

Enclosure 1

This enclosure requests information about the cement production facility, facility equipment and processes regulated under 40 CFR part 63 subpart LLL, facility processing rates and air pollution control devices used, and information on control device performance.

Portland Cement 114 Request Form

National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry (40 CFR part 63, subpart LLL)

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General Instructions

1. Please complete one copy of this workbook for each portland cement manufacturing plant owned or operated by your company.
2. If any of the data requested is considered confidential business information (CBI), please prepare an additional version of this work book containing only non-confidential information.
3. Please direct any questions to Brian Storey at (919) 541-1103 or storey.brian@epa.gov

This survey contains the following tabs after the cover sheet:

Instructions (this tab). Instructions for completing this survey.

Terms. Definitions and acronyms of certain technical terms that are mentioned throughout this survey.

Part A (01-14). Facility Information

Part B (01). Facility Equipment Regulated under Subpart LLL

Part C (01-04). Processing Rates and Controls Used for Kilns Regulated under Subpart LLL

Part D (01-03). Detailed Control Device and Emission Release Information for Sources Regulated under Subpart LLL

To submit your survey, the following instructions are referenced from the Section 114 transmittal letter.

All required non-confidential business information (non-CBI) must be sent electronically to:

Brian Storey
Office of Air Quality Planning and Standards
Sector Policies and Programs Division
Research Triangle Park, NC 27711
storey.brian@epa.gov

For confidential business information (CBI), remove those portions from your response and submit them separately to the appropriate email address below. For any confidential information, the CBI may be sent in either of the following two manners:

1. **Preferred method to receive CBI:** transmitted to OAQPS CBI Office electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services (e.g., Dropbox, OneDrive, Google Drive) using the email address, oaqpscbi@epa.gov, and should include clear CBI markings. If assistance is needed with submitting large electronic files, please email oaqpscbi@epa.gov to request a file transfer link.
2. Sent to the OAQPS Document Control Officer through a postal service (U.S. Mail, United Parcel Service (UPS), Federal Express (FedEx)). CBI material should be double wrapped and clearly marked. CBI markings should not show through the outer envelope.

Please use the street address below for U.S. Postal Service Express Mail, registered mail, or private courier for submitting your CBI:

Ms. Tiffany Purifoy, OAQPS DCO
ATTN: Portland Cement NESHAP
U.S. Environmental Protection Agency
Mail Code C404-02
109 T.W. Alexander Drive
Research Triangle Park, NC 27711

Please use the street address below for commercial package carriers, such as FedEx and UPS for submitting your CBI:

Ms. Tiffany Purifoy, OAQPS DCO
ATTN: Portland Cement NESHAP
U.S. Environmental Protection Agency
Mail Code C404-02
109 T.W. Alexander Drive
Research Triangle Park, NC 27711

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Definitions	
Term	Definition
Alkali bypass	A duct between the feed end of the kiln and the preheater tower through which a portion of the kiln exit gas stream is withdrawn and quickly cooled by air or water to avoid excessive buildup of alkali, chloride and/or sulfur on the raw feed. This may also be referred to as the "kiln exhaust gas bypass".
Bypass stack	The stack that vents exhaust gases to the atmosphere from the bypass control device.
Clinker cooler	Equipment into which clinker product leaving the kiln is placed to be cooled by air supplied by a forced draft or natural draft supply system.
Conveyor transfer point	A point where any material including but not limited to feed material, fuel, clinker or product, is transferred to or from a conveying system, or between separate parts of a conveying system.
Finish mill	A roll crusher, ball and tube mill, or other size reduction equipment used to grind clinker to a fine powder. Gypsum and other materials may be added to and blended with clinker in a finish mill. The finish mill also includes the air separator associated with the finish mill.
In-line coal mills	A coal mill using kiln exhaust gases in their process. A coal mill with a heat source other than the kiln or a coal mill using exhaust gases from the clinker cooler is not an in-line coal mill.
Kiln	A device, including any associated preheater or precalciner devices, inline raw mills, inline coal mills or alkali bypasses that produces clinker by heating limestone and other materials for subsequent production of portland cement. Because the inline raw mill and inline coal mill are considered an integral part of the kiln, for purposes of determining the appropriate emissions limit, the term kiln also applies to the exhaust of the inline raw mill and the inline coal mill.
Monovent	An exhaust configuration of a building or emission control device (e.g., positive-pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (i.e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.
Open clinker pile	A clinker storage pile on the ground for more than three days that is not completely enclosed in a building or structure.
Raw material dryer	An impact dryer, drum dryer, paddle-equipped rapid dryer, air separator, or other equipment used to reduce the moisture content of feed or other materials.
Raw mill	A ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an inline kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.
Sorbent	Activated carbon, lime, or any other type of material injected into kiln exhaust for the purposes of capturing and removing any hazardous air pollutant.

