

The NOV log shows opacity violations issued prior to the September 1998 civil penalty policy. All enforcement actions have been resolved and closed. Since September 1998, Ash Grove has continued to report infrequent opacity excursions on its monthly CEM reports. Either these events have not exceeded the high priority violation criteria, or they have been excused pursuant to WAC 173-400-107. The post September 1998 violations have been documented and closed based on Written Warnings.

Most opacity violations occur when the baghouse malfunctions, due to broken or loose bags. The baghouse contains fabric filter bags that remove particulate prior to the kiln exhaust exiting the main stack. Ash Grove is required to keep an Operations and Maintenance Plan to demonstrate that it is maintaining its equipment in good working order. The Agency continues to review opacity events and maintenance of the baghouse during CEM report reviews and during site inspections.

***CEM Missing Data***

The Agency issued a series of Notices of Violation to Ash Grove for continuous emission monitoring missing data and for operating the kiln without a quality control plan. The requirements in Regulation I, Section 12.03, effective January 1993, specified a data capture requirement of 90% valid hours of CEM data per day pursuant to Regulation I, Section 12.03(h)(4). On June 1, 1998, the Agency amended the regulation which changed the data capture requirement from 90% per day to 95% per month. As a result of the rule change, the Agency closed the Notices of Violation issued for missing data in July-December 1997. Three violations were issued for missing data in March of 1998. Based upon corrective actions reported, the Agency closed all three cases in a closure letter dated November 2, 1998. During a review of the files conducted for this summary, this letter could not be found. The Agency issued a second case closure letter on August 8, 2002 to ensure that this determination is on file.

Notice of Violation No. 36560 was issued to Ash Grove because it failed to respond to some of the Notices of Violation issued for missing data. The Agency closed this case in a case closure letter dated October 16, 1998 based on the June 1, 1998 rule change that lowered the data capture requirement.

The Notices of Violation issued for operating the kiln without a CEM Quality Control plan were settled under the Assurance of Discontinuance for Civil Penalties No. 8897 and 8899. The AOD was signed by Ash Grove on August 31, 1998. Per the AOD, Ash Grove submitted a CEM quality assurance quality control plan dated December 1, 1998. On September 29, 1999, the Agency sent a letter to Ash Grove accepting the plan and closing Civil Penalties Nos. 8897 and 8899.

***Asbestos***

NOV No. 4-040305 issued 10/18/01 for an asbestos violation that occurred on October 18, 2001. Ash Grove agreed to submit an asbestos management plan to the Agency as a corrective action response to the Notice of Violation. Puget Sound Clean Air Agency closed this case on 9/12/02. The case closure letter was based on Ash Grove's submittal of the asbestos management plan to the Agency.



***Ash Grove Compliance Source History Table***

NOV #	Date of Violation	Citation	Violation Description	CP #	AMT.	Status (CCL – Case Closure Letter)
<b>Fallout and Fugitive Dust Violations Settled Per David Maars Fugitive Dust Study</b>						
37062	7/16/97	9.15I, 9.20 [I]	Dust from white fly ash silo	8761	\$3,000	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99
37063	7/16/97	9.20 [I]	Holes in shrink wrap	8761	\$3,000	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99
36863	7/16/97	9.11(a)[I]	Fallout	8801	\$8,000	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99
36861	8/7/97	9.15(c), 9.20 [I]	Holes in shrink wrap	8760	\$8,000	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99
36864	9/8/97	9.11(a)[I]	Fallout	8801	\$8,000	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99
37442	4/27/98	9.11(a)[I]	Fallout	No CP	None	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99; No CP assessed incorporated into AOD
37444	4/29/98	9.11(a)[I]	Fallout	No CP	None	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99; No CP assessed incorporated into AOD
37075	8/14/98	9.15(a), 9.20	Fugitive Emissions	8929	\$3,000	AOD signed 12/9/98, Paid 12/23/98, Study Completed 11/2/99
<b>Fallout and Fugitive Dust Violations</b>						
36694	2/18/00	9.11(a)[I]	Fallout Nuisance	9352	\$12,000	AOD signed 3/25/02, Paid 5/6/02
36740	9/22-23/00 (verified 9/26/00)	9.11(a)[I]	Fallout Nuisance	9352	\$12,000	AOD signed 3/25/02, Paid 5/6/02
37085	11/21/00	9.15(a) [I]	Fugitive Dust	9120	\$3,000	AOD signed 8/9/01, Paid 9/17/01
36739	12/6/00	9.11(a)[I]	Fallout Nuisance	9352	\$12,000	AOD signed 3/25/02, Paid 5/6/02
36879	12/21-24/00	9.11(a)[I]	Fallout Nuisance	9352	\$12,000	AOD signed 3/25/02, Paid 5/6/02
3- 001656	8/7/01	9.11(a)[I]	Fallout Nuisance	None	\$12,000	AOD signed 3/25/02, Paid 5/6/02
3- 000302	10/4/01	9.11(a)	Fallout Nuisance	9352	\$12,000	AOD signed 3/25/02, Paid 5/6/02

NOV #	Date of Violation	Citation	Violation Description	CP #	AMT.	Status (CCL – Case Closure Letter)
<b>Sulfur Dioxide CEM Violations Start Up and Normal Operations</b>						
36238	7/10/97	OA 5730 #7	S-2 - startup	None	None	CCL 7/21/98
36239	7/11/97	OA 5730 #7	S-2 - startup	None	None	CCL 7/21/98
36240	7/26/97	OA 5730 #7	S-2 - startup	None	None	CCL 7/21/98
35792	8/25/97	OA 5730 #7	SO2 main stack	None	None	CCL 7/21/98
36565	10/2/97	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36566	10/3/97	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36567	10/10/97	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36578	11/11/97	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36579	11/26/97	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36580	11/27/97	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36581	11/28/97	OA 5730 #6c	SO2 normal op of kiln	None	None	CCL 12/18/98
36598	1/29/98	OA 5730 #7	Startup SO2 kiln	None	None	CCL 7/21/98
36713	3/8/98	OA 5730 #6c	SO2 main stack	None	None	CCL 12/18/98
<b>Nitrogen Oxide CEM Violations</b>						
36679	5/25/98	OA 5730 #6b	NOx 24 hr standard	None	None	CCL 8/08/02
36866	6/7/98	OA 5730 #6b	NOx > 501 ppm 24 hr. Ave	8936	None	Cancelled 1/27/99
36867	6/10/98	OA 5730 #6b	NOx > 501 ppm 24 hr. Ave and NOx > 700 ppm 1 hr.	8937	\$8,000	Paid 2/19/99
36868	6/11/98	OA 5730 #6b	NOx > 501 ppm 24 hr. Ave and NOx > 700 ppm 1 hr.	8937	\$8,000	Paid 2/19/99
36869	6/12/98	OA 5730 #6b	NOx > 501 ppm 24 hr. Ave and NOx > 700 ppm 1 hr.	8937	\$8,000	Paid 2/19/99
36870	6/13/98	OA 5730 #6b	NOx > 501 ppm 24 hr. Ave and NOx > 700 ppm 1 hr.	8937	\$8,000	Paid 2/19/99
36871	6/27/98	OA 5730 #6b	NOx > 501 ppm 24 hr. Ave and NOx > 700 ppm 1 hr.	None	None	CCL 10/28/98
36721	10/15&30/98	OA 7183 #5b	NOx	8972	\$2,000	Paid 5/10/99
36725	11/3/98 11/12/98 11/27/98	OA 7381 #5b OA 7381 #5b OA 7381 #5b	NOx 8 hr NOx 24 hr NOx 8 hr NOx 24 hr NOx 1 hr avg	8985	\$1,000	Paid 12/7/99; (check # 55712)

Statement of Basis for Ash Grove  
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NOV #	Date of Violation	Citation	Violation Description	CP #	AMT.	Status (CCL – Case Closure Letter)
36682	12/98	OA 7381 #5b	NOx 24 hr	None	None	CCL 3/31/99
36726	1/99	OA 7381 #5b	NOx 24 hr 501 ppm	8998	\$6,000	Paid 12/28/99
36727	3/3/99 3/4/99 3/5/99 3/5/99 3/6/99 3/6/99 3/8/99 3/8/99 3/12/99 3/12/99	OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b OA 7381 #5b	NOx 2 hr NOx 3 hr NOx 24 hr NOx 24 hr NOx 3 hr NOx 24 hr NOx 2 hr NOx 24 hr NOx 4 hr NOx 24 hr	8998	\$6,000	Paid 12/28/99
36687	11/25/99 11/25/99 11/25/99 11/26/99 11/26/99	OA 7381 #(6)(d) OA 7381 #(5)(b) OA 7381 #(5)(b) OA 7381 #(5)(b) OA 7381 #(5)(b)	NOx NOx NOx NOx NOx	9053	\$6,000	Paid \$6,000 9/7/01
36690	2/15/00	OA 7381 #(5)(b)	NOx 24 hr	9071	\$3,000	Cancelled 7/30/01
36734	3/19/00 3/20/00 3/25/00 3/28/00	OA 7381 #(5)(b) OA 7381 #(5)(b) OA 7381 #(5)(b) OA 7381 #(5)(b)	NOx 24 hr NOx 24 hr NOx 24 hr NOx 24 hr	9095	\$2,000	AOD signed 11/1/00; all penalties suspended (no payment) AOD Completed with C <sup>1</sup> /2/01
36741	10/12/00	OA 7381 #(5)(b)	NOx 24 hr avg 501 ppm	None	None	CCL 7/26/01
<b>Opacity CEM Violations</b>						
36583	11/1/97	9.09(b)(2)[I]	>5% opacity 1 hr avg	8886	\$8,000	Paid 8/25/98
36584	11/2/97	9.09(b)(2)[I]	>5% opacity 1 hr avg	8886	\$8,000	Paid 8/25/98
36585	11/22/97	9.09(b)(1)[I]	>20% opacity 3 min	8886	\$8,000	Paid 8/25/98
36597	12/4/97	9.09(b)(1)[I] 9.09(b)(2)[I]	> 20% opacity 3 min >5% opacity 1 hr avg	None	None	CCL 5/5/98; Excusable per WAC
36708	2/1/98	9.09(b)(1)[I]	>20% opacity 3 min	None	None	CCL 4/16/98
36714	3/26/98	9.09(b)(1)[I] 9.09(b)(2)[I]	>20% opacity 3 min >5% opacity 1 hr avg	None	None	CCL 12/18/98
36710	4/3/98	9.09(b)(2)[I]	>5% opacity 1 hr avg	None	None	CCL 12/18/98

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NOV #	Date of Violation	Citation	Violation Description	CP #	AMT.	Status (CCL – Case Closure Letter)
36711	4/22/98	9.09(b)(2)[I]	>5% opacity 1 hr avg	None	None	CCL 12/18/98
36712	4/25/98	9.09(b)(2)[I]	>5% opacity 1 hr avg	None	None	CCL 12/18/98
<b>Continuous Emission Monitoring Missing Data</b>						
37408	7/14/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37409	7/14/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37410	7/14/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37411	7/15/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37412	7/15/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37413	7/15/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37414	7/21/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37415	7/21/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37416	7/21/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37417	7/22/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37418	7/22/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37419	7/22/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37420	7/23/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37421	7/23/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37422	7/23/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37423	7/25/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37424	7/25/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37425	7/25/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37426	7/28/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37427	7/28/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37428	7/28/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
37429	7/30/97	12.02(c), 12.03(h)(4) [I]	SO2 missing data	None	\$4,000	CCL 5/19/98
37430	7/30/97	12.02(c), 12.03(h)(4) [I]	CO missing data	None	\$4,000	CCL 5/19/98
37431	7/30/97	12.02(c), 12.03(h)(4) [I]	NOx missing data	None	\$4,000	CCL 5/19/98
36559	7/30/97 – 11/18/97	OA 5730 #4; OA 5730 #8 12.02(a)(1)[I]	No QAQC CEM Plan	8897	\$3,000	AOD signed 8/31/98; Paid 9/10/98; QA/QC Plan Completed 9/29/99
35793	8/5/97	12.02(c)[I]	Missing data	None	None	CCL 5/19/98
35794	8/12/97	12.02(c)[I]	Missing data	None	None	CCL 5/19/98
35795	8/13/97	12.02(c)[I]	Missing data	None	None	CCL 5/19/98

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35796	8/18/97	12.02(c)[I]	Missing data	None	None	CCL 5/19/98
36560	8/18/97-11/18/97	3.09(a), 3.11(b) [I]	Failure to Respond	None	None	CCL 10/16/98
36561	9/29/97-11/18/97	3.09(a), 3.11(b) [I]	Failure to Respond	8899	\$2,000	AOD signed 8/31/98; Paid 9/10/98; QA/QC Plan Completed 9/29/99
36586	11/4/97	12.02(a)(1) 12.02(c)(1)[I]	Missing data	None	\$4,000	CCL 5/19/98
36587	11/12/97	12.02(a)(1) 12.02(c)[I]	Missing data	None	\$4,000	CCL 5/19/98
36594	12/1/97	12.02(a)[I]	Missing data	None	None	CCL 5/19/98
36595	12/2/97	12.02(a)[I]	Missing data	None	None	CCL 5/19/98
36596	12/3/97	12.02(a)[I]	Missing data	None	None	CCL 5/19/98
36734/4/98	OA 5730 #8 12.02c[I]	Missing CEM data	None	None	CCL 11/2/98 (lost); reissued CCL 8/8/02	
36716	3/16/98	OA 5730 #8 12.02c[I]	Missing CEM data	None	None	CCL 11/2/98 (lost); reissued CCL 8/8/02
36717	3/17/98	OA 5730 #8 12.02c[I]	Missing CEM data	None	None	CCL 11/2/98 (lost); reissued CCL 8/8/02

**CEM Violation- Late Report Rescinded**

3-001519	5/6/2002	12.03 (f) [I]	Issued for late March 2002 CEM Report due 5/1/02. Report dated 4/29/02 found in Agency files. Source in compliance.	None	None	Rescinded Notice of Violation 5/6/02
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**Asbestos Violation**

4-040305	10/18/01	4.02(a), 4.03(a), 4.04(a), 4.05(a), 4.05(b)(1), 4.05(b)(4), 4.05(b)(7), 4.05(b)(9), 4.05(b)(10).	Asbestos Violations	Pending	Pending	CP Recommended 8/8/02
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## Emission Inventory

The annual emissions reported to Puget Sound Clean Air Agency by Ash Grove for 1995 through 2001 are tabulated below. The main pollutants emitted from this plant are CO and NOx calculated as NO<sub>2</sub>, although SO<sub>2</sub> emissions exceed 100 tons per year primarily from burning coal. Emissions are based on source test data, EPA AP-42 emission factors and continuous emission monitoring systems. Ash Grove has supplied particulate emission data based on source tests from 1996.

### Air Contaminant Emission Summary

		TOTAL EMISSIONS						
Pollutants	Tons =>	1995	1996	1997	1998	1999	2000	2001
CO		1,310	1,354	1,599	1,585	1,412	1,477	1,139
NO <sub>2</sub>		1,058	959	910	1,203	1,253	1,282	1,198
PM <sub>10</sub>		53	53	51	52	52	51	46
PM <sub>2.5</sub>		0	28	27	0	0	18	16
SO <sub>2</sub>		74	171	188	181	157	106	129
<b>Cement Kiln Dry Process with BHs</b>								
	Pounds =>	1995	1996	1997	1998	1999	2000	2001
CO		2,403,240	2,485,200	2,943,000	2,916,140	2,587,460	2,708,800	2,100,000
NO <sub>2</sub>		1,941,160	1,759,400	1,675,600	2,212,820	2,295,620	2,351,600	2,210,000
PM <sub>10</sub>		57,691	57,802	56,424	59,076	59,773	58,333	52,566
PM <sub>2.5</sub>		0	31,851	31,092	0	0	10,568	9,523
SO <sub>2</sub>		136,440	313,200	346,000	332,280	287,940	195,000	238,000
<b>Coal Mills</b>								
	Pounds=>	1995	1996	1997	1998	1999	2000	2001
CO		217,622	223,134	254,441	254,659	237,413	245,078	177,034
NO <sub>2</sub>		175,779	157,968	144,866	193,240	210,636	212,760	186,308
PM <sub>10</sub>		3,312	3,284	3,162	3,194	3,356	3,309	3,083
PM <sub>2.5</sub>		0	1,810	1,742	0	0	490	456
SO <sub>2</sub>		12,355	28,121	29,966	29,017	26,420	17,643	20,064
<b>Limestone Transfer with BH</b>								
	Pounds=>	1995	1996	1997	1998	1999	2000	2001
CO		0	0	0	0	0	0	0
NO <sub>2</sub>		0	0	0	0	0	0	0
PM <sub>10</sub>		5,748	5,608	5,333	5,507	5,583	5,533	4,931
PM <sub>2.5</sub>		0	2,908	2,767	0	0	3,320	2,959
SO <sub>2</sub>		0	0	0	0	0	0	0
<b>Raw Mill Separator with BH</b>								
	Pounds =>	1995	1996	1997	1998	1999	2000	2001
CO		0	0	0	0	0	0	0
NO <sub>2</sub>		0	0	0	0	0	0	0
PM <sub>10</sub>		4,907	4,704	4,626	4,792	4,822	4,755	4,258
PM <sub>2.5</sub>		0	2,442	2,400	0	0	2,853	2,555
SO <sub>2</sub>		0	0	0	0	0	0	0

<b>Finish Grinding Feed Belt with BH</b>							
Pounds =>	1995	1996	1997	1998	1999	2000	2001
CO	0	0	0	0	0	0	0
NO2	0	0	0	0	0	0	0
PM10	6,333	6,345	6,193	6,525	6,600	6,041	5,444
PM2.5	0	3,296	3,212	0	0	3,624	3,266
SO2	0	0	0	0	0	0	0
<b>Finish Grinding Mill Air Separator with BH</b>							
Pounds =>	1995	1996	1997	1998	1999	2000	2001
CO	0	0	0	0	0	0	0
NO2	0	0	0	0	0	0	0
PM10	27,555	27,836	25,508	25,384	24,840	24,170	21,471
PM2.5	0	14,449	13,242	0	0	14,502	12,883
SO2	0	0	0	0	0	0	0

Ash Grove did not supply an estimate of plant-wide fugitive emissions in their application.

Puget Sound Clean Air Agency estimated the fugitive dust emissions from Ash Grove Cement in a January 5, 1990 PM10 Addendum for the PM10 SIP for Seattle, Tacoma, and Kent Non-attainment areas. However, at that time, the plant was not converted to its present configuration and status. Production was significantly lower than its current potential.

## Explanation of Applicable Requirements

Applicable requirements are listed in several sections of this operating permit as outlined below. The permit only lists the requirements that the Puget Sound Clean Air Agency has determined to be within the scope of the definition of “applicable requirements” under the operating permit program. Ash Grove is legally responsible for complying with all applicable requirements of the operating permit as well as other requirements that do not fit the definition of “applicable requirements” found in Chapter 173-401 Washington Administrative Code (WAC). Some of the applicable requirements contain terms or monitoring, maintenance and recordkeeping that require detailed explanation in this statement of basis. The specific conditions are listed below, along with any necessary explanations in monitoring, maintenance, and recordkeeping requirements.

## Applicable Requirements

Ash Grove is subject to all the requirements listed in Section I of the operating permit. Section I.A contains the requirements that are applicable facility-wide, and Section I.B contains requirements applicable only to specific emission units or groups of emission units. The requirements in Section I.B only apply to the specific emission units cited; however, the requirements in Section I.A also apply to the specific emission units or activities described in Section I.B unless specifically state otherwise in the permit. If the monitoring, maintenance, and recordkeeping method for any requirement in Section I.A is more extensive for specific emission units, that requirement is repeated in Section I.B with the additional monitoring, maintenance and recordkeeping requirements.

## **Section I.A. (Facility-Wide)**

The table lists the citation for the “applicable requirement” in the second column. The third column (Date) contains the adoption or effective date of the requirement. In some cases, the effective dates of the Federally Enforceable, or “SIP<sup>1</sup>” Requirement and the Non-Federally Enforceable, or “State/Local Only” Requirement are different because only rules approved by EPA through Sections 110, 111, and 112 of the federal Clean Air Act are federally enforceable, and either the state has not submitted the regulation to the EPA or the EPA has not approved it.

The first column is used as an identifier for the requirement, and the fourth (Requirement Paraphrase) column paraphrases the requirement. The first and fourth columns are for information only and are not enforceable conditions of this operating permit. The actual enforceable requirement is embodied in the requirement cited in the second and third columns.

The fifth column (Monitoring, Maintenance & Recordkeeping Method) identifies the methods described in Section II of the operating permit. Following these methods is an enforceable requirement of this permit. The sixth column identifies the averaging time for the reference test method. The last column (Reference Test Method) identifies the reference method associated with an applicable emission limit that is to be used if and when a source test is required. In some cases where the applicable requirement does not cite a test method, one has been added.

In the event of conflict or omission between the information contained in the fourth and sixth columns and the actual statute or regulation cited in the second column, the requirements and language of the actual statute or regulation cited shall govern. For more information regarding any of the requirements cited in the second and third columns, refer to the actual requirements cited.

**Recently amended Puget Sound Clean Air Agency Regulations.** The Puget Sound Clean Air Agency Board of Directors has recently amended several sections of its regulations. These amended sections are listed as State/Puget Sound Clean Air Agency Enforceable Requirements in the operating permit. The versions of the regulations that are in the SIP are listed as Federally Enforceable Requirements. The amended versions will be (or in some cases have been) forwarded to EPA as SIP amendments. Upon approval of the SIP changes, the revised versions of the regulations will be federally enforceable and the old version will no longer apply.

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<sup>1</sup> “SIP” means “state implementation plan” which is a plan for improving or maintaining air quality and complying with the Federal Clean Air Act. The Federal Clean Air Act requires states to submit these plans to the US EPA for its review and approval. This plan must contain the rules and regulations of the state agency or local air authority necessary to implement the programs mandated by Federal law. Once the EPA adopts the plan or elements of it, the plan and its requirements become “federally enforceable” by EPA. New or modified state or local rules are not federally enforceable until they are “adopted into the SIP” by the EPA.



**Facility-wide Inspections.** Most of the facility-wide requirements that require monitoring refer to facility-wide monitoring procedures that vary in form, scope of monitoring observations, and frequency. The Puget Sound Clean Air Agency recognizes the complexity of the facility and the large number of small emission units that are located at Ash Grove. Because of the large number of emission points at the facility, the practicality of the monitoring methods and frequency have been tailored to reflect the compliance challenges to the level of effort necessary to determine compliance with the requirements included in the permit. For emission units with more potential for being out of compliance with air pollution requirements or where noncompliance can have more significant impacts, the Agency has included specific monitoring procedures appropriate for those units. Facility-wide inspections are intended to augment equipment-specific monitoring and to assure Ash Grove is aware of general activities occurring on the plant site. The Puget Sound Clean Air Agency anticipates that the various monitoring and inspection activities identified in the permit will be completed by trained personnel that are familiar with the plant, the permit, and the underlying nature of the requirements included in the permit.

### **1. Requirements I.A.1 and I.A.2 - 20% General Opacity**

Both Puget Sound Clean Air Agency Regulation I, Section 9.03 and WAC 173-400-040(1) standards are 20% opacity and apply to all stationary sources.

Both Section 9.03 (effective date - 3/11/99) and WAC 173-400-040(1) (effective date - 9/15/01) are currently not federally enforceable but will be federally enforceable upon their adoption into the SIP. Previous versions of these regulations have been adopted into the SIP. These provisions have not been included in the operating permit at this time because there are no substantive differences between the SIP adopted versions and these versions awaiting approval. If a version of these regulations were adopted into the SIP which contained a substantive difference from the requirements included in this draft permit, the permit would need to be reopened to incorporate the changes.

The monitoring method is based on monthly facility-wide inspections of some emission points at the Ash Grove. These facility-wide inspections include checking for visible emissions, with Ash Grove taking corrective action or using the reference test method, WDOE Method 9A, to determine opacity if any visible emissions are noted. Recording of visible emissions is not necessarily a deviation of the opacity requirements. However, failure to take timely corrective action, as defined by the monitoring method, is a deviation of the specific operating permit term and may also be an indication of other compliance issues (e.g. Operation & Maintenance (O&M) failures or good working order requirements identified in I.A.14 and I.A.15). Taking corrective action does not relieve Ash Grove from the obligation to comply with the opacity requirement itself. The monitoring procedures are used for several emission limitations and requirements throughout the permit, which are discussed below. The Puget Sound Clean Air Agency has determined that the monitoring should be monthly for the reasons listed below.

1. Initial compliance. There have been no NOV's issued in the last five years for failure to meet this requirement. Ash Grove is presumed to be able to comply with this opacity requirement (see Compliance History).
2. Margin of compliance. Ash Grove handles and transfers over a million tons of dry dusty material each year that has a high potential for fugitive dust emissions. If opacity

problems are observed, operations or maintenance problems are the most likely cause and must be addressed quickly by following and upgrading the O&M Plan to avoid emissions that would have a significant environmental impact. There have been no recent opacity problems observed by the Puget Sound Clean Air Agency and the sources are well controlled with a good O&M Plan. The Agency concludes that the margin for opacity compliance is large enough to justify visual inspections at a monthly frequency. By following this monitoring frequency, Ash Grove will take corrective action before a violation occurs. Recording of visible emissions is not necessarily a deviation of the opacity requirements. However, failure to take timely corrective action, as defined by the monitoring method, is a deviation of the specific permit term. Taking corrective action does not relieve Ash Grove from the obligation to comply with the opacity requirement itself.

3. Variability of process and emissions. The equipment operates on a relatively constant production rate, both during a per-shift basis and during a per-hour basis, so emissions can be expected to be relatively constant during the time period of the emission standard.
4. Environmental impacts of problems. Generally, any observed opacity is related to emissions of particulate matter or finely divided liquid droplets. If opacity problems are observed, operations or maintenance problems are the most likely cause and must be addressed quickly by following and upgrading the O&M Plan to avoid emissions that would have a significant environmental impact. There have been some relatively recent issues associated with clinker dust complaints which have some indirect relationship to this plant-wide opacity standard. The resolution of the most recent enforcement case for those violations required the installation of some improved dust collection and control measures. This monitoring procedure will include verification that those devices and measures are effectively managed. While this monitoring procedure is based on facility wide observations, it is most appropriate for use on point sources and process units. The permit includes other, additional monitoring procedures for fugitive dust and complaint related topics.
5. Technical considerations. Ash Grove is required to perform monthly self-inspections. By following this inspection frequency, following a good O&M Plan, and by making corrections and modifications to this plan, Ash Grove will likely avoid catastrophic failure of the air pollution generating or controlling equipment which is the main cause of opacity standard deviations at Ash Grove. Catastrophic failure of specific air pollution generating equipment is the most likely sources of an opacity standard deviation at Ash Grove. Additional monitoring procedures for specific emission units are specified in the operating permit.

## **2. Requirements I.A.3, I.A.4, I.A.5 Particulate Concentration**

Section 9.09(a) (effective date - 2/10/94) and WAC 173-400-060 (effective date - 3/22/91) are federally enforceable.

Section 9.09 (effective date - 4/9/98) and WAC 173-400-060 (effective date - 8/21/98) are currently not federally enforceable but will be federally enforceable upon their adoption into the SIP.

Puget Sound Clean Air Agency Regulation I, Section 9.09 (effective date - 2/10/94) limits the particulate emissions to 0.05 gr/dscf and WAC 173-400-060 (effective date - 3/22/91) limits the particulate emissions to 0.1 gr/dscf. Both requirements apply to all equipment used in a manufacturing process and general process units, uncorrected for excess air.

Puget Sound Clean Air Agency Regulation I, Section 9.09 (4/9/98) limits the particulate emissions to 0.05 gr/dscf from equipment used in a manufacturing process.

WAC 173-400-060 limits particulate emissions to 0.1 gr/dscf from general process units (i.e., units using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means, excluding combustion).

For these facility-wide requirements, the monitoring method is based on visual inspections once-per-month of general air pollution generating equipment at Ash Grove not covered by Emissions Unit Specific Applicable Requirements (I.B), with Ash Grove taking corrective action within 24 hours of the initial observation until there are no visible emissions or, alternatively, recording the opacity using the reference test method or shutting down the unit or activity until it can be repaired. Because particulate and opacity are in general physically related, the particulate monitoring for this requirement is the same as opacity (see the discussion for Requirements I.A.1 and I.A.2 in this document).

In Condition I.A.5, the emission limit of 0.005 gr/dscf identified in Order of Approval No. 7381, Condition No. 4 has been included in the operating permit as a facility wide requirement. This Order, as well as some additional orders for Ash Grove which followed it, were the result of PM-10 SIP plan requirements. This Order applied to each baghouse, excluding the main kiln baghouse that existed at Ash Grove when it was originally approved. Subsequent Order modifications have brought the current approval date up to June 6, 2001. Ash Grove has agreed that this order effectively applies to all emission units controlled by a baghouse (excluding the main kiln) at the plant and the impact on each unit is the same. All of the subject baghouses are managed to a “no visible emission” expectation and any unit which does have visible emissions is assumed to be malfunctioning on some level. This Order was issued on the basis that an observation of “no visible emissions” from a baghouse was sufficient to demonstrate compliance with this low concentration. The order provided alternative, incremental observation procedure options to demonstrate compliance.

These identified options require Ash Grove to use one of the following:

- Puget Sound Clean Air Agency approved source test
- No visible emissions for 15 consecutive seconds
- No visible emissions for 3 consecutive minutes
- Repairing the baghouse with visible emissions for more than 3 minutes within 24 hours

The first option is always available, but not expected to be routinely used. The next three are intended to provide a progressive option to respond to a visible emission condition and still maintain compliance. If an observer looked at the exhaust point and saw no visible emissions for 15 consecutive seconds that would represent compliance with this condition for that observation. If the observer saw a short period of visible emissions, observations could continue and if the visible emission condition ceased, and the observer maintained the observation (and record) for 3 consecutive minutes with no visible emissions observed, that again would represent a compliant observation. If the visible emission condition exceeded the 3 consecutive minute criteria, then the observer/operator must repair the baghouse or shut the process down until the baghouse is repaired and no visible emissions are observed upon restart.

For these baghouses, the existence of sustained visible emissions (either observed by Ash Grove or this Agency) can serve as the basis for this Agency to require Ash Grove to complete a compliance source test on the unit involved. The monitoring procedure to verify operation of the units without visible emissions will effectively satisfy the compliance with this Order.

### **3. Requirement I.A.6 - SO<sub>2</sub> Concentration**

Both Puget Sound Clean Air Agency Regulation I, Section 9.07 (effective date - 4/14/94) which is federally enforceable, and WAC 173-400-040(6) (effective date - 9/20/93) are equivalent requirements (SO<sub>2</sub> emissions not to exceed 1000 ppm), except for the second paragraph of the WAC 173-400-040(6) which is not in the Puget Sound Clean Air Agency regulation. That paragraph, which is not federally enforceable, allows for exceptions to this requirement if the source can demonstrate that there is no feasible method of reducing the SO<sub>2</sub> concentrations to 1000 ppm. Since the Puget Sound Clean Air Agency rules do not allow the exception, this option does not apply to Ash Grove.

WAC 173-400-060 (effective date - 9/15/01) will become federally enforceable upon its adoption into the SIP. This provision has not been included in the operating permit at this time because there are no substantive differences between the SIP adopted version and this version awaiting approval. If a version of this regulation was adopted into the SIP which contained a substantive difference from the requirement included in this draft permit, the permit would need to be reopened to incorporate the changes.

The facility-wide activities at Ash Grove that contribute to sulfur emissions include facility-wide burning of pipeline quality natural gas (not including the kiln).

SO<sub>2</sub> from facility-wide burning of pipeline quality natural gas.

