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

Administrative Amendment 5 Issued 12/20/22

Significant Modification 2 Issued 12/05/25

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 a section below entitled "Modification 2 to Operating Permit", beginning on Page 128.** All other sections of this Statement of Basis remain unchanged.

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_2, NOx, 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 NOx and SO_2 (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 ($CaCO_3$) which decarbonates or calcines (CO_2 is driven off) to lime (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°F). The production of the various compounds of calcium silicates $(CaSiO_2)_n$ 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 than 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 alumna, 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 4.3×10^6 Btu per ton (Btu/ton). Fuels burned in the kiln provide about 396×10^6 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, SO2, NOx, CO, oxygen, temperature and stack flow rate.

Typically stack emissions are about 2 to 4% opacity, about 100 ppm (20 to 30 lb/hr) SO2, 300 to 400 ppm (300 lb/hr) NOx, about 500 to 800 ppm (250 lbs/hr) CO, about 7% oxygen, stack temperature of 350 ºF 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 SO2 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 SO2 emissions at startup. The SO2 emission standard during normal operations remained unchanged.

Once Order of Approval No. ____ was changed, the Agency closed all open cases for SO2 emissions at startup with a closure letter dated July 21, 1998. Enforcement actions for SO2 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)
Fallout and Fugitive Dust Violations Settled Per David Maars Fugitive Dust Study						
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
Fallout and Fugitive Dust Violations						
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)
Sulfur Dioxide CEM Violations Start Up and Normal Operations						
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
Nitrogen Oxide CEM Violations						
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)

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	3/3/¾3/4/¾3/4/99 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 NOx 3 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 C½1/2/01
36741	10/12/00	OA 7381 #(5)(b)	NOx 24 hr avg 501 ppm	None	None	CCL 7/26/01
Opacity CEM Violations						
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

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
Continuous Emission Monitoring Missing Data						
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

NOV #	Date of Violation	Citation	Violation Description	CP #	AMT.	Status (CCL – Case Closure Letter)
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
367¾3/4/98	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
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

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_2, although SO_2 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
NO2	1,058	959	910	1,203	1,253	1,282	1,198
PM10	53	53	51	52	52	51	46
PM2.5	0	28	27	0	0	18	16
SO2	74	171	188	181	157	106	129

Cement Kiln Dry Process with BHs

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
NO2	1,941,160	1,759,400	1,675,600	2,212,820	2,295,620	2,351,600	2,210,000
PM10	57,691	57,802	56,424	59,076	59,773	58,333	52,566
PM2.5	0	31,851	31,092	0	0	10,568	9,523
SO2	136,440	313,200	346,000	332,280	287,940	195,000	238,000

Coal Mills

Pounds=>	1995	1996	1997	1998	1999	2000	2001
CO	217,622	223134	254,441	254,659	237,413	245,078	177,034
NO2	175,779	157,968	144,866	193,240	210,636	212,760	186,308
PM10	3,312	3,284	3,162	3,194	3,356	3,309	3,083
PM2.5	0	1,810	1,742	0	0	490	456
SO2	12,355	28,121	29,966	29,017	26,420	17,643	20,064

Limestone Transfer with BH

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	5,748	5,608	5,333	5,507	5,583	5,533	4,931
PM2.5	0	2,908	2,767	0	0	3,320	2,959
SO2	0	0	0	0	0	0	0

Raw Mill Separator with BH

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	4,907	4,704	4,626	4,792	4,822	4,755	4,258
PM2.5	0	2,442	2,400	0	0	2,853	2,555
SO2	0	0	0	0	0	0	0

Finish Grinding Feed Belt with BH

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

Finish Grinding Mill Air Separator with BH

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[1]" 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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[1] "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 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 NOVs 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_2 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_2 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_2 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_2 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:

$$\frac{2{,}000\,gr\,S}{1{,}000{,}000\,ft^3\,nat.gas}\times\frac{1\,lb}{7000\,gr}\times\frac{385\,\frac{ft^3}{mole\,S}}{32\,\frac{lb}{mole\,S}}=3.44\times10^{-6}\,\frac{ft^3\,S}{ft^3\,nat.gas}\equiv3.44\ ppmdv\,S$$

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 3.44×10^{-6} cubic feet of sulfur, each cubic foot of stack exhaust will contain approximately:

$$3.44\times10^{-6}\,\frac{ft^3\,S}{ft^3\,nat.gas}\times\frac{1\,ft^3\,SO_2}{1\,ft^3\,S}\times\frac{1\,ft^3\,nat.gas}{11\,ft^3\,stack\,exhaust}=0.313\times10^{-6}\,\frac{ft^3\,SO_2}{ft^3\,stack\,exhaust}$$

The burning of natural gas generates about 0.31 ppmdv SO_2. This estimated value is less than one-tenth of one percent of the 1,000 ppm SO_2 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_2 limits in Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6).

SO_2 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_2 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 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 superceded 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 superceded 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 NOx, CO, SO2 and PM10 (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 NOx, CO, SO2 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 NOx, CO, and SO2 with different averaging times
- Startup operational procedures (attached to the Order of Approval as approved startup and shutdown procedures for SO2 compliance and identified in Section II.B.8 of the permit) and startup emission limits which apply to SO2 emissions
- Annual mass emission rate limitations for NOx, CO, SO2, 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% O2 when the average Kiln baghouse inlet temperatures are equal to or less than 400ºF during the performance test [40 CFR 63.1343(d)(2)] and 0.20 ng/dscm (TEQ) at 7% O2 when the average Kiln baghouse inlet temperatures are less than 400ºF 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 180ºF to 200ºF. 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 200ºF (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 (350ºF 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:

"Dry" O_2 % = "Wet" O_2 % x (1/(1-(Gas moisture content %/100))

"Dry" O_2 = 3.0% x (1/(1-(10/100))

= 3.0% x 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

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^2 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^2 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 (O2), 538 pph (pounds per hour) 8-hr average and 2,353 tpy (tons per year);	Yes	Cancelled

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		(b) For Nitrogen Oxides (NO_x): 668 ppm @ 10% O2 1-hr average, 590 pph, 422 pph (24-hr average), 478 ppm @ 10% O2 24-hr average, and 1846 tpy. (c) For Sulfur Dioxide (SO_2): 33 ppm @ 10% O2 1-hour average, 40 pph and 176 tpy; (d) For Particulate Matter (PM): 10.6 pph and 46 tpy. 6. The monitoring and reporting of CO, NOx, SO2 and Opacity shall be done in accordance with Article 12 of Regulation I. 7. Emissions of Particulate Matter from all baghouses shall not exceed 0.010 gr/dscf. 8. All emission testing, monitoring and reporting shall be performed in accordance with PSCAA requirements. 9. Offsets of PM emissions (deducted from ERC # 107) are required under this NOC 3382, pursuant to Section 6.08 of Regulation I.		
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	(2) Baghouses at 20,000 acfm each connected to the Finish Mill Grinding System. 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. 5. Ash Grove shall perform a compliance source test within 60 days of startup. 6. Ash Grove shall not exceed 10% opacity for an aggregate of 3 minutes in any 1 hour from the baghouse exhaust. 7. Ash Grove shall measure and record pressure drop across the baghouse, and maintain the pressure drop between 3 and 6 inches.	Yes	Active Condition No. 5 is Obsolete
5338	3/15/94	(Replaced by 8415) (1) 150 ton Fly Ash Storage Silo with a 750 cfm Fabric Filter, and a pneumatic conveyor.	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	(Cancelled by NOC #6644 10/18/96) Conveying System Modify Raw Material Conveyance System by the addition of	No	Cancelled