Acronyms	
Acronym	Term
APCD	add-on air pollution control device
CBI	Confidential Business Information
ID	identifier
NAICS	North American Industrial Classification System
OPC	ordinary portland cement
PLC	portland-limestone cement
SCFM	standard cubic feet per minute

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Part A. Facility Information

A-01. Name and address of legal OWNER of the facility (if more than one owner, provide the name, address, and percent ownership for each owner using the additional columns to right):

Name	Ash Grove Cement Company		
Address	11011 Cody Street, Suite 300		
City	Overland Park		
State	KS		
Zip	66210		
Percent Ownership	100%		

A-02. Name and address of legal OPERATOR of the facility, if different than the legal OWNER:

Name	
Address	
City	
State	
Zip	

A-03. Name and complete street address of facility (physical location):

Facility Name	Ash Grove Cement Montana City Plant
Address	100 Highway 518
City	Clancy
State	Montana
Zip	59634
County	Jefferson

A-04. Provide mailing address of the facility if different than physical location:

Address	
City	
State	
Zip	
County	

A-05. Facility contact able to answer technical questions about the completed survey:

Name (first name, last name)	Doug Kuenzli
Title	Environmental Manager
Telephone number and extension	406.444.7128
E-mail	Doug.Kuenzli@ashgrove.com

A-06. What is the facility size classification for hazardous air pollutant (HAP) emissions? (Enter "Yes" or "No")

EPA Major Source of Hazardous Air Pollutants (HAP)	No
EPA Area source (based on potential to emit) of HAP	Yes
EPA Area source (Synthetic Minor) of HAP	No

A-07. Facility NAICS codes. Note: The primary NAICS code represents the line of business that generates the most income for the facility.

Primary NAICS code	327310
Other facility NAICS codes	

A-08. Company Size (Enter "Yes" for all that apply) *Note: Approximate number of all employees (worldwide) of the business enterprise that owns this facility, including where applicable, the parent company and all subsidiaries, branches, and unrelated establishments owned by the parent company.*

< 1,000 employees	
≥ 1,000 employees	Yes

A-09 Parent Company Annual Revenue

Please provide the estimated annual revenue (\$) generated by the parent company (identified in A-01) in FY2021.

FY2021 Annual Revenue of Parent Company	N/A
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A-10. Federal and State rule/permit coverage. (Enter "Yes" for all that apply to this facility).

Subpart LLL (Portland Cement Manufacturing)	Yes	40 CFR 63 Subpart LLL
Other NESHAP (SPECIFY rule name and subpart)	Yes	40 CFR 63 Subpart ZZZZ, RICE
Other (SPECIFY rule name and subpart)	Yes	40 CFR 63 Subpart CCCCCC, Gasoline Dispensing
New Source Performance Standards (NSPS):		
40 CFR 60 subpart F (Portland Cement Plants)	Yes	
Other NSPS (SPECIFY rule name and subpart)	Yes	40 CFR 60 Subpart Y - Coal Preparation Plants
Other NSPS (SPECIFY rule name and subpart)	Yes	40 CFR 60 Subpart OOO Nonmetallic Mineral Processing
Other NSPS (SPECIFY rule name and subpart)	No	
Title V:		
(SPECIFY rule that led to title V permit requirement)	Yes	40 CFR Part 70, Major Source Requirements
State Air Toxics:		
(SPECIFY rule name and subpart)	No	
(SPECIFY rule name and subpart)		
Other: (SPECIFY emission unit and rule)		
Other: (SPECIFY emission unit and rule)		

A-11. Normal Facility Production Hours

Hours/day:	24
Shifts/day:	3
Days/week:	7
Weeks/year:	52

A-12. Clinker Production. Amount of clinker produced the most recent year of normal operation. Total capacity of clinker production.

Tons of clinker produced in last normal operating year:	
Maximum tons of clinker able to be produced in one year (plant capacity):	385,440

A-13. Please provide a copy of a schematic or process flow diagram of the plant portland cement manufacturing operations. Include identifying labels for equipment to be used for the remainder of this questionnaire.

Schematic or Process Flow Diagram File Name*	Exhibit A
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*Please include Unit ID No., APCD ID No., Controlled Emissions Point ID No., and Un-controlled Emissions Point ID No. where applicable in the Schematic or Process Flow Diagram (PFD). It is assumed the PFD will be submitted electronically, as a separate file.

A-14. Please provide all of the pertinent information listed below.

Please provide electronic copies, if available, and indicate items provided below. (Enter "Yes" for all that apply).

Title V Permit or State Air Operating Permit*	Yes	Exhibit B
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*If the permit is available online, please provide the URL for the file location.