“Natural gas” means a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the Washington Utilities and Transportation Commission. Natural gas may also be referred to as “pipeline quality natural gas.” Ash Grove receives the same natural gas as all of the other natural gas consumers, private and industrial, in the Northwest. According to Section 1.4-3 of AP-42, natural gas contains approximately 2000 grains of sulfur per million cubic feet, which is equivalent to approximately 3.4 parts of sulfur per million cubic feet of natural gas, as shown in the following calculation:

$$\frac{2,000 \text{ gr } S}{1,000,000 \text{ ft}^3 \text{ nat. gas}} \times \frac{1 \text{ lb}}{7000 \text{ gr}} \times \frac{385 \frac{\text{ft}^3}{\text{mole } S}}{32 \frac{\text{lb}}{\text{mole } S}} = 3.44 \times 10^{-6} \frac{\text{ft}^3 S}{\text{ft}^3 \text{ nat. gas}} \equiv 3.44 \text{ ppmdv } S$$

According to *Perry's Chemical Engineer's Handbook*, each cubic foot of natural gas requires approximately 10 cubic feet of air for combustion, yielding approximately 11 cubic feet of combustion exhaust gases, consisting mostly of nitrogen, water vapor, and carbon dioxide. The sulfur in the natural gas will almost all be converted to sulfur dioxide, with each cubic foot of sulfur producing the same volume of sulfur dioxide. Since each cubic foot of natural gas contains  $3.44 \times 10^{-6}$  cubic feet of sulfur, each cubic foot of stack exhaust will contain approximately:

$$3.44 \times 10^{-6} \frac{\text{ft}^3 S}{\text{ft}^3 \text{ nat. gas}} \times \frac{1 \text{ ft}^3 \text{ SO}_2}{1 \text{ ft}^3 S} \times \frac{1 \text{ ft}^3 \text{ nat. gas}}{11 \text{ ft}^3 \text{ stack exhaust}} = 0.313 \times 10^{-6} \frac{\text{ft}^3 \text{ SO}_2}{\text{ft}^3 \text{ stack exhaust}}$$

The burning of natural gas generates about 0.31 ppmdv SO<sub>2</sub>. This estimated value is less than one-tenth of one percent of the 1,000 ppm SO<sub>2</sub> standard.

Therefore, on a facility-wide basis (except for the kiln), it is reasonable to assume that the combustion of natural gas will not exceed the 1,000 ppm SO<sub>2</sub> limits in Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6).

SO<sub>2</sub> from facility-handling of raw and finished materials.

Except for the main stack, the area wide sources of raw materials and finished products do not contain sufficient amount of sulfur to create concentrations of sulfur or sulfur dioxide in such quantities as to have any potential to be close to the emissions standard. Also, except for the kiln there are no other combustion sources that potentially oxidize sulfur to sulfur dioxide.

Therefore, this operating permit does not contain additional monitoring requirements for sulfur dioxide emission other than the main stack.

The remaining federally enforceable requirements in Section I.A. do not contain Emission Standard Reference Test Methods or an Emission Standard Period. The Puget Sound Clean Air

Agency has determined they are not necessary for these requirements. The Puget Sound Clean Air Agency will use the results of monitoring and observations, the review of operation and maintenance procedures and other information available to determine compliance with these requirements.

#### **4. Requirements I.A.7 and I.A.8 – Nuisance Standards**

Puget Sound Clean Air Agency Regulation I, Section 9.11 (effective date - 6/9/83) and WAC 173-400-040(5) (effective date - 9/20/93) are federally enforceable.

Puget Sound Clean Air Agency Regulation I, Section 9.11 (effective date - 3/11/99) and WAC 173-400-040(5) (effective date - 9/15/01) are currently not federally enforceable but will be federally enforceable upon their adoption into the SIP. These provisions have not been included in the operating permit at this time because there are no substantive differences between the SIP adopted versions and these versions awaiting approval. If a version of these regulations were adopted into the SIP which contained a substantive difference from the requirements included in this draft permit, the permit would need to be reopened to incorporate the changes.

RCW 70.94.040 also requires that a source shall not cause air pollution in violation of 70.94 RCW or any ordinance, resolution, rule or regulation adopted there under. This provision is not federally enforceable.

WAC 173-400-040(2) (effective date - 9/15/01) prohibits the emission of particulate matter from Ash Grove to be deposited beyond the property line in sufficient quantity as to unreasonably interfere with the use and enjoyment of the property upon which the material is deposited. This provision is not federally enforceable.

WAC 173-400-040(4) (effective date - 9/15/01) requires Ash Grove to use recognized good practices to control odors in order to avoid unreasonably interfere with the use and enjoyment of property. This provision is not federally enforceable.

The monitoring methods are based on a combination of both weekly and monthly plant inspections and responding to complaints to identify possible causes of emissions, including the deposition of particulate, that may unreasonably interfere with the use and enjoyment of property, correcting any problems identified and initiating corrective actions with preventative maintenance as a result of the inspections or investigations. Receiving complaints does not necessarily mean Ash Grove is in violation of this requirement but triggers action by Ash Grove to prevent a violation.

Ash Grove handles or processes over a million tons per year of dry fine dusty materials associated with the production of cement which has a large potential to become air borne even with the best equipment and the best practices to prevent such emissions. However, plant-wide, most materials are handled or processed inside or within buildings or within covered areas that are totally or significantly enclosed. All roadways and parking lots are paved and maintained in relatively clean condition. There have also been significant efforts and expenditures by this plant in an attempt to identify, predict and contain the releases of materials that may likely lead to violations of this regulation.

Even with good operations and maintenance there remains a potential for some releases of fugitive dust that may be in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.

During the last five years, the Puget Sound Clean Air Agency has issued ten notices of violation of this regulation (Puget Sound Clean Air Agency Regulation I, Section 9.11). Specifically, these violations were based on complaints of property damage that were verified by the Agency to be caused by fallout of clinker particulate originating from this cement plant and depositing on property. All outstanding violations have been settled and closed with signed assurances of discontinuances. However, to date the Agency has not conclusively determined or identified a particular area, a specific activity or piece of equipment that is responsible for these emissions.

The monitoring method identified in Section II.A.3 (Rooftop Inspections) specifies visual inspections of the plant site (facility-wide) on a weekly basis to discover, control, and repair sources of fugitive dust emissions and specifically identify and control releases or emissions of clinker particulate. The proactive periodic inspection and maintenance frequency before complaints are received, and the addition of the Complaint Response Program (see Section II.A.2 of the permit) which is in effect at all times, represents a combined method for monitoring and assuring compliance. An additional supporting monitoring method for compliance with these requirements is the O&M Plan Inspections (see Section II.A.4 of the permit) which requires a monthly inspection of the plant equipment. The O&M Plan Inspections are intended to identify equipment operations and maintenance issues which could lead to a nuisance related event and prevent such an event.

The Puget Sound Clean Air Agency has determined that weekly monitoring for sources of fugitive dust emissions facility-wide and specifically monitoring for potential releases of clinker dust, as well as full implementation of the Complaint Response Plan and the O&M Plan inspections are together, appropriate monitoring, recordkeeping, and reporting for this requirement for the following reasons.

1. Initial compliance. Ash Grove has generally been careful to maintain equipment to avoid the generation and emission of particulate that can lead to fallout of materials and nuisance complaints. Although there has been a long history of particulate fallout related issues with this plant, Ash Grove is considered to be capable of maintaining compliance with this standard on a continuous basis. Ash Grove has implemented a Complaint Response Program which has effectively been dealing with nuisance issues in the vicinity of the plant. The recent complaint history indicates this source must be diligent and

aggressive in monitoring (both through the Rooftop Inspections and the O&M Plan Inspections), and be proactive to assure compliance is maintained with this requirement.

2. Margin of compliance. Ash Grove daily handles and processes tons of dry dusty materials and, therefore, has significant potential to cause general fugitive dust emissions as well as potential visible source emissions that can cause an environmental nuisance. Although all the roadways and parking lots are paved within the Ash Grove plant boundary and all significant emission points are operated correctly, the fact that there have been ongoing enforcement actions for complaint issues shows that there is very little margin of compliance for the generation of air contaminant emissions in sufficient quantities to be injurious or to unreasonably interfere with enjoyment of life and property. The margin for compliance is considered to be small. However, with aggressive attention to proactive monitoring, developing and following the Compliant Response Program, and performing both the rooftop inspections weekly and the O&M plan inspections monthly for nuisance emission issues (with an emphasis on dust), Ash Grove is anticipated to be able to maintain compliance with this standard.
3. Variability of process and emissions. Because the manufacturing process is relatively constant, it is unlikely that the variability of the process itself will cause emissions leading to environmentally detrimental problems or cause nuisances while the plant is normally operating except during upset conditions.
4. Environmental impacts of problems. While there may be significant potential environmental impacts of emissions that may be environmentally detrimental or potentially can cause a nuisance, quick and early identification and correction of such problems are required by this permit to minimize releases and impacts that could lead to complaints. The monitoring methods and increased frequency is designed for quick identification, response and correction. Following the Complaint Response Program will assure Ash Grove will respond appropriately, including communicating with complainants, and investigating potential causes of the complaints as they may be associated with Ash Grove activities. The recordkeeping and reporting aspects of the Complaint Response Program will document the level of attention the plant devotes to the effort and the appropriateness of their response to complaints.
5. Technical considerations. By following this monitoring frequency, there is an increased chance the causes of emissions (including emissions of clinker dust) that may lead to nuisance complaints will be identified before complaints are registered. Also, following the Complaint Response Program may help identify or isolate a likely source or associate operations such as upset equipment. Observation by plant workers during their normal course of work may also help to suggest potential areas of material release that could cause complaints.

**5. Requirement I.A.9, I.A.10, I.A.11, I.A.13 - BACT and Reasonable Precautions Preventing Fugitive Dust**

Puget Sound Clean Air Agency Regulation I, Section 9.15(a) (effective date – 8/10/89) is a federally enforceable requirement for employing BACT for fugitive dust.



Puget Sound Clean Air Agency Regulation I, Section 9.15(a) requires best available control technology (BACT) for all fugitive dust emissions. WAC 173-400-040(3) addresses fugitive dust emissions for some activities and WAC 173-400-040(8) requires reasonable precautions or reasonably available control technology (RACT) to control fugitive emissions. Both of these Ecology regulations are federally enforceable (effective date - 9/20/93). Recording of fugitive dust emissions is not necessarily a violation of the requirement, since the requirement does not prohibit fugitive dust emissions, but prohibits fugitive dust unless BACT is employed. BACT is employed for all sources of dust at this plant. Equipment controlled or vented directly through a stack is incapable of violating this standard while complying with the other requirements in the permit.

Puget Sound Clean Air Agency Regulation I, Section 9.15(c) (effective date – 8/10/89) requires fugitive dust not be emitted from general fuel burning equipment, general equipment used in a manufacturing process, or general control equipment.

Puget Sound Clean Air Agency Regulation I, Section 9.15(c) prohibits fugitive dust emissions from any refuse burning equipment, fuel burning equipment, equipment used in a manufacturing process, or control equipment. Fugitive dust emissions are emissions of smoke, dust or fumes that are not collected by a capture system and emitted from a stack. Ash Grove does not have any refuse burning equipment (i.e., equipment employed to burn any solid or liquid combustible refuse), and all other equipment subject to this requirement is either controlled or vented directly through a stack and is addressed by a combination of monitoring requirements.

Therefore, the monitoring methods specified for these requirements are the combination of the weekly Rooftop Inspections (Section II.A.3 of the permit) and the monthly O&M Plan Inspections (Section II.A.4 of the permit). As described above, the weekly rooftop inspections to monitor for fugitive emissions are intended to identify issues as they occur. The monitoring method is based on visual inspections with Ash Grove taking corrective action within 24 hours, if any fugitive dust emissions are noted. The monitoring method is consistent with Puget Sound Clean Air Agency's "*Agency Policy on Fugitive Dust Controls, March 1995*," which specifies reasonable precautions that must be taken to prevent fugitive dust emissions, but does not necessarily define BACT for all processes. The O&M Plan Inspections are the preventative measure intended to identify operation and maintenance issues which could lead to a fugitive emission condition if they were not addressed appropriately.

The fugitive dust requirements contained in the state implementation plan are addressed in Requirements I.A.9 through I.A.12. The Puget Sound Clean Air Agency Board of Directors revised Section 9.15 on March 11, 1999, and it became effective April 17, 1999. The revised fugitive dust requirements are included in the state-only Requirement I.A.13. The amended version will be forwarded to EPA as a SIP amendment. Upon approval of the SIP changes, the revised version of Regulation I, Section 9.15 will be federally enforceable and the old version will no longer apply. The revised rule requires the use of reasonable precautions for fugitive dust and lists some examples of reasonable precautions. The Monitoring, Maintenance and Recordkeeping Methods are the same as those listed in Requirements I.A.9. through I.A.12.

The Puget Sound Clean Air Agency has determined that the Rooftop Inspections (Section II.B.3) monitoring procedure should be weekly for the reasons listed below.

1. Initial compliance. On a plant-wide basis, Puget Sound Clean Air Agency has identified fugitive dust as a significant potential emission at Ash Grove.
2. Margin of compliance. Because of the significant quantity of dry dusty materials that are handled and processed, there is a significant potential to cause fugitive dust emissions even if Ash Grove follows good housekeeping practices. Although all the roadways and parking lots are paved within the Ash Grove plant boundary and all significant emission points are controlled, the potential remains for the generation of air contaminant emissions. Therefore, the equipment is required to be visually inspected from a rooftop viewing weekly to ensure it is working properly without fugitive emissions.
3. Variability of process and emissions. Although the process has a minimal amount of variability, there is substantial variability in the amount of fine loose dry powdery materials that can potentially be associated with not employing BACT. Spillage and handling of materials are the greatest causes for variability of fugitive dust.
4. Environmental impacts of problems. Although BACT is followed and employed at Ash Grove, there is likely to be some environmental impacts from fugitive dust potentially released to the environment. Weekly inspections will minimize the emissions and potentially discover problems before impacts become significant.
5. Technical considerations. Ash Grove is required to perform self inspections and by following this inspection frequency, following a good O&M Plan (as tracked through

Section II.A.4 of the permit), and by making corrections and modifications in response to the Complaint Response Program as appropriate, Ash Grove will substantially avoid failures of the air pollution generating or controlling systems which are the main causes of fugitive particulate emissions.

#### **6. Requirement I.A.12 - Track-Out and Spillage Emissions**

Puget Sound Clean Air Agency Regulation I, Section 9.15(b)(effective date – 8/10/89) requires that Ash Grove prevent vehicles from operating on paved roads open to the public:

1. Unless dirt loads are secured, sand is dropped for traction, or public agencies are constructing or maintaining roads;
2. Unless dirt loads are covered or have enough freeboard to prevent spillage; or
3. Unless its vehicles have no dirt on their body, fenders, frame, undercarriage, wheels, or tires.

Puget Sound Clean Air Agency considers the deposition of dirt onto public paved roadways a violation of Section 9.15(b).

It is Ash Grove's responsibility to monitor facility-wide for securing of dirt loads, dust spillage or dirty undercarriages and to respond to nuisance complaints (see Requirements I.A.6 and I.A.12) of particulate emissions or deposition of particulate associated with track-out or dust spillage. Receiving complaints does not necessarily mean Ash Grove is in violation of this requirement, but triggers action by Ash Grove to prevent violations. Ash Grove has not received any notices of violation of this applicable requirement, nor has it received any complaints.

Puget Sound Clean Air Agency has determined that weekly monitoring is appropriate for track-out and dust spillage prevention for the reasons listed below.

1. Initial compliance. The Puget Sound Clean Air Agency has not issued any notices of violation for dust or track-out violations to Ash Grove during inspections (see Compliance History). However, there is a significant potential to generate track-out materials at Ash Grove if proper O&M is not followed. Therefore, the Puget Sound Clean Air Agency concludes that weekly visual inspections are required to assure continued compliance with the track-out requirements, as described in Section II.A.5 (Vehicle Track Out) of the permit.
2. Margin of compliance. Even though the Agency has not issued any notices of violation to Ash Grove for dust spillage or track-out, Ash Grove processes tons of material that could potentially become a spillage or track-out problem if a good O&M Plan is not followed and so there is not a large margin of compliance. Therefore, the Puget Sound Clean Air concludes that a weekly monitoring frequency is required.
3. Variability of process and emissions. Although the process has a minimal amount of variability, there is substantial variability in the amount of fine loose dry powdery materials that can contribute to spillage or track-out of materials. Spillage and handling of materials are the greatest causes for variability of generation track-out materials.

4. Environmental impacts of problems. If proper O&M is not followed or employed at Ash Grove, there would be significant environmental impacts from fugitive dust that could lead to emissions of air contaminants that are detrimental to persons or property. By following a good O&M Plan, spillage and track-out will be minimized.
5. Technical considerations. Ash Grove is required to perform self inspections. By following a good O&M Plan, and making corrections and modifications to this Plan, Ash Grove will very likely avoid generating spillage or track-out of materials. The monitoring for Vehicle Track Out is a simple procedure with one point to observe – East Marginal Way at the plant entrance. Discussions with plant personnel indicate that this happens every day as a routine part of coming to work. The weekly frequency reflects the required timing to observe and record the observation.

#### **7. Requirement I.A.14 and I.A.15 – Operation and Maintenance Standards**

Puget Sound Clean Air Agency Regulation I, Section 9.20 requires Ash Grove to maintain equipment in good working order. Section 9.20(a) applies to sources that received a Notice of Construction Order of Approval under Puget Sound Clean Air Agency Regulation I, Article 6. Section 9.20(b) applies to equipment not subject to Section 9.20(a). Puget Sound Clean Air Agency Regulation I, Section 7.09(b) requires that Ash Grove develop and implement an O&M plan to assure continuous compliance with Puget Sound Clean Air Agency Regulations I, II, and III. Section 7.09(b) also requires Ash Grove to promptly correct any defective equipment. However, the underlying requirement in most instances does not define “promptly,” hence for significant emission units and applicable requirements that Ash Grove has a reasonable possibility of violating or that a violation would cause an air quality problem, the Puget Sound Clean Air Agency added clarification that “promptly” usually means within 24 hours. For many insignificant emission units and for equipment not listed in the permit, “promptly” cannot be defined, because the emission sources and suitable pollution control techniques vary widely, depending on the contaminant sources and the pollution control technology employed. However, the permit identifies a means by which to identify if Ash Grove is following good industrial practice.

This requirement specifies that the Plan shall reflect good industrial practice, but does not define how to determine good industrial practice. In the past, the Puget Sound Clean Air Agency has found that, in most instances, following the manufacturer’s operations manual or equipment operational schedule, minimizing emissions until repairs can be completed and taking measures to prevent recurrence of the problem may be considered good industrial practice. This language is consistent with a Washington Department of Ecology requirement in WAC 173-400-101(4). The Puget Sound Clean Air Agency also believes that other criteria included in the permit represent credible evidence towards these requirements. For example, monitoring results, opacity observations, or fugitive dust problems may also reveal that O&M plan provisions had not been followed between the scheduled O&M plan inspections. This is consistent with the Washington State court decision, Longview Fibre Co. v. DOE, 89 Wn. App. 627 (1998), which held that similar wording was not vague and gave sufficient notice of prohibited conduct. In such a circumstance, Ash Grove may have to report deviations under these requirements based on information collected beyond this monitoring procedure.

Section II.A.4 of the permit (O&M Plan Inspections) identifies a monthly facility wide inspection to verify the O&M plans developed by Ash Grove are being followed and identify when the plan needs improvements or updates based on the observations. The inspection procedure requires Ash Grove to look for prohibited activities, activities that required prior approval, evidence of proper operation of equipment, evidence of fugitive dust controls are effectively being used, and odorous emissions. All of these are intended to be preventative inspection activities which should identify potential problems before they trigger required responses under other parts of the permit.

Puget Sound Clean Air Agency has determined that monthly monitoring is appropriate for O&M plan inspections for the reasons listed below.

1. Initial compliance. The Puget Sound Clean Air Agency has issued a limited number of notices of violation good working order problems, but none in the last few years. This type of violation is often associated with another problem and the O&M or good working order status is considered a contributing factor to the problem. For the older compliance history at Ash Grove, this was the case. Therefore, the Puget Sound Clean Air Agency concludes that monthly O&M Plan inspections are required to assure continued compliance with both of these O&M based standards.
2. Margin of compliance. Even though the Agency has not issued any recent notices of violation to Ash Grove for the good working order provisions, Ash Grove's recent history of nuisance violations from fallout suggests that operations and maintenance practices may have been a factor in the compliance challenge. The lack of O&M type violations in those recent incidents is likely due to a lack of a direct "cause and effect" linkage at the time the violation was documented. However, it does suggest that there is not a large margin of compliance with these requirements, but a failure in this area of the permit will most likely lead to real impacts and possible violations of emission or impact based standards. Therefore, the Puget Sound Clean Air concludes that a monthly monitoring frequency is required.
3. Variability of process and emissions. Although the process has a minimal amount of variability, there is substantial amount of equipment actively operational at the plant a large amount of material being handled.
4. Environmental impacts of problems. If proper O&M is not employed at Ash Grove, there would be significant environmental impacts from fugitive dust that could lead to emissions of air contaminants that are detrimental to persons or property. By using and updating a good O&M Plan, other permit deviations and possible violations can be minimized.
5. Technical considerations. Ash Grove is required to perform self inspections. By following a good O&M Plan, and making corrections and modifications to this Plan, Ash Grove will very likely avoid other permit deviations and possible violations. The monthly facility wide inspections identified in the permit (Section II.A.4) are broad ranging and are not limited to equipment procedures alone. These facility wide inspections are to include general observations which may trigger responses that include, but are not limited to new O&M plan development, permit deviation reports, or other

action to respond to observations of activities which may either be noncompliant or lead to noncompliance if unattended. The monthly frequency reflects the required timing to observe and record the observation.

**8. Requirement I.A.16 - Emissions from a common stack**

WAC 173-400-040 (8/20/93) requires that the emissions from a common stack must meet the most restrictive standard of any of the connected emissions units.

Ash Grove does not have stacks that are subject to this standard, so no monitoring is required.

**9. Requirement I.A.17 - HCl Emissions**

Puget Sound Clean Air Agency Regulation I, Section 9.10(a) (effective date – 6/9/88) specifies that HCl emissions shall not exceed 100 ppm (dry), corrected to 7% O<sub>2</sub> for combustion sources. The kiln is the only known source of HCl at Ash Grove. The kiln is subject to the emission limits and testing of 40 CFR 63, Subpart LLL. The NESHAPS applicability testing of the main stack demonstrated the HCl concentration is less than 5 ppm. If operations changed at the kiln which could increase the observed HCl concentrations or emission rates, Ash Grove will face the major source threshold trigger for additional NESHAP affected unit coverage well before the HCl limit of 100 ppm is ever reached. Therefore, there is no requirement for monitoring other than that required by the NESHAPS.

**Section I.B. (Emission Unit Applicable Requirements)**

Section I.B. of the permit lists applicable requirements that are specific to an emission unit or activity. The Generally Applicable Requirements of Section I.A. apply to all the emission units listed in Section I.B. and are not repeated in this section. Monitoring Methods and Reference Methods are also identified if they are different from, or in addition to, those listed in Section I.A.

The EPA incorporates what the EPA has determined to be “all necessary monitoring” into all recently adopted federal air pollution regulations. Where a recently adopted federal regulation does not identify a monitoring method, the permit does not identify one either, except in some cases where the Puget Sound Clean Air Agency has determined additional monitoring to be necessary. Finally, any requirements that are inapplicable to the specific emission unit are also listed in this section.

All generally applicable requirements apply to the specific emission units. To simplify the permit, the Puget Sound Clean Air Agency did not repeat these requirements for each unit unless a specific monitoring requirement applied. Following is a summary of all the Notice of Construction Applications and the Orders of Approval issued by the Puget Sound Clean Air Agency. The applicable portions of these Orders of Approvals are listed in Section I.B. for the specific applicable requirements for each emission unit. The table below contains a list of all the obsolete Orders of Approval issued to Ash Grove.

**1. Requirements: EU 1.1 through EU 1.4 for Kiln Baghouse Visible Emissions**

Requirement EU 1.1, which cites Puget Sound Clean Air Agency Regulation I, Section 9.09(b)(1) (effective date 2/10/94), is a 20% opacity limit for a period aggregating more than 3 minutes in any one hour (as determined by the continuous emission monitoring system) applies to the Kiln.

Requirement EU 1.2, which cites Puget Sound Clean Air Agency Regulation I, Section 9.04(c)(2) (effective date 4/09/98), is both a visual and an instrumental opacity standard. This standard is a 20% opacity limit. The source shall not cause or allow the emission of any air contaminant during any hour that contains any consecutive 6-minute period averaging greater than 20% opacity from the Kiln.

EU 1.1 will be superseded by EU 1.2 when EPA adopts the current SIP. The reference methods include both EPA Method 9 (40 CFR 60, Appendix A (7/1/02) (Appendix X.A.(2) of this permit) and EPA Performance Specification 1, (40 CFR 60, Appendix B (7/2/97) (Appendix X.C.(1) of this permit).

Requirement EU 1.3, which cites Puget Sound Clean Air Agency Regulation I, Section 9.09(b)(2) (effective date - 2/10/94), is a 5% CEMS opacity limit averaged for one hour applies to the Kiln.

Requirement EU 1.4, which cites Puget Sound Clean Air Agency Regulation I, Section 9.04(c)(1) (effective date 4/9/98), is a 5% opacity limit as a one-hour average applies to the Kiln.

EU 1.3 will be superseded by EU 1.4 when EPA adopts the current SIP. Note that EU 1.2 visible emission standard has two compliance reference methods. The results of the two compliance reference methods may not be identical because the opacity measurements are conducted at difference locations. The CEMS measures the opacity inside the stack (the transmissometer operates at all times the Kiln operates) where the temperature is hot. EPA Method 9 measures the opacity from outside the stack where the cooler temperature allows particulate in the form of mist or vapor to condense that otherwise may not be detected by the CEMS inside the hot stack.

Regulation I, Section 9.03(a)(1) (effective date 9/08/94) does not apply to the kiln emissions because Regulation I, Section 9.03(e) (effective date 9/08/94) states, "Section 9.03(a) shall not apply to any source which meets the requirements of Section 9.09(c)." Ash Grove meets the requirements of Regulation I, Section 9.09(c) (effective date 2/10/94), so 9.03(a)(1) (effective date 9/08/94) does not apply.

The old version of Regulation I, Section 9.03(a)(1) (effective date 9/08/94) will be superseded by the new version of Regulation I, Section 9.03 (effective date 3/11/99) and the new version of Regulation I, Section 9.04 (effective date 4/9/98), once they are adopted into the SIP. When this happens the SIP will list both compliance methods for this standard.

This continuous opacity monitoring allows Ash Grove to take timely corrective action in response to increasing CEMS measured emissions. These requirements are continuously monitored for compliance with the opacity standards and deviations from the standards are

enforceable by Puget Sound Clean Air Agency. This Agency reviews the monthly monitoring reports as a part of the enforcement assessment for Ash Grove.

**2. Requirements EU 1.5 (NC 5687 Waste Derived Fuels) and EU 1.7 and 1.8 (NC 5755 Tire Derived Fuel)**

Ash Grove has two Orders of Approval which allow replacement or alternative fuels to be used in the kiln. Order of Approval No. 5687 (1/11/95) allows waste derived fuel to be fired in the Kiln and includes a limitation on the amount which can be burned. Order of Approval No. 5755 (11/4/93) allows burning whole tires in the Kiln and limits the weight of tires burned.

The monitoring requirements to demonstrate compliance with these fuel restrictions is for Ash Grove to maintain records on site of the fuels burned. The recordkeeping is for daily and annual amounts and types of fuels with the average daily amount of tires burned as specified in Conditions No. 6 in both Orders of Approval.

The Puget Sound Clean Air Agency has determined that this monitoring and recordkeeping frequency is satisfactory to assure compliance with the Order of Approval limits for the following reasons.

1. Initial compliance. Ash Grove has demonstrated compliance with the conditions and limits of the above Orders of Approval and maintains equipment associated with the handling of these fuels. Ash Grove has done extensive testing to show regulatory compliance.
2. Margin of compliance. The limits of waste fuels and tires are easy to manage because this cement plant does not generate, use or burn a significant amount of these fuels. The margin for compliance is considered to be large for these conditions.
3. Variability of process and emissions. Because the manufacturing process is relatively constant, it is unlikely that the variability of the process itself will cause violations of these limits.
4. Environmental impacts of problems. The air modeling of the stack emission while burning these fuels has shown that there are no significant environmental issues.
5. Technical considerations. The Kiln has a significant flow rate so the emission limits are continuously monitored. By following the required monthly recordkeeping and monitoring schedule any significant emissions will be detected and corrected before there are compliance problems.

**3. Requirements EU 1.9 through 1.14 Kiln Emission Limits for NO<sub>x</sub>, CO, SO<sub>2</sub> and PM<sub>10</sub> (Order of Approval No. 7381 and PSD Permit 90-03)**

Puget Sound Clean Air Agency Order of Approval No. 7381 (6/6/01) and Ecology's PSD Permit 90-03 limit the main stack baghouse emissions for NO<sub>x</sub>, CO, SO<sub>2</sub> and PM. These current versions of approvals represent the third version of conditions, with the original versions approved in 1990. As Ash Grove gained experience with their kiln following the project modifications, various conditions in the approvals needed modified as some portions of the



limitations were not achievable. What conditions are in effect at this time are the following forms of limitations:

- Concentration limitations on NO<sub>x</sub>, CO, and SO<sub>2</sub> with different averaging times
- Startup operational procedures (attached to the Order of Approval as approved startup and shutdown procedures for SO<sub>2</sub> compliance and identified in Section II.B.8 of the permit) and startup emission limits which apply to SO<sub>2</sub> emissions
- Annual mass emission rate limitations for NO<sub>x</sub>, CO, SO<sub>2</sub>, and PM-10, to include startup and shutdown operations
- Mass emission rate limit for CO on an 8-hour average basis and a PM-10 mass emission limit in terms of lb/hr

Ash Grove uses a continuous emission monitoring system and the submittal of monthly reports to satisfy the monitoring requirements for this order of approval and the PSD permit approval. These reports have been submitted routinely in the past and will continue under this operating permit. Some new monitoring provisions are being added to these ongoing practices as a part of this operating permit to demonstrate compliance with all of these requirements.

In Section II.B.9 of the permit, a PM source test is identified to be completed once during each permit term. The purpose of this test is to revalidate PM emission limit compliance and re-establish the emission rate to production rate relationship. This relationship is used to convert annual production rates to mass emission rates identified in the identified approvals orders. Additionally, the production rate data required for other purposes (Section II.B.10 of the permit) will support these annual emission calculations.

In Section II.B.3 of the permit, a requirement to calculate and record the mass emission rates for the gaseous pollutants has been included. The CEMS data demonstrates compliance with the concentration based limits, but does not directly produce mass emission rate values. Most of the mass emission rate limits are on an annual basis (CO being the exception) and no direct requirement exists in the existing Orders to make that compliance determination. This mass conversion rate will provide the positive record that the mass emission rate limits are met and that those values include all operations, including startup and shutdown.