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	(Cancelled by NOC #7381 6/29/98) Limit PM10 Emissions (5) New Baghouse - Finish Mill 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. 4. This source is subject to Subpart F of 40 CFR Part 60. 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: a. Performing a PSAPCA approved source test according to EPA Method 5 or EPA Method 201A. b. Demonstrating no visible emissions for 15 consecutive seconds. c. Demonstrating no visible emissions for three consecutive minutes, or d. Repairing within 24 hours, any baghouse that has visible emissions for more than three consecutive minutes. 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. 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: a. Carbon monoxide (CO): 1049 ppm @ 10% oxygen (O2), 8-hr average, and 2353 tpy (tons per year); b. Nitrogen Oxides (NOx): 700 ppm @ 10% O2 1-hr average, 501 ppm @ 10% O2, 24-hr average, and 1846 tpy. c. Sulfur Dioxide (SO2): 180 ppm @ 10% O2 1-hr average, and 176 tpy.	Yes	Cancelled

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		d. Particulate Matter (PM): 10.6 pph and 46 tpy. 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 SO2 corrected to 10% O2 for a one-hour average and 1000 ppm of NOx corrected to 10% O2 for a one-hour average. Appendix A to this order defines the startup, shutdown and scheduled maintenance conditions under which these alternate limits apply. 8. Ash Grove shall monitor and report CO, NOx, SO2, and opacity from the main baghouse according to Article 12 of Regulation I. 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. 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. 11. This Order of Approval supersedes and cancels Order of Approval No. 3382 dated June 19, 1990.		
7381	6/29/98	(Cancelled by NOC #7381 6/6/01) 5 Baghouse - Finish Mill Modifies NOx Emissions Standards 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. 3. This source is subject to Subpart F of 40 CFR Part 60. 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: (a) Performing a Puget Sound Clean Air Agency-approved source test according to EPA Method 5 or EPA Method 201A; (b) Demonstrating no visible emissions for 15 consecutive seconds; (c) Demonstrating no visible emissions for three consecutive	Yes	Cancelled

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		minutes; or (d) Repairing within 24 hours, any baghouse that has visible emissions for more than three consecutive minutes. 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. 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: (a) Carbon monoxide (CO) emissions shall not exceed 1049 ppm (parts per million) corrected to 10% oxygen (O_2) for an 8-hour average, and CO shall not exceed 2353 tons per year; (b) Nitrogen oxides (NO_x) shall not exceed 700 ppm corrected to 10% O_2 for a 1-hour average, and NOx shall not exceed 501 ppm corrected to 10% O2, for a 24-hour average, and NOx shall not exceed 1846 tons per year; (c) Sulfur dioxide (SO_2) emissions shall not exceed 180 ppm corrected to 10% O_2 for a one-hr average, and 176 tons per year; (d) Particulate matter (PM) emissions shall not exceed 10.6 pounds per hour, and 46 tons per year. 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. (a) During the kiln startup-preheating period prior to kiln feed introduction, the SO_2 emission limit for the main baghouse shall consist of compliance with the following work practices and fuel restrictions: (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 (2) Sulfur rings shall be removed from the kiln prior to startup, if sulfur ring formation had required the kiln to be shut down. (b) During the kiln startup-feed introduction period, SO_2 emissions from the main baghouse shall not exceed 200 ppm corrected to 10% O_2 for a one-hr average.		

No.	Approved	Approval Summary	Specific Approval Conditions in Order of Approval?	Status
		(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. (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 (e) Ash Grove shall log as part of the Operations and Maintenance (O&M) Plan and report to the Puget Sound Clean Air Agency as part of the **monthly** Continuous Emission Monitoring Report: (1) The date, start and end times, and the fuel used for kiln startup-preheating periods prior to feed introduction; (2) The sulfur ring removal from the kiln, if the ring formation required the kiln to be shut down; (3) The date, start and end times for kiln startup-feed introduction periods; and (4) The cause for kiln shut down, the duration of kiln cool down and the kiln rotation schedule in kiln cool down. 7. Ash Grove shall monitor and report CO, NO_x, SO_2, and opacity emissions from the main baghouse according to Article 12 of Regulation I. SO_2 emissions from the main stack shall be monitored at all times following the introduction of feed to the kiln. 8. This Order of Approval No. 7381, supersedes and cancels Order of Approval No. 5730 dated Dec 29, 1994.		
8415	3/20/01	Cement Storage Silo vents to existing BH (Replaces NOC 5338) Fuller FK Material Pump and Ramsey Horizontal Rotary Gravimetric Metering System controlled by an existing Fly Ash Storage Silo 750 cfm baghouse.	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
40 CFR Part 60 Subpart F Standards of Performance for Portland Cement Plants						
EU 1.15	40 CFR §60.62(a)(1) 40 CFR § 60.8(c)	10/6/75 2/12/99	Kiln exhaust shall not exceed 0.30 lb of particulate per ton of feed (dry basis), except during SSM periods.			
40 CFR Part 60 Subpart Y Standards of Performance for Coal Preparation Facilities						
EU 1.18	40 CFR 60.252(a)(1) 40 CFR 60.8(c)	10/17/00 2/12/99	Coal mill exhaust shall not exceed 0.031 gr/dscf, except during SSM periods	II.A.1 General Opacity Monitoring II.B.12 Coal ~~Mill NSPS~~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
40 CFR Part 60 Subpart Y Standards of Performance for Coal Preparation Facilities						
EU 1.18	40 CFR 60.252(a)(1) 40 CFR 60.8(c)	10/17/00 2/12/99	Coal mill exhaust shall not exceed 0.031 gr/dscf, except during SSM periods	II.A.1 General Opacity Monitoring II.B.12 Coal ~~Mill NSPS~~Prep Facility Performance Test		
EU 1.19	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 ~~Mill NSPS~~Prep Facility Performance Test		
40 CFR Part 63, Subparts A and LLL						
EU 1.30	40 CFR 63.1349(b)(3) and (d);	12/6/02	~~Every 30 months~~Except as waived or modified pursuant to 40 CFR 63.7 or 63.8, Ash Grove shall conduct a performance test every 30 months on the kiln			
EU 2.2	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 ~~Mill~~Prep Facility 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
40 CFR Part 63, Subparts A and LLL						
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. ~~Ash Grove shall submit the O&M plan for this requirement to the Puget Sound Clean Air Agency for approval.~~			

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-6.1	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 bag loading station.	II.B.11 Bulk Bag 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 Bag 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[1] 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]

[1] 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 – SO2, CO and NOx 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.

Comment 9 (by Ash Grove 1/31/03)

Condition II.B.3 – SO2, CO and NOx Mass Emission Rate Monitoring

Clarify annual CO and SO2 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. SO2, CO, and NOx Mass Emission Rate Monitoring

Ash Grove shall calculate ~~annual~~SO2 and CO emissions ~~of SO2, CO~~from the cement kiln operation on a calendar year basis, and NOx 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~~]~~[; 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 NOx limitation as a "12-month running total". In contrast, the annual limitations for SO2 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 form 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~~ 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 – SO2, CO and NOx Mass Emission Rate Recordkeeping

Proposes edits agree with proposed in change of Condition II.B.3. See II.B.3.