Please copy this Microsoft Excel workbook as needed, and complete one file for each Portland Cement Manufacturing facility operated by your company.

Please enter information for units subject to Subpart LLL, excluding any fugitive dust sources, material handling/conveying sources of emissions, or the emissions controls associated with these sources. See "Terms" Tab for an explanation of terms. Please insert Rows as needed.

[illegible]

Part C. Processing Rates and Controls Used for Kilns Regulated under Subpart LLL

Please provide information below for all kilns/clinker coolers at your facility; provide information for 2021 if available, or other year (please specify):
Please insert Rows as needed.
Please use the Notes/Comments column for any additional clarification, or APCDs if sufficient columns are not available. Additionally, Tab E provides space for additional comments.

Calendar Year (CY) 2021

C-01. For Kiln/Clinker Cooler With Common Exhaust

Unit ID No. (Use Same ID as Provided in Section B-01, Column A)	Maximum Capacity of Unit (tons/yr)	Actual Production of Unit (tons/yr)	Actual Unit Operating Hours (Should be no more than 8,760) (hr/yr)	Primary Fuel	Additional Fuels	Process Modifications* (list all applicable)	APCD Control Device Type No. 1	APCD Control Device ID No. 1	APCD Control Device Type No. 2 (where applicable)	APCD Control Device ID No. 2 (where applicable)	APCD Control Device Type No. 3 (where applicable)	APCD Control Device ID No. 3 (where applicable)	APCD Control Device Type No. 4 (where applicable)	APCD Control Device ID No. 4 (where applicable)	Controlled Emissions Point ID No. (Details provided in Section D)	Un-controlled Emissions Point ID No. (Details provided in Section D)	Additional Notes/Comments

* For example, dust shuttling, PLC, overfire air, etc. For PLC, indicate what percentage of production is PLC vs. OPC. Use Part E tab of this workbook to provide the information if additional space is needed.

C-01.1 Common Exhaust Kilns: Additional Fuels List

Unit ID No. (from C-01)					
Additional Fuels					

C-02. For Each Kiln With Separate Exhaust

Unit ID No. (Use Same ID as Provided in Section B-01, Column A)	Maximum Capacity of Unit (tons/yr)	Actual Production of Unit (tons/yr)	Actual Unit Operating Hours (Should be no more than 8,760) (hr/yr)	Primary Fuel	Additional Fuels	Process Modifications* (list all applicable)	APCD Control Device Type No. 1	APCD Control Device ID No. 1	APCD Control Device Type No. 2 (where applicable)	APCD Control Device ID No. 2 (where applicable)	APCD Control Device Type No. 3 (where applicable)	APCD Control Device ID No. 3 (where applicable)	APCD Control Device Type No. 4 (where applicable)	APCD Control Device ID No. 4 (where applicable)	Controlled Emissions Point ID No. (Details provided in Section D)	Un-controlled Emissions Point ID No. (Details provided in Section D)	Additional Notes/Comments
EU006	385,440			Coal/Coke (65% Coal by btu)	Natural Gas(Start-up)	N/A	Kiln Baghouse	416.BFA-BFF	Semi-Dry Scrubbing	416.BU1-416.BU3	SNCR	41H	EU006				

* For example, dust shuttling, PLC, overfire air, etc. For PLC, indicate what percentage of production is PLC vs. OPC. Use Part E tab of this workbook to provide the information if additional space is needed.

C-02.1 Separate Exhaust Kilns: Additional Fuels List

Unit ID No. (from C-02)					
Additional Fuels					

C-03. For Each Idled Kiln, Not in Operation

Unit ID No. (Use Same ID as Provided in Section B-01, Column A)	Maximum Capacity of Unit (tons/yr)	Actual Production of Unit (tons/yr)	Current Idle Period (days/months/years)	Primary Fuel	Additional Fuels	Process Modifications* (list all applicable)	APCD Control Device Type No. 1	APCD Control Device ID No. 1	APCD Control Device Type No. 2 (where applicable)	APCD Control Device ID No. 2 (where applicable)	APCD Control Device Type No. 3 (where applicable)	APCD Control Device ID No. 3 (where applicable)	APCD Control Device Type No. 4 (where applicable)	APCD Control Device ID No. 4 (where applicable)	Controlled Emissions Point ID No. (Details provided in Section D)	Un-controlled Emissions Point ID No. (Details provided in Section D)	Additional Notes/Comments
					Use the space in C-03.1 to list any additional fuels, permitted or otherwise, burned by the Unit identified in this table.												

* For example, dust shuttling, PLC, overfire air, etc. For PLC, indicate what percentage of production is PLC vs. OPC. Use Part E tab of this workbook to provide the information if additional space is needed.