The Puget Sound Clean Air Agency has determined that the monitoring, recordkeeping and reporting frequency for these combined Order of Approval and PSD Permit conditions is satisfactory to assure compliance for the following reasons:

1. Initial compliance. Ash Grove has demonstrated compliance with these conditions and the current limitations in these approvals match the operational capabilities of the kiln. Past violations have been noted against prior versions of the approvals, but no violations of these present limitations have been noted. Past source testing for PM emissions have also indicated compliance with the underlying PM-10 limitations.
2. Margin of compliance. The margin of compliance is small for the concentration based limits. The revisions to Orders of approval over the past 10 years have reflected

challenges with the original concentration limits, but the current form of limitation does not produce the same, historical amount of violations. The current revised version of the Order of Approval identifies specific startup and shutdown procedures that are followed instead of defined concentrations monitored by the CEMS. This is an indication that the compliance margin is small and must be actively managed by the source and guided by the CEMS data at other routine operation times. The margin of compliance for the annual mass emission rates is considered high. There are no monitoring, recordkeeping, or reporting requirements for those mass emission rates in the approval orders. The margin of compliance for PM-10 emissions is also considered high, since the kiln is monitored by a COMS to verify compliance with a visible emission limitation of 5% opacity.

3. Variability of process and emissions. The process is highly variable during startup and shutdown procedures and relatively constant during normal operations. This fact is reflected by the startup and shutdown procedures being defined as an approval order condition and the normal operations being monitored by the CEMS.
4. Environmental impacts of problems. The air modeling of the stack emissions during the Notice of Construction and PSD permit review has shown that there are no significant environmental issues related the impacts of these pollutants.
5. Technical considerations. The Kiln has a significant flow rate so the emission limits are continuously monitored. By following the required monthly recordkeeping and monitoring schedule any significant emissions will be detected and corrected before there are compliance problems.

#### **4. Requirements EU 1.15 through 1.17 and EU-3 – Portland Cement NSPS (40 CFR 60, Subpart F)**

##### What NSPS Subpart F Requirements Apply to Ash Grove?

Ash Grove is subject to the Portland Cement NSPS regulation promulgated in 40 CFR 60, Subpart F. As a result, corresponding applicable provisions of the NSPS General Provisions (40 CFR 60, Subpart A) are also applicable to Ash Grove.

Ash Grove has demonstrated compliance with the opacity and particulate requirements of the NSPS for the affected emission units. A performance test report for the kiln was submitted to this Agency on September 7, 1993 and it demonstrated compliance with the Subpart F provisions which apply to the kiln.

This NSPS regulation was triggered by the kiln project originally approved in 1990. The emission units at the plant with this standard as an applicable requirement include the kiln and raw mill, as well as other various emission units identified in EU-3 of the permit. The clinker storage shed, the finish mills, the steel scale tanks and the Group II silos included in the permit are not subject to this NSPS because these units were not constructed or modified after August 17, 1971.

These NSPS requirements are separated in the permit to reflect different standards and different monitoring requirements. In EU 1.15 to EU 1.17, the particulate emission limit and visible emission limit for the kiln are identified, as well as the requirement to record production rates

and feed rates. Compliance with the particulate emission limit in this NSPS was demonstrated by the performance test results submitted to this Agency on September 7, 1993. That test report also indicated that the kiln met the visible emission limitation of 10% opacity. While that was compliant, subsequent guidance from the EPA indicates that the appropriate visible emission limitation for this unit is 20% opacity. In 40 CFR 60.62(a)(2), the visible emission limitation for kiln emissions is identified at 20% opacity. In 40 CFR 60.62(c), the visible emission limitation for other affected facilities is 10% opacity. The raw mill system is considered an “other affected facility” and that seems to have been the observation by Ash Grove with the September 7, 1993 test submittal. In an EPA memorandum from John Rasnic to EPA Regional Air Directors (September 7, 1996, ADI Control Number 9600083), it was concluded that in-line raw mills were considered integral to the operation of the kiln, that such a configuration was not circumvention, and the 20% opacity limitation for the kiln applied to the exhaust for this type of source (see Attachment B). Ash Grove has an in-line raw mill.

The NSPS Subpart F requirements identified in EU-3 (Portland Cement NSPS Affected Facilities) represent all other Subpart F emission units. These units are various point sources and material handling process which are subject to the visible emission limitation of 10% opacity identified in 40 CFR 60.62(c).

How will Ash Grove comply with NSPS Subpart F?

The portions of this subpart which apply to Ash Grove include:

1. Recurring source test for particulate emission compliance demonstration (once each permit term ) as described in Section II.B.9 of the permit;
2. Continuous opacity monitoring of the Kiln Baghouse for opacity in Section II.B.1 of the permit;
3. Routine opacity monitoring identified in Section II.A.1 of the permit, which monitors the baghouse emissions to no visible emissions (for units other than the kiln);
4. Semi-Annual Compliance Reports (to include Excess Emission Reports) in Section II.C.5 of the permit;
5. The Startup, Shutdown, and Malfunction (SSM) plan meeting requirements of Subpart A

The specific requirements from the NSPS Subpart F provisions which are applicable are included in the operating permit. The NSPS Subpart A General Provisions which are applicable to Ash Grove and which may govern action or future potential action on the part of Ash Grove (under this operating permit and implementation of Subpart F compliance) have been included for reference. The underlying requirements are in Subpart F, which identify the Subpart A citations associated with compliance activities.

**5. Requirements EU 1.18 through 1.20 – Coal Preparation Facilities  
NSPS (40 CFR 60, Subpart Y)**

What NSPS Subpart Y Requirements Apply to Ash Grove?

Ash Grove’s coal mills are subject to the Coal Preparation Facilities NSPS regulation promulgated in 40 CFR 60, Subpart Y. As a result, corresponding applicable provisions of the NSPS General Provisions (40 CFR 60, Subpart A) are also applicable to Ash Grove.

This requirement was discovered during the preparation of this operating permit to be applicable to the coal mill exhaust. It appears this NSPS regulation may have also been triggered by the kiln project in 1990 and Subpart Y applies because the coal mills have the ability to process more than 200 tons/day. No NSPS performance test of this emission unit has been completed for these Subpart Y objectives.

The emission units at the plant with this standard as an applicable requirement are the two coal mill baghouses, which exhaust a portion of the kiln exhaust gas used to dry coal prior to its use in the kiln as fuel. The applicability of this rule needed some clarification by the EPA since the use of the exhaust gas stream from the kiln could lead to the conclusion that the NSPS, Subpart F for Portland cement manufacturing applied to these discharge point. In an EPA memorandum from John Rasnic to the Air Compliance Branch for New Jersey/Caribbean Compliance Section (May 12, 1995, ADI Control Number 9600082), it was directly concluded that when gases originating in one affected facility (e.g. cement kiln and Subpart F) and pass through another affected facility (e.g. coal mill dryer and Subpart Y), the EPA applies to the standard for the affected facility from which the gases are directly discharged to the atmosphere (see Attachment C). This cited memorandum specifically talks about Subpart F and Subpart Y overlaps and identifies the coal mill dryer as being subject to Subpart Y.

Subpart Y also regulates coal storage, transfer and loading equipment between the raw coal silo and the kiln. The Subpart Y requirements for this equipment are listed in Section I.B.2 of the permit. The coal loading, transfer and storage equipment upstream of the raw coal silo are not affected emission units subject to Subpart Y. In EPA clarifications (February 24, 1977, ADI Control Number Y002 and October 29, 1990, ADI Control Number NR90), the EPA indicates that unless the equipment is handling coal transfer to or from an affected unit (see Attachment D), it would not be subject to the rule. These identified units fit this definition and are not subject to Subpart Y.

In EU 1.18 to EU 1.20, the particulate emission limit and visible emission limit for the coal mill dryer exhaust gases are identified, as well as the requirement to monitor the coal mill exhaust gas temperature. Compliance with the particulate emission limit and the visible emission limit will be established by a performance test included in the operating permit (see Section II.B.12 of the permit) and the temperature monitoring requirement overlaps with a NESHAP requirement to monitor temperature (see Section II.B.13 of the permit).

The NSPS Subpart Y requirements identified in EU-2 (Coal Processing, Storage and Transfer Facilities) represent all other Subpart Y emission units. These units are various point sources and material handling processes which are subject to the visible emission limitation of 20% opacity identified in 40 CFR 60.252(c).

*How will Ash Grove comply with NSPS Subpart Y?*

The portions of this subpart which apply to Ash Grove include:

1. Performance source test for particulate emission and visible emission compliance demonstration as described in Section II.B.12 of the permit;
2. Routine opacity monitoring identified in Section II.A.1 of the permit, which monitors the baghouse emissions to no visible emissions;
3. Semi-Annual Compliance Reports (to include Excess Emission Reports) in Section II.C.5 of the permit;

4. The Startup, Shutdown, and Malfunction (SSM) plan meeting requirements of Subpart A. The specific requirements from the NSPS Subpart Y provisions which are applicable are included in the operating permit. The NSPS Subpart A General Provisions which are applicable to Ash Grove and which may govern action or future potential action on the part of Ash Grove (under this operating permit and implementation of Subpart Y compliance) have been included for reference. The underlying requirements are in Subpart F, which identify the Subpart A citations associated with compliance activities.

**6. Requirements EU 1.21 through 1.35– Portland Cement NESHAPS (40 CFR 63, Subpart LLL)**

*What NESHAP Subpart LLL Requirements Apply to Ash Grove?*

Ash Grove is subject to the Portland Cement NESHAP regulation promulgated in 40 CFR 63, Subpart LLL. As a result, corresponding applicable provisions of the NESHAP General Provisions (40 CFR 63, Subpart A) are also applicable to Ash Grove.

Ash Grove is classified as a major source of criteria pollutants and thus was required to obtain an operating permit. However, the plant is considered an area source for hazardous air pollutants (HAPs), meaning the source's potential to emit is less than 10 tons/year for any individual HAP and less than 25 tons/year for total HAPs. The industry and EPA guidance makes it clear that emissions of hydrogen chloride and formaldehyde are the key HAPs for this evaluation.

Ash Grove's emission rate for HCl was found to be 1.26 tons per year and formaldehyde was found to be 8.58 tons per year as a maximum potential to emit.

Ash Grove completed area source determination testing in May 2001. Testing to demonstrate compliance with this standard and to set the limits of Kiln baghouse inlet temperatures for several operational modes (raw mill online and raw mill offline) and for the coal mill exhaust was completed during October 22-24, 2002. The results of that performance testing were submitted to the Puget Sound Clean Air Agency by the deadlines outlined in the NESHAP. The May 1, 2001 test report was received by this Agency on July 2, 2001 and it demonstrates that Ash Grove is an existing area source with HAPs projected to be less than 10 tons/year.

The area source definition means that the only emission limit from this regulation which applies to this plant is a dioxin/furan (D/F) limit of 0.40 ng/dscm (TEQ) at 7% O<sub>2</sub> when the average Kiln baghouse inlet temperatures are equal to or less than 400°F during the performance test [40 CFR 63.1343(d)(2)] and 0.20 ng/dscm (TEQ) at 7% O<sub>2</sub> when the average Kiln baghouse inlet temperatures are less than 400°F during the performance test [40 CFR 63.1343(d)(1)]. Ash Grove has conducted D/F performance testing for setting the Kiln inlet baghouse temperature for the two modes of operation of the Raw Mill (ON and OFF).

This testing included the Coal Mill Grinder emissions of dioxin/furan. Although most of the Kiln emissions vent through the Raw Mill (when it is operating) and exhaust out the main stack, there is a small portion of hot Kiln exhaust gases that are routed directly from the Kiln exhaust (before the Kiln gases enters the Raw Mill or main baghouse). This small portion of hot Kiln gas vents through the Coal Mill Grinder baghouse. This Coal Mill Grinder uses hot kiln exhaust gases for drying processed coal for Kiln fuel. The Kiln exhaust is withdrawn at the bottom of the precalciner tower and before the Raw Mill. For safety reasons the Coal Mill temperature must not be allowed to exceed about 180°F to 200°F. Although, the dioxin emission limit of 40 CFR §63.1343(d)(3) limits all Kiln exhaust discharge points that the Kiln exhausts to the

atmosphere, Ash Grove requested an alternative monitoring method for the coal mill baghouse temperature requirement as a method of dealing with the safety challenges created by testing the coal mill at maximum temperature conditions. In a letter from the Puget Sound Clean Air Agency on October 18, 2002, the proposed intermediate monitoring change was approved. This intermediate alternative monitoring change required the performance test to be completed for the coal mill exhaust gas but established the temperature value that shall not be exceeded during operation at 200°F (see Attachment E). It is expected that Ash Grove will demonstrate the dioxin/furan emissions are well below the emission standards of the NESHAPS once the performance test and compliance demonstration is submitted. The dioxin/furan performance test must be repeated every 30 months. As a result, the actual value of the temperature limitation is not being included as an explicit operating permit condition at this time since it will routinely be updated with the subsequent performance test requirements. It is important to note that this NESHAP regulation states (40 CFR 63.1350(b)) that, "Failure to comply with any provision of the operations and maintenance plan developed in accordance with 40 CFR 63.1350(a) shall be a violation of the standard." It is also important to note that this regulation indicates that temperature observations greater than the test derived value for that operational condition is also considered an exceedances of the dioxin/furan limit.

*How will Ash Grove comply with NESHAP Subpart LLL?*

The portions of this subpart which apply to Ash Grove include:

1. Applicability determination for area/major source
2. Performance test for compliance demonstration
3. Continuous Kiln inlet baghouse temperature monitoring and continuous coal mill baghouse temperature monitoring
4. Submit an O&M plan (for review and approval) which meets the requirements identified in this regulation
5. Develop & implement a Startup, Shutdown, and Malfunction (SSM) plan meeting the requirements of Subpart A and Subpart LLL
6. Document, report, and update SSM plan activities, as necessary and as identified in Subpart A
7. Repeat the dioxin/furan performance testing once every 30 months.

The specific requirements from the NESHAP Subpart LLL provisions which are applicable are included in the operating permit. The NESHAP Subpart A General Provisions which are applicable to Ash Grove and which may govern action or future potential action on the part of Ash Grove (under this operating permit and implementation of Subpart LLL compliance) have been included for reference, as appropriate. The underlying requirements are in Subpart LLL, which identify the Subpart A citations associated with compliance activities.

**7. Requirements EU 1.36 through 1.46 - WAC 173-434 Solid Waste Incinerator Facilities**

Puget Sound Clean Air Agency concluded during the review of the comments on the draft operating permit that this regulation did apply to Ash Grove and had been omitted from the original document. The details of this applicability and impacts of the recent Ecology revision of

this regulation are discussed in detail in the response to comments below [see Comment 28 (by Ash Grove 4/30/03)].

WAC 173-434 initially was adopted on September 17, 1990, with an effective date of October 18, 1990. The Department of Ecology amended WAC 173-434 on December 22, 2003. Ash Grove currently is not subject to the 2003 version of WAC 173-434, because the 2003 version exempts tires and non-hazardous waste oil burned in a cement kiln from the definition of “solid waste,” and Ash Grove currently is not permitted to burn any other materials for energy recovery that are classified as “solid waste” under the 2003 version of the incinerator regulation. Ash Grove remains subject to the 1990 version of 173-434, because Ash Grove burns more than 12 tons per day of whole tires, and the 1990 version does not exempt tires. Under both the 1990 and the 2003 versions of WAC 173-434 the definition of “solid waste” does not include industrial byproducts consumed as raw materials. For instance, Ash Grove consumes bottom ash from the Centralia coal plant as a source of alumina, slag from the Trail smelter as a source of iron, and gypsum chips from a drywall plant as a source of silica. These materials are not classified as “solid waste,” and their use does not subject Ash Grove to the requirements of WAC 173-434.

The applicable requirements of the 1990 version of this regulation have been added to the permit in Conditions EU 1.36 through 1.46, to include some specific monitoring, recordkeeping, and reporting provisions associated with this applicable regulation.

The requirements from this regulation are clear and discrete, with a couple of exceptions. In Condition EU 1.41 (3% oxygen concentration in gas leaving the kiln) and EU 1.44 (350°F inlet temperature to the kiln baghouse), the regulations for these operational limitations do not identify averaging times for the monitoring or compliance demonstrations. In both of these requirements, this Agency has concluded that the appropriate averaging period is 24-hours on a block average basis. Some of the other regulatory requirements of this rule specify averaging times (e.g. EU 1.37 and EU 1.39). When an averaging time is not specified in the regulation and a monitoring requirement for compliance creates the need to specify the averaging time, this Agency has to establish one for the permit. In this circumstance, this Agency has concluded that the 24-hour average is consistent with the regulation since the applicability criteria for the rule is the burning of 12 or more tons of solid waste per day.

This agency has determined that the WAC 173-434-130 emission limits for particulates and hydrogen chloride (HCl) do not apply to Ash Grove, because WAC 173-434-100(2) exempts incinerator facilities from the requirements of WAC 173-434 where other, more stringent regulations, controls or emission limits apply. Ash Grove’s kiln is subject to a particulate limit (see Condition EU 1.13) more stringent than that imposed by WAC 173-434-130(1). Ash Grove’s designation as an area source under 40 CFR Part 63, Subpart LLL requires Ash Grove to emit HCl at rates well below the 50 ppm limit contained in WAC 173-434-110(2). The Inapplicable Requirements table in Section VIII of the permit grants the protection of the Title V permit shield to these findings.

#### **8. Requirements EU-4.1 and 4.2 Finish Mills (Order of Approval No. 5276)**

Puget Sound Clean Air Agency Order of Approval No. 5276 (1/19/94) identifies the particulate concentration limitation of 0.01 gr/dscf (Order of Approval 5276, Condition No. 4) and a visible emission limitation of 10% opacity (Order of Approval 5276, Condition No. 5). These emission

limitations were identified to specify the emission control performance requirements for the baghouses installed on these units. The specific monitoring requirements identified in Condition No. 7 of that Order has been included as a specific monitoring requirement in Section II.B.4 of the permit. The frequency for this pressure drop is being established with this permit and is identified to be monthly for this unit. That Order originated monitoring requirement is based on pressure drop monitoring and corrective action when the observed pressure drop across the baghouse is outside of the approve range. This specific monitoring is in addition to the general opacity monitoring provisions included in Section I.A.1 of the permit.

**9. Requirement EU-5.1 Cement Dome & Steel Scale Tanks (Order of Approval No. 7242)**

Puget Sound Clean Air Agency Order of Approval No. 7242 (1/6/98) approved the installation of the cement storage dome controlled by a baghouse. Additionally, the Order approved replacement of a baghouse on the Steel Scale Tanks. The approval order includes requirements to install pressure drop monitoring devices on each baghouse, mark the acceptable range for each baghouse, monitor and record the values for each shift the baghouse is used, and take corrective action if the observation is outside the acceptable range in accordance with the O&M plan (Conditions No. 4-6). These are included in the permit in Section II.B.7. The frequency for this monitoring is specified in the approval order. Additionally, this approval order includes the PM-10 concentration limit of 0.005 gr/dscf (Condition No. 7 of the approval order), which parallels the PM-10 limitations identified and discussed for Condition I.A.5 of this permit. The same monitoring has been included for these emission units (Section II.A.1 General Opacity Monitoring) to demonstrate compliance with this concentration limitation.

**10. Requirement EU-6.1 Bulk Loading Station (Order of Approval No. 8318)**

Puget Sound Clean Air Agency Order of Approval No. 8318 (1/8/01) approved the installation of a bulk loading station equipped with a baghouse for emission control. The Order of Approval included requirements for no visible emissions or fallout from the baghouse (Condition No. 3) and the observation of visible emissions, abnormal pressure drop, or fallout trigger a corrective action response within 24-hours of observation. The monitoring for these two requirements is identified in Section II.B.11 of the operating permit, which specifies weekly inspections (when the equipment is operating) for visible emissions, pressure drop, and fallout. This monitoring procedure and frequency is specified in the Order of Approval (Condition Nos. 4-6).

**11. Requirement EU-7.1 Clinker Storage Shed (Order of Approval No. 8600) and Requirement EU-8.1 Group II Cement Silos (Order of Approval No. 8643)**

Both of these approval orders were for the installation of baghouse equipment for particulate matter emission controls. Both orders included the PM-10 concentration limit of 0.005 gr/dscf (Condition No. 3 of each order), which parallels the PM-10 limitations identified and discussed for Condition I.A.5 of this permit. The same monitoring has been included for these emission units (Section II.A.1 General Opacity Monitoring) to demonstrate compliance with this concentration limitation.



## **Monitoring, Maintenance and Recordkeeping Procedures**

Ash Grove must follow the procedures contained in Section II of the permit, Monitoring, Maintenance and Recordkeeping Procedures. Failure to follow a requirement in Section II may not necessarily be a violation of the underlying applicable emission standard in Section I. However, not following a requirement of Section II is a violation of Section II, and Ash Grove must report such violations, as well as violations or deviations from any other permit condition, as a deviation under Section II.C.2 of the permit. In addition, all information collected as a result of implementing Section II can be used as credible evidence under Section V.O of the permit. Reporting a permit deviation and taking corrective action does not relieve Ash Grove from its obligation to comply with the underlying applicable requirement.

A standard Puget Sound Clean Air Agency Notice of Construction (NOC) Approval Condition No. 1, requires that the equipment, device or process be installed according to plans and specifications submitted to the Puget Sound Clean Air Agency. Once the equipment is installed, the Puget Sound Clean Air Agency requires certification by the applicant that the installation was as approved; this is usually done with a Notice of Completion. Normally within six months to a year after receiving a Notice of Completion, a Puget Sound Clean Air Agency inspector verifies by inspection that the equipment was installed as specified and in accordance with the Approval Order. While the Notice of Completion is a one-time requirement that has been completed by Ash Grove, Ash Grove cannot change the approved equipment in such a manner that requires an NOC without first obtaining an NOC approval which is addressed in Section IV.A of the permit. In most cases, once Ash Grove has filed the Notice of Completion and a Puget Sound Clean Air Agency inspector has verified that the equipment was installed according to the Approval Order, the Puget Sound Clean Air Agency considers NOC Condition No. 1 an obsolete condition. However, in some cases in the permit the Puget Sound Clean Air Agency has identified a need to specify that the equipment cannot be altered in such a manner that requires an NOC Approval.

The permit requires Ash Grove to conduct monthly facility-wide inspections as a part of the O&M Plan Inspections. These inspections are to include checking for prohibited activities under Section III of the permit and activities that require additional approval under Section IV of the permit, as well as checking for any “nuisance” odor-bearing contaminants. The Puget Sound Clean Air Agency determined the frequency of these inspections after considering the potential for emissions, the lack of federally required monitoring, Ash Grove's in-house training practices and similar factors. If problems are identified, Ash Grove has the responsibility to not only correct the specific problem, but also to adjust the work practices and training to prevent future problems.

In determining the appropriate monitoring frequencies for monitoring identified in Section II.A. of the permit, the Puget Sound Clean Air Agency considered several factors, including the following:

- Ash Grove’s compliance history and the likelihood of violating the applicable requirement.
- The complexity of the emission unit including the variability of emissions over time.
- The likelihood that the monitoring would detect a compliance problem.

- The likely environmental impacts of a deviation.
- Whether add-on controls are necessary for the unit to meet the emission limit.
- Other measures that Ash Grove may have in place to identify problems.
- The type of monitoring, process, maintenance, or control equipment data already available for the emissions unit.
- The technical and economic considerations associated with the range of possible monitoring methods.
- The type of monitoring found on similar emissions units.

Section II.B of the permit imposes source-specific monitoring methods for particular emission units and applicable requirements. Condition II.B.15, Operational Monitoring For Solid Waste Incinerator Facilities, requires Ash Grove to monitor certain parameters to show compliance with the Design and Operation Standards of WAC 173-434-160. WAC 173-434-160(2) requires incinerator facilities to maintain a minimum combustion chamber residence time of at least one second. The combustion zone of Ash Grove's kiln is the distance from the kiln inlet to the tip of the burner pipe. This distance is 205 feet. Throughout this zone the gas temperature exceeds 1800 degrees F during normal operations. To traverse the combustion zone within one second gas would have to travel 205 feet/second, or 12,300 feet per minute. The working internal diameter of the kiln is 13.5 feet, or an area of 143.1 square feet. The product of the area (143.1 square feet) times the flow rate (205 ft/second) yields the maximum flow rate (1,760,130 actual cubic feet per minute or acfm) at which gas can traverse the kiln before the residence time drops below one second. Condition II.B.15 requires Ash Grove to monitor flow rate at the baghouse outlet to demonstrate that the residence time and combustion air distribution control requirements are met.

WAC 173-434-130(3) requires that excess air leaving the final combustion zone must contain at least three percent oxygen measured on a wet basis. Ash Grove's oxygen analyzer, located at the outlet of the preheat tower, measures kiln exhaust gas oxygen content on a "dry" basis. The moisture content of the exhaust gas stream from the Ash Grove's process averages 10%. To convert "dry" oxygen content data to show compliance with the "wet" limit in WAC 173-434-130(3) Ash Grove applies the following formula:

$$\text{"Dry" O}_2 \% = \text{"Wet" O}_2 \% \times (1/(1-(\text{Gas moisture content \%}/100)))$$

$$\text{"Dry" O}_2 = 3.0\% \times (1/(1-(10/100)))$$

$$= 3.0\% \times 1.11$$

$$= 3.3\%$$

Condition II.B.15 requires Ash Grove to continuously monitor the dry oxygen concentration at the preheat tower outlet, and to report as a deviation any 24 hour block during which the average dry oxygen concentration is less than 3.3 percent.

## **Prohibited Activities**

Some of the requirements Ash Grove identified in the operating permit application are included in Section III as prohibited activities. Puget Sound Clean Air Agency has listed these activities in this section to highlight that they cannot occur at the facility. Since these activities are prohibited, routine monitoring of parameters is not appropriate; however, the permit does require Ash Grove to look for such activities during a routine facility-wide inspection.

Puget Sound Clean Air Agency Regulation I, Section 9.13 and WAC 173-400-040(7) contain similar requirements addressing concealment and masking of emissions. Although both requirements apply, the permit language has been simplified by grouping these requirements together. 40 CFR 63.4(b) is included in the Prohibited Activities section of the operating permit with other more general requirements regarding concealment, but it would only be cited if the emission unit was subject to a NESHAPS.

## **Activities Requiring Additional Approval**

Some of the requirements Ash Grove identified in the operating permit application are included in Section IV as activities that require additional approval. For new source review, the permit language has been simplified. Chapter 173-460 WAC and Puget Sound Clean Air Agency Regulation I, Article 6 New Source Review Programs require approval to construct, install, establish, or modify an air contaminant source. All these requirements apply, but the language in these requirements has been incorporated into one section to simplify the permit language. WAC 173-400-110 does not apply within Puget Sound Clean Air Agency's jurisdiction because the rule exempts areas that have a local program that is incorporated into the state implementation plan. Also included in this section are the specific sections in the Part 63 General Provisions pertaining to new source review. This includes 40 CFR 63.5 pertaining to construction and reconstruction of sources subject to 40 CFR Part 63 (NESHAPS).

## **Reporting and Notification Requirements**

Section II.C and II.D contains the reporting and notification requirements applicable to Ash Grove.

The recordkeeping requirements section contains recordkeeping that is both general and specific in nature, depending on the origin of the requirement. There are additional requirements listed under specific emission units in Section II. Ash Grove should refer to these general requirements any time maintenance of records is required.

The reporting requirements section includes both general reporting requirements and reports specific to emission units. The operating permit requires Ash Grove to report deviations of the permit to the Puget Sound Clean Air Agency, normally within 30 days after the end of the month. The operating permit requires that a responsible official certify all required reports at least once every six months. Ash Grove may submit the certification with the report or certify all the reports submitted in the previous six months. For example, if Ash Grove detected a deviation in January, it must report the deviation to the Puget Sound Clean Air Agency in February. A

responsible official must certify the report according to WAC 173-401-520 at the time the report is submitted or any other time within six months of submitting the report.

If Ash Grove does not detect any deviations to report for a six-month period, then Ash Grove shall report that there were no deviations during the six-month period.

The notification requirement section includes source testing notification requirements and new source review and change of information notification requirements in 40 CFR Parts 60 and 63.

## **Standard Terms and Conditions**

Some of the requirements Ash Grove identified in the operating permit application are included in Section V, Standard Terms and Conditions. This provided an easier mechanism for describing requirements that are more general in nature. This section also contains the standard terms and conditions specifically listed in WAC 173-401-620.

Section II.C.2 of the permit requires Ash Grove to report deviations of the permit to the Puget Sound Clean Air Agency, normally within 30 days after the end of the month. Section II.C.1 and Section V.Q of the permit requires that a responsible official certify all required reports at least once every six months. Ash Grove may submit the certification with the report or certify all the reports submitted in the previous six months. For example, if Ash Grove detected a deviation in January, it must report the deviation to Puget Sound Clean Air Agency in February. A responsible official must certify the report according to WAC 173-401-520 at the time the report is submitted or any other time within six months of submitting the report.

If Ash Grove does not detect any deviations to report for a six-month period, then Ash Grove shall report that there were no deviations during the six-month period.

## **Obsolete Requirements**

The Puget Sound Clean Air Agency has issued many Notice of Construction Orders of Approval to Ash Grove. Each of these Orders of Approval contains at least one condition that requires Ash Grove to do something one-time, and one-time only. The Puget Sound Clean Air Agency has determined that some of the approval conditions are now informational statements because they have already been complied with and, therefore, do not meet the criteria of being applicable requirements. Those approval conditions are described here.

The NOC Order of Approvals from No. 685 approved January 13, 1972 through NOC Order of Approval No. 2399, approved February 28, 1983 for Ash Grove by Puget Sound Clean Air Agency included one General and some times added a Specific condition. The General Condition was:

"Permission is hereby granted as provided in Article 6 of Regulation I of PSAPCA to APPLICANT to install, alter, or establish the equipment, device, or process described hereon at the INSTALLATION ADDRESS in accordance with the plans and specifications on file in the ENGINEERING DIVISION of PSAPCA. This approval is not a waiver of liability for the infraction of Regulation I nor does it relieve the APPLICANT or OWNER of any requirements of other government agencies."

PSAPCA or Puget Sound Air Pollution Control Agency was the former name of the Puget Sound Clean Air Agency before July 1, 1999

Approval Condition No. 3 in NOC Orders of Approval issued prior to February 6, 1997 (which included Order of Approval No. #2743 approved February 26, 1986 through Order of Approval No. #6644 approved October, 18, 1996), and Condition No. 2 of all other NOC Orders of Approval since Order of Approval No. #2743 inform the applicant that the approval does not relieve it of any requirement of any other agency. This requirement is informational only and is

not included in the air operating permit.

The Puget Sound Clean Air Agency considered making Approval Condition No. 1 in all of the NOC Orders of Approval obsolete since it requires the applicant to install the approved equipment according to the specifications submitted to the Puget Sound Clean Air Agency. This requirement has been complied with in all cases as indicated by the submittal of the Notice of Completion to the Puget Sound Clean Air Agency by Ash Grove. However, this requirement was kept in the air operating permit as a reminder that Ash Grove must continue to operate equipment as originally permitted.

Order of Approval No. 6644 is not obsolete, but it does not include specific approval conditions that equate to emission or performance limits or monitoring requirements. It is similar to a the general provision discussed above in that it allowed Ash Grove to use water spray to control dust at two locations in an existing Conveyor System, but it does not specifically require it to be used. Specifically, Condition No. 4 of this order states *“This Order of Approval No. 6644, issued to allow water sprays to control dust at transfer towers #10A and #11, hereby supersedes and cancels Orders of Approval No. 2399 dated Feb 28, 1983 and No. 5696 dated Jan 11, 1995.”*. No requirements are missing from the operating permit with the exclusion of this Order. The following table lists all Orders of Approval with obsolete conditions that are not active and not included in the permit.