D. Recordkeeping

10. SO2, CO, and NOx Mass Emission Rate Recordkeeping

Ash Grove shall maintain on site records which document the 12-month rolling total ~~annual emission~~ calculations for ~~SO2, CO, and~~ NOx emissions from the kiln, the calendar year calculations for CO and SO2 emissions from the kiln and summary 8-hour block average CO mass emission rates from the ~~cement~~ 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 12th, 13th and 14th 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).
40 CFR Part 60, Subpart OOO	NSPS for Nonmetallic Mineral Processing Plants	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."
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
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.		
~~40 CFR Part 60, Subpart OOO~~	~~NSPS for Nonmetallic Mineral Processing Pants~~	~~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."~~
40 CFR 60 Part 60, Subpart F	NSPS for Portland Cement Plants	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).
40 CFR 60.8	Initial performance test	Requirement to conduct NSPS initial performance test on the kiln was satisfied on 6/17/93. ~~Performance test for the coal mill is included in this permit in Section II.B.12.~~
40 CFR 63.7 and 63.1349(a) and (b)	MACT initial performance test requirements	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.
40 CFR 135063.1350(g)	Dioxin/furan monitoring requirements for kilns that employ carbon injection as an emission control technique	The Seattle plant does not employ carbon injection as an emission control technique.
40 CFR 135163.1351(b)	Subpart LLL compliance date for affected sources that commence new construction or reconstruction after March 24, 1998	Ash Grove did not commence new construction or reconstruction on any Subpart LLL affected source after March 24, 1998.
40 CFR 134463.1344(b)	Temperature limit for affected sources determined through performance test	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.

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
~~Lignoute~~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 (SO2 and NOx Monitoring) [40 CFR 60, Appendix B, July 1, ~~1997]~~1992]

(3) EPA Performance Specification 3 (O2 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[1]

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[2] 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.[3] 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

[2] 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.

[3] 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[4] 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 NOx than coal, on a pound per ton of clinker basis. Ash Grove reduced NOx 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.

[4]The average passenger car tire contains 2.5 pounds of steel. On a typical day recycled tires supply almost 10 percent of the Fe_2O_3 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 (350ºF) 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_X 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:

40 CFR Part 60, Subparts A, F and Y	NSPS reporting requirements	~~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(c), 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.

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 superceded 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~~ day~~s~~ 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~~ day~~s~~ 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.I0 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 wenches 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^2 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) SO2 (CEMS);
(c) NOx (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 let 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

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 NOx and SO2 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 Ahs 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	$1.0x10^{-06}$ g/s	$5.3x10^{-9}$ µg/m^3	0.050 µg/m^3	0.00001%
Cadmium	Annual	$1.2x10^{-07}$ g/s	$2.4x10^{-8}$ µg/m^3	0.00056 µg/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_2, NOx, and CO. Lafarge has continuous emission monitors for opacity and SO_2. 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 complaince 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 alumna, 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_2, 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 preformed 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

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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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

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

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% O2 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% O2 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 NOx, SOx, 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% O2 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% O2 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 NOx, part of the background of information included the changes that had occurred in the Burnability Index.

8. Please note that the expected NOx, SOx, 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.

Administrative Amendment 5 (12/20/22)

Ash Grove requested an Administrative Amendment (received May 27, 2022) to change the responsible official to Nathan Betz. That change was delayed because the Agency requested and did not receive the required Administrative Amendment fee. On December 14, 2022, the Agency received a request to change the responsible official to Andrew White, which was accompanied by Administrative fees for both changes. The change was made December 15, 2022 and a letter to that effect was sent to Andrew White who requested the update.

Modification 2 to Operating Permit (12/05/2025)

The modification of Ash Grove's Air Operating Permit is triggered by the incorporation of Notice of Construction and Application for Approval No. 12003 which replaces, supersedes and cancels Order of Approval No. 5755 and the prior limit on whole tires used of 30% by weight.

The Project description for NOC No. 12003 is:

> Operation of One AGC-Seattle Whole Tire Feed System for injecting whole tires as replacement fuel at the Calciner level of the Preheater Tower above the Kiln, which is controlled by an existing Baghouse. There will be no modifications to the fueling system.

This Order of Approval No. 12003 will let Ash Grove set a new limit defined by their Fuel Monitoring Plan. A description of the Conditions of this Order of Approval is added below.

This Order of Approval No. 12003 cancels and supersedes Order of Approval No. 5755 dated March 30, 1995. Order of Approval No. 5755 allowed a up to 30% of the fuel by weight per calendar day to be whole tires. This limit was set because, previously, to meet the definition of a "cofired combustor" under the federal NSPS regulations (40 CFR Part 60, Subpart Ea), which applies to units combusting materials defined to be solid wastes as a fuel up to 30% or less by weight of the fuel combusted. However, the applicable federal regulation defining solid waste has changed. That regulation, found in 40 CFR 241.4(a), provides:

> Part 40 CFR 241SOLID WASTES USED AS FUELS OR INGREDIENTS IN COMBUSTION UNITS: 40 CFR 241.4(a): The following non-hazardous secondary materials are not solid wastes when used as a fuel in a combustion unit:
>
> (1)Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires

Because Order of Approval No. 5755 is being superseded and canceled, and replaced with Order of Approval No. 12003, the current Air Operating Permit needs to be opened and modified to include Order of Approval No. 12003.

This Order of Approval No. 12003 is being incorporated into the Air Operating Permit as a significant modification. No other changes are being made to the operating permit. Conditions that have been added or modified included condition EU 1.7, EU 1.39, EU 1.40, EU 1.41, and Eu 1.2. Section II.B.15 Tire Derived Fuel Source Testing has also been added to include the one time source tests required by this modification.

For further information and details refer to Puget Sound Clean Air Agency Notice of Construction Work Sheet No. 12003 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. 12003. These conditions reflect edits made to the draft Order of Approval based on comments received during the comment period

THE FOLLOWING LISTS AND DESCRIBES CONDITIONS OF ORDER OF APPROVAL NO. 12003

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.

3. Ash Grove shall measure and record, each calendar day, the total weight of whole tires injected as non-hazardous secondary material fuel as defined by 40 CFR 241.4(a)(1).

   Conditions No. 3 requires the amount of whole tires to be measured and recorded. This will be required by AOP 11339, section I.B.1. EU 1.7

4. Ash Grove shall submit a Fuel Monitoring Plan for injection of whole tires within 60 days after this approval. The plan shall contain the method for complying with condition 3, the replacement fuel composition (i.e., Btu content, percent ash, etc.), and the maximum rate of whole tires that will be used. The rate established in this submitted plan will become the new allowable maximum TDF firing percentage and will be the tire injection rate required during the testing for conditions 5, 7 and 9.

   Condition No. 4 requires a new monitoring plan to be submitted and approved by the agency, which would also define the new requested limit. This new limit will only go into effect once it is shown there will be no increase in metallic TAPs. The Tire Derived Fuel Monitoring Plan is described in AOP 11339, section II.B.6.

5. Within 60 days after the submittal of the updated fuel monitoring plan, Ash Grove shall complete a study to determine if this operational change results in an increase in the emission rate of metallic TAPs listed in WAC 173-460-150. The metals to be tested include arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium. Ash Grove shall submit a test plan that includes fuel rates for each condition. Tests will be in accordance with EPA Method 29, and the methodology for determining if there is an increase in emissions of a pollutant will be in accordance with Appendix C to 40 CFR Part 60. Based on the results of this test, one of the following two conditions shall take effect:

   a. If the study shows that modification does not lead to an increase in emissions of any tested TAP, the maximum rate of whole tires that will be used as defined in the Fuel Monitoring Plan required in condition 4 shall replace the previously established permitted tire consumption rate.

b. If the study shows that this modification results in an increase in the emission rate to the atmosphere of any TAP, then the previous established rate 30% TDF by weight, daily average limit shall remain in place.

A limit of 30% TDF by weight, daily average limit shall remain in effect until the results of this study are reported, except for the days needed to conduct this study. During the days of this study, the TDF limit shall be defined in the fuel monitoring plan required by condition 4.