C-03.1 Separate Exhaust Kilns: Additional Fuels List

Unit ID No. (from C-03)					
Additional Fuels					

C-04. For Each Clinker Cooler with Separate Exhaust

Unit ID No. <small>(Use Same ID as Provided in Section B-01, Column A)</small>	Maximum Capacity of Unit <small>(tons/yr)</small>	Actual Production of Unit <small>(tons/yr)</small>	Actual Unit Operating Hours <small>(Should be no more than 8,760) <small>(hr/yr)</small></small>	APCD Control Device Type No. 1	APCD Control Device ID No. 1	APCD Control Device Type No. 2 <small>(where applicable)</small>	APCD Control Device ID No. 2 <small>(where applicable)</small>	APCD Control Device Type No. 3 <small>(where applicable)</small>	APCD Control Device ID No. 3 <small>(where applicable)</small>	APCD Control Device Type No. 4 <small>(where applicable)</small>	APCD Control Device ID No. 4 <small>(where applicable)</small>	Controlled Emissions Point ID No. <small>(Details provided in Section D)</small>	Un-controlled Emissions Point ID No. <small>(Details provided in Section D)</small>	Additional Notes/Comments
EU002	385440			Baghouse	DA-23							EU002		

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Part D. Detailed Control Device and Emission Release Information for Sources Regulated under Subpart LLL

Please provide information below for all air pollution control devices at your facility; provide information for 2021 if available, or other year (please specify):

CY 2021

Please insert Rows as needed.

D-01. Add-on air pollution control devices (APCD)

APCD ID No. (This should match the ID's provided in Section C)	Device Type*	Pollutant Controlled (separate pollutants with comma)	Capture Efficiency, if known (percent)	Control Device Efficiency, if known (percent)	Methods Used for Determining Capture & Control Efficiencies**	What process units are vented through this point? Unit ID No. (Use Same IDs as Provided in Section B-01 (column A), and Section C) (separate IDs with comma)
416.BFA-BFF	Baghouse	PM-FIL, PM10-FIL, PM2.5-FIL	100		b	EU006, Kiln
416.CTI	Semi-Dry Scrubbing	SO2				EU006, Kiln
41H	SNCR	NOx				EU006, Kiln
DA-23	Baghouse	PM-FIL, PM10-FIL, PM2.5-FIL	100		b	EU002, Clinker Cooler

* For example, fabric filter, wet scrubber etc.

** Control & Capture Efficiency; a = Testing (specify method); b = Manufacturer's Specifications; c = Engineering Estimate

Please provide any additional information concerning the Control Devices identified in D-01, as needed, using the Part E tab of this workbook.

D-02. For each exhaust point/stack with a control device, please provide the following information, if known.

Controlled Emissions Point ID No. (This should match the ID's provided in Section C)	What control devices are vented at this point? (APCD ID No. from Section D-01)	Latitude*	Longitude*	Flow Rate (SCFM)
EU006	Kiln Stack	46.5444778°	-111.9204583°	81923
EU002	DA-23	46.5432528°	-111.9217500°	16727

5/18/2021 Stack Test

5/19/2021 Stack Test

* Longitude and Latitude should be specified to 6 decimal places. If coordinates are not known, please provide a scaled site diagram, with a latitude/longitude reference point, indicating stack locations.

D-03. For each exhaust point/stack not associated with a control device, please provide the following information, if known.

Un-controlled Emissions Point ID No. (This should match the ID's provided in Section C)	What process units are vented though this point? Unit ID No. (Use Same IDs as Provided in Section B- 01 (column A), and Section C) (separate IDs with comma)	Latitude*	Longitude*	Flow Rate, if known (SCFM)

* Longitude and Latitude should be specified to 6 decimal places. If coordinates are not known, please provide a scaled site diagram, with a latitude/longitude reference point, indicating stack locations.

Part E. Additional Information

E-01. Provide any additional information in the space below as needed. Please identify the associated part of the workbook (e.g., C-01), as applicable.

Identify Questionnaire Part Associated with the Information Provided (e.g., C-01)	Identify Information Being Requested (e.g., "Process Modification")	Additional Information

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Validation
This sheets provides the names and values that should be used when filling out the sheet.