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
685	1/13/72	Replace (2) Type 241H Western Precipitator Multiclones  Specific: Owner must furnish a source test within 90 days after placing new multiclones in operation showing that emissions from the stack do not exceed the applicable standards of Regulation I, Section 9.09.	Yes	Equipment Removed
918	2/23/73	Upgrade Kiln - ESP Phase I	No	Equipment Removed
1011	7/19/73	Upgrade Kiln - ESP Phase II	No	Equipment Removed
1344	10/25/74	Concrete Supplies Filter Vent Model V16 for Cement Silo	No	Obsolete
1538	4/19/76	Conversion of Cement Process Operation from Natural Gas Firing to Coal Firing & Installing Coal Crusher & Processing Facility  Specific: Submit complete source test reports of particulate and SO2 emissions from main stack within 60 days after fuel change is effective. These tests must be made in accordance with all PSCAA test procedures, and observed by this Agency.	Yes	Obsolete
1905	1/4/79	Clinker Storage & Grinding Storage Hall Extension - North Side and Enclosure	No	Obsolete
1918	8/13/79	Plastic Strip Curtains on the East & West End of Packhouse Shipping Shed and on the SE Small Storage Shed. (3) McGuire Pendadors Model DF-400.	No	Equipment Removed

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No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
1919	8/13/79	Replace existing Duct Collector at the Belt Conveyor Transfer Point (Tower 11) with a Fuller Plenum Pulse Baghouse @ 5,000 acfm, with 1,001 ft <sup>2</sup> bag area.	No	Obsolete
1920	8/13/79	Replace existing Dust Collector at the Belt Conveyor Transfer Point located immediately West of the Finish Mill Building with a 5,000 acfm Fuller Plenum Pulse Baghouse with 1,001 ft <sup>2</sup> bag area.	No	Equipment Removed
1921	8/13/79	Enclose West Belt Transfer Point - Clinker Unloading - Tower 10	No	Obsolete
1922	8/13/79	Enclosure Belt Transfer Tower 11	No	Obsolete
2305	9/21/81	Rail Car Unloading, (4) Baghouses (Stella Ordered 7/23/02)	No	Equipment Removed
2399	2/28/83	(Cancelled by NOC #6644 10/18/96)  Coal Unloading & Stockpiling: consisting of Coal Barge unloading, Coal Discharge pile (4,000 tons), Coal Storage pile (7,500 tons), and existing Conveyors, (3) Baghouses, Coal Silo (600 tons), and Coal receiving station.  Specific: Subject to the fugitive dust control requirements and emission offset as described in Lone Star letter dated 1/12/83.	Yes	Cancelled
2743	2/26/86	(1) Fuller Plenum Pulse Baghouse @ 5,000 acfm (Kiln Discharge Elevator), (1) Fabric Filter NW Baghouse @ 7,000 cfm (Barge Unloading), and Construction of Wall & Addition of Rollup Door to enclose the Clinker Storage Shed.	No	Obsolete
2866	2/13/87	Cone Crusher with Water Sprays	No	Equipment Removed
3382	6/19/90	(Cancelled by NOC #5730 12/29/94)  Modified Cement Plant  (1) Dry process 92 tph (2200 tpd, 750,000 tpy) coal fired cement plant with baghouse control at 177,000 cfm. The plant consists of the following modifications and additions (see attached): Systems 141, 151, 161, 163, 152, 155, 331, 212, 341, 351, 361, 431, 471, 461, 462 and 463 with 24 baghouses of various sizes  4. This source is subject to Subpart F of 40 CFR Part 60.  5. The emissions from the main baghouse shall not exceed the following limits:  (a). For Carbon Monoxide (CO): 1000 ppm @ 10% oxygen (O <sub>2</sub> ), 538 pph (pounds per hour) 8-hr average and 2,353 tpy (tons per year);	Yes	Cancelled

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No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		<p>(b) For Nitrogen Oxides (NO<sub>x</sub>): 668 ppm @ 10% O<sub>2</sub> 1-hr average, 590 pph, 422 pph (24-hr average), 478 ppm @ 10% O<sub>2</sub> 24-hr average, and 1846 tpy.</p> <p>(c) For Sulfur Dioxide (SO<sub>2</sub>): 33 ppm @ 10% O<sub>2</sub> 1-hour average, 40 pph and 176 tpy;</p> <p>(d) For Particulate Matter (PM): 10.6 pph and 46 tpy.</p> <p>6. The monitoring and reporting of CO, NO<sub>x</sub>, SO<sub>2</sub> and Opacity shall be done in accordance with Article 12 of Regulation I.</p> <p>7. Emissions of Particulate Matter from all baghouses shall not exceed 0.010 gr/dscf.</p> <p>8. All emission testing, monitoring and reporting shall be performed in accordance with PSCAA requirements.</p> <p>9. Offsets of PM emissions (deducted from ERC # 107) are required under this NOC 3382, pursuant to Section 6.08 of Regulation I.</p>		
5006	7/8/93	Addition of a Dry Sorbent Silo (90 tons), venting to a Day 16PJF6 Baghouse @ 750 cfm.	No	Obsolete
5276	1/19/94	<p>(2) Baghouses at 20,000 acfm each connected to the Finish Mill Grinding System.</p> <p>4. Particulate emissions shall not exceed 0.01 gr/dscf as measured by EPA Method 5 with the back half. Ash Grove shall submit a testing plan to PSCAA for approval within 60 days of the approval date of this Order of Approval.</p> <p>5. Ash Grove shall perform a compliance source test within 60 days of startup.</p> <p>6. Ash Grove shall not exceed 10% opacity for an aggregate of 3 minutes in any 1 hour from the baghouse exhaust.</p> <p>7. Ash Grove shall measure and record pressure drop across the baghouse, and maintain the pressure drop between 3 and 6 inches.</p>	Yes	<p>Active</p> <p>Condition No. 5 is Obsolete</p>
5338	3/15/94	<p>(Replaced by 8415)</p> <p>(1) 150 ton Fly Ash Storage Silo with a 750 cfm Fabric Filter, and a pneumatic conveyor.</p>	No	Cancelled
5351	3/15/94	(1) DCL FS-175 Baghouse at 1,000 cfm for Rail Car Loading.	No	Obsolete
5696	1/11/95	<p>(Cancelled by NOC #6644 10/18/96)</p> <p>Conveying System</p> <p>Modify Raw Material Conveyance System by the addition of</p>	No	Cancelled



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No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		(3) new covered 36' wide Elevated Conveyors at Transfer Tower No. 11 which includes existing Conveyors and (3) existing Baghouses (Ref NOC 2399) to encompass Barge Unloading, Transfer and Stockpiling of Solid Raw Materials and Fuels used in manufacturing of Portland Cement.		
5730	12/29/94	<p>(Cancelled by NOC #7381 6/29/98)</p> <p>Limit PM10 Emissions</p> <p>(5) New Baghouse - Finish Mill</p> <p>This Order of Approval No. 5730 supersedes Order of Approval No. 3382 and adds the installation of a 120 ton/hour Clinker Pre-Grind Crusher with a Baghouse at 20,000 cfm, and a Finish Mill High Efficiency Separator Project including two (2) 60 ton/hour High Efficiency Separators with (2) Baghouses at 77,000 cfm each, two (2) Baghouses at 10,000 cfm each, and one Baghouse at 5,000 cfm.</p> <p>4. This source is subject to Subpart F of 40 CFR Part 60.</p> <p>5. PM-10 emissions from each baghouse except the Main Stack baghouse shall not exceed 0.005 grains/dscf over a twenty-four hour period. Ash Grove may demonstrate compliance with this condition by any of the following:</p> <p>a. Performing a PSAPCA approved source test according to EPA Method 5 or EPA Method 201A.</p> <p>b. Demonstrating no visible emissions for 15 consecutive seconds.</p> <p>c. Demonstrating no visible emissions for three consecutive minutes, or</p> <p>d. Repairing within 24 hours, any baghouse that has visible emissions for more than three consecutive minutes.</p> <p>Compliance shall be determined for visible emissions using EPA Method 22. PSCAA may require a source test for any baghouse that has sustained visible emissions, unless such emissions are unavoidable under WAC 173-400-107.</p> <p>6. Except during startup and shutdown of the kiln, scheduled maintenance and for emissions considered unavoidable under WAC 173-400-107, emissions from the main baghouse shall not exceed the most stringent of PSD limits or the following limits:</p> <p>a. Carbon monoxide (CO): 1049 ppm @ 10% oxygen (O2), 8-hr average, and 2353 tpy (tons per year);</p> <p>b. Nitrogen Oxides (NOx): 700 ppm @ 10% O2 1-hr average, 501 ppm @ 10% O2, 24-hr average, and 1846 tpy.</p> <p>c. Sulfur Dioxide (SO2): 180 ppm @ 10% O2 1-hr average, and 176 tpy.</p>	Yes	Cancelled

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		<p>d. Particulate Matter (PM): 10.6 pph and 46 tpy.</p> <p>7. During startup and shutdown of the kiln, and during scheduled maintenance on the main baghouse, all of the emission limits stated in Condition 6 apply, except that emissions from the main stack shall not exceed 200 ppm of SO<sub>2</sub> corrected to 10% O<sub>2</sub> for a one-hour average and 1000 ppm of NO<sub>x</sub> corrected to 10% O<sub>2</sub> for a one-hour average. Appendix A to this order defines the startup, shutdown and scheduled maintenance conditions under which these alternate limits apply.</p> <p>8. Ash Grove shall monitor and report CO, NO<sub>x</sub>, SO<sub>2</sub>, and opacity from the main baghouse according to Article 12 of Regulation I.</p> <p>9. By May 1, 1995, Ash Grove shall submit to PSAPCA for approval a best available control technology determination for controlling fugitive emissions from the clinker discharge end of the kiln. The evaluation must include start up and shut down.</p> <p>10. Ash Grove shall submit a testing plan to PSAPCA for approval within 60 days of startup for testing of the High Efficiency Separator Baghouse.</p> <p>11. This Order of Approval supersedes and cancels Order of Approval No. 3382 dated June 19, 1990.</p>		
7381	6/29/98	<p>(Cancelled by NOC #7381 6/6/01)</p> <p>5 Baghouse - Finish Mill</p> <p>Modifies NO<sub>x</sub> Emissions Standards</p> <p>This Order of Approval No. 7381 supersedes Orders of Approval No. 3382 and No. 5730 which added the following equipment: a 120 ton/hour Clinker Pre-grind Crusher with a Baghouse rated at 20,000 cfm, and a Finish Mill High Efficiency Separator Project including two 60 ton/hour High Efficiency Separators with two Baghouses rated at 77,000 cfm each, two Baghouses rated at 10,000 cfm each, and one Baghouse rated at 5,000 cfm.</p> <p>3. This source is subject to Subpart F of 40 CFR Part 60.</p> <p>4. PM-10 emissions from each baghouse, except the main stack baghouse, shall not exceed 0.005 grains/dscf over a 24-hour period. Ash Grove may demonstrate compliance with this condition by any of the following:</p> <p>(a) Performing a Puget Sound Clean Air Agency-approved source test according to EPA Method 5 or EPA Method 201A;</p> <p>(b) Demonstrating no visible emissions for 15 consecutive seconds;</p> <p>(c) Demonstrating no visible emissions for three consecutive</p>	Yes	Cancelled

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		<p>minutes; or</p> <p>(d) Repairing within 24 hours, any baghouse that has visible emissions for more than three consecutive minutes.</p> <p>Compliance shall be determined for visible emissions using EPA Method 22. The Puget Sound Clean Air Agency may require a source test for any baghouse that has sustained visible emissions, unless such emissions are unavoidable under WAC 173-400-107.</p> <p>5. Except during startup and shutdown of the kiln, scheduled maintenance and for emissions considered unavoidable under WAC 173-400-107, emissions from the main baghouse shall not exceed the most stringent of PSD limits or the following limits:</p> <p>(a) Carbon monoxide (CO) emissions shall not exceed 1049 ppm (parts per million) corrected to 10% oxygen (O<sub>2</sub>) for an 8-hour average, and CO shall not exceed 2353 tons per year;</p> <p>(b) Nitrogen oxides (NO<sub>x</sub>) shall not exceed 700 ppm corrected to 10% O<sub>2</sub> for a 1-hour average, and NO<sub>x</sub> shall not exceed 501 ppm corrected to 10% O<sub>2</sub>, for a 24-hour average, and NO<sub>x</sub> shall not exceed 1846 tons per year;</p> <p>(c) Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 180 ppm corrected to 10% O<sub>2</sub> for a one-hr average, and 176 tons per year;</p> <p>(d) Particulate matter (PM) emissions shall not exceed 10.6 pounds per hour, and 46 tons per year.</p> <p>6. During startup and shutdown of the kiln, and during scheduled maintenance on the main baghouse as defined in Appendix A to this approval, all of the emission limits stated in Condition No. 5 apply, except that emissions from the main baghouse shall not exceed the following limits.</p> <p>(a) During the kiln startup-preheating period prior to kiln feed introduction, the SO<sub>2</sub> emission limit for the main baghouse shall consist of compliance with the following work practices and fuel restrictions:</p> <p>(1) Only natural gas shall be used as fuel, and Appendix A to this approval shall be followed for heating a cold or warm kiln system and system conditioning after maintenance, and</p> <p>(2) Sulfur rings shall be removed from the kiln prior to startup, if sulfur ring formation had required the kiln to be shut down.</p> <p>(b) During the kiln startup-feed introduction period, SO<sub>2</sub> emissions from the main baghouse shall not exceed 200 ppm corrected to 10% O<sub>2</sub> for a one-hr average.</p>		

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No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		<p>(c) Any shutdown of the kiln shall follow the normal rotation and cool down procedures in Appendix A to this approval for the removal of as much material from the kiln as possible without damaging system components.</p> <p>(d) At all times during kiln startup, shutdown and scheduled maintenance, NOx emissions shall not exceed 1000 ppm corrected to 10% O2 for a one-hour average; and</p> <p>(e) Ash Grove shall log as part of the Operations and Maintenance (O&amp;M) Plan and report to the Puget Sound Clean Air Agency as part of the <b>monthly</b> Continuous Emission Monitoring Report:</p> <ul style="list-style-type: none"> <li>(1) The date, start and end times, and the fuel used for kiln startup-preheating periods prior to feed introduction;</li> <li>(2) The sulfur ring removal from the kiln, if the ring formation required the kiln to be shut down;</li> <li>(3) The date, start and end times for kiln startup-feed introduction periods; and</li> <li>(4) The cause for kiln shut down, the duration of kiln cool down and the kiln rotation schedule in kiln cool down.</li> </ul> <p>7. Ash Grove shall monitor and report CO, NO<sub>x</sub>, SO<sub>2</sub>, and opacity emissions from the main baghouse according to Article 12 of Regulation I. SO<sub>2</sub> emissions from the main stack shall be monitored at all times following the introduction of feed to the kiln.</p> <p>8. This Order of Approval No. 7381, supersedes and cancels Order of Approval No. 5730 dated Dec 29, 1994.</p>		
8415	3/20/01	<p>Cement Storage Silo vents to existing BH (Replaces NOC 5338)</p> <p>Fuller FK Material Pump and Ramsey Horizontal Rotary Gravimetric Metering System controlled by an existing Fly Ash Storage Silo 750 cfm baghouse.</p>	No	Obsolete

## Response to Comments

**Public Comment Started 12/31/02**

**Public hearing on 4/1/03**

**Public Comment Extended to 4/30/03**

### ***Written Comment Summary***

#### **Comment 1 (by Ash Grove 1/31/03)**

##### **Section I.B1 – Emission Unit #1**

Page 9 kiln has nominal capacity of 2400 tons per day.

*“This emission unit consists of a nominal ~~2200~~2400 ton/day capacity rotary Portland cement kiln, primarily fired with coal and natural gas, and controlled by a nominal 177,000 acfm baghouse.”*

#### **Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit.

#### **Comment 2 (by Ash Grove 1/31/03)**

EU 1.15 and EU 1.18 should state the NSPS emission standards apply at all times except during SSM (startup, shutdown and malfunction) periods.

Reqmt. No.	Enforceable Requirement	Adoption or Effective Date	Requirement Paraphrase (Information Only)	Monitoring, Maintenance & Recordkeeping Method (See Section II)		Reference Test Method
<b>40 CFR Part 60 Subpart F Standards of Performance for Portland Cement Plants</b>						
EU 1.15	40 CFR §60.62(a)(1) <a href="#">40 CFR § 60.8(c)</a>	10/6/75  <a href="#">2/12/99</a>	Kiln exhaust shall not exceed 0.30 lb of particulate per ton of feed (dry basis), <a href="#">except during SSM periods.</a>			
<b>40 CFR Part 60 Subpart Y Standards of Performance for Coal Preparation Facilities</b>						
EU 1.18	40 CFR 60.252(a)(1) <a href="#">40 CFR 60.8(c)</a>	10/17/00  <a href="#">2/12/99</a>	Coal mill exhaust shall not exceed 0.031 gr/dscf, <a href="#">except during SSM periods</a>	II.A.1 General Opacity Monitoring  II.B.12 Coal <del>MH</del> <a href="#">NSPS</a> Prep Facility Performance Test		

**Puget Sound Clean Air Agency Response**

Comment noted.

Action – Change made to permit.

**Comment 3 (by Ash Grove 1/31/03)**

Conditions EU 1.18, 1.19 and 2.2 refer to II.B.12, “Coal Mill Performance Test.” Rename monitoring method “Coal Prep Facility Performance Test”.

Condition EU 1.30 prescribes a coal mill performance test from which Ash Grove has requested to be exempted. See letter of January 23, 2003 from Gerald Brown to Steve Van Slyke. In the event that PSCAA is unable to act on this request prior to issuance of the final Title V permit, please revise Condition 1.30 to allow any exemption to take effect automatically.

Reqmt. No.	Enforceable Requirement	Adoption or Effective Date	Requirement Paraphrase (Information Only)	Monitoring, Maintenance & Recordkeeping Method (See Section II)		Reference Test Method
<b>40 CFR Part 60 Subpart Y Standards of Performance for Coal Preparation Facilities</b>						
<b>EU 1.18</b>	40 CFR 60.252(a)(1) <a href="#">40 CFR 60.8(c)</a>	10/17/00  <a href="#">2/12/99</a>	Coal mill exhaust shall not exceed 0.031 gr/dscf, <a href="#">except during SSM periods</a>	II.A.1 General Opacity Monitoring  II.B.12 Coal <del>Mill</del> <a href="#">NSPS Prep Facility</a> Performance Test		
<b>EU 1.19</b>	40 CFR 60.252(a)(2) 40 CFR 60.11(c)	10/17/00 10/17/00	Coal mill exhaust shall not exceed 20 percent opacity except during SSM periods	II.A.1 General Opacity Monitoring  II.B.12 Coal <del>Mill</del> <a href="#">NSPS Prep Facility</a> Performance Test		
<b>40 CFR Part 63, Subparts A and LLL</b>						
<b>EU 1.30</b>	40 CFR 63.1349(b)(3) and (d);	12/6/02	<del>Every 30 months</del> <a href="#">Except as waived or modified pursuant to 40 CFR 63.7 or 63.8</a> , Ash Grove shall conduct a performance test <a href="#">every 30 months</a> on the kiln			
<b>EU 2.2</b>	40 CFR 60.252(c) 40 CFR 60.11(c)	10/17/00 10/17/00	Exhaust gases shall not exceed 20 percent opacity except during SSM periods.	II.A.1 General Opacity Monitoring  II.B.12 Coal <del>Mill</del> <a href="#">Prep Facility</a> Performance Test		

**Puget Sound Clean Air Agency Response**

Comment noted. Identified request is being reviewed and may be resolved with final action prior to the final permit issuance.

Action – Change made to permit.

**Comment 4 (by Ash Grove 1/31/03)**

EU 1.35, delete, “Ash Grove shall submit the O&M plan for this requirement to the Puget Sound Clean Air Agency for approval.” Ash Grove submitted plan on May 24, 2002. We did not see any requirement to submit O&M plan updates for approval. Ash Grove believes this requirement was satisfied by their initial submittal on May 24, 2002.

Reqmt. No.	Enforceable Requirement	Adoption or Effective Date	Requirement Paraphrase (Information Only)	Monitoring, Maintenance & Recordkeeping Method (See Section II)		Reference Test Method
<b>40 CFR Part 63, Subparts A and LLL</b>						
EU 1.35	40 CFR §63.1350(a)-(b)	12/6/02	Failure to comply with those procedures shall be a violation of Subpart LLL.  <del>Ash Grove shall submit the O&amp;M plan for this requirement to the Puget Sound Clean Air Agency for approval.</del>			

**Puget Sound Clean Air Agency Response**

Comment noted. The Agency does not agree with respect to the inapplicability of this requirement for O&M plan amendments to be submitted for review and approval. Since the NESHAP regulation indicates in 40 CFR 63.1350(b) that a “failure to comply with any provisions of the operations and maintenance plan developed in accordance with paragraph (a) of this section shall be a violation of the standard”. As such, the version of the O&M plan provisions which relate to compliance with 40 CFR 63, Subpart LLL are important for reporting and compliance purposes. If Ash Grove updated the plan after the initial submittal, the Agency could be reviewing the compliance status of the facility with respect to documents which have not been shared with the Agency and are not part of the source record. If deviations were reported and/or enforcement actions were pending based on O&M plan provisions, it would be important for Ash Grove and this Agency to be working from the same document.

Action – No change made to permit.

**Comment 5 (by Ash Grove 1/31/03)**

**Sections I.B.5 and I.B.6 – Emission Units 5 and 6**

Insert standard header bar in the Applicable Requirements Table.

I.B.6 change to Bulk *Bag* Loading Station.



**3. Emission Unit #6 (EU-6): Bulk Bag Loading Station**

**APPLICABLE REQUIREMENTS**

Puget Sound Clean Air Agency Orders of Approval NOC 8318 – Bulk Loading Station						
EU-6.	Puget Sound Clean Air Agency Order of Approval No. 8318 Condition 3.	1/8/01	Ash Grove shall allow no visible emissions or fallout from the 500 cfm baghouse controlling the bulk <u>bag</u> loading station.	II.B.11 Bulk <u>Bag</u> Loading Station Monitoring	NA	NA
EU 6.	Puget Sound Clean Air Agency Order of Approval No. 8318 Condition 5.	1/8/01	If visible emissions, abnormal pressure drop or fallout are observed Ash Grove shall investigate the cause and either initiate repairs or shut down the equipment vented to the baghouse within 24 hours of the observation.	II.B.11 Bulk <u>Bag</u> Loading Station Monitoring	NA	NA

**Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit.

**Comment 6 (by Ash Grove 1/31/03)**

**Condition II.A.2 – Complaint Response**

II.C.4 Add cross reference to new complaint investigation reporting.

**2. Complaint Response**

*Ash Grove shall develop and implement an Air Pollution Complaint Response Program as part of the O&M Plan required by Regulation I Section 7.09(b). The Complaint Response Program shall be annually reviewed and updated along with the O&M Plan. This Program shall include:*

- *An Ash Grove local contact person and a 24-hour telephone number;*
- *Complaint forms available to the public;*
- *Criteria and methods for establishing whether Ash Grove may be the source of fugitive dust or other air contaminant impacts on neighboring property;*

- *Format of communicating results of investigations and advising complainants of Ash Grove's corrective actions and preventive maintenance;*
- *Ash Grove shall record air pollution complaints (including those forwarded to Ash Grove from this Agency) and findings of investigations as provided in Condition II.D.6. Investigations shall be initiated within 3 working days of receipt of a complaint.*

*If Ash Grove determines that emissions from its plant unreasonably impacted neighboring properties Ash Grove shall either eliminate the problem within 24 hours of identification or report a deviation as provided in Condition II.C.2. Ash Grove also shall report as a deviation any failure to initiate investigation of a complaint within 3 working days of receipt of the complaint. [Results of complaint investigations shall be reported monthly, as provided in Condition II.C.4.](#)*

*[WAC 173-401-615(1), 10/17/02]*

### **Puget Sound Clean Air Agency Response**

Comment noted, yet the desire to combine the Complaint Response Reports described in II.C.10 of the draft permit does not address the concern identified by Ash Grove [see Comment 16 (by Ash Grove 1/31/03 below)] regarding the complaint response procedures. Submitting the Complaint Response Report concurrently with the Monthly CEM Report is acceptable to the Agency. However, inserting this separate reporting requirement as a component of the Monthly CEM Report could be misleading to the public. Combining the reports into one reporting requirement will not reduce any paper or reporting requirements under this permit and would at a minimum, require a change to the report description identified in II.C.4 of the permit (e.g. Monthly CEM and Complaint Response Report).

Action – No change made to the permit for this comment.

### **Comment 7 (by Ash Grove 1/31/03)**

#### **Condition II.A.3 – Rooftop Inspection**

Page 31, footnote 1, define a “roof-top inspection” as a *visual* inspection of the overall facility.

### 3. Roof Top Inspections

*Ash Grove shall conduct a roof-top<sup>1</sup> inspection at least weekly. These inspections shall include inspection for odor-bearing contaminants and for fugitive emissions from any part of the facility. In the event any fugitive emission release is discovered by an inspection, Ash ~~grove~~Grove shall as soon as possible, but no later than 24 hours after discovered, begin corrective action, shut the ~~operaton~~operation down until the problem can be corrected, or report the release as a deviation as provided in Condition II.C.2. Ash Grove shall document each inspection as provided in Condition II.D.5.*

*[WAC 173-401-615(1) and WAC 173-401-615(2), 10/17/02]*

<sup>1</sup> A “roof-top inspection” is ~~an~~ a visual inspection of the overall facility from a sufficient height to allow the determination of the point(s) of origin and possibly the cause(s) of fugitive emissions.

#### **Puget Sound Clean Air Agency Response**

Comment noted.

Action – Change made to permit.

#### **Comment 8 (by Ash Grove 1/31/03)**

##### **Condition II.B.2 – SO<sub>2</sub>, CO and NO<sub>x</sub> CEMS**

Paragraph iii, update Appendix B performance specifications reference date to 1992, EPA’s performance specifications in effect when CEMS Reg I § 12.03(c).

[See “Comment 24 (by Ash Grove 1/31/03)” below for more discussion of this comment.]

#### **Puget Sound Clean Air Agency Response**

Comment noted.

Action – Change made to permit.

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**Comment 9 (by Ash Grove 1/31/03)**

**Condition II.B.3 – SO<sub>2</sub>, CO and NO<sub>x</sub> Mass Emission Rate Monitoring**

Clarify annual CO and SO<sub>2</sub> limits as calendar year limits and 8-hr CO limit is block average limit with 3 intervals per day. Add cross-references of reporting & recordkeeping. Delete recordkeeping requirements and add II.D.10. Reference PSD permit, which requires monitoring described in this condition.

**3. SO<sub>2</sub>, CO, and NO<sub>x</sub> Mass Emission Rate Monitoring**

Ash Grove shall calculate ~~annual~~SO<sub>2</sub> and CO emissions ~~of SO<sub>2</sub>, CO from~~ the cement kiln operation on a calendar year basis, and NO<sub>x</sub> emissions from the cement kiln operation on a 12-month rolling total basis, using the CEMS data collected under the requirements of Section II.B.2 of this permit. Additionally, Ash Grove shall calculate the 8-hour block average mass emission rate for CO using ~~on~~ CEMS data collected under the requirements of Section II.B.2 of this permit. Each day shall consist of three 8-hour compliance intervals, the first interval commencing at 12:00 a.m. When CEM data is not available or not required to be collected as identified by this permit, other information available to Ash Grove shall be used to compile the emission rate values. ~~The CEM data conversions used to generate mass emission rate values for these calculations shall be documented and retained with the record. Other supplemental emission rate determinations used for operational periods lacking CEM data shall also be documented (and retained with the record) to complete the annual emission rate calculation.~~Report deviations as provided in Condition II.C.4. Maintain records as provided in Condition II.D.10.

[WAC 173-401-615(1) and WAC 173-401-615(2), 10/17/02~~H~~; Order of Approval No. 7381, Condition 7, 6/6/01; PSD Permit 90-03, Amendment 3, Conditions 1-3, 10/8/01]

**Puget Sound Clean Air Agency Response**

Comment is essentially correct. A review of the specific language in the referenced PSD approval does not specify calendar year on the annual emission limitations. The specific language in Order of Approval No. 7381 Condition No. 5(b) identifies the annual NO<sub>x</sub> limitation as a “12-month running total”. In contrast, the annual limitations for SO<sub>2</sub> and CO have no parallel language regarding “running total”. This is indicative that the annual limitations have been approved on different calculation bases and the comment from Ash Grove is correct. Additionally, the comment on the 8-hour CO concentration limit as three 8-hour blocks of CO data for a 24-hour operational period is also correct. This comment merely reflects the parallel treatment of 1-hour concentration limits as 24 blocks of monitor data for each 24-hour operating day. The comment on linkage to recordkeeping in II.D.10 of the permit is also appropriate [*see discussion below on Comment 18 (by Ash Grove 1/31/03)*].

*Action* – Change made to permit.

**Comment 10 (by Ash Grove 1/31/03)**

**Condition II.B.9 – PM Monitoring Main Baghouse**

Propose modifying subsection (b) to clarify adjusting PM10 emission factor for only future reporting intervals.

**9. PM Monitoring Main Baghouse**

- (b) ~~Initially, multiply~~ Multiply the ~~annual~~ calendar year tonnage of clinker production by an emission factor of 0.0414 kg/Mg to determine annual PM10 emissions. ~~Recalculate~~ Revise this emission factor using data from the most recent PM source test, provided that the test yields data deemed representative of the kiln baghouse emission rate. Use the revised emission factor to calculate annual emissions for years subsequent to receipt of the source test data. Record in a log the annual tonnage of clinker production. Report per Condition II.C.2 if calendar year PM emissions exceed 46 tons per year.

**Puget Sound Clean Air Agency Response**

Comment is noted and the Agency agrees with the comment with one exception. The revised emission factor to calculate annual emissions should be for subsequent years following the date of the source test rather than the date of receipt of the source test. Since the calculation is completed on a calendar year basis, this would eliminate the possibility that a source test result from a test completed in December would not be used for 13 months as a result of the necessary elapsed time to produce a source test report.

*Action* – Change made to the permit, with the exception noted above for test date rather than report receipt.

**Comment 11 (by Ash Grove 1/31/03)**

**Condition II B.11 – Bulk Loading Station Monitoring**

Propose “Bulk *Bag* Loading Station Monitoring,” to distinguish from bulk truck loading station.

**11. Bulk Bag Loading Station Monitoring**

At least once a week when the bulk bag loading station is in operation, Ash Grove shall inspect the dust collector for visible emissions, fallout and pressure drop across the filters.

**Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit.

**Comment 12 (by Ash Grove 1/31/03)**

**Condition II.B.12 – Coal Mill NSPS Performance Test**

Propose renaming “Coal Prep Facility Performance Test.” NSPS Subpart Y requires opacity and grain loading tests on coal mills, and an opacity test on units of Condition I.B.2. Need to address all performance tests required by Subpart Y.

**12. Coal ~~Mill NSPS~~ Prep Facility Performance Test**

Within 180 days of permit issuance, Ash Grove shall conduct ~~a~~an NSPS performance test to show compliance with Condition EU 1.18 (40 CFR 60.252(a)(1) ~~and 60.252(a)(2) (Requirement EU 1.18,)~~ (coal mills only) and Conditions EU 1.19 and ~~EU~~EU.2.2 (40 CFR 60.252(a)(2) (all Subpart Y affected facilities)). Source testing methods required by 40 CFR 60.254 shall be used ~~the~~The procedures identified in Sections V.N and V.P of this permit shall apply.

**Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit.

**Comment 13 (by Ash Grove 1/31/03)**

**Condition II.C.4 – Monthly CEM Report**

Propose adding language after condition for monthly reports June to December for semi-annual reports per II.C.5, 6 and 7 and add paragraph for complaint investigations in a month, replacing II.C.10.

**C. Reporting**

**4. Monthly CEM Report**

Ash Grove shall file with Puget Sound Clean Air Agency a monthly CEM report, which shall be delivered or postmarked within 30 days after the end of the month in which the data were recorded. This report shall include:

- a. Results of any complaint investigations conducted pursuant to Condition II.A.2;
- b. The monthly CEM reports for June and December shall include, as attachments, the reports required by Conditions II.C.5, II.C.6 and II.C.7.