Condition No. 5 addresses concerns evidence submitted during the comment period that there might be a relationship between the increase of TDF and metal emissions when natural gas is the only other fuel. All other studies found that measured metals and particulate used TDF as a replacement of coal rather than natural gas, which is inapplicable to this situation. This study will determine if there is an increase. However, this study cannot be performed until this permitting action goes through. If there is an increase in metal TAPs, the limit of 30% TDF by weight daily shall remain in effect.

6. Ash Grove shall submit an Emission Monitoring Plan within 60 days after this approval. The plan shall contain the following elements:
   a. Measurement methods, analytical procedure and testing dates for demonstrating compliance with the requirements of 40 CFR 63.1343(b)(1).
   b. The measurement methods shall include a combination of Continuous Emission Rate Monitoring Systems, Continuous Emission Monitoring Systems and source tests to show compliance with 40 CFR 60 subpart F and 40 CFR 63 Subpart LLL.

   Conditions No. 6 requires the update of the emission monitoring plan to include the increased limit of whole tire throughput. This will be a one-time requirement.

7. Within 60 days after the submittal of the updated fuel monitoring plan, Ash Grove shall conduct source tests to demonstrate compliance with the following previously established emission limits:
   a. Kiln exhaust shall not exceed 0.30 lb of particulate per ton of feed (dry basis) except during SSM periods.
   b. Kiln exhaust shall not exceed 0.07 lb of particulate per ton of clinker except during SSM periods, per 40 CFR 63.1343(b)(1).
   c. Ash Grove shall not cause to be discharged into the atmosphere from the kiln exhaust Dioxin/Furan (D/F) exceeding 0.20 ng/dscm (TEQ) @ 7% O2. If the average temperature at the inlet to the baghouse during the D/F performance test is 400°F or less, this limit is changed to 0.40 ng/dscm (TEQ).

   Ash Grove shall conduct the tests at the maximum rate of whole tire injection specified in condition 4. These source tests shall use EPA Method 5 or EPA method 201 A (particulate) and EPA method 23 (dioxins/ furans). Ash Grove shall submit a report of the test results within 60 days of testing.

   No. 7 requires a source test to be performed for pollutants not continuously monitored to ensure continued compliance with 40 CFR 63 Subpart LLL. PM testing is already required annually by 40 CFR 63.1349(b)(1)(i). D/F testing is required by 40 CFR 63.1349(b)(3).

8. Ash Grove shall report any deviation from the fuel monitoring plan that represent a potential threat to human health or safety as soon as possible but no later than 12 hours after such a deviation is discovered. Ash Grove shall report other deviations in writing to Puget Sound Clean Air Agency Operating Permit Certification no later than 30 days after the end of the month during which the deviation is discovered.

No 8 requires any deviations to be reported to the Agency. Deviations are required to be reported per the Tire Derived Fuel Monitoring Plan as described in AOP 11339, section II.B.6.

9. Within 60 days after the submittal of the updated fuel monitoring plan, Ash Grove shall conduct stack testing for hydrogen chloride per EPA Method 26 or 26A in accordance with PSCAA Regulation I 3.07. Ash Grove shall conduct the tests at the maximum rate of whole tire injection specified in condition 4 and shall use the tests to calculate a facility-specific emissions factor for HCl, in units of pounds of HCl per ton of clinker. The tests shall include three runs under raw-mill-up conditions, and three runs under raw-mill-down conditions.

Condition No. 9 addresses the concern that more HCl will be put into the system as a component of TDF. Ash Grove is currently an area source for HAPs. This test will reevaluate that determination.

OA 5755 SUPERSEDED

10. Order of Approval 12003 cancels and supersedes Order of Approval No. 5755 dated March 30, 1995.

Conditions No. 10 simply deletes the old order and replaces it with the new order.

Public Comments for Significant Modifications Received during the 30-day Public Comment Period

Several similar topics were raised in the public comments received. This section will respond to those topics collectively. The comments have been compiled in Attachment A.

Several similar topics were raised in the public comments received. This section will respond to those topics collectively.

1. Unlimited tire burning

Many commenters raised concerns related to a perceived lack of limits on tire burning. In their view, this permit would allow for a large increase in tire consumption by Ash Grove, with no limit to the amount of tires burned.

Response:

As was noted on Page 7 of the worksheet, above, this permit does not authorize any modifications or upgrades to the tire feed system. It simply allows the tire feed system to be used up to its existing physical capability. Additionally, while the main heat source for cement making is the main burner in the actual kiln, the tire feed system injects tires, via one conveyor belt, into the calciner section of the pyroprocessing system. The calciner is part of the large tower adjacent to the horizontal kiln. This configuration does not allow for tires to be the primary fuel, and this permit does not authorize any physical changes to this configuration. Due to these physical limitations, the maximum amount of fuel that can consist of tires is approximately 37%.

These comments did not result in any changes to permit conditions.

2. General opposition to the permit; Decision criteria and rationale for approving

Several commenters expressed general opposition to the project and urged the Agency not to approve the request. Similarly, several commenters asked why the Agency is entertaining Ash Grove's request and what criteria the Agency used to determine whether to approve the request.

Response:

A facility may always submit an application for a permit, and if it meets all the standards and regulations, then the Agency is obligated to approve the request. WAC 173-400-113 states that the permitting authority "shall issue an order of approval if it determines that the proposed project satisfies" the applicable requirements. If the Agency determines that a proposed project meets the applicable requirements of WAC 173-400 and WAC 173-460 (i.e., the project employs Best Available Control Technology and passes review of Toxic Air Pollutants), and the Agency determines through SEPA review that the project will not have a significant environmental impact, the Agency is obligated to approve the project.

The Agency rules and regulations outlining this process can be found at the following web address: https://pscleanair.gov/219/PSCAA-Regulations. More detail is also included in WAC 173-400 and WAC 173-460.

These comments did not result in any changes to permit conditions.

3. Renewable energy and other fuels

Several commenters stated that Ash Grove should be required to use renewable and/or non-polluting fuels.

Response:

The Agency is unaware of any sort of electric or non-polluting cement kiln in existence. Cement kilns require temperatures greater than 2000 degrees F, which cannot readily be achieved using electric heat. Given current technologies, cement kilns cannot use electricity as their main heat source, which therefore precludes the use of solar or wind power. In this case, tire-derived fuel offsets fossil fuels that would otherwise be used. Additionally, this permit action does not raise the permitted production rate of the plant.

This comment did not result in any changes to permit conditions.

4. Increase in emissions; toxicity of tire burning emissions

Multiple commenters requested that this permit not lead to an increase in air pollution emissions. Some of these comments focused on criteria pollutants such as particulate matter, sulfur dioxide,

or nitrogen oxides, while others focused on toxics such as metals or organics. One commenter submitted supplemental information about emissions from tires burned in kilns. One commenter stated that the Agency's review of the project did not include actual New Source Review, as required under WAC 173-400 and WAC 173-460, for all increasing pollutants.

Response:

The Agency considered emissions from criteria pollutants separately from emissions of toxic air pollutants.

Criteria Pollutants

The Agency discussed its determination that there will be no increase in criteria pollutants associated with tire burning on Pages 5 and 7 of the worksheet. However, the Agency will address this in more detail, in light of the comments received.

Most of the studies to date on the use of tires at cement kilns have focused on criteria pollutants. The studies and fact sheets mentioned on Page 5 of the worksheet, above, stated that criteria pollutant emissions do not increase when tires are used as fuel, though these largely used coal as the primary kiln fuel. The Agency also considered the analysis of tires performed by the EPA and published in "Air Emissions from Scrap Tire Combustion" in October 1997, in the document EPA-600/R-97-115. This article was submitted to the Agency by a commenter. Several types of industry were studied in this document. Only a couple are applicable to this permit. A cement kiln, (facility I) which did two tests of 0% TDF and 9-10% TDF showed a decrease in emissions. It is noted that both coal and natural gas were used, but did not specify the ratio. Those tables are shown below:

Table A-9a. Facility I - Cement Kiln

Source Description

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

Source Test Data Evaluation

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

Table A-9b. Facility I - Cement Kiln

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

ND = Not detected.
NA = Not applicable.