POLLUTANT CODE	POLLUTANT CODE DESC	HAP CATEGORY NAME1
Particulate Matter		
PM10-FIL	Primary PM10, Filterable Portion Only	
PM10-PRI	Primary PM10 (Includes Filterables + Condensibles)	
PM25-FIL	Primary PM2.5, Filterable Portion Only	
PM25-PRI	Primary PM2.5 (Includes Filterables + Condensibles)	
PM-CON	Primary PM Condensible Portion Only (All Less Than 1 Micron)	
PM-FIL	Primary PM, Filterable Portion Only	
PM-PRI	Primary PM (Includes Filterables + Condensibles)	
Criteria Air Pollutants and VOC		
CO	Carbon Monoxide	
195	Lead & Compounds	Lead Compounds
NOX	Nitrogen Oxides	
SO2	Sulfur Dioxide	
VOC	Volatile Organic Compounds	
HAP Metals		
7440360	Antimony	Antimony Compounds
7440382	Arsenic	Arsenic Compounds
7440417	Beryllium	Beryllium Compounds
7440439	Cadmium	Cadmium Compounds
7440473	Chromium (Total)	Chromium Compounds
16065	Chromium (III)	Chromium Compounds
18540	Chromium (VI)	Chromium Compounds
7440484	Cobalt	Cobalt Compounds
7439921	Lead	Lead Compounds
7439965	Manganese	Manganese Compounds
7440020	Nickel	Nickel Compounds
7782492	Selenium	Selenium Compounds
7439976	Mercury (Total)	Mercury Compounds
200	Elemental Gaseous Mercury	Mercury Compounds
201	Gaseous Divalent Mercury	Mercury Compounds
202	Particulate Divalent Mercury	Mercury Compounds
Dioxin Furan		
600	2,3,7,8-TCDD TEQ (Total)	Dioxins/Furans as 2,3,7,8-TCDD TEQs
67562394	1,2,3,4,6,7,8-Heptachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
35822469	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
55673897	1,2,3,4,7,8,9-Heptachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
70648269	1,2,3,4,7,8-Hexachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
39227286	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
57117449	1,2,3,6,7,8-Hexachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
57653857	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
72918219	1,2,3,7,8,9-Hexachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
19408743	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
57117416	1,2,3,7,8-Pentachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
40321764	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
60851345	2,3,4,6,7,8-Hexachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
57117314	2,3,4,7,8-Pentachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
51207319	2,3,7,8-Tetrachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
1746016	2,3,7,8-Tetrachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
39001020	Octachlorodibenzofuran	Dioxins/Furans as 2,3,7,8-TCDD TEQs
3268879	Octachlorodibenzo-p-Dioxin	Dioxins/Furans as 2,3,7,8-TCDD TEQs
Organic HAP and Acid Gasses.		
6189419	(25,35)-2,3-Epoxybutane	
79345	1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane
79005	1,1,2-Trichloroethane	1,1,2-Trichloroethane
57147	1,1-Dimethyl Hydrazine	1,1-Dimethylhydrazine
5124301	1,1-Methylene bis(4-isocyanatocyclohexane)	
26447405	1,1'-Methylenediphenyl Diisocyanate	
58899	1,2,3,4,5,6-Hexachlorocyclyhexane	1,2,3,4,5,6-Hexachlorocyclyhexane (All Stereo Isomers,
120821	1,2,4-Trichlorobenzene	1,2,4-Trichlorobenzene
95636	1,2,4-Trimethylbenzene	
590192	1,2-Butadiene	
96128	1,2-Dibromo-3-Chloropropane	1,2-Dibromo-3-Chloropropane
540498	1,2-Dibromoethylene	
540590	1,2-Dichloroethylene	
110714	1,2-Dimethoxyethane	Glycol Ethers
122667	1,2-Diphenylhydrazine	1,2-Diphenylhydrazine
106887	1,2-Epoxybutane	1,2-Epoxybutane
75558	1,2-Propylenimine	1,2-Propylenimine (2-Methylaziridine)
646060	1,3 Dioxolane	Glycol Ethers
108678	1,3,5 Trimethylbenzene	
106990	1,3-Butadiene	1,3-Butadiene
542756	1,3-Dichloropropene	1,3-Dichloropropene
102067	1,3-Diphenylguanidine	
2004708	1,3-Pentadiene, (3E)-	
1574410	1,3-Pentadiene, (3Z)-	
108452	1,3-Phenylenediamine	
1120714	1,3-Propanesultone	1,3-Propane Sultone
106467	1,4-Dichlorobenzene	1,4-Dichlorobenzene
591935	1,4-Pentadiene	
42397648	1,6-Dinitropyrene	Polycyclic Organic Matter
42397659	1,8-Dinitropyrene	Polycyclic Organic Matter
2422799	12-Methylbenz(a)Anthracene	Polycyclic Organic Matter
71363	1-Butanol	
106989	1-Butene	
106898	1-Chloro-2,3-Epoxypropane	Epichlorohydrin (1-Chloro-2,3-Epoxypropane)
98566	1-Chloro-4-(Trifluoromethyl)-Benzene	
23436193	1-Isobutoxy-2-Propanol	Glycol Ethers
90120	1-Methylnaphthalene	Polycyclic Organic Matter
832699	1-Methylphenanthrene	Polycyclic Organic Matter
2381217	1-Methylpyrene	Polycyclic Organic Matter