### **Puget Sound Clean Air Agency Response**

Comment noted. The Agency agrees with the comment and suggestion for insertion of paragraph (j) regarding attachment of reports required by Conditions II.C.5, II.C.6 and II.C.7. Based on the discussion above [Comment 6 (by Ash Grove 1/31/03)], the Complaint Response Report may be attached to the Monthly CEM Report but it will remain a distinct reporting requirement.

*Action* – Insert (i) to the permit stating “Complaint Response Report required by Condition II.C.10 shall be included as attachments to the CEM Report”. Insert (j) as suggested by the comment.

### **Comment 14 (by Ash Grove 1/31/03)**

#### **Condition II.C.6 – Semi-annual NESHAPS Subpart LLL Summary Report**

Propose edit of (i) for tracking excess emissions on the kiln and coal mills.

#### **6. Semi-annual NESHAPS Subpart LLL Summary Report**

- i. Performance summary, including each three hour period during the reporting period in which the average temperature of the kiln and/or each of the coal mills exceeded the respective temperature limits for those units as set forth in Conditions EU 1.29 and 1.30, the total duration of excess emissions expressed as a percent of the total kiln and/or coal mill operating time during the reporting period, and a breakdown of the total duration of excess emissions into those that are due to startup, shutdown, control equipment problems, process problems, other known causes and unknown causes;

### **Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit.

### **Comment 15 (by Ash Grove 1/31/03)**

#### **Condition II.C.7 – Semi-annual NESHAPS Subpart LLL SSM Report**

Propose edit of SSM report for each kiln SSM event, as in 40 CFR 63.10(d)(5)(i). Propose adding Part 63 definition “malfunction,” to know which events to report.

#### **7. Semi-annual Subpart LLL Startup Shutdown and Malfunction Report**

[The monthly CEM reports for June and December shall include, as an attachment, a semi-annual Subpart LLL SSM report. The SSM Report shall list the number, duration and a brief description of each kiln startup,](#)

shutdown or malfunction during the reporting period. If actions taken by Ash Grove during SSM events occurring between January 1 and June 30 of each year were consistent with the procedures in Ash Grove's SSM plan the ~~monthly CEM~~ report for the month of June shall include a statement to that effect. If actions taken by Ash Grove during SSM events occurring between July 1 and December 31 of each year were consistent with the procedures in Ash Grove's SSM plan the monthly ~~CEM~~ report for the month of December shall include a statement to that effect. For purposes of this report a "malfunction" means any sudden, infrequent, and not reasonably preventable failure of kiln air pollution control equipment or the kiln process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 63.10(d)(5)(i) (4/5/02); 40 CFR 63.2 (4/5/02); 40 CFR 63.1354(b)(4) (6/14/99); WAC 173-401-615(3) (10/17/02)]

### **Puget Sound Clean Air Agency Response**

Comment noted. Referenced malfunction definition is correct for 40 CFR Part 63.

*Action* – Change made to the permit, as modified by a related subsequent comment [see *Comment 26 (by Ash Grove 2/13/03)*].

### **Comment 16 (by Ash Grove 1/31/03)**

#### **Condition II.C.10 – Complaint Response Reporting**

This condition as proposed is impractical and unrealistic because it assumes that all complaints will be determined to be "attributable to Ash Grove" or not attributable. Much of the time a conclusive determination cannot be made, for reasons including the age of the complaint, the inability to collect a sample, or if the particulate analyzed in a sample does not bear the chemical fingerprint of cement products. Ash Grove is willing to report on the results of every complaint investigation conducted pursuant to Condition II.A.2, as part of the monthly CEM report described in Condition II.C.4,. We propose to delete this condition and to add a new paragraph to II.C.4 to require reporting the results of every complaint investigation.

### **Puget Sound Clean Air Agency Response**

Comment noted and the Agency agrees that not all complaints will be decisively attributable to Ash Grove. Ash Grove's suggestion to report on all complaints will help illustrate for others the level of effort associated with complaint response and will be included in the permit. The scope and the nature of the complaint response requirement identified in Condition II.A.2 are discussed in more detail below [see Comments 39 through 45 (by Port of Seattle 4/30/03)]. Also, the desire to delete Condition II.C.10 was discussed previously [see Comment 6 (by Ash Grove 1/31/03)] and it will remain a part of the permit.



*Action* – Condition II.A.2 of the permit was modified as discussed in the referenced comments above.

**Comment 17 (by Ash Grove 1/31/03)**

**Condition II.D.8 – NESHAPS Subpart LLL Recordkeeping**

Delete reference to 40 CFR 63.10(b)(2)(vii)(A) in paragraph (g) because temperature CMS is not subject to that paragraph.

**Puget Sound Clean Air Agency Response**

Comment noted and is correct. However, the citation needs to be corrected rather than removed. The correct citation should be 40 CFR 63.10(b)(2)(vii) rather than 40 CFR 63.10(b)(2)(vii)(A). The text in paragraph (vii)(A) is referring to CEMS data, which is not used for NESHAP compliance monitoring. However, paragraph (vii) refers to CMS data the temperature monitoring provisions of the NESHAP that apply to Ash Grove are used for NESHAP compliance monitoring.

*Action* – Change made to permit as discussed above.

**Comment 18 (by Ash Grove 1/31/03)**

**Condition II.D.10 – SO<sub>2</sub>, CO and NO<sub>x</sub> Mass Emission Rate Recordkeeping**

Proposes edits agree with proposed in change of Condition II.B.3. See II.B.3.

**D. Recordkeeping**

**10. SO<sub>2</sub>, CO, and NO<sub>x</sub> Mass Emission Rate Recordkeeping**

Ash Grove shall maintain on site records which document the 12-month rolling total ~~annual emission~~ calculations for ~~SO<sub>2</sub>, CO, and~~ NO<sub>x</sub> emissions from the kiln, the calendar year calculations for CO and SO<sub>2</sub> emissions from the kiln and summary 8-hour block average CO mass emission rates from the ~~ement~~ kiln. The records shall include the monthly calculations for each annual pollutant value, sufficient documentation to demonstrate the conversions from CEM data to mass emission rates, sufficient documentation to demonstrate the calculation methods used for mass emission rate data that is not CEM based, and documentation showing that all kiln operational time is included in the totals. The CEM data conversions used to generate mass emission rate values for these calculations shall be documented and retained with the record. Emission rate estimates used for operational periods lacking CEM data also shall be documented and retained.

### **Puget Sound Clean Air Agency Response**

Comment noted and the suggestions are consistent with previous comment and response [see Comment 9 (by Ash Grove 1/31/03)].

*Action* – Change made to the permit to reflect this suggestion.

### **Comment 19 (by Ash Grove 1/31/03)**

#### **Condition V.O – Credible Evidence**

The second paragraph of this condition overstates the scope of the credible evidence rules cited as legal authority for the paragraph. 40 CFR 52.12(c) states that nothing in Part 52 (i.e., the PSD rules and the Washington SIP) precludes the use of any credible evidence. 40 CFR 52.33(a) says that nothing in Part 52 or in any Federal Implementation Plan shall preclude the use of any credible evidence. Neither of these regulations addresses whether other Clean Air Act provisions, notably the Title V permit shield, may limit the use of any credible evidence in an enforcement dispute. We do not ask PSCAA to resolve today the question of how the credible evidence rule interacts with the permit shield. We do request that PSCAA preserve the question for another day by amending the second paragraph of Condition V.O to track the language of the federal rules cited as authority for this condition.

## **V. STANDARD TERMS AND CONDITIONS**

### **O. Credible Evidence**

For purposes of Federal enforcement, nothing in ~~any Federally enforceable State or Puget Sound Clean Air Agency regulation, permit, or order~~ [40 CFR Part 52](#) shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether Ash Grove would have been in compliance with applicable requirements if the appropriate performance or compliance test procedures or methods had been performed.

### **Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit to reflect earlier language proposed by Ash Grove. Section V.O of the permit will read as follows:

#### **V.O Credible Evidence**

*For the purpose of establishing whether or not a person has violated or is in violation of any provision of chapter 70.94 RCW, any rule enacted pursuant to that chapter, or any permit or order issued thereunder, nothing in Puget Sound Clean Air Agency Regulation I shall preclude the use, including the exclusive use*

*of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test procedures or methods had been performed.*

*[Puget Sound Clean Air Agency Regulation I, Section 3.06 (10/08/98); State/Puget Sound Clean Air Agency only]*

*For purposes of Federal enforcement, nothing in 40 CFR Part 52 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test procedures or methods had been performed.*

*[40 CFR 52.12(c) and 52.33(a) (2/24/97)]*

### **Comment 20 (by Ash Grove 1/31/03)**

#### **Condition V.Q – Certification of Truth, Accuracy and Completeness**

There is some stray boilerplate inserted between Conditions V.Q and V.R. It addresses Ecology rules prohibiting sources from tampering with monitoring devices, or making false statements. We propose to move these requirements into Section III of the permit, and to list each of them as its own permit condition.

#### **V. STANDARD TERMS AND CONDITIONS**

##### **Q. Certification of Truth, Accuracy and Completeness**

~~“No person shall render inaccurate any monitoring device or method required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.”~~

~~[WAC 173-400-105(8), 8/21/98 STATE ONLY]~~

~~“No person shall make any false material statement, representation or certification in any form, notice, or report required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.”~~

~~[WAC 173-400-105(7), 8/21/98 STATE ONLY]~~

#### **III. PROHIBITED ACTIVITIES**

##### **G. Tampering**

Ash Grove shall not render inaccurate any monitoring device or method required under Chapter 70.94 RCW, or any ordinance, resolution,

[regulation, permit or order in force pursuant thereto. \[WAC 173-400-105\(8\), 8/21/98 STATE ONLY\]](#)

#### **H. False Statements**

[Ash Grove shall not make any false material statement, representation or certification in any form, notice or report required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit or order in force pursuant thereto. \[WAC 173-400-105\(7\), 8/21/98 STATE ONLY\]](#)

### **Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit to reflect suggestion in this comment.

### **Comment 21 (by Ash Grove 1/31/03)**

#### **Section VIII – Inapplicable Requirements**

This condition includes two tables, one for requirements determined to be inapplicable to the entire plant, and the second for requirements determined to be inapplicable to a particular emission unit or units. The second row in the second table, discussing NSPS Subpart OOO, should be moved into the first table, because it finds that there are no Subpart OOO affected facilities at the Seattle plant.

The fifth row in Table 2, dealing with 40 CFR 60.8 performance tests, contains an editorial comment that should be deleted from the permit. The “Basis for Nonapplicability” column includes a statement that “Performance test for the coal mill is included in this permit in Section II.B.12.” This statement should be deleted, because it simply restates a requirement found in Section II.B.12.

The tenth row in the second table contains a statement that is now obsolete. Please delete “and the test report and compliance notification will be submitted as identified in Section II.C.8 of this permit.” Those reports were filed on December 20, 2002.

The 12<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> rows in the second table contain incomplete citations to Portland Cement MACT regulations. Please correct these errors as shown in the attached redline of the permit.

**VIII. INAPPLICABLE REQUIREMENTS**

Citation	Type of Requirement	Basis for Nonapplicability
PSD Permit 90-03 (6/20/90) and Amendments 1 (11/7/95) and 2 (3/8/99)	PSD Permit	These versions of Permit 90-03 were superseded by Amendment 3 (10/8/01).
<a href="#">40 CFR Part 60, Subpart OOO</a>	<a href="#">NSPS for Nonmetallic Mineral Processing Plants</a>	<a href="#">40 CFR 60.670(b) states that a Subpart OOO “affected facility” that is subject to Subpart F or that follows in the plant process any facility subject to Subpart F is not subject to Subpart OOO. All equipment at the Seattle plant that falls within the Subpart OOO definition of “affected facility” is also a Subpart F “affected facility.”</a>
Puget Sound Clean Air Agency Approval Orders 3382, 5730 and 7381 (6/29/98)	New source approval orders	Superseded by Order of Approval 7381, condition 8 (6/6/01)

Citation	Type of Requirement	Basis for Nonapplicability
<p><b>The requirements that are identified below are inapplicable for specific emission units or for rule and unit specific reasons. The requirements identified in the first column for these subsequent items are inapplicable only insofar as the scope and explanation provided in the third column qualifies the limitation of inapplicability and are not universally inapplicable to the entire site or for this permit beyond that scope and explanation.</b></p>		
<p><del>40 CFR Part 60, Subpart OOO</del></p>	<p><del>NSPS for Nonmetallic Mineral Processing Plants</del></p>	<p><del>40 CFR 60.670(b) states that a Subpart OOO “affected facility” that is subject to Subpart F or that follows in the plant process any facility subject to Subpart F is not subject to Subpart OOO. All equipment at the Seattle plant that falls within the Subpart OOO definition of “affected facility” is also a Subpart F “affected facility.”</del></p>
<p>40 CFR 60 Part 60, Subpart F</p>	<p>NSPS for Portland Cement Plants</p>	<p>Clinker storage shed, finish mills, steel scale tanks and Group II silos are not Subpart F “affected facilities” because neither unit was constructed or modified after August 17, 1971. 40 CFR 60.60(b) (7/25/77).</p>
<p>40 CFR 60.8</p>	<p>Initial performance test</p>	<p>Requirement to conduct NSPS <u>initial performance test on the kiln</u> was satisfied on 6/17/93. <del>Performance test for the coal mill is included in this permit in Section II.B.12.</del></p>
<p>40 CFR 63.7 and 63.1349(a) and (b)</p>	<p>MACT initial performance test requirements</p>	<p>The requirement to conduct a performance test to demonstrate initial compliance with the dioxin/furan emission standards in 40 CFR 63.1343(d) was satisfied on October 22-24, 2002 and the 2002. The test report and compliance notification will be submitted as identified in Section II.C.8 of this permit on December 20, 2002.</p>
<p>40 CFR 135063.1350(g)</p>	<p>Dioxin/furan monitoring requirements for kilns that employ carbon injection as an emission control technique</p>	<p>The Seattle plant does not employ carbon injection as an emission control technique.</p>
<p>40 CFR 135163.1351(b)</p>	<p>Subpart LLL compliance date for affected sources that commence new construction or reconstruction after March 24, 1998</p>	<p>Ash Grove did not commence new construction or reconstruction on any Subpart LLL affected source after March 24, 1998.</p>
<p>40 CFR 134463.1344(b)</p>	<p>Temperature limit for affected sources determined through performance test</p>	<p>The procedure in 40 CFR 1344(b) to set the temperature limit for affected sources through measurements taken during dioxin/furan performance testing does not apply to the coal mills, because Puget Sound Clean Air Agency approved an intermediate monitoring change establishing the coal mill temperature limit at 200 degrees F. See letter of October 18, 2002 from Steven Van Slyke to Robert Vantuyl.</p>

### **Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – The Agency agrees with the first element (move the reference to 40 CFR Part 60, Subpart OOO from the list of specifically noted inapplicable requirements to the plan-wide noted inapplicable requirements), the third element (reference to wording changes in 40 CFR 63.7 and 63.1349(a) and (b)), and the fourth element (expanding the wording from 40 CFR 1350(g), 40 CFR 1351(b) and 40 CFR 1344(b) to 40 CFR 63.1350(g), 40 CFR 63.1351(b) and 40 CFR 63.1344(b)) of these comments and the requested changes to the permit will be made as requested.

The comment regarding the citation for 40 CFR 60.8 as it relates to the initial performance tests illustrates how this citation could be confusing. Ash Grove’s comment suggests that an initial performance test should be cited as an inapplicable requirement. The comment included in the draft permit to explain why that inapplicability would be true identifies that the performance test for the Coal Mill has not been completed and is identified as a permit term in the draft document. Deleting the reference to a test that will be completed does not clarify the basis for inapplicability for this requirement with respect to 40 CFR 60, Subpart Y. Ash Grove identified the applicability of this NSPS rule in developing the draft permit.

The interest of this Agency is not whether the performance test identified in Section II.B.12 of the draft permit is an “initial” performance test but rather that a performance test is completed and documented for the record to satisfy the NSPS requirement. Since the understanding of 40 CFR 60, Subpart Y applicability evolved for both the source and this Agency, it will suffice to complete the performance test as identified in the draft permit. As a result, this Agency is deleting the 40 CFR 60.8 citation from the Inapplicable Requirements table. A performance test was completed on June 17, 1993 on the cement kiln to satisfy the performance test requirements of 40 CFR 60, Subpart F and the permit identified performance test for the coal mill in Section II.B.12 of the permit will satisfy the performance test requirement 40 CFR 60, Subpart Y. Since 40 CFR 60.8 addresses all performance tests, regardless of whether it is an initial or subsequent performance testing event, identifying a portion of this regulation as inapplicable is confusing.

### **Comment 22 (by Ash Grove 1/31/03)**

#### **Section IX – Insignificant Emission Units**

The “Lignoute Tank” mentioned in the IEU table should be a “Lignite Tank.”

## VIII. INSIGNIFICANT EMISSION UNITS

### A. *Insignificant Emission Units and Activities*

Unit	Basis for IEU Designation
<del>Lignoute</del> Lignite Tank	WAC-173-401-533(2)(c)

### *Puget Sound Clean Air Agency Response*

Comment noted.

Action – Change made to permit.

### *Comment 23 (by Ash Grove 1/31/03)*

#### Section X – Appendices

Ash Grove does not see any need to attach the test methods and EPA QA manual for COMS referenced in Conditions X.B and X.D. Ash Grove and PSCAA each have copies of these documents.

## X. APPENDIXES

### B. Non-EPA Test Methods (~~attached~~by reference only)

### C. Reference Continuous Emission Monitoring Performance Specification (by reference only, not attached)

- (1) EPA Performance Specification 1 (Opacity Monitoring), [40 CFR 60, Appendix B, July 1, ~~1997~~1992]
- (2) EPA Performance Specification 2 (SO<sub>2</sub> and NO<sub>x</sub> Monitoring) [40 CFR 60, Appendix B, July 1, ~~1997~~1992]
- (3) EPA Performance Specification 3 (O<sub>2</sub> Monitoring) [40 CFR 60, Appendix B, July 1, ~~1997~~1992]
- (4) EPA Performance Specification 4 (CO Monitoring) [40 CFR 60, Appendix B, July 1, ~~1997~~1992]



**D. EPA Quality Assurance Procedures (~~attached~~)by reference only**

**Continuous Emission Monitoring for Opacity: "Recommended Quality Assurance Procedures for Opacity Continuous Monitoring Systems" (EPA 340/1-86-010)**

**E. Elements of Opacity COMS Summary Report for 40 CFR 60.7(d) (Condition II.C.5)**

Pollutant (~~i.e., NOx, CO, SO2, Opacity~~): opacity; Reporting period dates; Company name and address; Process unit(s) description; Emission limits; Monitor manufacturer and model no.; Date of latest CMS Certification or Audit; Total source operating time in reporting period<sup>1</sup>

Include Name and Signature (Title) of the responsible official and Date

1. For Opacity, record all times in minutes. ~~For gases, record all times in hours.~~

**Puget Sound Clean Air Agency Response**

Comment noted. The Agency disagrees with this comment about attachments. The distinction between attached and referenced appendix materials was considered during the draft permit development and the choice was based on the relative ease to access and/or retrieve the documents. Public access to this information is also a consideration.

Action – No change made to permit.

**Comment 24 (by Ash Grove 1/31/03)**

The references to CEMS performance specifications in Section X.C.(1) should be dated 1992, rather than 1997. Regulation I § 12.03(c) states that a CEMS shall meet the performance spec in 40 CFR Part 60, Appendix B “in effect at the time of its installation.” This rule is reflected in permit conditions II.B.1 and II.B.2, which reference the 1992 versions of each performance spec. To be consistent Section X.C.(1) also should cite the 1992 versions.

[See comment 23 for suggested language changes.]

**Puget Sound Clean Air Agency Response**

Comment noted. The CEMS equipment was installed as required by Order of Approval No. 3382. That Order of Approval had an approval date of June 19, 1990 and the installation was reported to be complete on November 1, 1992.

Action – Change made to permit.

**Comment 25 (by Ash Grove 1/31/03)**

The NSPS Summary Report format incorporated in Section X.E.1 should be revised to apply solely to data from Ash Grove's opacity COMS. While the Seattle plant contains several CEMS, the only one required by an NSPS is the opacity COMS on the kiln. For this reason only the opacity COMS is subject to the semi-annual report required by 40 CFR 60.7(d). All of Ash Grove's CEMS are subject to monthly reporting required by Regulation I § 12.03(f). The additional report required by 40 CFR 60.7(d) is required only of the opacity COMS.

[See comment 23 for suggested language changes.]

**Puget Sound Clean Air Agency Response**

Comment noted.

*Action* – Change made to permit.

**Comment 26 (by Ash Grove 2/15/03)**

From: Cohen, Matthew (for Ash Grove)

Sent: 2/12/03

Proposes words for proposed 40 CFR 63.10(d)(5)(i) for SSM Plan in II.C.7.

*The monthly CEM reports for June and December shall include, as an attachment, a semi-annual Subpart LLL SSM report. The SSM Report shall list the number, duration and a brief description of each Part 63 startup, shutdown and malfunction during the reporting period. The requirement to report startups and shutdowns is deleted on the effective date of a rule change amending 40 CFR 63.10(d)(5)(i) to delete the requirement to report startups and shutdowns. . . .*

**Puget Sound Clean Air Agency Response**

Comment noted. The proposed rule referenced by this comment was promulgated and effective on May 30, 2003. The previous comment relating to Condition II.C.7 [*see Comment 15 (by Ash Grove 1/31/03)*] is modified and superceded by this comment and the EPA finalization of this regulation.

*Action* – Change made to permit. Condition II.C.7 is revised to read as follows:

**7. Semi-annual Subpart LLL Startup Shutdown and Malfunction Report**

[The monthly CEM reports for June and December shall include, as an attachment, a semi-annual Subpart LLL SSM report. The SSM Report shall list the number, duration and a brief description of each kiln startup, shutdown or malfunction during the reporting period.](#) If actions taken by Ash Grove during SSM events occurring between January 1 and June 30 of each year were consistent with the procedures in Ash Grove's SSM plan,

the SSM report for the month of June shall include a statement to that effect. If actions taken by Ash Grove during SSM events occurring between July 1 and December 31 of each year were consistent with the procedures in Ash Grove's SSM plan the SSM report for the month of December shall include a statement to that effect. Each SSM report shall identify any instance where an action taken by Ash Grove during and SSM event (including actions taken to correct a malfunction) is not consistent with the SSM Plan but the kiln and/or coal mill did not exceed an emission limit in Conditions EU 1.26 through 1.29. The report shall also include the number, duration and brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused an emission limit in Conditions EU 1.26 through 1.29 to be exceeded. For purposes of this report a "malfunction" means any sudden, infrequent, and not reasonably preventable failure of kiln air pollution control equipment or the kiln process to operate in a normal or usual manner which causes, or has the potential to cause, any of the emission limitations in Conditions 1.26 through 1.29 to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 63.10(d)(5)(i) (5/30/03); 40 CFR 63.2 (5/30/03); 40 CFR 63.1354(b)(4) (6/14/99); WAC 173-401-615(3) (10/17/02)]

**Comment 27 (by Ash Grove 3/28/03)**

From: Cohen, Matthew (for Ash Grove)

Sent: 3/28/03

Source requested an extension of comment period to prepare comments regarding potential applicability of WAC Chapter 173-434 to the Ash Grove Seattle plant.

**Puget Sound Clean Air Agency Response**

Comment noted.

Action – Comment period extended through April 30, 2003.

**Comment 28 (by Ash Grove 4/30/03)**

A. WAC 173-434

Section VIII of the draft permit contains a finding that the Seattle plant is not subject to WAC ch. 173-434<sup>2</sup> because the plant is not a solid waste incinerator facility. PSCAA has asked Ash Grove to support this finding, in light of the Pollution Control Hearings Board opinion in City of Tacoma Department of Public Works v. Department of Ecology, PCHB No. 02-020.

The City of Tacoma decision involved the Tacoma Steam Plant, a 1931 coal-fired electric power generating plant that was converted in 1986 to perform dual functions as a solid waste incinerator and energy recovery plant. WAC ch. 173-434 applies to any “incinerator facility,” defined in WAC 173-434-030 to mean “all of the emissions unit(s) . . . whose activities are ancillary to the incineration of solid waste.” Tacoma argued that the Steam Plant is not an incinerator facility because its primary purpose is to generate electricity, not to dispose of solid waste. Tacoma relied in part on the WAC 173-400-030 definition of “incinerator,” which refers to “a furnace used primarily for the thermal destruction of waste.” The Board rejected this argument, holding that “the term ‘incinerator facility’ broadens the regulatory scope to include units whose burning of solid waste may be only ‘ancillary’ to its primary purpose.” Order Granting Summary Judgment at 6.

The Board did not explain its interpretation of the terms “ancillary” or “incineration of solid waste.” Nor did the Board reconcile its decision with the first sentence of WAC 173-434-030, which declares that “the definitions of terms contained in chapter 173-400 are incorporated by reference.”

Assuming, however, that the PCHB decision is correct and binding, Ash Grove’s Seattle plant clearly is not an “incinerator facility,” because the combustion of solid waste is neither its primary nor its ancillary function.<sup>3</sup> Ash Grove operates the kiln exclusively to produce cement clinker. The production of clinker requires a great deal of energy and large volumes of raw materials. The compounds required to manufacture clinker include calcium, silica, alumina and iron oxides. Ash Grove extracts these compounds from a mix of virgin materials, industrial byproducts and recycled tires. The secondary raw material streams and the quantities processed in 2002 are as follows:

- bottom ash from Centralia coal plant – 105,000 tons
- slag from the Trail zinc smelter – 18,000 tons
- recycled tires – 5500 tons
- trim chips from James Hardie Gypsum – 4000 tons

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<sup>2</sup> The permit erroneously cites the solid waste incinerator rules as WAC ch. 173-435. This error should be corrected in the proposed version of the permit.

<sup>3</sup> Webster defines “ancillary” using the following synonyms: subordinate, subsidiary, auxiliary and supplementary. Webster’s New Collegiate Dictionary (1981).

Ash Grove uses each of these products to recover constituents required for clinker production. Bottom ash supplies alumina. Trail slag supplies iron. Gypsum chips provide silica. Recycled tires provide not only silica and iron<sup>4</sup> but also a supplemental fuel source that displaces coal.

The calcium, silica, alumina and iron compounds contained in Centralia bottom ash, Trail slag and gypsum chips have commercial value. To obtain them Ash Grove must purchase these materials for fair market value. There is no local secondary market for used tires. As a result recyclers pay Ash Grove a small fee to accept them, in lieu of land filling the tires.

The use of tires as a supplemental fuel and raw material source has two collateral environmental benefits. First, tire consumption generates less NO<sub>x</sub> than coal, on a pound per ton of clinker basis. Ash Grove reduced NO<sub>x</sub> emissions in 2002 by about 100 tons by exploiting the fuel and raw material values found in tires. Second, tire consumption recovers materials and energy from a waste stream that otherwise would consume landfill capacity.

The clinkering process produces no ash or other waste material. One hundred percent of the secondary materials inserted into the kiln are absorbed into clinker.

By contrast, the Tacoma Steam Plant was designed to serve two functions: energy generation and thermal destruction of municipal solid waste (MSW). Declaration of Jay Willenberg ¶ 9, PCHB No. 02-020 (filed May 10, 2002). In its application for a state solid waste grant to retrofit the plant the City explained that the primary purpose of the retrofit “is to reduce the volume of solid waste entering the Tacoma landfill while attempting to maximize the energy potential in the solid waste.” Declaration of Peter Lyon ¶ 8, PCHB No. 02-020 (filed May 10, 2002). The Steam Plant proved to be economically unviable if it could not be used to combust MSW. Declaration of Douglas Walker In Support of Motion For Summary Judgment ¶ 9, PCHB No. 02-220 (“The City, NRG and TERC have agreed to temporarily suspend operation of the Steam Plant indefinitely due to economics and the inability of the plant to obtain the necessary operating permits for burning alternative fuels.”). The Steam Plant produced no product other than energy. The waste combusted in the plant had no raw material value, and no commercial value. On this record, the PCHB found that the combustion of solid waste was at least an “ancillary” purpose of the Tacoma Steam Plant. Order Granting Summary Judgment at 6.

How can PSCAA support a determination Ash Grove is not an “incinerator facility”?

- Ash Grove, unlike the Tacoma Steam Plant, was designed and operates exclusively to produce cement clinker. The thermal destruction of solid waste is neither a principal nor an ancillary function of the plant.
- Ash Grove accepts *only* those secondary materials that provide constituents needed to produce clinker. Tires in particular supply about 10 percent of the iron required to produce clinker.

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<sup>4</sup>The average passenger car tire contains 2.5 pounds of steel. On a typical day recycled tires supply almost 10 percent of the Fe<sub>2</sub>O<sub>3</sub> required by the kiln.

- Ash Grove would continue to manufacture cement (albeit at higher cost) if secondary materials no longer could be utilized. The economic viability of the plant does not depend on its use as a waste destruction unit.

Under the criteria applied by the PCHB in the City of Tacoma decision, Ash Grove/Seattle is not an “incinerator facility.” Moreover, none of the secondary materials that Ash Grove consumes in its kiln, other than recycled tires, are “solid waste” within the meaning of WAC 173-434-030(3). An industrial byproduct purchased at fair market value as a raw material source is not a “waste” at all.

The design and operation standards contained in WAC 173-434-160 were designed for incinerators, not for cement kilns. Ash Grove cannot meet at least one of those standards when the raw mill is not operating. The main kiln baghouse operates with an average inlet temperature of 493 degrees F with the raw mill off, well above the 350 degree maximum temperature limit set by WAC 173-434-160(6) for the inlet to the particulate control device. This limit was established to ensure that an incinerator baghouse captures condensable toxic particulates. Response to comments on WAC ch. 173-434 at 15 (undated). Ash Grove is subject to 40 CFR 63 Subpart LLL and has conducted emission testing with the raw mill running and with the raw mill off. In both cases we have demonstrated that the kiln is an area source for the regulated hazardous air pollutants including HCl (less than 10 tons per year) and that dioxin emissions are well below the applicable standards for both conditions as well. This demonstrates that Ash Grove’s kiln is a well controlled source and there is no need to subject this manufacturing process to standards other than 40 CFR 60 Subpart F and 40 CFR 63 Subpart LLL.

Ash Grove’s raw mill operates whenever the kiln operates, except during planned maintenance shutdowns and unscheduled malfunctions. WAC 173-434-160 does not specify the averaging interval over which the particulate control device temperature limit must be demonstrated. If PSCAA concludes that the Seattle plant is an “incinerator facility,” Ash Grove requests that the permit include a condition requiring compliance with the temperature limit over a 30 day rolling average, a time period long enough to accommodate raw mill outages.

### **Puget Sound Clean Air Agency Response**

Comment noted. The Agency respectfully disagrees with this analysis. At Ash Grove, the practice in question is the feeding of tires to the kiln at rates greater than 12 tons per day. This practice was reviewed and approved in Notice of Construction Order of Approval No. 5755, issued on March 30, 1995. That NOC application described the tires as a fuel supplement to the kiln. Also, it is acknowledged that the draft permit erroneously identified this regulation as an “inapplicable” requirement. Further review and subsequent activities have clarified the applicability of this regulation to Ash Grove.

Ash Grove contends that WAC 173-434 should not apply because the facility was designed and operated exclusively to produce cement clinker and thus, thermal destruction of solid waste is neither a principal nor an ancillary function. In light of the decision of the Pollution Control Hearings Board (PCHB) in *City of Tacoma Department of Public Works and Tacoma Energy Recovery Co. v. Puget Sound Clean Air Agency*, Order Granting Summary Judgment (PCHB No. 02-020, June 14, 2002), the Agency does not find this argument compelling. The Agency

concludes that the burning of tires, which are considered solid waste, is ancillary to the cement production process and subject to WAC 173-434.