TABLE 17. PROXIMATE AND ULTIMATE ANALYSIS OF RKIS TEST TDF

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

One commenter included a concern that emissions of SO_2 could increase, due to the sulfur content of tires. The ultimate fuel analysis provided did show that tires can contain 1.75% sulfur. It is worth noting that coal can be 0.2 to 5% sulfur (although natural gas contains less). At power plants that burn fuels that are high in sulfur, such as coal, flue gas desulfurization (FGD), commonly referred to as a "scrubber", is frequently used to capture SO_2 from stack gases. The main material used to capture sulfur in a FGD system is limestone, which reacts with SO_2 and effectively removes it from the gas phase, sequestering it into a gypsum-like reaction product. Limestone is the main ingredient in cement, and the high throughput of limestone through a cement kiln essentially makes the pyroprocessing system an effective scrubber for SO_2. The site-specific Ash Grove study on Page 7 showed results of SO_2 emissions going down. Additionally, Ash Grove continuously monitors SO_2 emissions.

The study performed at this Ash Grove facility, summarized on Page 7, above, showed that criteria pollutant emissions will not increase with increased permitted tire usage. The additional information provided by commenters, along with the air pollution controls and continuous emissions monitors already in place, further establish that criteria pollutant emissions will not increase with this project.

These comments did not result in any changes to permit conditions related to criteria air pollutants.

Toxic Air Pollutants

To analyze the changes in emissions of toxic air pollutants, the Agency used data from the same EPA study submitted by a commenter.

Hydrogen Chloride (HCl)

First the Agency reviewed HCl emissions.

Ash Grove currently uses about 255 MMBtu/hr of fuel. 180 MMBtu/hr is used at the Main Burner. 75 MMBtu/hr is used at the calciner, which is the only location designed to receive tires. Currently, Ash Grove can use up to 60 MMBTU/hr there, so the project entails a 15 MMBtu/hr increase of tires.

1 kJ = 9.4782E-7 MMBTU

1 kg =2.204 lb

To convert this heat input rate to the increase in weight of tires fed:

37,177 kJ/kg * (9.4782E-7 MMBTU/kJ) * (1 kg/2.204 lb/hr)/(0.0160 MMBTU/lb) = 938 lb/hr increase of tires used.

In a conservative estimate, we can ignore the presence of air pollution controls and assume all halogen atoms (from the proximate and ultimate analysis above, in Table 17, from the materials submitted by the commenter) in tires are chlorine, and that all chlorine in the tires will leave as HCl:

938 lb/hr * 0.0031 lb Cl/lb * (36.4 lb HCl / 35.4 lb Cl) = 2.99 lb HCl/hr

This is significantly above the SQER for HCl, which is 0.67 lb/day. The next step is to model the emissions using Aerscreen to conservatively model the ambient impact against the acceptable source impact level (ASIL), which is listed as 9.0 ug/m^3 for HCl. When modeled with Aerscreen, the ambient impact is 0.15 ug/m^3. The modeling files are saved with in this permit folder.

As was noted above, this calculation assumes no control equipment. In practice, however, the limestone used to make cement is a natural absorber of acid gases. Activated carbon is also injected into the system, primarily for mercury control, but this can also provide some degree of HCl capture. However, at an increase of 2.99 pounds per hour of chlorine fed to the calciner, this could lead to a theoretical increase of 13 tons of HCl annually, if there were no inherent or add-on pollution controls. While the inherent dry scrubbing due to the presence of limestone will likely prevent emissions of this additional HCl, the Agency will require an EPA method 26A test for HCl to determine a new facility-specific emissions factor for HCl, under both raw-mill-on and raw-mill-off conditions, and to ensure that Ash Grove remains an area source for HAP after this change.

The Agency conducted the ambient HCl modeling analysis discussed above under the assumption that none of the chlorine fed to the pyroprocessing system is captured by the limestone and raw materials fed to the kiln, which is an extremely conservative assumption.

Ash Grove provided data on the current chlorine content of the input streams. The summary is shown below, while the supporting information is saved with this worksheet. The context of the data is that the chlorine from the limestone and the slag input streams are currently 68 times higher than the chlorine coming from the TDF input, which also works out to about 98.5% of the total chlorine going into the system

	Limestone	**Slag**	**TDF**
Average chlorine (%)	0.434%	0.100%	0.31%
Volume (t/h)	107.0	2.7	2.21
Chlorine (t/h)	0.465	0.003	0.007

Chlorine ratio	68.3		

SO_2 correlation to TDF input was also looked at. When outlet concentrations of SO_2 are graphed compared to varying rates of TDF, no correlation is apparent.