SCC Code	Units	SCC Level One	SCC Level Two	SCC Level Three	SCC Level Four	Description	Short Name	Category	Fuel	EI Sector	Last Inventory Year Valid	Map To	Usage Notes
30500606	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Kilns	CEMENT	Cement			Industrial			
30500607	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Material Unloading	CEMENT	Cement			Industrial			
30500608	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Material Piles	CEMENT	Cement			Industrial			
30500609	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Primary Crushing	CEMENT	Cement			Industrial			
30500610	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Secondary Crushing	CEMENT	Cement			Industrial			
30500611	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Screening	MINERAL	Cement			Industrial			
30500612	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Material Transfer	CEMENT	Cement			Industrial			
30500613	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Material Grinding and Drying	MINERAL	Cement			Industrial			
30500614	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Clinker Cooler	MINERAL	Cement			Industrial			
30500615	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Clinker Piles	MINERAL	Cement			Industrial			
30500616	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Clinker Transfer	MINERAL	Cement			Industrial			
30500617	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Clinker Grinding	MINERAL	Cement			Industrial			
30500618	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Cement Silos	MINERAL	Cement			Industrial			
30500619	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Cement Load Out	CEMENT	Cement			Industrial			
30500620	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Predryer	Cement	Cement			Industrial			
30500621	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Pulverized Coal Kiln Feed Units	Cement	Cement			Industrial			
30500622	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Preheater Kiln	Cement	Cement			Industrial			
30500623	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Preheater/Precalciner Kiln	Cement	Cement			Industrial			
30500624	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Mill Feed Belt	Cement	Cement			Industrial			
30500625	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Mill Weigh Hopper	Cement	Cement			Industrial			
30500626	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Raw Mill Air Separator	Cement	Cement			Industrial			
30500627	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Finish Grinding Mill Feed Belt	Cement	Cement			Industrial			
30500628	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Finish Grinding Mill Weigh Hopper	Cement	Cement			Industrial			
30500629	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Finish Grinding Mill Air Separator	Cement	Cement			Industrial			
30500699	TON	Industrial	Mineral	Cement Manufacturing (Dry Process)	Other Not Classified	MINERAL	Cement			Industrial			
30500706	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Kilns	CEMENT MFG-	Cement			Industrial			
30500707	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Raw Material Unloading	CEMENT MFG-	Cement			Industrial			
30500708	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Raw Material Piles	CEMENT MFG-	Cement			Industrial			
30500709	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Primary Crushing	CEMENT MFG-	Cement			Industrial			
30500710	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Secondary Crushing	CEMENT MFG-	Cement			Industrial			
30500711	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Screening	MINERAL	Cement			Industrial			
30500712	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Raw Material Transfer	CEMENT MFG-	Cement			Industrial			
30500714	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Clinker Cooler	MINERAL	Cement			Industrial			
30500715	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Clinker Piles	MINERAL	Cement			Industrial			
30500716	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Clinker Transfer	MINERAL	Cement			Industrial			
30500717	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Clinker Grinding	MINERAL	Cement			Industrial			
30500718	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Cement Silos	MINERAL	Cement			Industrial			
30500719	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Cement Load Out	CEMENT MFG-	Cement			Industrial			
30500727	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Finish Grinding Mill Feed Belt	Cement	Cement			Industrial			
30500728	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Finish Grinding Mill Weigh Hopper	Cement	Cement			Industrial			
30500729	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Finish Grinding Mill Air Separator	Cement	Cement			Industrial			
30500799	TON	Industrial	Mineral	Cement Manufacturing (Wet Process)	Other Not Classified	MINERAL	Cement			Industrial			

	Equipment Type (40 CFR 63.1340 (b))	
New	Kiln (incl. alkali bypass and inline coal mill)	Yes
Existing	Clinker Cooler	No
Reconstructed	Raw Mill	
	Finish Mill	
	Raw Material Dryer	
	Raw Material Storage Bin	
	Clinker Storage Bin	
	Finished Product Storage Bin	
	Conveyor Transfer Point	
	Bagging/Bulk Loading	
	Open Clinker Pile	
	Other (specify in notes/comments column)	