Ash Grove also contends that the tires provide raw material benefits, specifically iron, for the cement manufacturing process. While that may be true, the NOC record for the tire feeding activity clearly identified these tires as a fuel substitution for the primary fuel (coal). Ash Grove also contends that the use of the tires as feed to the kiln is not an economic necessity and that cement production would continue without this secondary material. That does not alter the conclusion above or change the consideration of the plant operation as an “incinerator facility” when tires are being fed as a fuel substitute.

The Agency believes the recent rulemaking efforts by the Washington State Department of Ecology regarding WAC 173-434 supports the Agency’s conclusion that WAC 173-434 applies to Ash Grove. Comments on the applicability of WAC 173-434 to cement kilns were offered by Ash Grove and Lafarge during Ecology’s rulemaking effort. The outcome of that rulemaking was a provision to allow existing practices at the cement plants, specifically the use of tires and waste oil that is nonhazardous as a fuel supplement, to be excluded from the definition of solid waste under WAC 173-434. Since the regulation has an applicability threshold of 12 tons per day of solid waste incinerated, this exclusion [found in WAC 173-434-030(3)(b)] means the current practices followed by the two cement plants in Seattle do not count towards that 12 ton per day threshold, but other solid wastes proposed and approved for use as fuel supplements can count towards the 12 ton threshold total. This exclusion would not have been necessary if WAC 173-434 had been found to be inapplicable to cement plants.

Ash Grove states that the kiln operation cannot meet the temperature limit (350°F) at the inlet to the air pollution control device, as identified in WAC 173-434-160, when the raw mill is “off” (i.e., The kiln exhaust bypasses the raw mill and goes directly to the main baghouse). Ash Grove also requests that if the rule is deemed applicable, the averaging time for this temperature parameter be defined as a 30-day rolling average to accommodate raw mill outages. It is the understanding of the Agency that normal cement plant operation at Ash Grove is conducted with the raw mill “on” (i.e. The kiln exhaust goes through the raw mill before entering the main baghouse). The operation of this plant is designed such that the raw mill is scheduled to be “off” for short periods of time (e.g. a few hours) to allow for routine maintenance activities (e.g. scheduled changes of worn raw mill grinding tires). The raw mill may also be off line for longer periods of time as a result of unforeseen upsets. The durations of these upsets depend on the specific problem encountered, but can last for hours and up to days. If the raw mill is down for an extended period of time, the cement plant will run out of feed material. The Agency agrees that an averaging period longer than an hour is appropriate for this temperature parameter, but does not have information supporting a 30 day rolling average as requested by Ash Grove. The Agency concludes that a 24-hour average value is appropriate.

To clarify the impact of this Agency’s decision that WAC 173-434 is applicable to Ash Grove, the following steps are being taken:

- Applicable provisions of WAC 173-434, as identified in the SIP approved version of this regulation (effective date 10/18/90), have been added to the operating permit.

- WAC 173-434 (effective date 1/22/04) is identified as an inapplicable requirement for Ash Grove within this permit upon EPA's incorporation of that updated regulation into the Washington SIP.
- Each of the provisions included in the permit from the previous (10/18/90) version of the regulation are labeled as inapplicable for the permit upon the EPA's incorporation of the updated regulation into the Washington SIP.

The Agency agrees with the technical and environmental benefits identified by Ash Grove regarding the use of tires as a supplemental fuel. The source has complied with the dioxin/furan emission limits under 40 CFR 63, Subpart LLL with results significantly below the standard. The use of tires for fuel support NO<sub>x</sub> emission reductions for normal kiln operation. The decision on the applicability of WAC 173-434 is not intended to signal that this fuel substitution practice is inappropriate. The provisions added to the permit for this regulation reflect the understanding that Ash Grove can comply with all aspects of this regulation.

*Action* – Applicable requirements from the SIP approved version of WAC 173-434 have been added to the permit in Conditions EU 1.36 through 1.48. As described above, the inapplicability of the rule has been incorporated into the operating permit to allow automatic implementation by the source once the EPA completes the SIP revision for this regulation.

### **Comment 29 (by Ash Grove 4/30/03)**

#### **NSPS Recordkeeping**

Condition II.D.7 of the permit, entitled "NSPS Recordkeeping," omits the 40 CFR 60.7(b) requirement to maintain records of the startup, shutdown or malfunction of NSPS "affected facilities," control equipment and continuous monitoring systems. "Affected facilities" at Ash Grove include the Subpart F kiln and the equipment subject to Subpart Y. Please revise Condition II. D. 7 as follows:

#### **7. NSPS Recordkeeping**

Ash Grove shall maintain the following information for at least two years following the date of measurements, maintenance, reports and records:

- a file of all measurements recorded by the kiln COMS and by the continuous temperature monitors installed at the inlet to each coal mill baghouse;
- all reports of performance tests conducted under 40 CFR Part 60 and all applicable subparts;
- all reports of performance evaluations on the kiln COMS and the coal mill temperature monitors;
- all reports of CMS calibration checks on the kiln COMS and the coal mill temperature monitors;
- all records of adjustments and maintenance performed on the kiln COMS and the coal mill temperature monitors;
- all records required by Condition II.B.9 of the permit (kiln production rate and feed rate records)



records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the kiln, coal mills, coal feeders # 1 and 2, the raw coal silo and PF bin;

records of any malfunction in a baghouse serving the kiln, coal mills, coal feeders # 1 and 2, the raw coal silo and PF bin;

records of any period during which the kiln COMS or a coal mill temperature monitor is inoperative.

[40 CFR §60.7(b) and (f) (2/12/99); 40 CFR 60.63(a) (12/14/88); 40 CFR 60.253(a)

(10/17/00); WAC 173-401-615(2)(a) (10/17/02)]

### **Puget Sound Clean Air Agency Response**

Comment noted and is consistent with a decision by EPA Region X regarding startup and shutdown records for NSPS sources (Applicability Determination Index Control No. 0300016, 4/18/02).

*Action* – Change made to the permit.

### **Comment 30 (by Ash Grove 4/30/03)**

#### **NSPS Reporting**

The last sentence of Condition II.C.5 states that semi-annual NSPS reports must be filed with both PSCAA and EPA Region 10. Section VIII of the permit (Inapplicable Requirements) describes NSPS reporting requirements that do not apply because of the delegation agreement between EPA and PSCAA. These sections should be updated to reflect the broader scope of delegation described in EPA's letter of February 5, 2003 to Dennis McLerran. Please delete the last sentence of Condition II.C.5 ("The semi-annual NSPS report shall be submitted to both the Puget Sound Clean Air Agency and EPA Region 10."). In Section VIII, please revise the row labeled "40 CFR Part 60, Subpart A, NSPS reporting requirements" to read as follows:

<p>40 CFR Part 60, Subparts A, F and Y</p>	<p>NSPS reporting requirements</p>	<p><del>The following NSPS notices and reports need be submitted only to Puget Sound Clean Air Agency, not to EPA: notification of commencement or construction or reconstruction, notification of anticipated and actual startup, notifications of any physical change to an existing facility which may increase the emission rate of any air pollutant to which an NSPS standard applies, notifications of the date upon which demonstration of the continuous emissions monitoring system performance commences in accordance with 40 CFR 60.13(e), notification of when continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5), and performance test reports. Letter of October 8, 1999 from Anita Frankel, EPA Region 10, to Mary Burg, Washington Department of Ecology. NSPS notices and reports required by Subparts A, F and Y need be submitted only to Puget Sound Clean Air Agency, not to EPA. Letter of February 5, 2003 from Betty Weise, EPA Region 10 to Dennis McLerran. EPA retains responsibility for review and approval of major changes to NSPS monitoring and test methods, as described in the February 5 letter.</del></p>
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### **Puget Sound Clean Air Agency Response**

Comment noted and it raises an issue that is confusing, depending on the document referenced. The most current NSPS delegation letter received by the Puget Sound Clean Air Agency from EPA Region 10 is dated February 5, 2003. In paragraph 4 of that letter, the EPA states “*With delegation, the PSCAA becomes the primary implementation and enforcement authority for these delegated NSPS standards. You will be the recipient of all notifications and reports and be the point of contact for questions and compliance issues. Although EPA looks to you as the lead for implementing the delegated NSPS, we retain the authority to enforce any applicable emission standard or requirement. EPA will request notifications and reports from sources, if needed.*”. This statement suggests that the EPA is waiving its need to receive required notifications and reports from the sources and that it will rely on Agency files if EPA is interested in a specific source or issue.

When reviewing 40 CFR 60.4, a different conclusion might be reached. In 40 CFR 60.4(b), it states “*Section 111(c) directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards of performance for new stationary sources located in such State. All information required to be submitted to the EPA under paragraph (a) of this section, must also be submitted to the appropriate State Agency of any State to which this authority has been delegated (provided, that each specific delegation may except sources from a certain Federal or State reporting requirement).*” It is not clear that the modifying language in the parentheses means the delegation authority granted by an EPA region effectively eliminates the parallel document submittals discussed in 40 CFR 60.4(a) and (b).

The Agency contacted EPA Region 10 for clarification. In a discussion with Jeff Ken Knight, Manager of Federal & Delegated Air Programs Unit at EPA Region 10, it was confirmed that the delegation letter language as it relates to parallel submittals of documents was consistent with this comment and EPA policy.

*Action* – Change was made to the permit to reflect this comment.

### **Comment 31 (by Port of Seattle 2/3/03)**

Port of Seattle requested a hearing on the permit. The letter recapped the concern about dust fallout from the Ash Grove operations and the potential for property damage and health effects from that dust. The letter also highlighted the Port’s efforts to organize tenants and neighbors to elevate their interests to Ash Grove and this Agency to make progress on their concerns about dust. The letter also expressed concern about the differences in the complaint response provisions of the permit in comparison to a draft air operating permit for Lafarge reviewed earlier.

### **Puget Sound Clean Air Agency Response**

Comment noted, yet more specific comments were submitted on April 30, 2003. Information regarding the public comment period was shared with Kay Wisner, with the understanding it would be shared with the interested group working with the Port. There was no intention to exclude the Port or anyone from commenting on the permit.

With respect to the comment regarding differences from the Lafarge document reviewed previously by the Port, the document the Port refers to was a “draft” air operating permit and has only indirect relationship to this specific permit open for review. Differences with the Lafarge draft complaint response conditions are discussed in more detail later.

*Action* – The comment period for the Ash Grove permit was extended through April 30, 2003 and a public hearing was held on April 1, 2003 in order to expand the public opportunity to comment on this draft permit.

### **Comment 32 (by Port of Seattle 4/30/03)**

The following is a summary of an introductory comment in a longer comment letter:

#### **A. *Impact of Ash Grove Air Emissions on Port Property***

- Port owns over 200 acres near Ash Grove, including three marinas, Terminal 104 (directly north), Terminal 106 (several buildings south and east with 11 tenants including Customs, USDA), Terminal 108 (south including Container Care), Terminal 102 (south end Harbor Island with 27 tenants, and Terminal 25 (Harbor Island cranes).
- The Port and all these businesses have complained for years about property damage and potential health concerns related from gritty corrosive dust fallout from Ash Grove. Terminal 106 roof and gutters get covered and damaged with measurable and obvious cement dust fallout. Additional total Port maintenance costs due to fallout is over \$100,000 per year.
- Submitting an aerial photograph of the Ash Grove facility (about early summer 1994), showing white cement dust fallout on parking lot of Terminal 104 (north), and darken the roof of Terminal 106 (south).
- Port and other employees vehicles affected.
- Ash Grove’s fallout is extremely abrasive, and damages auto paint and windshields Boats are damaged and many customers have left.
- The Port has tried to work with Ash Grove for many years (major efforts in 1995 and 2001). Some periodic progress but generally Ash Grove denies responsibility. Ash Grove motivated by fear of lawsuits, rather than sincere desire to solve problem. Ash Grove refuses to have a reliable off-site monitoring program.
- Appreciate recent equipment upgrades (required by the Agency), but afraid nuisance emissions will continue.

- The Agency needs to use its regulatory authority in the Operating Permit.

**Puget Sound Clean Air Agency Response**

Comment noted, though no specific permit comment or suggested permit change suggested with this comment.

*Action* – No changes made to permit based on this comment.

**Comment 33 (by Port of Seattle 4/30/03)**

**B. Comments on the Ash Grove Permit**

*Permit Requirement:* Page 5, Nuisance Standard (Requirement No. I.A.7)

The Port very much supports the inclusion of the nuisance standard in this permit. In particular, the statement that the Permittee “shall not deposit particulate matter beyond property boundary” clearly expresses the Port’s long-standing position that Ash Grove must look beyond its own property line when evaluating its environmental effects.

The nuisance standard language states that monitoring for compliance will be achieved through three methods: Complaint Response, Roof-top Inspections, and O&M Plan Inspections. Unfortunately, as discussed below, these methods are insufficient to establish an enforceable monitoring program. This section should be amended to include Off-Site Monitoring requirements.

**Puget Sound Clean Air Agency Response**

Comment noted. Please see the responses to Comments 34 through 38 (by Port of Seattle 4/30/03) for more detailed discussion of the elements of this comment.

*Action* – No changes made to the permit on the basis of this comment.

**Comment 34 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 6, Fugitive Dust Standard (Requirement No. I.A.10)

*Comment:* The Port supports the inclusion of this fugitive dust standard, because it sets a “zero tolerance” for fugitive dust from any equipment used in the manufacturing process or control equipment. At the hearing on this permit, Mr. Jim Nolan of the Agency stated that the permit covered the barges and trucks used to transport the raw and finished materials; therefore, we assume this fugitive dust standard also applies to that “equipment.”

The fugitive dust standard language states that monitoring for compliance will be achieved through two methods: Complaint Response and Roof-top Inspections. This section should be amended to include Off-Site Monitoring requirements. (It is not clear why O&M Plan Inspections should not also be a compliance method – the agency should consider amending this section to include those inspections as well).

### **Puget Sound Clean Air Agency Response**

Comment noted but it is not clear if the draft version available to the public was used for this comment. Condition I.A.10 is part of the currently SIP approved version of the fugitive dust regulation and it does identify both Roof Top Inspections (Condition II.A.3) and O&M Plan Inspections (Condition II.A.4) as the required monitoring provisions which have been identified for this applicable requirement.

The comment that this requirement creates a “zero tolerance” for fugitive emissions is inaccurate with respect to both the previously SIP approved version of Puget Sound Clean Air Agency Regulation I, Section 9.15 and the currently implemented version of this regulation as found in the most recent Puget Sound Clean Air Agency regulations (see Condition I.A.13 of the permit). When the EPA approves the latest version of Regulation I, Section 9.15 into the Washington SIP, Condition I.A.13 of the permit will be the only Puget Sound Clean Air Agency requirement for fugitive dust that will be effective in the Ash Grove permit. At that point, Conditions I.A.9, I.A.10, and I.A.12 will be superseded and no longer in effect for this permit. Action by EPA on the update to the Puget Sound Clean Air Agency portion of the Washington SIP is expected to occur soon.

The compliance and project history for Ash Grove indicates that fugitive dust problems which have been identified have been corrected through improvements in equipment and operational practices. When fugitive dust is released from some piece of equipment that is normally contained, it is most often due to an upset and Ash Grove should respond to the condition appropriately, including efforts to minimize and reduce releases. The Agency believes the permit and the various plans implemented by Ash Grove will support that response.

*Action* – No change to the permit made based on this comment.

### **Comment 35 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 31, Roof-top Inspections (Part II (A)(3))

*Comment:* Rooftop inspections are an amazingly crude and subjective way to measure an enforceable air quality requirement. As I understand it, this requirement basically consists of a company employee climbing up on the roof and peering around. The problems with such an approach are obvious. First, the inspection is limited to only that property contained within the facility boundaries (see footnote 1). Thus, on its face it fails to be a reliable indicator of compliance with the off-property nuisance standard. Second, the requirement does not specify when the inspection must take place. As the Agency knows very well, Ash Grove’s harmful emissions are extremely dependent on such factors as plant operations and weather conditions. Ash Grove can simply select a time for its inspection when everything is working perfectly. Third, the emissions may not be visible to the naked eye, but can still be harmful when they accumulate over time.

At a minimum, the Agency should require that the inspections happen at certain times, for example during upset conditions, or within one hour after a complaint is received, or every other Wednesday. In no event should the inspection take place when the facility is not operating.

### **Puget Sound Clean Air Agency Response**

Comment noted. This monitoring is the same requirement used in several Title V permits for large sources. As a result of Title V, sources must now do significantly more monitoring and record keeping. Since the operating permit requires roof top monitoring in conjunction with general O&M inspections, plant-wide opacity monitoring, inspection for track out, and a complaint response program, significant efforts will be implemented to identify and respond to potentially problematic conditions within the plant. Each of these efforts, along with the ongoing Agency inspections, is believed to reasonably assure continuous compliance. Inspections are written for plant activities within the Ash Grove site since that is the scope of the permit and represents the operations and emissions for which Ash Grove is directly responsible.

Additionally, upsets or operational problems which could cause problem impacts offsite should be dealt with in a preventative and/or timely response at the source to correct the problem or minimize its impact. The compliance history documented for the site indicates that effective equipment operation and timely maintenance provide the most responsive corrective actions to problems.

The permit directly states in Condition II.A.1 that the observations must be made when the equipment is operating. Ash Grove will determine the specific schedule for required observations and it must meet the frequency and informational requirements specified by this permit. With regard to conducting scheduled observations during upsets or following complaints, it is the expectation of this Agency that Ash Grove will be responding to an upset to correct the problem or that it will be investigating the complaint once it is received, rather than scheduling routine compliance monitoring observations. Complaint response activities will be included in the monthly reports required by the permit anyway [see Comment 45 (Port of Seattle 4/30/03)].

*Action* – No change made to the permit based on this comment.

### **Comment 36 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 31, O&M Plan Inspections (Part II (A)(4))

*Comment:* This is the second “monitoring method” that is intended to determine whether nuisance emissions have occurred. However, the sole purpose of this inspection method is to make sure that the equipment is working correctly. Obviously, the equipment that is in place is not adequate to prevent nuisances, or there wouldn’t be continuing complaints. Thus, although it is certainly a good idea to make sure the equipment is working, this is an insufficient measure of compliance success in the case of the nuisance standard.

### **Puget Sound Clean Air Agency Response**

Comment noted. The O&M plan inspection requirement identified in the draft permit covers both the operation of equipment and other activities associated with potential fugitive dust emissions. The compliance history discussed in the draft statement of basis indicated that many of the fugitive dust violations (cited as either fugitive dust or nuisance violations) for the plant

resulted from equipment not being operated correctly. In some of those enforcement cases, additional equipment or equipment improvements or improved O & M procedures were part of the resolution. At the present time, the Agency believes that the equipment onsite is adequately designed and that compliance will be maintained through a commitment from Ash Grove to effectively follow their O&M plan.

*Action* – No change made to the permit based on this comment.

**Comment 37 (by Port of Seattle 4/30/03)**

*Permit Requirement:* None

*Comment:* As should be clear from the above discussion, what is missing from the permit is a reliable, non-subjective measurement of non-compliance with the nuisance standard. In other words, what is missing is an Off-site Monitoring Program for both fugitive dust and nuisance emissions.

It is our understanding that the Draft Permit does not include such an off-site monitoring program because the existing state and federal rules do not establish a standardized testing method. However, we encourage the Agency to view this as an opportunity to exert leadership, not as an insurmountable hurdle. We believe strongly that what is needed at this point is an independent research program to answer the question, to the extent possible, of what is source of deposition on neighboring properties. This research program should be headed by the Agency, but should involve the participation of affected neighbors, to assure that the outcome is acceptable to all parties.

We propose that the following language be added to Part II.A.

***II.A.6 Off-Site Monitoring Program***

Within 90 days of the permit effective date, Ash Grove shall submit its plan for an Off-Site Monitoring Program to measure the quality and quantity of fugitive dust emissions and nuisance emissions on adjacent properties. At a minimum, the plan will describe the sampling locations, sampling frequency and duration, quality assurance and analytical methods, and reporting formats to be used. Sampling events shall be spread adequately to account for seasonal variations. There must be adequate number of samples collected to ensure statistical significance.

**Puget Sound Clean Air Agency Response**

Comment noted and the Agency disagrees with the technical and regulatory premise of this request. Although there is an old Washington Department of Ecology fallout standard that was promulgated prior to the federal EPA program for ambient standards, there is currently no approved state method for sampling. This old fallout standard was supplanted by the current federally supported suspended particulate ambient standards.

The ambient air in the vicinity of the Ash Grove plant is a shared resource and any measured pollutant concentrations which are observed from any ambient monitoring technique would reflect the impacts of Ash Grove, Port operations, operations by Port tenant business, and others



beyond the immediate vicinity. Even if such a requirement was appropriate, the Agency is not aware of any reasonably available monitoring technology and strategy which will answer the question posed by the Port.

There are no outstanding violations which would support a compliance plan to be attached to this permit. The level and frequency of monitoring identified in the permit is based on the compliance history and potential for violations.

*Action* – No change made to the permit based on this comment.

**Comment 38 (by Port of Seattle 4/30/03)**

The Agency, in conjunction with affected property owners selected by the Agency (hereafter, the “Off-Site Monitoring Program Taskforce”) shall review and comment on the draft proposal. Ash Grove shall incorporate all reasonable comments made by the Taskforce. The Agency shall determine what is reasonable.

Within 30 days after the plan for the Off-Site Monitoring Program has been finalized, Ash Grove will begin conducting the prescribed monitoring.

After one year of monitoring, the Agency and the Taskforce will reconvene to review the results. At that time, the Agency may request changes to the Off-Site Monitoring Plan. These changes shall be incorporated, and a new version of the plan developed and implemented. Monitoring under the revised protocol shall then continue for one additional year.

Within 60 days after the cessation of monitoring, the Permittee shall submit a final report to the Agency. The final report shall summarize the results of the monitoring and identify the likely sources of fugitive dust or other air contaminants impacting neighboring properties.

Alternately, the last paragraph (reporting requirements) could be put into Part II(C).

**Puget Sound Clean Air Agency Response**

Comment noted. Please see response to Comment 37 above, regarding offsite monitoring as an element of an air operating permit. Additionally, the concept of establishing a task force through air operating permit conditions is inconsistent with the relevant regulations. The permit must identify all applicable air regulatory requirements and identify the monitoring, recordkeeping, and reporting necessary to reasonably assure continuous compliance by the source. The Agency believes the permit conditions should focus on plant operations rather than offsite impacts.

*Action* – No change made to the permit based on this comment.

**Comment 39 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 30, Complaint Response, Third Bullet (Part II.A(2))

*Comment:* As an initial matter, many aspects of this Compliant Response section are positive, and we are hopeful that including them as permit requirements will create consistency and accountability in what has, up to now, been a purely voluntary effort on the part of Ash Grove.

We would like to comment on the third bullet (“criteria and methods for establishing whether Ash Grove may be the source of fugitive dust.”) As discussed above, the Port is unconvinced of the wisdom of having Ash Grove itself determine what should be the criteria. We respectfully suggest that the final report of the Off-Site Monitoring Program (discussed above) be used to establish this. Although this approach has the disadvantage of postponing for several years the establishment of these criteria, it has the benefit that the eventual outcome will be acceptable to all, rather than a source of continuing disagreement and controversy.

**Puget Sound Clean Air Agency Response**

Comment noted. Please see Comment 41 for a response to the comment on the Complaint Response provisions of the permit. Please see Comment 37 and 38 for a response to the proposed offsite monitoring program comment.

*Action* – No changes made to the permit based on this comment.

**Comment 40 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Complaint Response, Missing bullet

*Comment:* The Complaint Response section in the

Lafarge permit states that the Complaint Response Program must include an element for “actions for addressing complaints and their causes.” The deletion of this element from the Ash Grove permit lets them off the hook completely. Without it, Ash Grove need only record and investigate complaints -- they never have to DO anything about it. This is a very, very significant omission and should be corrected.

**Puget Sound Clean Air Agency Response**

Comment noted and the Agency disagrees with the comment. The language in Condition II.D.6(d) requires a record of the investigation efforts and basis for conclusions reached on that complaint. Condition II.D.6(e) requires a record of any corrective action taken as a response to a complaint. Please see response to Comment 43 (by Port of Seattle 4/30/03) for more discussion.

*Action* – No changes made to the permit based on this comment.

**Comment 41 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 30, Complaint Response, Fifth bullet (Part II.A(2))

*Comment:* The fourth bullet requires that “investigations shall be initiated within 3 working days.” This should be changed to read “conducted within 3 working days.” In addition, a parallel change would need to be made to the last sentence on page 30.

This suggested change is the language in the Lafarge permit, and there is no reason why Ash Grove should be allowed a more lenient standard (in fact, just the opposite). Complaining persons should not have to wait 3 days to get an initial response from the company.

### **Puget Sound Clean Air Agency Response**

Comment noted and the Agency agrees with the comment in general. The Agency disagrees with the premise that an investigation should be completed within 3 working days because some investigation activities cannot be completed within that period of time. For example, if samples were collected for analysis, results may not be available within that period of time. Additional information from other entities may be requested but not available within that time frame.

In response to this comment, the Agency is revising the complaint response provisions of the permit to require an investigation be initiated within 1 day of receipt of the complaint [see Comment 45 (by Port of Seattle 4/30/03) for revised Condition II.A.2 language]. The permit originally used the term working day, but it is not clear that the word “working” is needed. If the plant is running on a weekend, the Agency would consider that a working day for Ash Grove and the complaint response program should provide the ability for Ash Grove to receive complaints on those days and begin an investigation and/or response as appropriate. Ash Grove’s complaint response plan can more specifically define “receipt” of complaints and its initial steps to “investigate” the complaint.

The Agency acknowledges the concerns expressed by Ash Grove regarding the ability to determine whether each complaint is attributable to Ash Grove since it has no control over the timeliness or level of detail they receive in a complaint [see Comment 16 (by Ash Grove 1/31/03)]. It is useful for all citizens that will use the complaint response provisions described in this permit to remember that the timeliness and level of detail provided with the complaint will enhance the ability of Ash Grove to investigate and respond in an appropriate manner. At the same time, it is the responsibility of Ash Grove to identify for the complainants what types of information they would like to receive which will make their investigation and response more productive.

*Action* – Change made to the permit as discussed above.

### **Comment 42 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 30, Complaint Response, Fifth Bullet (Part II.A(2))

*Comment:* The Lafarge permit also contains certain criteria for when investigations should be initiated, which have been deleted from the Ash Grove permit. These should be reinstated. Please insert the following language at the end of the fifth bullet:

*Investigations shall include potential sources within Ash Grove’s facility, considering the following circumstances:*

- 1) Emissions that are, or likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interfere with enjoyment of life and property;*
- 2) Fugitive dust emissions or evidence of inadequate fugitive dust control measures;*
- 3) Evidence of fallout materials and any physical or chemical associations with plant-site activities;*

- 4) *Materials tracked onto paved roads open to the public;*
- 5) *Emissions of odor-bearing air contaminants;*
- 6) *Equipment operating in such a manner as can reasonably be expected to contribute to emissions that can result in fallout complaints;*
- 7) *Emissions due to startup, shutdown, malfunction or emergencies as defined in WAC 173-400-107 or WAC 173-401-645;*
- 8) *Emissions caused by non-compliance with applicable requirements of this permit; and*
- 9) *Any complaints relating to other applicable requirements of this permit.*

### **Puget Sound Clean Air Agency Response**

Comment noted. The elements of a complaint response program are different from the draft Lafarge document yet not in significant ways [see Comment 31 (by Port of Seattle 4/30/03) regarding the relationship between a draft permit for Lafarge and a draft permit for Ash Grove]. It is important to consider the entire complaint response provisions included in the Ash Grove permit. Conditions II.A.2, II.C.10, and II.D.6 represent the monitoring, reporting, and recordkeeping provisions of the complaint response efforts, respectively. The draft Ash Grove permit had less prescriptive language regarding the elements of an investigation than identified in the draft Lafarge document, but the program Ash Grove must develop for compliance with this permit has to identify the criteria and methods used to establish whether Ash Grove may be the source of fugitive dust or other air contaminant impacts on neighboring property. The program is a part of the O&M plans for the facility and must be reviewed and updated annually. Failure to follow the program as identified in the program included in the O&M plans for the facility will be considered a deviation from the permit. The elements of all three conditions included in the permit for complaint response reflect that fact.

There are three reasons for a less rigid or prescriptive description of the scope of investigation in response to a complaint:

- The complaint response plan needs to respond to all air quality related complaints and can not presume in advance the full range of complaints that may be received. The program needs to be broad enough and flexible enough to deal with unexpected complaints.
- If some aspect of Ash Grove's complaint response program were deemed inadequate based on a review of the complaint response records or other information available to the Agency or the public, feedback to Ash Grove could address the adequacy and possible need to update the program.
- When the program is updated in the future, it is desirable to have it be done without necessitating an operating permit modification. Including more specific language in a permit may lead to more permit modifications.

In the Ash Grove permit documents, an investigation is required for every complaint. The adequacy of the investigations will be available for review based on the records kept and the reports that must be submitted regularly.

*Action* – No changes made to the permit on the basis of this comment.

### **Comment 43 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 30, Complaint Response, Last paragraph

*Comment:* This paragraph states that “[i]f Ash Grove determines that emissions from its plant unreasonably impacted neighborhood properties....” On the other hand, the Lafarge permit simply states that “[i]f Lafarge identifies its plant as the source contributing to air pollution complaints ....” This is a very significant difference. For one thing, the use of the word “unreasonable” is subjective – how can Ash Grove determine whether someone else is being “unreasonably impacted”? Moreover, the Lafarge language only requires that Lafarge “contribute” to the complaints, while Ash Grove’s language could be interpreted to require a more direct cause/effect relationship. We suggest you substitute the Lafarge language. An alternate idea is to have the Taskforce tasked with coming up with criteria/triggers for what is “unreasonable.”

### **Puget Sound Clean Air Agency Response**

Comment noted – please see Comment 42 (by Port of Seattle 4/30/03) response for discussion of the relationship between the draft Lafarge operating permit and the draft Ash Grove operating permit.

This comment implies that most complaint communication to Ash Grove and response by Ash Grove to that complaint is a real time phenomenon. The history with the facility indicates that this is rarely the case and Ash Grove must determine if it is possible or probable that a complaint relates to its plant operation.

The complaint response program, as revised based on comments to the draft permit, provides adequate checks and balances. The three conditions which address this program (Conditions II.A.2, II.C.10, and II.D.6) will provide the following information:

- For each complaint, what investigation efforts were made and what is the basis for the conclusion reached by Ash Grove? [Condition II.D.6 (d)]
- For each complaint, what corrective action (if any) was taken? [Condition II.D.6(e)]

The records maintained by Ash Grove under this program allow the review of the record relating to all complaints. This information may also trigger other actions and responses under Conditions II.A.3, II.A.4, and II.A.5 of the permit.

Another aspect of the program which is open to review is the complaint response timeliness. If someone files a complaint with the plant indicating that a nuisance related event is occurring at the time of the complaint and the plant waits for 1 day to begin its investigation (as the revised

permit conditions allow), then it will be difficult for Ash Grove to claim a time lapse as a contributing factor to the inability to reach a determination of its role (if any) in the complaint.

*Action* – No changes made to the permit based on this comment. However, please see Comment 45 (by Port of Seattle 4/30/03) for revisions to the complaint response program elements as a result of other comments.