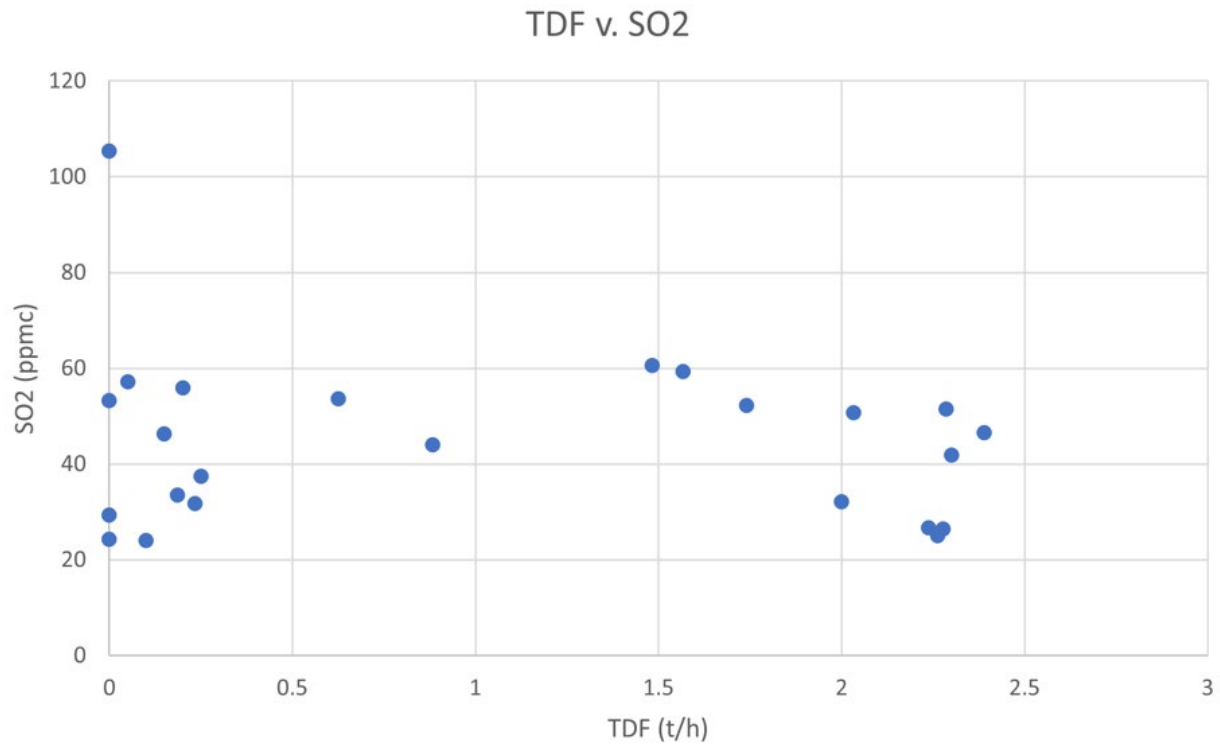

Figure 1 SO2 vs TDF Raw Mill Down

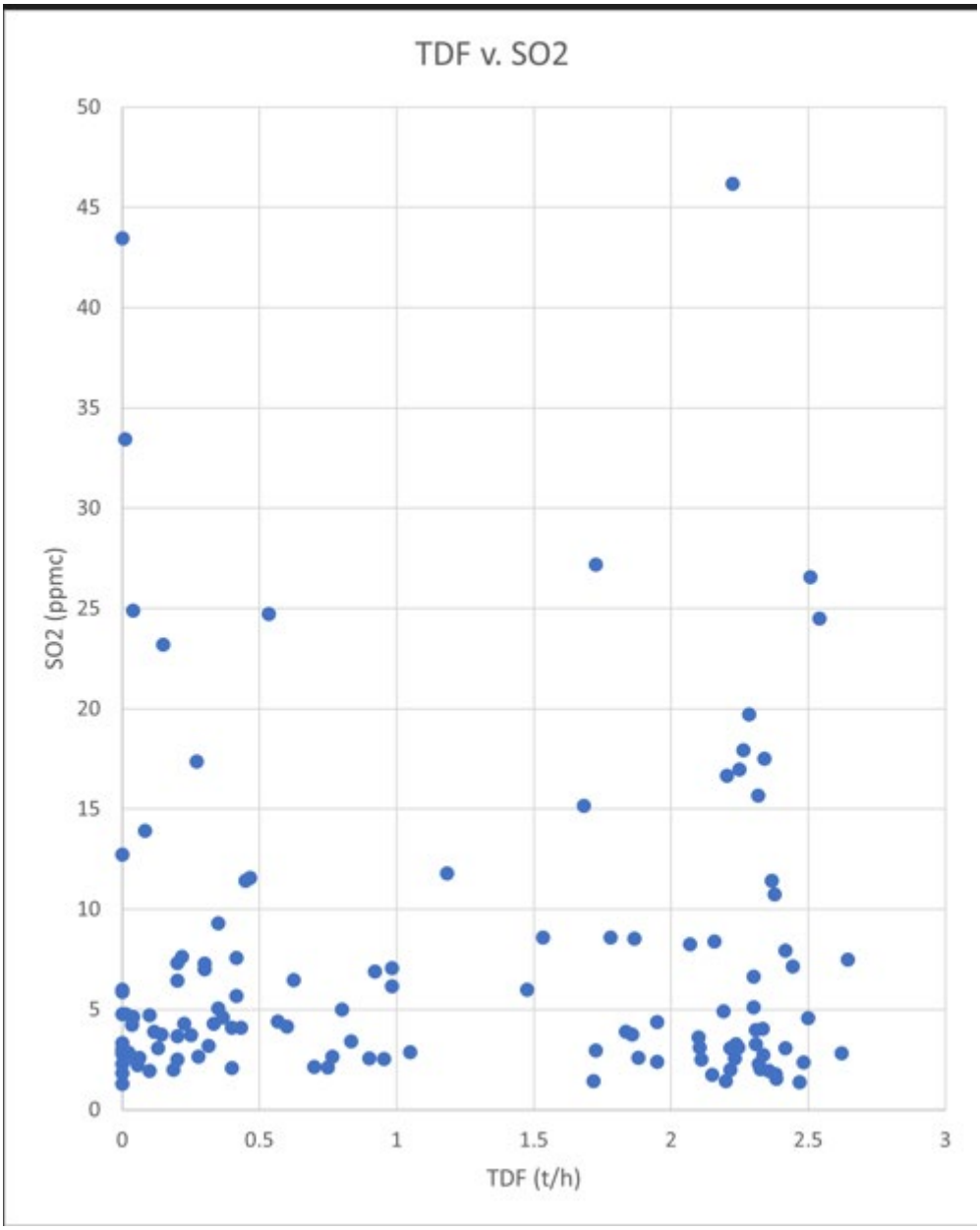

Figure 2 SO2 vs TDF Raw Mill Up

The Agency has determined that in practice this extra amount of chlorine will likely be captured within the pyroprocessing system and emissions control system and not emitted. Because of this lack of increase in HCl emissions, the Agency will not evaluate BACT for HCl for this project.

Table A-10b. Facility J - Cement Kiln

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

(Continued)

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

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

NA = Not applicable.
ND = Not detected.

TAP Metals

This EPA study, “Air Emissions from Scrap Tire Combustion” in October 1997, in the document EPA-600/R-97-115, looked at a pilot-scale 73 kW (250,000 BTU/hr) rotary kiln incinerator simulator (RKIS). In this case, the metals are predicted to go up linearly, but, importantly, the study does not take into account any control devices. The baghouse on the main kiln stack that controls particulate should also control an increase in metals. The results of this study are shown below.

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

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

From this data, we can roughly estimate the emission increase of each metal for an increase from 30% to 37% in the proportion of fuel consisting of tires. As was noted above, the study that derived these emissions factors did not use any control devices. In AP-42, Table 11.6-3, EPA states that a 99.9% decrease in particulate emissions can be expected from a baghouse. The Agency assumed a significantly lower 99% control efficiency in this analysis. Aerscreen was run with a factor of 1 g/s, and scaled to the emission factors calculated above. All pollutants have modeled concentrations below the ASIL. These results are shown below.

TDF Amount	Arsenic	Beryllium	Cadmium	Chromium	Lead	Manganese	Nickel	Selenium
0	0.00000112	0	4.09E-07	0.000000646	0.00000802	0.00000281	0.000000698	0.000000828
0.17	0.000037	4.98E-08	1.06E-06	0.00000386	0.0000658	0.00000577	0.00000329	0.00000449
1	0.000217	2.93E-07	6.21E-06	0.0000227	0.000386	0.000034	0.0000205	0.0000265
Equation	0.0002x+7E-07	3E-07x-5E-1	6E-06x+2	2E-05x+4E-07	0.0004x+5E-06	3E-05x+2E-06	2E-05x+3E-07	3E-05x+5E-07
30%	0.0000607	8.9995E-08	0.000002	0.0000064	0.000125	0.000011	0.0000063	0.0000095
37%	0.0000747	1.11E-07	2.42E-06	0.0000078	0.000153	0.0000131	0.0000077	0.0000116
Per an email 3/27, Ash Grove uses about 255 MMBTU/hr								
Increase/hr	0.00357	5.355E-06	0.000107	0.000357	0.00714	0.0005355	0.000357	0.0005355
increase/year	31.2732	0.0469098	0.938196	3.12732	62.5464	4.69098	3.12732	4.69098
Increase After 99% control/year	0.312732	0.0004691	0.009382	0.0312732	0.625464	0.0469098	0.0312732	0.0469098
SQER	4.90E-02	6.80E-02	3.90E-02	5.00E+00	1.40E+01	2.20E-02	6.20E-01	1.50E+00
Time frame	year	year	year	24-hr	year	24-hr	year	24-hr
Increase 24-hr				0.008568		0.012852		0.012852
Increase After 99% control/y24-hr				0.00848232		0.01272348		0.01272348

After assuming 99% control efficiency, only arsenic exceeded the SQER. This was then modeled in Aerscreen, with the results shown below. The modeling file was saved with the worksheet.

	Input (lb/hr)	Input (g/s)	Result (ug/m3)	ASIL
Model	N/A	1.00E+00	1.15E-01	
Arsenic	3.57E-05	2.83E-04	3.26E-05	3.00E-04

This mass balance-based approach shows that using the emissions factors provided by the commenter, there will be no exceedance of an ASIL for metallic TAPs.