5522430	1-Nitropyrene	Polycyclic Organic Matter
124118	1-Nonene	
71238	1-Propanol	
1569013	1-Propoxy-2-propanol	
27310210	2-(2,4-Hexadienyloxy)Ethanol	Glycol Ethers
112254	2-(Hexyloxy)Ethanol	Glycol Ethers
540841	2,2,4-Trimethylpentane	2,2,4-Trimethylpentane
75832	2,2-Dimethylbutane	
39635319	2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB-189)	Polychlorinated Biphenyls (Aroclors)
38380084	2,3,3',4,4',5/2,3,3',4,4',5-Hexachlorobiphenyl (PCBs156/157)	Polychlorinated Biphenyls (Aroclors)
32598144	2,3,3',4,4'-Pentachlorobiphenyl (PCB-105)	Polychlorinated Biphenyls (Aroclors)
52663726	2,3',4,4',5,5'-Hexachlorobiphenyl (PCB-167)	Polychlorinated Biphenyls (Aroclors)
74472370	2,3,4,4',5-Pentachlorobiphenyl (PCB-114)	Polychlorinated Biphenyls (Aroclors)
31508006	2,3',4,4',5-Pentachlorobiphenyl (PCB118)	Polychlorinated Biphenyls (Aroclors)
65510443	2,3',4,4',5'-Pentachlorobiphenyl (PCB-123)	Polychlorinated Biphenyls (Aroclors)
79298	2,3-Dimethylbutane	
591968	2,3-Pentadiene	
7012375	2,4,4'-Trichlorobiphenyl (PCB-28)	Polychlorinated Biphenyls (Aroclors)
95954	2,4,5-Trichlorophenol	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol	2,4,6-Trichlorophenol
90722	2,4,6-Tris(Dimethylaminomethyl)Phenol	
120832	2,4-Dichlorophenol	
94757	2,4-Dichlorophenoxy Acetic Acid	2,4-D (2,4-Dichlorophenoxyacetic Acid)(Including Salts
108087	2,4-Dimethylpentane	
105679	2,4-Dimethylphenol	
51285	2,4-Dinitrophenol	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene	2,4-Dinitrotoluene
584849	2,4-Toluene Diisocyanate	2,4-Toluene Diisocyanate
5779942	2,5-Dimethyl Benzaldehyde	
638028	2,5-Dimethyl Thiophene	
53963	2-Acetylaminofluorene	2-Acetylaminofluorene
78922	2-Butanol	
107017	2-Butene	
112072	2-Butoxyethyl Acetate	Glycol Ethers
532274	2-Chloroacetophenone	2-Chloroacetophenone
2051607	2-Chlorobiphenyl (PCB-1)	Polychlorinated Biphenyls (Aroclors)
91587	2-Chloronaphthalene	Polycyclic Organic Matter
872559	2-Ethyl Thiophene	
1241947	2-Ethylhexyl Diphenyl Phosphate	
75854	2-Methyl-2-Butanol	
78784	2-Methylbutane	
592278	2-Methylheptane	
591764	2-Methylhexane	
91576	2-Methylnaphthalene	Polycyclic Organic Matter
78820	2-Methyl-Propanenitrile	Cyanide Compounds
607578	2-Nitrofluorene	Polycyclic Organic Matter
88755	2-Nitrophenol	
79469	2-Nitropropane	2-Nitropropane
107879	2-Pentanone	
20706256	2-Propoxyethyl Acetate	Glycol Ethers
10343552	3-[(1-(Anilinoacarbonyl)-2-oxopropyl)azo]-2-hydroxy-5-nitrobenzene-1-	Chromium Compounds
2530838	3-(Trimethoxysilyl)Propyl Glycidyl Ether	
32774166	3,3',4,4',5,5'-Hexachlorobiphenyl (PCB-169)	Polychlorinated Biphenyls (Aroclors)
57465288	3,3',4,4',5-Pentachlorobiphenyl (PCB-126)	Polychlorinated Biphenyls (Aroclors)
32598133	3,3',4,4'-Tetrachlorobiphenyl (PCB-77)	Polychlorinated Biphenyls (Aroclors)
54827177	3,3',5,5'-Tetramethylbenzidine	
91941	3,3'-Dichlorobenzidene	3,3'-Dichlorobenzidene
119904	3,3'-Dimethoxybenzidine	3,3'-Dimethoxybenzidine
119937	3,3'-Dimethylbenzidine	3,3'-Dimethylbenzidine
70362504	3,4,4',5-Tetrachlorobiphenyl 3,4,4',5-TCB (PCB-81)	Polychlorinated Biphenyls (Aroclors)
10215335	3-Butoxy-1-Propanol	Glycol Ethers
13466789	3-Carene	
1589497	3-Methoxy-1-Propanol	Glycol Ethers
5332730	3-Methoxypropylamine	
56495	3-Methylcholanthrene	Polycyclic Organic Matter
589344	3-Methylhexane	
96140	3-Methylpentane	
5026744	4-(Diglycidylamino)phenyl Glycidyl Ether	
2050682	4,4'-Dichlorobiphenyl (PCB-15)	Polychlorinated Biphenyls (Aroclors)
13680358	4,4'-Methylenebis(2,6-Diethylbenzenamine)	
101144	4,4'-Methylenebis(2-Chloraniline)	4,4'-Methylenebis(2-Chloroaniline)
16298387	4,4'-Methylenebis(2-Methyl-6-{1-Methylethyl}-Benzenamine)	
1761713	4,4'-Methylenebis(Cyclohexylamine)	
101779	4,4'-Methylenedianiline	4,4'-Methylenedianiline
101688	4,4'-Methylenediphenyl Diisocyanate	4,4'-Methylenediphenyl Diisocyanate (MDI)
534521	4,6-Dinitro-o-Cresol	4,6-Dinitro-o-Cresol (Including Salts)
92671	4-Aminobiphenyl	4-Aminobiphenyl
60117	4-Dimethylaminoazobenzene	4-Dimethylaminoazobenzene
123422	4-Hydroxy-4-Methyl-2-Pentanone	
70553	4-Methyl-Benzenesulfonamide	
92933	4-Nitrobiphenyl	4-Nitrobiphenyl
100027	4-Nitrophenol	4-Nitrophenol
3697243	5-Methylchrysene	Polycyclic Organic Matter
7496028	6-Nitrochrysene	Polycyclic Organic Matter
57976	7,12-Dimethylbenz[a]Anthracene	Polycyclic Organic Matter
779022	9-Methyl Anthracene	Polycyclic Organic Matter
2381160	9-Methylbenz[a]Anthracene	Polycyclic Organic Matter
83329	Acenaphthene	Polycyclic Organic Matter
208968	Acenaphthylene	Polycyclic Organic Matter
75070	Acetaldehyde	Acetaldehyde
60355	Acetamide	Acetamide
64197	Acetic Acid	
67641	Acetone	
75058	Acetonitrile	Acetonitrile
98862	Acetophenone	Acetophenone
74862	Acetylene	
107028	Acrolein	Acrolein
79061	Acrylamide	Acrylamide
79107	Acrylic Acid	Acrylic Acid
107131	Acrylonitrile	Acrylonitrile
AMINEAL	Aliphatic Amine	