**Comment 44 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 30, Complaint Response, Last paragraph

*Comment:* This paragraph requires that Ash Grove “eliminate the problem” within 24 hours. This seems to be not quite reasonable when the “problem” is a complaint, and may create a disincentive to taking appropriate action. The company should also have the option of taking other corrective action, even if the result is not the “elimination” of the problem, or it doesn’t happen within 24 hours. For example, a positive solution might be for them to clean our parking lot, even though that doesn’t eliminate the problem, but simply temporarily mitigates a symptom. We suggest the following change:

*Ash Grove shall either:*

1) eliminate the problem within 24 hours of identification ~~or~~

2) report a deviation...., or

3) within 3 days of identification, obtain written agreement to an alternate course of action from the complaining party, and subsequently implement that course of action.

**Puget Sound Clean Air Agency Response**

Comment noted. Please see response to Comments 42 and 43 (Port of Seattle, 4/30/03) for related responses.

Note – the suggested language would not be appropriate for an operating permit. If Ash Grove needs to correct a problem within 24 hours, then it either needs to correct the problem or report a deviation and explain why it did not meet that requirement. The comment suggesting a third party may negotiate a compliance agreement with the source is not acceptable to this Agency as an appropriate response to permit deviations.

*Action* – No change made to the permit based on this comment.

**Comment 45 (by Port of Seattle 4/30/03)**

*Permit Requirement:* Page 41, Complaint Response Reporting (Part II.C (10))

*Comment:* For completeness, this requirement should be re-written as follows:

*Ash Grove shall submit in writing ...a report documenting*

*1) complaints received that are determined not to be attributable to Ash Grove operations;*

*2) complaints received that are determined to be attributable to Ash Grove operations that trigger corrective action; and*

*3) complaints received that ~~as well as those~~ that are determined to be attributable to Ash Grove operations that did not trigger corrective action.*

### **Puget Sound Clean Air Agency Response**

Comment noted and the Agency agrees that a more complete Complaint Response Report is appropriate for this permit. A monthly report identifying all complaints received will be required in the final permit.

*Action* – Change made to the permit as discussed above. See revised conditions (Conditions II.A.2 and II.C.10) of the permit relating to complaint response below.

#### **II.A.2 Complaint Response**

Ash Grove shall develop and implement an Air Pollution Complaint Response Program as part of the O&M Plan required by Regulation I Section 7.09(b). The Complaint Response Program shall be annually reviewed and updated along with the O&M Plan. This Program shall include:

- An Ash Grove local contact person and a 24-hour telephone number;
- Complaint forms available to the public;
- Criteria and methods for establishing whether Ash Grove may be the source of fugitive dust or other air contaminant impacts on neighboring property;
- Format of communicating results of investigations and advising complainants of Ash Grove's corrective actions and preventive maintenance;
- Ash Grove shall record air pollution complaints (including those forwarded to Ash Grove from this Agency) and findings of investigations as provided in Condition II.D.6. Investigations shall be initiated within ~~1-3 working~~ days of receipt of a complaint. Complaint investigations shall include efforts to contact the complainant, to inspect the conditions described in the complaint, to determine whether the Seattle plant sustained a malfunction or other operating or site conditions that might have generated abnormal levels of fugitive emissions, and to determine the wind speed, direction and/or other meteorological conditions during relevant times preceding receipt of the complaint.

If Ash Grove determines that emissions from its plant unreasonably impacted neighboring properties Ash Grove shall either eliminate the problem within 24 hours of identification or report a deviation as provided in Condition II.C.2. Ash Grove also shall report as a deviation any failure to initiate investigation of a complaint within 1 ~~3-working~~ days of receipt of the complaint.

[WAC 173-401-615(1), 10/17/02]

#### **II.C.10 Complaint Response Reporting**

Ash Grove shall submit in writing to Puget Sound Clean Air Agency a report documenting all complaints received with a summary of the nature of the complaint, the conclusion of the investigation, and any corrective action taken in response. ~~that are determined not to be attributable to Ash Grove operations as well as those that are determined to be attributable to Ash Grove operations yet did not trigger corrective action.~~ This report shall be submitted no later than 30 days after the end of the month during which this condition occurred. In the event there are no reportable events, Ash Grove shall include a statement to that effect, as identified in Section II.C.1 of this permit.

[WAC 173-401-615(3) (10/17/02)]

#### **II.D.6 Complaint Response Recordkeeping**

Records for complaints received concerning odor, fugitive emissions or nuisance conditions must contain the following information:

- a) Date and time of the complaint,
- b) Name and address of the person complaining, if known,
- c) Nature of the complaint,
- d) Investigation efforts and the basis for conclusions reached regarding the complaint, and
- e) Date, time and nature of any corrective action taken.

[Puget Sound Clean Air Agency Regulation I, Section 7.09(b)(6), (10/6/97)] [Puget Sound Clean Air Agency Regulation I, Section 7.09(b)(6), 9/10/98, (State Only)] [WAC 173-401-615(2)(a) (10/17/02)]

#### **Comment 46 (by Dave & Erin Simkus 3/25/03)**

Dave and Erin Simkus



March 25, 2003

- Boat owner at Harbor Island Marina.
- Requests off-site boat and rooftop inspections by independent third party.
- Include barges and unloading in I.A.10 on page 6.
- Cover conveyers from barges.
- Have Task Force set criteria for source of fugitive dust.
- Task Force include Ash Grove, Lafarge and neighbors.
- Ash Grove should not be allowed to define "unreasonably" on page 307.
- Remove "unreasonably", it is too vague, if impacting neighbors it's a problem.

### **Puget Sound Clean Air Agency Response**

Comments noted and are similar to comments made by the Port of Seattle (4/30/03).

*Action* – Please see responses to Comments 32 through 45 (by Port of Seattle 4/30/03) and the changes made to the permit based on those comments.

### **Comment 47 (by Lee & Dan Rees 4/9/03)**

LEE & DAN REES

April 9, 2003

- Written comments not at public hearing.
- Boat owners at Harbor Island Marina.
- Ash Grove's cement dust has increased over last ten years.
- Complained to Ash Grove and Agency.
- The most severe discharges are periodic and leave a residue that is extremely difficult to clean off of fiberglass boats. "Grit" jams wenchers and instruments, and can not rinse off but must scrub with chemical cleaners. Cleaners removes wax finish. Dust discolors and eats decks.
- Ash Grove claims dust is not from their plant. Sample analysis takes 3-4 weeks
- Nuisance Standards in I.A.7 is wholly insufficient.
- Need following:
  - Require three continuous monitors near marina to detect discharges.
  - Streamline timely tests for fingerprinting residue and source in plant.
  - Ash Grove fix damages due to their discharges.

### **Puget Sound Clean Air Agency Response**

Comments noted and are similar to comments made by the Port of Seattle (4/30/03). Note – in the past investigations conducted by inspectors from this Agency when samples were collected, the important time element was not sample turnaround for results but the proximity to the release event which created a deposit for sampling (i.e. Is the sample fresh?).

*Action* – Please see responses to Comments 32 through 45 (by Port of Seattle 4/30/03) and the changes made to the permit based on those comments.

**Comment 48 (by Bruce Andre, Ponchos' Legacy LLC 4/30/03)**

The following is a summary of written comments provided by Mr. Andre:

- Since hearing two major kiln upsets causing clinker dust on our property.
- Reported to PSCAA and Ash Grove.
- 4/2/03 kiln upset, blew hot ash with south wind. Videoed event. Jerry Brown offered car cleaning. Ash Grove estimates 30-days to pay.
- 4/13/03 kiln upset, not turning 4/14/03. Lots of clinker dust on our roof. Jerry Brown said lost kiln "ID Fan". Videoed April 14th. He inspected our roof, took samples and asked what they could do for us. Our roofer is meeting with Jerry Brown for an acceptable cleaning method. Jerry said water spraying of kiln for operational reasons, not for suppression of fugitive dust. Water was turned off after event.
- 4/29/03 complaint to Agency of odor from Ash Grove. The wind changed to south blowing directly from Ash Grove. Complainant felt that this specific complaint was incorrectly being grouped with complaints focused on Lafarge.

**Puget Sound Clean Air Agency Response**

Comment noted, though these comments are not specific to the permit or changes suggested to the permit. The comment with respect to possible misclassification of complaints is acknowledged. No specific enforcement action was taken by the Agency with respect to the events Mr. Andre discusses.

*Action* – No changes made to the permit based on this comment.

**Comment 49 (by Bruce Andre, Ponchos' Legacy LLC 4/30/03)**

The following is a summary of written comments provided by Mr. Andre:

- Owner of Legacy, employee of International Belt & Rubber Supply Inc, north of Ash Grove. Has a great deal of personal knowledge and understanding of Ash Grove. International Belt and Rubber did not complain about fallout because of contracts. Requested Ash Grove clean roof after Port had their roof cleaned
- Provides details of historical fallout problems from his perspective.
- Legacy cleaned clinker off roof 8/16/02 and complained to Ash Grove.
- Ponchos' Legacy damaged their roof while trying to clean it.
- Legacy invoiced Ash Grove for roof repairs (\$5,500) and Ash Grove stopped contracts Legacy (~\$300,000/year).
- Chronological records of correspondence and actions:

- 10/2/89 Ash Grove paid Elliot Bay Investments \$6,616 for roof repairs without liability.
- 2/9/94 Ash Grove mitigated impacts to John Harvey's roof.
- 9/19/95 Agency describes Port samples that CTL found clinker.
- 7/17/96 Ash Grove's corrective action included;
  - Enclosing 531.030 conveyor with plastic wrap,
  - Enclosing 471.170 conveyor with plastic wrap, and
  - Designing kiln leaf seals.
  - Ash Grove reiterates efforts to be a "good neighbor."
- 8/30/96 EPA to Port indicates enforcement is PSCAA's.
- 10/7/96 Thomas Newlon (senior Port counsel) dissatisfied with Agency's actions to solve fallout problem.
- 4/18/97 Thomas Newlon to Ash Grove's attorney, asks for mitigation.
- 11/20/97 Ash Grove to Newlon for settlement without admitting liability.
- 11/21/97 Ash Grove's mitigation process for Port employees.
- 6/6/98 Legacy buys building.
- 9/21/99 CTL finds Portland cement clinker, cement and fly ash.
- 11/30/99 CTL XRD confirms Sept 21, 1999 results.
- 2/13/99 Process Analysis Corp. says it doesn't "look" like clinker.
- 2/13/01 Agency's fallout procedures with Ash Grove's corrective actions.
- 6/10/02 Ash Grove's reporting procedures and cleaning of affected neighbors.
- 6/26/02 Port to tenants and neighbors of Ash Grove's 6/10/02 actions.
- 8/16/02 Complained to Agency of dust from Ash Grove.
- 8/20/02 Ash Grove cuts business with Belt and Rubber.
- Major areas causing fugitive dust problems and suggested improvements:
  - Barge Unloading Conveyors. Re-engineer and enclose with suppression measures.
  - Limestone/Coal piles and Conveyors. Enclose "storage shed".
  - Raw Products Reclaim System. Enclose.
  - Kiln Cooler Elbows and Tubes. Boltless liners and water on kiln not enough. Put roof over burner end of kiln to stop clinker from blowing into the air. Since last start up, smelled chlorine from Ash Grove with south winds which causes me a head ache. Other employee's have also smelled this odor.
  - Kiln Discharge End and G-Cooler. Continue to discharge clinker. What is status of kiln leaf seals? Grate cooler system has been investigated which may control some fugitive dust.
  - New Clinker Storage Silo Baghouses. Access doors are often left open.
  - Conveyor 531.030. Completed.
  - Finish Mill Building. Blows dust and needs new dust control system.
  - Conveyor Clinker Silos to Clinker Shed. Completely enclose.
  - Clinker Storage Shed. Needs new dust collector.
  - Clinker Storage Shed Reclaim Elevator. Visible dust needs enclosing..
  - Baghouse by Maintenance Shop. Fugitive dust during normal during maintenance.
  - Air Slides & Ducting top of Load Out Silos. Leaks per 1994 video.
  - Dome Storage Silo. Leaks, need to close doors.

- Finish Mill, Clinker Storage silos and Clinker Storage Shed. All have asbestos siding with no protective coating or encapsulation. It is deteriorating and being damaged by employees or sub-contractors, causing airborne uncontained asbestos fibers. Please coat it or remove it!
- Dome Storage Silo. Creates wind funnel increasing fallout on our property.
- Ash Grove's monitoring is flawed and doesn't address neighbor's property damage.
- Monitoring should be half-mile beyond property boundary, by affected.
- Monitor monthly and after each upset.
- Title V permit should be renewed annually.
- Request Ash Grove implement these solutions and pay damages to roofs, windows, awnings, HVAC systems, automobiles and inventories of tenants. Total damage cost at Legacy and International Belt \$100,000, not including health issues. Our pictures show about 16 yards of dust removed before refinishing our roof.

### **Puget Sound Clean Air Agency Response**

The comments are noted and the Agency appreciates the effort of Mr. Andre to document in writing the comments offered at the hearing on this draft permit on April 1, 2003.

The comments regarding the compliance issues identified in this letter are consistent with the compliance history provided in the draft statement of basis for this permit. Historically, there have been issues which were resolved through enforcement action. Some of that enforcement action has led to equipment and operational practice improvements. The efforts by Ash Grove to improve its operation and minimize its impacts on neighboring property have resulted in fewer complaints and enforcement actions.

The operating permit cannot address financial interests related to the assertion of damages caused by Ash Grove.

This list of suggested projects which would improve fugitive dust emission control is appreciated and may be useful in the future. However, the ability to order equipment modifications or upgrades normally occurs as part of the resolution of enforcement actions. There are presently no outstanding enforcement actions against Ash Grove with respect to fugitive dust or nuisance regulations.

With respect to the permit monitoring provisions, please see the responses to Comments 32 through 45 (by Port of Seattle 4/30/03) which address the same comments raised here.

Also, air operating permits are renewable on a 5-year frequency, as specified in WAC 173-401.

*Action* – No changes made to the permit based on these comments.

### **Hearing Comments**

#### **Summary**

The public hearing to receive comments on the draft air operating permit for Ash Grove was held on April 1, 2003. Comments made (using notes taken during the hearing) are provided below to identify the speaker and show the nature of their comments.

The comments at the hearing reflect the written comments received on the permit. This is expected since many of the speakers at the hearing also submitted comments in writing. The comments at the hearing can be summarized as follows:

Ash Grove is committed to being a good neighbor, acknowledged that mistakes had been made in the past, but believes they have invested in equipment and time to provide real improvements in performance, and hopes to be able to effectively work with their neighbors in the future.

The Port of Seattle staff and neighbors near the Ash Grove plant feel that:

- The fugitive dust and other emissions from the plant are a nuisance and are causing property damage.

- The permit should be more aggressive to require offsite monitoring as an element of compliance demonstration.
- A task force should be initiated to guide monitoring and response to complaint efforts and attempt to put objective criteria in place to resolve subjective standard language disputes.
- The complaint response program included in the permit should be more rigorous and prescriptive regarding requirements for Ash Grove to respond.
- There is some uneasiness regarding the judgment and decisions which rest with Ash Grove under an operating permit.
- Some felt that things had improved, but they were tired of having to contact Ash Grove to alert them of a problem or to get action. They would prefer there were no problems or impacts and when that is not possible, they would prefer that Ash Grove be more proactive.

The Agency responses developed to the written comments on the draft permit address all of these hearing comments. The response record for those written comments should be used to determine what changes were made to the permit in response to comments.

One commenter at the hearing (Dana Stall, Port of Seattle) referred to possible health effects related to emissions and releases from Ash Grove. It is important to note that the area in the vicinity of the Ash Grove plant meets all ambient air quality standards for criteria pollutants. These standards, established by EPA, are established on the basis of being protective of human health. The commenter further mentioned toxic air contaminants and the burning of tires. This is discussed in some detail in the response to Comment 28 (by Ash Grove 4/30/03). The Notice of Construction review for the proposal to burn tires in the kiln reviewed the impacts from increases in toxic air contaminants associated with that activity and those impacts were all below the Acceptable Source Impact Levels (ASILs) identified in Puget Sound Clean Air Agency Regulation III.

#### **Gerry Brown**

- Ash Grove appreciated willingness of community to work with Ash Grove.
- Spent a great deal of money upgrading plant.
- Improved communication with neighborhood.
- Notification process of neighbors when events occur.
- Spent \$4 million to control dust.
- Complaint response (24 hr & phone #).
- Ash Grove responds within 24 hrs.
- Ash Grove works with neighbors and responds to damage complaints.
- There have been resolutions of a number of complaints to Agency.
- There has been a reduction in the number of complaints.
- There are monitoring requirements and complaint response procedures in permit

#### **Serin Simkus**

- There is tons of materials from barge during unloading (not addressed in plan).
- Requests including offsite monitoring of boats & surrounding roof tops.
- Include criteria to define sources of dust.
- He suggested an independent party to conduct offsite monitoring.

- He said we are all partners on the river.
- Clinker dust has ruined canvas & finishes on boats.
- Clinker fallout problems have improved but coal & limestone handling still remain a problem.
- He wants to have it controlled.

### **Bruce Andre**

- His site is just north of Ash Grove at 3685 Duwamish Ave S. and since 1998 has been Ponchos' Legacy.
- He understands the cement industry.
- His building has a 44,000 ft<sup>2</sup> warehouse roof.
- Ash Grove agreed to dispose of debris.
- He wants Ash Grove to pay for cleaning after the end of the relationship between Ash Grove and International Belt & Rubber.
- He lists the chronology of correspondence.
- Ash Grove no longer does business with International Belt & Rubber.
- He described the following from West to East -
  - The barge unloading & conveyors, limestone & coal stockpiles all should be in storage shed.
  - The sources of dust include limestone reclaim area, raw material reclaim area, raw mill, kiln cooler elbows, and kiln cooler tubes.
  - There needs to be roof over kiln
- He said that recently he has smelled chlorine from Ash Grove.
- He has witnessed the following:
  - Discharge from kiln G-cooler (grate cooler),
  - Major improvements,
  - Clinker storage silo (need to close doors),
  - Old dust control system,
  - Clinker storage shed needs a baghouse,
  - Reclaim elevators and leaks in air slides
- Other things include:
  - Asbestos siding on buildings (need to coat asbestos siding panels);
  - Monitor monthly;
  - Title V should be renewed annually;
  - Information should be free of charge;
  - Compensate neighbor for damage; and
  - No retaliation against International Belt & Rubber

### **Susan Ridgley**

- Will provide written comments for POS (Port of Seattle) Property location around Ash Grove Cement
- POS is the largest land owner with 200 acres.
- POS has been aware of impacts of Ash Grove for some time.
- There has been damage to cars & boats and other sensitive surfaces.
- Damage to POS property includes roof tops and gutter systems.
- There has been \$100,000 per year as routine costs to maintain POS properties

- Ash Grove has used a lot of words but little action.
- The complaint response tracking system is okay.
- The clinker fallout is getting better but it is difficult to keep the pressure on Ash Grove all the time.
- Permit related comments:
  - Page 5 I.A.7 Nuisance standard 173-400-040 (No deposition beyond property boundary);
  - Page 31 2A Monitoring Roof top, and O&M;
  - If just a visual standard it is too crude and subjective;
  - The discussion of O&M plan is not adequate;
  - There needs to be offsite monitoring for dust and clinker;
  - Maybe there should be the use of a task force made from the neighbors and others, to answer where dust originates, monitor locations and provide reporting.
  - What is the source of the dust?
  - The complaint response has significant deviations from Lafarge.
  - Dusting problems appear to solely from within Ash Grove.
  - There needs to be criteria and the description of methods.
  - The response needs to be conducted within 3-days
  - The concept of "Unreasonably" is too subjective.
  - What triggers can be developed?
  - The words, "Eliminate the problem" is no good (we mean "corrective action").
  - Page 41 Response report.
  - Complaints should not be Ash Grove's to decide if it triggers corrective actions.
  - Barge operations cause problems.

#### **Lyle Turnbull**

- Boats are covered with dust.
- There are many sources in the Duwamish.
- Nucor Steel is also a source at Boulder Place (west of John Davis Marina).
- Dust affects the seams in the canvas of sails.
- Cheap shot.

#### **Dana Stahl** (POS Hygienist)

- Tires contain (dioxin okay, phthalates, heavy metals).
- More PM10 samples needed from the baghouse.
- The dust comes from more areas than just the baghouse.
- Excess emissions should be reported.

#### **Kay Wisner** (boat owner)

- Dust has been a big time problem, but in the last couple years there have some changes for the better. Ash Grove's measures seem to have been working.
- She appreciates boat cleaning & notification of emission events and they did a good job on this action.
- She does not like to continually need to go to Ash Grove.
- The same offers have not been made to all the boat owners.
- The offers need to be fair for everybody.



- The dust from barge activities is still a major issue.
- The barges are so large they are much closer to our boats in the marina.
- There needs to be offsite monitoring that is neutral (what is the dust & where is it coming from?).
- PM monitoring should include barge activities.
- There needs to be covers on the conveyors!
- Monitor all activities because dust comes from many sources at this plant.
- Ash Grove should be sprinkling their barges more often.
- The coal and limestone dust is also very abrasive.
- The boat owners expect some damage due to their location near the plant.
- If you cause the dusting problem you should be required to clean it up!
- The dust grows mildew on the canvas on the boats.
- There needs to be offsite monitoring.
- There needs to be a task force to get to the root of the problem.
- There are lots of companies in the area.
- The Agency needs to do more inspections.
- The permit should require more actions.
- The dusting is an ongoing problem.

**Bruce Andre**

- He shows a 4/15/94 video tape of dust fallout.
- He shows dust from Ash Grove.

**Gerry Brown**

- He says that mistakes have been made in the past.
- He says that Ash Grove is working hard to prevent problem in the future

### *Modification 1 to Operating Permit (11/17/06)*

The modification of Ash Grove's Air Operating Permit is triggered by the incorporation of Notice of Construction and Application for Approval No. 9229 to allow the burning of a limited amount of used oils in the cement kiln.

The Project description for NOC No. 9229 is:

Used oil firing system including tanks, pumps and piping, using existing burner, with the following new equipment: (1) 20,000 gal used oil holding tank, (1) 6 gal/min pump, (1) Mass flow meter, (1) 3/4" pipe with nozzle fitted inside existing ignition sleeve of existing burner.

This Order of Approval No. 9229 is for the limited use of liquid used oil as fuel in addition to the currently approved fuels in the cement kiln. A description of the Conditions of this Order of Approval are added below.

This Order of Approval No. 9229 cancels and supersedes Order of Approval No. 5687 dated January 11, 1995. Order of Approval No. 5687 allows a very small amount of internally generated used oils to be burned in the cement kiln. However, because Order of Approval No. 5687 is being replaced with Order of Approval No. 9229, the current Air Operating Permit needs to be opened and modified to include Order of Approval No. 9229.

This Order of Approval No. 9229 is being incorporated into the Air Operating Permit as a significant modification. All other changes in the Air Operating Permit are minor. These minor changes include updating EPA SIP approval dates and recognizing required testing activities that have already been satisfied.

For further information and details refer to Puget Sound Clean Air Agency Notice of Construction Work Sheet No. 9229 on file at the Agency. This significant modification of the operating permit is being co-processed with the proposed Order of Approval, sharing the same public comment period on both permit actions. Following the public comment period, the AOP will also be submitted to EPA in a proposed permit form, as described in WAC 173-401-810.

The following describes the conditions of approval of Order of Approval No. 9229.

**THE FOLLOWING LISTS AND DESCRIBES CONDITIONS OF ORDER  
OF APPROVAL NO. 9229**

**GENERIC CONDITIONS**

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Air Pollution Control Agency to the applicant to install or establish the equipment, device or process described herein at the INSTALLATION ADDRESS in accordance with the plans and specifications on file in the engineering Division of Puget Sound Clean Air Agency.
2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.

*Conditions No. 1 & 2 are generic for all orders of approval.*

**BURN NON-HAZARDOUS USED OIL**

3. Ash Grove shall limit used oil to non-hazardous as defined by WAC 173-303-515, Special Requirements for Used Oil Burned for Energy Recovery, or by WAC 173-303-090, Dangerous Waste Characteristics. Ash Grove is authorized to burn used oils meeting the material specifications in Condition No. 5 of this order.

*Conditions No. 3 limits the type of used oils to assure that Ash Grove does not burn hazardous or dangerous waste materials. The sample procedures and testing methods are contained in or referenced by these cited regulations.*

4. Ash Grove shall limit the total amount of used oil injected into the kiln to 8640 gal/calendar day. Ash Grove shall monitor and maintain daily records of the volume of used oil injected into the kiln and the number of kiln operating hours/calendar day. Ash Grove shall submit these records on a monthly basis with the required CEMS. Examples of used oil include:

- (a) Used oils;
- (b) Refined oil tank bottoms;
- (c) Raw crude tank bottoms;
- (d) Heavy vacuum gas oil waste;
- (e) Off specification fuel oil.

*Conditions No. 4 limits the daily injection rate of used oils and requires monthly reporting of usage. Examples of used oil are included.*

5. Ash Grove shall only burn used oils meeting the following limits as delivered:
  - (a) As less than or equal to 5 ppm;
  - (b) Cd less than or equal to 2 ppm;
  - (c) Cr less than or equal to 10 ppm;
  - (d) Pb less than or equal to 100 ppm;
  - (e) PCB less than or equal to 50 ppm;
  - (f) Total Halogens less than 1000 ppm;

- (g) Flash Point greater than or equal to 100°F;
- (h) Heat content between 5,000 Btu/lb to 19,000 Btu/lb.

*Conditions No. 5 limits the used oil burned to specific criteria. By accepting used oils for burning in the kiln which meet these criteria Ash Grove will remain below the trigger points for dangerous or hazardous materials as specified in the WAC 173-303-515, WAC 173-303-090. EPA has specification for burning used oil. For example applicable standards for burning of used oil containing PCB are regulated in 40 CFR 761.20(e). In addition the requirements of 40 CFR part 279, subparts G and H apply to the marketing and burning of used oil that is above the EPA trigger values.*

*However, because this Order of Approval is specifically for regulating air emissions it is the responsibility of Ash Grove to maintain knowledge of and compliance with all applicable regulations and to avoid triggering applicability criteria.*

## **USED OIL DELIVERIES**

### 6. Ash Grove shall:

- (a) Authorize the person receiving and reviewing used oil shipments the authority to reject materials exceeding standards of this approval.
- (b) Obtain a signed laboratory report from the oil supplier verifying each shipment of used oil received meets Conditions No. 5(a) through (h).
- (c) Maintain a used oil delivery log and record in this log the name of the supplier, the delivery date, the volume of used oil and a signed laboratory report of each shipment of used oil received.

*Conditions No. 6 lists the characteristics and parameters of the used oils that Ash Grove will follow to assure that the used oil is properly managed and monitored.*

### 7. Ash Grove shall calibrate the used oil flow meter at least once per calendar year and maintain records of that calibration.

*This annual calibration will assure that the used oil flow rate is correctly maintained below the 8640 gal/day limit.*

## **SOURCE TEST**

### 8. Ash Grove shall submit a source test plan for Condition No. 9(a), (b), (c), (d), (f), (g) and (h) no later than 30 days after the completion date specified in the Notice of Completion for this Order, meeting Regulation I, Section 3.07 with sampling methods, analytical procedure and testing dates. Ash Grove shall also follow 40 CFR 63, Subpart A and Subpart LLL for Condition No. 9(e) (Dioxin/Furan) including determining the average inlet temperature of the particulate matter control device.

*Conditions No. 8 requires a source test to be performed and links the testing to the details of Condition No. 9.*

9. Ash Grove shall complete performance source testing while operating with and without the injection of used oil. These tests shall be conducted while burning coal but not injecting tires and with the raw mill both operating and not operating. All tests shall be performed no later than 90 days after the completion date specified in the Notice of Completion with the following methods:

- (a) Opacity (CEMS);
- (b) SO<sub>2</sub> (CEMS);
- (c) NO<sub>x</sub> (CEMS);
- (d) CO (CEMS);
- (e) Formaldehyde (Method 0011/SW-8315);
- (f) HCl (EPA Method 26A)
- (g) Metals (EPA Method 29);
- (h) Dioxin/Furan (EPA Method 23).

Conditions No. 9 specifies the parameters that need to be measured and the methods for testing. The tests are to be done under the specified conditions.

10. During the tests required in Condition No. 9, Ash Grove shall record the following data:

- (a). Main Baghouse inlet temperature following 40 CFR 63.1349(b)(3);
- (b) Type and quantity of clinker manufactured for cement;
- (c) Type and quantity of raw materials added to kiln;
- (d) Type, quantity and fuel Btu added to the kiln (including used oil);
- (e) Burnability Index; and
- (f) Variability of raw mix.

Conditions No. 10 specifies the operating parameters that need to be monitored, recorded and reported with the source test report.

## **RECORDS**

11. Ash Grove shall maintain written records required by this Order of Approval on site, in addition, Ash Grove shall retain each record for at least five years and make them available to Puget Sound Clean Air Agency personnel upon request.

Conditions No. 11 provides an Agency Inspector the ability to request records.

## **OA 5687 SUPERSEDED**

12. Order of Approval 9229 cancels and supersedes Order of Approval No. 5687 dated January 11, 1995.

Conditions No. 12 simply deletes the old order and replaces it with the new order.

## ADDITIONAL CHANGES PROPOSED IN DRAFT MODIFICATION TO ASH GROVE'S AIR OPERATING PERMIT

Three additional groups of changes have been made as a part of the draft modification to Ash Grove's operating permit. These changes are grouped as follows:

### **Inapplicability of Washington's Solid Waste Incineration Facility Regulation**

The Washington Department of Ecology updated the solid waste incineration facility regulation (WAC 173-434) on December 22, 2003. The previous version of this regulation (adopted in 1990) was an applicable requirement for Ash Grove and previously included in their permit. With the adoption of the latest version of WAC 173-434, Ecology determined that a facility like Ash Grove would not be subject to the rule providing the substitute fuels used were those defined in the new regulation. The 1990 version of WAC 173-434 was included in the approved Washington State Implementation Plan (SIP). That version remained an applicable requirement in Ash Grove's permit until EPA took final action to update Washington's SIP. That occurred on September 6, 2005. Ash Grove's operating permit was originally written to reflect that WAC 174-434 would no longer be an applicable requirement when EPA approved the new regulation in the SIP. Thus, WAC 173-434 has not been an applicable requirement since that EPA effective date and this modification removes the details of the 1990 versions of WAC 173-434 from the permit and shows the current version of that regulation as in inapplicable requirement.

### **Other SIP Changes Updated**

Other SIP actions taken by EPA since the original operating permit was written have been completed. The operating permit included both the SIP approved versions of regulations and the SIP pending versions. The permit included statements that the SIP pending regulations would supersede the previous regulation upon approval in the SIP. Where that has occurred, the obsolete requirement has been deleted to clean up the permit document.

### **Event Related Permit Terms Satisfied**

When an operating permit term is a single event requirement and the event has been satisfactorily completed, that requirement may also be removed from the permit. In this case, Ash Grove had a requirement to complete a performance test on the coal mill. That has been completed (and compliance was demonstrated). Thus, it no longer represents an active permit requirement. It has been deleted in the draft modified permit to clean up the document.

The removal of obsolete or superseded permit conditions in this draft modified permit have in some places led to sections listed as “ [RESERVED] ”. This was done to avoid reformatting the entire document and renumbering cross referenced citations. When a deleted section could be used without that complication, it was used for new requirements associated with the incorporation of NOC No. 9229 into the operating permit.

## **Public Comments for Significant Modifications Received during the 30-day Public Comment Period**

### **Comment from People for Puget Sound**

*e-mailed to the Agency 1/16/2007*

January 15, 2007

Fred Austin

Engineer

Puget Sound Clean Air Agency

110 Union Street, Suite 500

Seattle, WA 98101

Via email: [freda@pscleanair.org](mailto:freda@pscleanair.org)

**RE: Draft Notice of Construction Order of Approval No. 9229 and draft Modification of the Air Operating Permit for Ash Grove Cement Company (Ash Grove)**

Dear Mr. Austin,

Thank you for the opportunity to comment on the *a draft Notice of Construction Order of Approval No. 9229* and *draft Modification of the Air Operating Permit for Ash Grove Cement Company (Ash Grove)*, located at 3801 E Marginal Way South, Seattle.