The modeling analysis above relied on emissions factors from one pilot-scale study. In reality, the change in emissions of metal TAPs could differ from what was included in this analysis. In order to establish whether or not there is an increase in emissions of metal TAPs due to the increase in permitted tire consumption rate, the Agency will require Ash Grove to conduct tests of emissions of metal TAPs before and after implementing the higher tire feed rate. Metals to be tested include arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium, which are all TAPs listed in WAC 173-460-150. Tests will be in accordance with EPA Method 29, and the methodology for determining if there is an increase in emissions of a pollutant will be in accordance with Appendix C to 40 CFR Part 60.

If it is determined that no significant increase in these TAPs occurs, Ash Grove shall be able to increase the rate of TDF used to match the new Fuel Monitoring Plan required by this permit. If this testing methodology determines that there is an increase in any tested TAP metal, the 30% TDF by weight per day limit shall remain in effect. Until the results of this study is reported, Ash Grove shall limit TDF use to 30% of total fuel by weight per day, except to perform this study.

Organic TAPs

One other class of toxic air pollutant emitted from cement production is organic TAPs. Emissions of VOC or hydrocarbons can be used as a proxy for organic TAPs. The table on Page 17, above, showed that “aliphatic compounds,” a type of VOC, decreased when tires were substituted for fossil fuel. Additionally, the extremely high combustion temperatures (over 2000 degrees F) are very effective at destroying organic molecules. For these reasons, the Agency has determined that there will be no increase in emissions of organic TAPs. These comments did not result in any changes to permit conditions related to organic TAPs.

5. Open burning of tires

One commenter submitted supplemental information regarding emissions from open burning of tires, along with information about emissions from tires burned in kilns.

Response:

The burning of tires in a well-controlled cement kiln or calciner is very different from open burning. The strongly odorous black smoke associated with open burning of tires is not associated with burning of tires in the cement-making process. The optimal combustion conditions and air pollution controls prevent the smoke emissions that are associated with open burning.

This comment did not result in any changes to permit conditions.

6. 6PPD-quinone and salmon

One commenter noted that 6PPD-quinone is highly detrimental to salmon. 6PPD-quinone forms from 6PPD, which is an additive to tires that helps them from degrading in the presence of atmospheric ozone. After reviewing the articles presented, there is a concern of 6PPD-quinone getting into water streams. However, the method of transfer in the articles provided was determined to be roadway run-off as rain washed away the built-up tire particles from the mechanical wear of driving.

Response:

While the Agency could not locate data on the fate of 6PPD-quinone from tires burned at cement plants, it stands to reason that combustion in the extremely high temperatures in the pyroprocessing system would effectively destroy molecules of 6PPD-quinone. This is consistent with the use of incineration as a common mitigation method for organic pollutants. Additionally, the baghouse is a very effective emissions control for pollutants that may be in an aerosol form.

This comment did not result in any changes to permit conditions.

7. Concerns about the time of the hearing, public outreach, lack of transparency and process concerns

Several commenters raised concerns about a perceived lack of transparency regarding the permitting process, a perceived lack of public engagement, and an inconvenient hearing time.

Response:

The comment period started December 10, 2024. On this date, the public notice was published in the *Seattle Times* and the *Daily Journal of Commerce* and on the Agency website. Notice was also emailed to the Agency's Permit Actions email list, which has approximately 1400 subscribers. Because this action includes an Operating Permit modification, notice was also published in the Washington state Permit Register on December 10, 2024.

On December 18, 2024, the Duwamish River Community Coalition requested an extension of the comment period; the next day, the Agency extended the comment period to February 14, 2025. Notice of this extension was published on the Agency website on December 19, 2024, and notice was emailed to the Permit Actions email list on the same date. Notice of the extension ran in the *Seattle Times* and the *Daily Journal of Commerce* on December 23, 2024.

The Agency then received multiple requests for a hearing on the draft permits. On January 28, 2025, the Agency scheduled the public hearing for March 3, 2025, and extended the comment period through March 4, 2025. Notice of this extension was published on the Agency website on January 28, 2025, and notice was emailed to the Permit Actions email list on the same date. Notice of the extension ran in the *Seattle Times* and the *Daily Journal of Commerce* on the same date.

The draft permit, application materials, and supporting documents used in evaluating the proposed project were posted on the Agency website for the duration of the comment period.

The Agency held the hearing online from 4 PM to 6 PM, and the hearing was not concluded early, even when no further attendees indicated an interest in commenting. The Agency intentionally chose a time specifically to be available to people who are attending either as part of the traditional work day, or on their own time.

This process met all applicable requirements from Agency Regulation I, Article 6, and the provisions of WAC 173-400-171 that are adopted by reference, related to public notice for minor new source review under the Notice of Construction program. The process also met all applicable requirements in WAC 173-401-800 related to public involvement for Air Operating Permit issuance.

The Agency encourages anyone interested in learning about public comment periods for permits to sign up for the Permit Actions email list on the Agency website. All Agency email lists can be joined at this same web address. The Agency also notes that, while it attempts to schedule hearings at times that maximize attendance, comments on permits may also be submitted in writing. Comments delivered at a hearing are not given more weight than written comments.

These comments did not result in any changes to permit conditions.

8. Violations should be reported to the community

Several commenters requested that all violations by Ash Grove be reported to the community.

Response:

Ash Grove measures several pollutants in real time and provides monthly reports about the measurement systems compliance with emissions limits to the Agency. Ash Grove also submits annual reports of emissions and semi-annual and annual compliance certifications. Each of these reports is reviewed by the Agency to determine if the facility is in compliance with the applicable requirements. These reports are all available to the public through records requests. The Agency's records request process is summarized on its website: Records Request | Puget Sound Clean Air Agency, WA.

Compliance history is also available through US EPA's ECHO database: Enforcement and Compliance History Online | US EPA

These comments did not result in any changes to permit conditions.

9. Cumulative impact in overburdened community

Several commenters noted that levels of some air, water, and soil pollutants are already elevated in the Duwamish Valley compared to other nearby areas. They requested that the Agency review the cumulative impacts of this increase in tire consumption in light of the existing pollution

burden in the area. Commenters also cited the prevalence of childhood asthma in the Duwamish Valley. Some stated this project would make the cumulative burden worse.

Response:

The scope of this project review is the incremental increase in permitted tire feed to the pyroprocessing system from the current limit of 30% of fuel up to the maximum the existing tire feed system can process, which is approximately 37%.

The Agency, above, determined the impacts of the project on emissions and ambient air. The Agency determined that the project will not increase emissions of criteria pollutants (See item 4, above). If there is no increase in emissions, then there can be no concomitant change in asthma or in other health impacts (cumulative or otherwise) from those emissions.

The Agency also calculated the increase in toxic air pollutant emissions (See item 4, above). For all TAPs modeled, the increase in ambient concentrations was an order of magnitude below the level the Department of Ecology has deemed acceptable in WAC 173-460. Given how far below the ASIL thresholds these modeled concentrations are, there should be no appreciable impacts on health or on the cumulative burden of pollution from the emissions associated with this project.

These comments did not result in any changes to permit conditions.

10. Ash Grove should continuously monitor emissions and make emissions data public

Several commenters stated that Ash Grove should continuously monitor pollutant emissions and make those emissions public.

Response:

Ash Grove is equipped with continuous monitors for emissions of nitrogen oxides, sulfur dioxide, carbon monoxide, mercury, total hydrocarbons, and opacity, and a continuous parameter monitoring system for particulate matter. Ash Grove is also required to conduct periodic stack tests for particulate matter and dioxin/furan. Continuous monitors must meet the requirements of the applicable federal regulations and of Agency Regulation I, Article 12. Ash Grove submits a monthly summary report to the Agency of monitor downtime and emissions limit exceedances.