People For Puget Sound is a nonprofit, citizens' organization whose mission is to protect and restore Puget Sound and the Northwest Straits, including a specific goal to protect and restore the 2,000 miles of Puget Sound shoreline by 2015.

Ash Grove is a major emitter and releases over 100 tons of NO<sub>x</sub> and SO<sub>2</sub> annually. Ash Grove is now requesting that they be permitted to burn used oil (up to 12% Btu basis) in addition to tires (at a rate of up to 12 tons per day). The use of these fuels moves the facility into a waste incinerator mode and raises serious human and wildlife health concerns.

Our specific comments follow:

- 1. *Re-evaluation of the facility.*** Given that Ash Grove was granted a permit to burn tires in 1995 and they are now asking to burn used oil, we strongly feel that the facility permit should be re-evaluated. Since 1995, Chinook salmon have been listed as endangered, the Duwamish River has been listed as a Superfund Site, and more and more concerns have been raised about human health in the Duwamish Valley. It appears that each air-permitted facility in the Duwamish Basin is allowed to continually ratchet up and add more and more components to their facility (or fuel stream) rather than following a

continual process of ratcheting down toxic emissions in order to protect wildlife and human health.

2. **Cumulative Impact.** Our second major concern is that permits and permit changes are granted without consideration of cumulative impacts. According to the Engineer's Report, Engineer's Report mercury emissions described in the facility's 2003 TRI Report totaled 34 lbs/year. Lafarge, as reported in the recent public meeting has mercury emissions of about 84 lbs/year (baseline, prior to burning tires!). Lafarge's formaldehyde emissions are about 17,260 lbs/year. Chromium-6 is also a contaminant of concern throughout the Duwamish Basin. There are likely a number of other toxic chemicals that are cumulatively impacting human and wildlife health but we have not yet seen the WA Department of Health study (which was due out in the fall of 2006).
3. **Emissions of toxic chemicals.** People For Puget Sound is concerned about the release of toxic chemicals such as heavy metals and dioxin from this facility. Most of these toxic emissions are not required to be regularly monitored by the facility. We are especially concerned that lead and cadmium will be increased from this facility with the use of used oil. Lead (according to the Engineer's Report) is up to 100 times higher in used oil than in coal.
  - a. The Statement of Basis includes an emission summary for 1995-2001. Why are recent data not included as an update to the Statement?
  - b. Why is PSCAA not requiring Ash Grove to report plant-wide fugitive emissions?
  - c. The Port of Seattle and its tenants have had significant complaints about material falling on their property, buildings and cars and the potential human health impacts. They have requested that Ash Grove install reliable and continuous off-site monitoring. We agree with this request and further we request that these data be presented to the public in a separate and easily understood report (that includes a map). It is not acceptable to state that off-site monitoring would be compromised by other pollutants. A sound monitoring program would allow for distinguishing between different sources and if, in fact, there are multiple significant sources of pollutants, the public has a right to this information.
  - d. The used oil regulations allow up to 50 ppm PCBs in oil that might be burned at Ash Grove. This is not acceptable in the source area for a Superfund Site (the Duwamish River) in which millions of dollars are being spent to clean up PCBs. The permit should require that any oil burned at Ash Grove must have very low PCBs – on the order of <5 ppm or lower. Also, the emissions should include a requirement for regular PCB monitoring.
4. **Poor compliance History.** Ash Grove has a very poor compliance history. Most of the violations occurred in the late 1990's-early 2000's and that leads one to conclude that either Ash Grove has improved their compliance or PSCAA has lost staff capacity and is not able to review their files and inspect their facility as often. We would like to know if compliance inspections and reviews have decreased. The past poor compliance signifies that extra precaution must be taken with the facility, especially in a transition period.
5. **Equivalent scrutiny as Lafarge.** If permitted, the facility should be required to meet all of the testing and monitoring requirements that Lafarge is being required to do currently.



The public should be allowed to see the testing results and be invited to a public meeting to discuss the results.

6. **Map of deposition plume.** We would like to see a map that shows the area of deposition of material from the air plume of Ash Grove. If such a map is not available, we strongly feel that Ash Grove should be required to prepare a map.
7. **Continuation of Dioxin tests.** The Engineer's Reports states that: "This regulation requires performance tests requirement for dioxin/furan emissions every 30 months after the compliance effective date of June 14, 2002. The initial performance test was completed by Ash Grove on May 29-30, 2002. Ash Grove followed this initial test by conducting their required 30-month performance test on October 13-14, 2004 within the required time period." It appears that these dioxin tests were discontinued. We request that these tests be required on a continuing basis.
8. **Grinding Wheel and toxic chemicals.** We are concerned that the raw mill grinder is part of the pollution control for this facility and certain toxic chemicals, such as HCl and formaldehyde, are not well controlled during the 10% of the operational time when the grinding wheel is not in use. According to the Engineer's Report: "When the grinder is not operating the gases bypass the grinder and go directly to the main baghouse. When the raw mill grinder operates the gases flowing through grinder tend to be scrubbed of some of the pollutants." What assurance do we have that chemicals are monitored at both times – when the grinding wheel is in operation and when it is not. How are we assured that significant increases are controlled when the grinding is not operational?
9. **SEPA Review.** The Report states "The Agency, as the lead agency for this proposal, has also made a preliminary determination that the proposal would not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21.030(2)(c). This decision was made after review of a completed Environmental Checklist and other information on file at the Agency." We disagree with this assessment because of the cumulative impacts of this facility combined other facilities and other sources in the Duwamish Basin.
10. **Tires.** We strongly object to the burning of tires at this facility. We do not have a complete data set to show that burning tires in the Duwamish cement facilities is safe for human and wildlife health. We recognize that this facility was previously permitted to use tires, but this use should be re-evaluated in light of cumulative impacts of the multiple facilities in the Duwamish. Further, the Engineer's Report states: "Also because burning tires (as approved per Order of Approval No. 5755 (approved 3/30/95) reduces emissions compared to coal, the use of tires are not included in this analysis and the conditions for source testing requires not burning tires with used oil in the kiln." We disagree that emissions are reduced for all toxics – and are particularly concerned about dioxins, mercury and other metals emissions associated with tire burning.
11. **Unknown contaminants in used oils.** We are concerned that unknown contaminants could be introduced into used oils due to human error. What assurance do we have that the used oils will be relatively clean?
12. **Why are not tests required for tire burning conditions as well?** Engineer's Report: "Ash Grove shall complete performance source testing while operating with and without the injection of used oil. These tests shall be conducted while burning coal but not

injecting tires and with the raw mill both operating and not operating.” We believe that the tire burning condition should also be tested and the data presented to the public.

**13. Economics trumps human health.** The Engineer’s Report states “Ash Grove and Lafarge are requesting approval to burn alternative fuels. Ash Grove wants to burn waste oil (Lafarge was approved to burn waste oils several years ago). Lafarge wants to burn whole tires (Ash Grove was approved to burn whole tires several years ago). So the two plants want to expand their fuels to compete directly with each other.” We feel that economic considerations are being placed over the concerns about human and wildlife health.

Thank you for your consideration. If you have any questions, please contact me at (206) 382-7007 or htrim@pugetsound.org.

Sincerely,

Heather Trim

Urban Bays Coordinator

### ***Agency Response to People for Puget Sound***

**Ash Grove's proposal is based on replacing the burning of 100% coal fuel with the burning of a blend of 88% coal and 12% used oil as limited by the Agency permit conditions. The burning of used oil replaces a portion of coal which is a cleaner fuel. The burning of tires as a fuel was not part of this analysis because the emissions from tires and coal is lower than using 100% coal and because Ash Grove obtained authorization to uses whole tires as a substitute fuel previously (Order of Approval No. 5755 dated March 30, 1995). Tires are typically a cleaner fuel than coal. Therefore, the most conservative scenario is to compare the emissions from burning a blend of coal and used oil with the emissions from burning 100% coal.**

**The operation of the cement kiln at Ash Grove does not trigger the definition of incinerator as defined in WAC 173-434 nor is the raw materials or fuels classified as solid waste. This cement kiln operates at temperatures above 2800°F which is over a 1000°F hotter than that found in incinerators (incinerators operate at 1600 - 1800°F). Also, because a cement kiln is hundreds of feet long the combustion residence time lasts for many seconds versus fractions of seconds as found in incinerators.**

### **Comment #1 *Re-evaluation of the facility***

**The Ash Grove application to burn used oils has been evaluated following Puget Sound Clean Air Agency Regulation I, Article 6; WAC 173-400; and WAC 173-460. These rules give this Agency permitting authority for evaluating the establishment of a new source. In this case, the burning of used oil in this existing cement kiln as a replacement fuel for coal is defined as a new source and so this Agency's approval of NOC 9229 would only be for**

the new fuel. All the existing equipment and operations have already been evaluated and approved under existing Orders of Approval prior to this Notice of Construction.

**Comment #2 Cumulative Impact**

The Table named "AGENCY Estimation of Maximum Metal Emissions while Burning Used Oil with Coal" above compares the maximum annual emission of metals from burning 100% coal fuel with the burning of a blend of 88% coal and 12% used oil. Typical levels of lead in coal have been found to be about 0.9 ppm. WAC 173-303-515 limits used oil to 100 ppm of lead. The difference between burning 100% coal and burning 88% coal with 12% used oil blend is 0.074 lb of lead per year (0.002 lb of cadmium per year). This analysis assumes none of the metals become incorporated into the cement product and that none of metals are captured by the baghouse.

The every small increase in lead and cadmium assumed in the worst case scenario would produce a very small ambient impact as follows:

Compound	Averaging time	Maximum Emissions	Maximum Ambient Impact	Ambient Source Impact Level (ASIL)	% of ASIL
Lead	24-hour	$1.0 \times 10^{-6}$ g/s	$5.3 \times 10^{-9}$ $\mu\text{g}/\text{m}^3$	$0.050$ $\mu\text{g}/\text{m}^3$	0.00001%
Cadmium	Annual	$1.2 \times 10^{-7}$ g/s	$2.4 \times 10^{-8}$ $\mu\text{g}/\text{m}^3$	$0.00056$ $\mu\text{g}/\text{m}^3$	0.004%

Therefore, the ambient impact of lead or cadmium is significantly below the acceptable source impact levels at the point of maximum ground level concentration. These are the only two metal constituents which were projected to have emission increases (using the analysis described above). The proposed approval conditions include testing to verify these conclusions. A cumulative impacts analysis, as envisioned by this comment, is not a part of the Notice of Construction review as the ASIL's define the criteria for approval. The Washington Department of Health study referenced was begun with no direct linkage to any new or modified source action as a trigger and a cumulative impacts review is broader than any source specific application.

**Comment #3a**

The Statement of Basis was written to support the Title V air operating permit that was issued May 15, 2004. The emission summary for 1995 to 2001 was the latest information available at that time prior to issuing the permit.

The reported emissions for the years 2002 to 2005, which is also available to the public, are as follows:

CAS #	Chemical Name	VOC	TAC	HAP	2002 Total Tons	2003 Total Tons	2004 Total Tons	2005 Total Tons
CO	Carbon Monoxide	No	No	No	1414	1197	1285	1468
NO2	Nitrogen Oxides	No	No	No	1213	1035	1266	1580
PM10	Particulate Matter	No	No	No	50	39	43	51
PM2.5	Particulate Matter	No	No	No	40	31	34	40
SO2	Sulfur Oxides	No	No	No	188	148	150	34
50-00-0	Formaldehyde	Yes	Yes	Yes	*	*	5	6
67-64-1	Acetone	No	Yes	No	*	*	6	7
7664-41-7	Ammonia (NH3)	No	Yes	No	*	*	3	3
Totals VOC					*	*	5	6
Totals TAC					*	*	14	16
Totals HAP					*	*	5	6
* Not Measured before 2004								

**Comment #3b**

**Fugitive emissions are addressed in the Title V permit. The frequency of fugitive emissions and complaints have significantly decreased since the issuance of the Title V permit.**

**Ash Grove's permit contains significant procedures requiring monitoring, recordkeeping and reporting whenever fugitive dust emissions are observed or complaints are received. Fugitive dust emissions by virtue of the fact that they are not released from stacks generally do not have quantifiable methods for direct measurements, making the exercise of estimating fugitive dust emissions an attempt in quantifying the unquantifiable. The current regulations governing visible emissions and the requirements for reasonable control measures, roof top inspections and fugitive dust control measures are adequate to maintain compliance with the permit.**

**Comment #3c**

**While Ash Grove has had significant dust complaints in the past, currently there have been few dusting incidences. The situation as it stands at Ash Grove indicates that historical fugitive dust problems have been addressed through improvements in equipment and operational practices. This Notice of Construction is for the burning of used oil as a supplemental fuel whose emissions are controlled by the main baghouse which is not a fugitive dust emission point.**

**Comment #3d**

**One of the best ways to dispose of PCBs which are persistent environmental chemicals is by destruction in a cement kiln. Condition No. 5 limits PCB below the trigger value set by EPA and Condition No. 6 requires monitoring each shipment of used oil.**

**Comment #4**

**The Agency staff associated with activities at Ash Grove and the inspection frequency has not changed. Also, please see responses to Comments #3c and #5.**

**Comment #5**

**Ash Grove is required to operate a system of continuous emission monitors for opacity, SO<sub>2</sub>, NO<sub>x</sub>, and CO. Lafarge has continuous emission monitors for opacity and SO<sub>2</sub>. The source testing requirements contained in Agency Orders for both Lafarge and Ash Grove help to establish emission pollutant factors not directly measured by the continuous emission monitors.**

**Both plants measure dioxin as required by 40 CFR 63, Subpart LLL. Ash Grove like Lafarge, has made equipment improvements and changes as parts of Agency Orders that have helped to significantly improve operations, control emissions and reduce complaints.**

**Condition No. 9 requires the measurement of formaldehyde, HCl, metals, and dioxin.**

**All Agency records are available to the public including the testing reports required for Ash Grove.**

**In addition to inviting public comments for this Notice of Construction applicaiton, the Agency has held two public hearings in response to citizen inquires for this proposed action.**

**Comment #6**

**The emissions from the Ash Grove stack are controlled with a 200,000 cubic feet per minute baghouse. Large sized particulates (greater than 10 microns) that would be expected to settle out of the ambient air and become deposited on the ground are very well controlled (more than 99.9% are captured). Because the Agency makes the conservative estimate of comparing the maximum ground level concentration from the model to the concentration from the Acceptable Source Impact Levels table, the point of maximum concentration is not specified. This effectively assumes that the maximum concentration is everywhere.**

**Comment #7**

**As you indicate, dioxin tests are required every 30 months. The dioxin testing is being conducted on schedule at Ash Grove and emissions continue to demonstrate compliance with the requirements and standards of 40 CFR 63.1349(d). Dioxin source test are repeated every 30 months. Ash Grove conducted their most recent dioxin test during the**

week of February 12, 2007. The results will be available in less than 60 days. The last dioxin source test results on October 13, 2004, required by 40 CFR 63, Subpart LLL, shows that Ash Grove is well below the required NESHAPS standard.

The dioxin standard is 0.02 ng/dscm (0.02 nanogram per dry standard cubic meter).

The October 13, 2004 dioxin source test measured dioxin with the following results.

Raw Mill - ON -- 0.000431 ng/dscm.

Raw Mill - OFF -- 0.002370 ng/dscm.

The status when the raw mill operates occurs about 90% of the time, while the status when the raw mill is not operating occurs about 10% of the time during the year.

Therefore, Ash Grove's emissions of dioxin is about 2% of the standard (during 90% of the year) and the emissions of dioxin is about 12% of the standard (during 10% of the year).

#### **Comment #8**

There are no continuous emission monitors for HCl or formaldehyde at this plant. These emissions are measured by source tests on the main stack baghouse during raw mill grinding operations.

The raw mill grinder is not an emission control device. It is equipment designed for processing raw materials in preparation for the kiln. The raw mill grinder (about 4 - 5 feet in diameter) operates about 90% of the time the kiln operates. The raw mill grinder is designed to be replaced during the balance of the kiln's operation. The function of the raw mill grinder is to grind raw materials to a powder usable in the kiln to make clinker for cement. The main raw material is primarily limestone with additions of lime, sand, clay, iron ore, aluminum silicates, natural gravel, fly ash, and gypsum. There are also smaller amounts of materials added including calcium, silica, iron, and alumina, bottom ash, slag and gypsum board. Waste heat from the kiln, which would otherwise be lost, is used in the processing of the raw materials. By using this waste heat Ash Grove improves kiln efficiency which reduces the use of coal and thereby there occurs a reduction in the generation of CO<sub>2</sub>, a greenhouse gas. This reduction in greenhouse gases indirectly affects emissions.

During the preparation of materials for the kiln the raw mill grinder does adsorb some gases when operating. However, the air pollution control system has been designed to effectively control emission below the standards even when the raw mill grinder is not operating.

As mentioned above Ash Grove Cement is subject to Subpart LLL of the NESHAPS. When any cement plant emits greater than 10 tons per year of any one toxic chemical or 25 tons per year of all toxic chemicals, enhanced monitoring is triggered as a NESHAPS point source. Ash Grove continues to monitor their emissions demonstrating that they satisfy the NESHAPS area source criteria.

**Comment #9**

Please see responses to Comments No. 1 and 2 above.

**Comment #10**

Source tests performed at Ash Grove for Order of Approval 5755 demonstrated compliance with the standards and showed that the emissions met the ASIL values. The testing results showed a decrease in emissions with the burning of tires. Order of Approval 9229 is conservative in requiring Ash Grove to only use coal and used oils during the compliance tests.

**Comment #11**

The many conditions in the proposed Order of Approval define and delineate the required testing and monitoring Ash Grove is required to perform to maintain compliance while adding used oil as fuel to the cement kiln. Each shipment of used oil is monitored as required by Conditions # 3, 4, 5 and 6.

**Comment #12**

See response to Comment # 10 above.

**Comment #13**

By allowing both cement plants to burn these additional fuels, the air emissions will in general be decreased. If these fuels are not burned in cement plants these fuels could unnecessarily be burned in locations with far less efficiency with significant increases in emissions. These materials would allow increased recycling of materials and increase efficiency of energy use.

***Comment from Heidi Raykeil & JB Tellez***



Comment on Air  
Operating Permit for ,

Dear Mr. Austin --

My neighbor, Bob Anderton couldn't have put it better -- our family is in total agreement with his sentiments. Please don't allow my children to grow up breathing worse air than they already are down here. It is not safe.

From Bob's letter --

Dear Mr. Van Slyke and Mr. Austin:

I am not a scientist or an environmental lawyer, but I am a resident of Seattle's South Park neighborhood who is affected by poor air quality. I do not understand how burning "8640 gallons per day of used oils" is not significant. I do understand the significance of a finding of non-significance, however.

I am requesting that the determination of non-significance be reviewed and the application be scrutinized to allow for additional pollution controls. South Park is already burdened by poor air quality. If the Environmental Protection Agency under the Bush administration is unwilling or unable to do its job to protect people from pollution, then local agencies must rise to this challenge. Please protect us.

South Park residents understand that they live in an area mixed with industrial and residential uses and we value this. We do not wish to shut down industries. However, we want to breathe easy and, with the worst air quality in Seattle likely to get worse with unknown used oil contaminants, we cannot, at this time, do so.

Please let us know how the Puget Sound Clear Air Agency can help.

Thank you,

Bob Anderton

Sincerely,

Heidi Raykeil and JB Tellez

1010 S. Thistle St.

Seattle, WA

206-763-3866

***Agency Response to Heidi Raykeil & JB Tellez***

**Please see the Agency response to Bob Anderton's comment.**

***Comment from Bob Anderton***

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Ash Grove Cement  
Hearing Question and

Dear Mr. Van Slyke and Mr. Austin:



I am writing as to whether yesterday's public hearing was cancelled due to the snow and ice. If was, please inform me (and the community) of the next hearing date. If it was not, please register this email as my comment and, if possible, respond to it.

I am not a scientist or an environmental lawyer, but I am a resident of Seattle's South Park neighborhood who is affected by poor air quality.

**I do not understand how burning "8640 gallons per day of used oils" is not significant.** I do understand the significance of a finding of non-significance, however.

I am requesting that the determination of non-significance be reviewed and the application be scrutinized to allow for additional pollution controls.

South Park is already burdened by poor air quality. If the Environmental Protection Agency under the Bush administration is unwilling or unable to do its job to protect people from pollution, then local agencies must rise to this challenge. Please protect us.

South Park residents understand that they live in an area mixed with industrial and residential uses and we value this. We do not wish to shut down industries. However, we want to breathe easy and, with the worst air quality in Seattle likely to get worse with unknown used oil contaminants, we cannot, at this time, do so.

Please let us know how the Puget Sound Clear Air Agency can help.

Thank you,

Bob Anderton

Bob Anderton  
Bike Lawyer and More  
Representing People, Not Corporations

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**This message may contain privileged or confidential information. If you are not the intended recipient, please reply to sender only and delete the message. Thank you.**

***Agency Response to Bob Anderton***

**The burning of used oils as a fuel in the cement kiln means there is less coal burned as fuel.**

**This kiln has been permitted to burn coal. This application would allow burning used oils as a substitute for some coal in the kiln. The emissions from burning used oils are less than that from burning coal. Please see the Agency response above to Heather Trim especially the Agency response to comment No. 3.**

***Comment from M.C. Halvorsen***



FW Meeting  
Regarding Ash Grove

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**From:** m.c. halvorsen [mailto:teddy2halle@yahoo.com]  
**Sent:** Thursday, January 11, 2007 12:41 PM  
**To:** Steve Van Slyke  
**Subject:** Meeting Regarding Ash Grove Proposal

Dear Steve:

Although I had planned to attend the meeting tonight, January 11, 2007 at the South Park Center, I find that the road are too icy for me to be out driving.

I do have a question and wanted to bring it to the attention of the people in charge of this proposal. Why isn't the Company interested in installing scrubbers which would prevent particles from entering the air? Is it cost? If so, couldn't a tax credit of some kind be given because it would improve the overall quality of the air in the area?

I don't know what the objection to scrubbers is. In europe, they are required on all incinerators. Back east, the incinerators are proud of thier scrubbers. WhI was in the Mid-West, people were bragging how improved their air quality was by installing scrubbers. Seattle likes to brag that it leads the nation in environmental issues, but it is certainly lagging behind on this one.

M. C. Halvorsen

10002 Aurora Ave. N., 35546

Seattle, Wa 98133

206-766-9416

***Agency Response to M.C. Halvorsen***

**Ash Grove Cement operates a baghouse to control particulate with a dry scrubber to control acid gases. There are many different technologies used to control air pollution emissions. The operation of a baghouse at a cement plant is recognized as having the best efficiency at capturing particulate.**

***Comment from Ash Grove Cement***

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January 15, 2007

Mr. Fred Austin

Puget Sound Clean Air Agency

110 Union Street, Suite 500

Seattle, WA. 98101-2038

Re: Comments on Notice of Construction # 9229 and Draft Modification of Air Operating Permit # 11339

Dear Mr. Austin:

Ash Grove Cement Company submit the following comments regarding Notice of Construction # 9229 and Draft Modification of Air Operating Permit # 11339.

The header on the Statement of Basis document should be changed from Saint-Gobain to Ash Grove Cement.

1. Section I.B.6 of the Statement of Basis document incorrectly specifies the emission standard for dioxins and furans. The standard should state that the dioxin limit of 0.4 ng/dscm (TEQ) at 7% O<sub>2</sub> when the average of the Kiln baghouse temperatures **are equal to or less** than 400 F during the performance test (40 CFR 63.1343(d)(2)) and 0.2 ng/dscm (TEQ) at 7% O<sub>2</sub> when the average of the Kiln baghouse inlet temperatures are **greater** than 400 F during the performance test (40 CFR 63.1343(d)(1)).
2. Section EU 1.26 of the draft Title V permit. The applicable emission standards for dioxins and furans apply to air pollution control device inlet temperatures, not the mill mode of operation. Ash Grove requests this requirement paraphrase be modified to reflect the standard as written.
3. Section EU 1.36 of the draft Title V permit. The referenced EU 1.50 in the requirement paraphrase section does not exist. The reference should be corrected to read EU 1.38.
4. Section II.B.5 (a) of the draft Title V permit and item #4 of NOC 9229 requires that kiln operating hours are to be reported on a daily basis. This additional requirement to that is unnecessary. Section C.4(c) currently requires in kiln operating hours are to be reported on a monthly basis. Ash Grove requests that this additional reporting requirement is deleted from Section II.B.5(a) and Section C.4(c) the draft AOP and item #4 NOC 9229.
5. Section II.B.12 (b) of the draft Title V permit and item #9(e) of NOC 9229. Rather than specify a source test method for Formaldehyde, HCl, and Metals, Ash Grove requests that it retain the flexibility to propose any air test method with written prior approval from the agency.

6. Section II.B.12 (b) of the draft Title V permit and item #9. Ash Grove questions the requirement to conduct performance tests both with and without used oil. The performance test should only require testing while using used oil to determine if the facility maintains its status as an area source and demonstrate compliance with other applicable emission limits.
7. Section II.B.12 (b) of the draft Title V permit and item #10 (e) and 10(f) of NOC 9229. The requirement to record the Burnability Index and Variability of the raw mix during the performance test has no relevance on whether the facility can demonstrate compliance with emission limits and should be deleted as a requirement.
8. Please note that the expected NO<sub>x</sub>, SO<sub>x</sub>, and CO data to be reported when the performance test demonstration is performed should not be used to project any longer-term emission increases for PSD analysis or anything else. If this is the case, a longer averaging time should be used and a pre-test baseline establish for comparisons to be made against.

Yours truly,

Gerald J. Brown

Manager Safety and Environmental

### ***Agency Response to Ash Grove Cement***

1. Section I.B.6 of the Statement of Basis document incorrectly specifies the emission standard for dioxins and furans. The standard should state that the dioxin limit of 0.4 ng/dscm (TEQ) at 7% O<sub>2</sub> when the average of the Kiln baghouse temperatures **are equal to or less** than 400 F during the performance test (40 CFR 63.1343(d)(2)) and 0.2 ng/dscm (TEQ) at 7% O<sub>2</sub> when the average of the Kiln baghouse inlet temperatures are **greater** than 400 F during the performance test (40 CFR 63.1343(d)(1)).

**Correction noted.**

2. Section EU 1.26 of the draft Title V permit. The applicable emission standards for dioxins and furans apply to air pollution control device inlet temperatures, not the mill mode of operation. Ash Grove requests this requirement paraphrase be modified to reflect the standard as written.

**Correction noted.**

3. Section EU 1.36 of the draft Title V permit. The referenced EU 1.50 in the requirement paraphrase section does not exist. The reference should be corrected to read EU 1.38.

**Correction noted.**

4. Section II.B.5 (a) of the draft Title V permit and item #4 of NOC 9229 requires that kiln operating hours are to be reported on a daily basis. This additional requirement to that is unnecessary. Section C.4(c) currently requires in kiln operating hours are to be reported on a monthly basis. Ash Grove requests that this additional reporting requirement is deleted from Section II.B.5(a) and Section C.4(c) the draft AOP and item #4 NOC 9229.

**The requested change has been made to both the Order of Approval conditions and the operating permit document. The requirement for daily recording of used oil volume fired is directly related to the allowable volume, but a daily kiln operational hours record does not relate to this specific requirement.**

5. Section II.B.12 (b) of the draft Title V permit and item #9(e) of NOC 9229. Rather than specify a source test method for Formaldehyde, HCl, and Metals, Ash Grove requests that it retain the flexibility to propose any air test method with written prior approval from the agency.

**A provision has been added to allow for alternative methods to be used only after review and approval by the Agency.**

6. Section II.B.12 (b) of the draft Title V permit and item #9. Ash Grove questions the requirement to conduct performance tests both with and without used oil. The performance test should only require testing while using used oil to determine if the facility maintains its status as an area source and demonstrate compliance with other applicable emission limits.

**Previous tests have shown significant differences in emissions between the Raw Mill both "On" and "Off". These tests will verify the correct emissions for these two scenarios and also establish the correct emission factors for calculating annual emissions.**

7. Section II.B.12 (b) of the draft Title V permit and item #10(e) and 10(f) of NOC 9229. The requirement to record the Burnability Index and Variability of the raw mix during the performance test has no relevance on whether the facility can demonstrate compliance with emission limits and should be deleted as a requirement.

**In order to establish a base line and document differences between burning 100% coal versus burning a coal and used oils blend, the values for the Burnability Index and the variability of the raw materials need to be established to show that differences in emissions are caused by differences in fuels rather than any differences in raw materials or patterns caused by combustion parameters. Also, when Ash Grove requested the ability to increase the emission limit of NO<sub>x</sub>, part of the background of information included the changes that had occurred in the Burnability Index.**

8. Please note that the expected NO<sub>x</sub>, SO<sub>x</sub>, and CO data to be reported when the performance test demonstration is performed should not be used to project any longer-term emission increases for PSD analysis or anything else. If this is the case, a longer averaging time should be used and a pre-test baseline establish for comparisons to be made against.

**The Agency recognizes that these tests are designed to be used to document changes in emissions as a function of fuel changes. The results of these tests would help Ash Grove in estimating annual emissions based on the annual ratio of fuel usages.**

### **Administrative Amendment 1 to Operating Permit (7/13/07)**

Ash Grove requested an Administrative Amendment (received June 18, 2007) to the operating permit to delete the monitoring requirement in Section II.A.5 of the permit. This request represents a request to correct a typographical error found in the modified permit that was issued

on May 17, 2007. In the permit modification action completed on May 17, 2007, the Agency deleted Condition I.A.12 of the permit because it was no longer an applicable requirement. Condition I.A.12 had included requirements found in Puget Sound Clean Air Agency Regulation I, Section 9.15(b) (*effective date 8/10/89*). That regulation was a SIP approved requirement when the original Ash Grove Air Operating Permit was issued on May 15, 2004. Subsequent changes to this Agency's regulations and SIP approval actions by EPA eliminated that as an applicable requirement. This superseded requirement that no longer exists related to vehicle track out and spillage of particulate matter on public roadways. Section II.A.5 of the permit represented a monitoring requirement created through gap filling for this one applicable regulation alone in the permit. When the SIP update eliminated the provision found in Condition I.A.12 in the permit, it ceased to be an applicable requirement. In an attempt to clean up the obsolete conditions in the permit, we deleted that requirement but failed to delete the monitoring provisions that were specifically linked to it. The Agency concurs with the request as an administrative amendment as it represents a typographical error and oversight in the preparation of the last modification. If this amendment were not completed, then the monitoring in Section II.A.5 of the permit would be an orphan, having no underlying requirement for the monitoring and without an authority for a gap filling permit term.

### **Administrative Amendment 2 to Operating Permit (12/2/10)**

Ash Grove requested an Administrative Amendment (received October 12, 2010) to the operating permit to change the responsible official to Todd Hinton. That change was made November 1, 2010 and a letter to that effect was sent to Dan Peters who requested the update.

### **Administrative Amendment 3 (12/12/13)**

Ash Grove requested an Administrative Amendment (received September 9, 2013) to change the responsible official to Carey Austell. That change was made December 23, 2013 and a letter to that effect was sent to Dan Peters who requested the update.

### **Administrative Amendment 4 (6/13/18)**

Ash Grove requested an Administrative Amendment (received March 23, 2018) to change the responsible official to Laura McAnany. That change was made June 13, 2018 and a letter to that effect was sent to Dan Peters who requested the update.