The Agency reviews these reports and, if warranted, follows its compliance and enforcement procedures. All of these reports are available from the Agency via a public records request.

Ash Grove also submits annual reports of emissions to the Agency, in accordance with Regulation I, Article 7. These reports include the annual emissions of any pollutants that are emitted over the various reporting thresholds. This information is also available through a public records request to the Agency, and it is reported to the US EPA for inclusion in the National Emissions Inventory.

These comments did not result in any changes to permit conditions.

11. Adequacy of previous testing

Several commenters stated that the information supplied by Ash Grove was not sufficient for this permitting action. Several stated that the short-duration study at Ash Grove was not sufficient to establish that emissions would not increase with increased tire burning. Some said that Ash Grove should have been required to conduct additional testing to establish these emissions factors before the Agency would consider issuing the requested permit.

Response:

The test data from Ash Grove was not received in isolation. The studies noted on Pages 5 and 7 of the worksheet, and the documents provided by a commenter, showed that criteria pollutant emissions do not increase when tires are used as fuel in cement making. Together, this information established that there will not be an increase in criteria pollutant emissions for this project. The EPA also has done its own testing and research and determined the TDF is an acceptable fuel alternative in Portland Cement Kilns. A link to that determination is included in the tBACT determination in section D.

Additionally, until this operating permit revision is issued as a final permit, Ash Grove is limited to the 30% daily limit on tire consumption. Until a revised Air Operating Permit is issued, Ash Grove may not exceed the 30% daily limit, which means that the facility is prohibited from operating in a way that would enable the type of testing the commenters are seeking.

Finally, as was stated earlier, no emission limits are being raised by this permit, and Ash Grove continuously monitors emissions of many pollutants.

The information submitted by one commenter did cause the Agency to add requirements for testing of emissions of HCl and metal TAPs, as was noted in the response to Comment 4, above.

12. Sufficiency of civil penalties to deter noncompliance

One commenter stated that fines are not sufficient to deter violations, and that each violation should result in a mandatory one-week pause in facility operations.

Response:

Violations are subject to the Agency's civil penalty policies. Under Agency Regulation I, Section 3.11, the Agency may impose civil penalties up to approximately $25,000 per day of noncompliance. However, neither the state's Clean Air Act nor the Agency's regulations explicitly contemplate the idea of a forced temporary pause in facility operations as a direct consequence of noncompliance.

This comment did not result in any changes to permit conditions.

13. Impacts on breathing when odors from plant are present

One commenter with asthma stated that it is easily possible to "tell a difference in my breathing on days when I can smell more chemical scents from the plant".

Response:

The Agency's review (Comments 4 and 8, and worksheet Page 7) show that there is not expected to be an increase in emissions of the criteria pollutants (ozone precursors, nitrogen oxides, particulate matter) most associated with asthma as a result of this project. Additionally, as was discussed in the response to Comment 3, the very high temperatures of the kiln and pyroprocessing system effectively destroy the organic molecules that would potentially cause odors from this process.

If the commenter continues to detect odors from Ash Grove, the Agency has a mechanism for reporting odors. The rules for odors can be found here: Reg I, Article 9. The website to help file a complaint can be found here: File a Complaint | Puget Sound Clean Air Agency, WA.

This comment did not result in any changes to permit conditions.

14. Content of Air Operating Permit

One commenter noted that the draft Air Operating Permit revision did not include the current requirements of the Cement NESHAP in 40 CFR 63, Subpart LLL, the current requirements regarding affirmative defense, or content from other recent Notice of Construction Orders of Approval. The commenter stated that the Air Operating Permit revision may not be issued without these.

Response:

Regarding the Air Operating Permit, this permitting action is not a renewal. A renewal would require that all applicable requirements, such as those mentioned by the commenter, be included in the permit. The Agency is currently drafting an Air Operating Permit renewal that will include all of these requirements. The Agency expects to issue a draft renewal permit, including all currently applicable requirements, for public comment in the coming weeks. However, the Agency also notes that Ash Grove is performing the testing, monitoring, recordkeeping, and reporting that are required by Subpart LLL and various Orders of Approval, even if they have not yet been incorporated into the operating permit document.

In contrast to a renewal, this permitting action is only a modification of the existing Air Operating Permit, in accordance with WAC 173-401-725. A modification is intended to make only a specific change, while leaving the rest of the permit intact. This modification is intended only to incorporate NOC OA 12003, related to the permitted tire feed rate. Incorporating the updated requirements of the NESHAP and the other items noted by the commenter will be part of the pending permit renewal, even though they were not part of this permit modification.

These comments did not result in any changes to permit conditions.

15. SEPA review

One commenter asserted that the Agency's SEPA review of environmental impacts was inadequate and that the Agency should have posted the applicant's environmental checklist for public review. The commenter states that if the Agency is going to rely on previous SEPA review and determinations, the Agency should explain how an increase in tire burning up "to 100% of the facility's power needs" was covered under the previous analysis.

Response:

The Agency is relying on the SEPA review and Determination of Non-Significance issued with NOC OA 5755, for the original installation of the tire feed system. This DNS was included among the materials available for review during the comment period.

The Agency has reviewed the SEPA checklist submitted by Ash Grove for NOC 5755 in November 1994. The checklist adequately covers the environmental impacts of the tire feed system, whether tires comprise 30% of the pyroprocessing system's fuel or 37%. The Agency has determined that there will be no increase in emissions of criteria pollutants, hydrogen chloride, or organic TAPs. The incremental increase in permitted tire feed to the kiln system does not change the adequacy of the checklist or the DNS. This is because of the minimal impact on emissions and air quality, as noted in this worksheet and in the responses to Comments 4 and 9, above. If the required testing shows that there is an increase in emissions of any tested metallic TAP, the permitted tire feed rate would revert to the previously permitted rate of 30% on a daily basis.

The commenter's assertion that this permit allows for Ash Grove to use tires for up to 100% of the kiln's heat input needs is mistaken. As was noted on Page 7 of the worksheet, this permit does not authorize any modification to the existing tire feed system, and the system is only capable of providing approximately 37% of the heat input needs for the pyroprocessing system. Furthermore, because the tire feed system introduces tires to the calciner section of the pyroprocessing system (not the kiln itself), there is no physical manner in which cement could be made relying only, or even primarily, on tires as fuel.

The very small changes in emissions, noted in the worksheet above and in the response to Comment 4, together with the fact that the increase in permitted tire consumption is only from 30% of fuel to 37% of fuel, demonstrate that there will be no differences in environmental impacts compared to what was reviewed under the DNS for NOC OA 5755. The Agency's

previous review of environmental impacts is adequate for this project, and the Agency will continue to rely on the previous review and DNS for the tire feed system under NOC OA 5755.

16. Exacerbates environmental racism and is contrary to environmental justice

Concern was raised that this permitting action would further impact the local area.

Response:

The scope of this project review is the incremental increase in permitted tire feed to the pyroprocessing system from the current limit of 30% of fuel up to the maximum the existing tire feed system can process, which is approximately 37%.

The Agency, above, determined the impacts of the project on emissions and ambient air. The Agency determined that the project will not increase emissions of criteria pollutants (See item 4, above). If there is no increase in emissions, then there can be no concomitant change in asthma or in other health impacts (cumulative or otherwise) from those emissions.

The Agency also calculated the increase in toxic air pollutant emissions (See item 4, above). For all TAPs modeled, the increase in ambient concentrations was an order of magnitude below the level the Department of Ecology has deemed acceptable in WAC 173-460. Given how far below the ASIL thresholds these modeled concentrations are, there should be no appreciable impacts on health or on the cumulative burden of pollution from the emissions associated with this project.

These comments did not result in any changes to permit conditions.