88	Alkylated Lead	Lead Compounds
107051	Allyl Chloride	Allyl Chloride
28470782	Allyl Chloride Formaldehyde Phenol Polymer	
CELLULOSE	Alpha Cellulose Filler	
80568	Alpha-Pinene	
98555	Alpha-Terpineol	
7429905	Aluminum	
1344281	Aluminum Oxide	
NH3	Ammonia	
1341497	Ammonium Bifluoride	
7788989	Ammonium Chromate	Chromium Compounds
7789095	Ammonium Dichromate	Chromium Compounds
1336216	Ammonium Hydroxide	
624544	Amyl Propionate	
62533	Aniline	Aniline
120127	Anthracene	Polycyclic Organic Matter
92	Antimony & Compounds	Antimony Compounds
1327339	Antimony Oxide	Antimony Compounds
7783702	Antimony Pentafluoride	Antimony Compounds
1314609	Antimony Pentoxide	Antimony Compounds
10025919	Antimony Trichloride	Antimony Compounds
1309644	Antimony Trioxide	Antimony Compounds
15874483	Antimony tris[O,O-dipropyl] tris(dithiophosphate)	Antimony Compounds
1345046	Antimony Trisulfide	Antimony Compounds
ANTISTAT	Anti-Static Agent Cal Stat 600	
93	Arsenic & Compounds (Inorganic Including Arsine)	Arsenic Compounds
7778394	Arsenic Acid	Arsenic Compounds
1303282	Arsenic Pentoxide	Arsenic Compounds
1327533	Arsenic Trioxide	Arsenic Compounds
3141126	Arsenous Acid	Arsenic Compounds
7784421	Arsine	Arsenic Compounds
1332214	Asbestos	Asbestos
144348878	Asphaltenes (gilsonite)	
205823	B[[j]Fluoranthen	Polycyclic Organic Matter
7440393	Barium	
10294403	Barium Chromate	Chromium Compounds
7727437	Barium Sulfate	
103	Benz[a]Anthracene/Chrysene	Polycyclic Organic Matter
56553	Benz[a]Anthracene	Polycyclic Organic Matter
100527	Benzaldehyde	
71432	Benzene	Benzene (Including Benzene From Gasoline)
141	Benzene Soluble Organics (BSO)	Coke Oven Emissions
92875	Benzidine	Benzidine
203338	Benzo[a]fluoranthene	Polycyclic Organic Matter
195197	Benzo[c]phenanthrene	Polycyclic Organic Matter
203123	Benzo[g,h,i]Fluoranthene	Polycyclic Organic Matter
50328	Benzo[a]Pyrene	Polycyclic Organic Matter
205992	Benzo[b]Fluoranthene	Polycyclic Organic Matter
102	Benzo[b+k]Fluoranthene	Polycyclic Organic Matter
192972	Benzo[e]Pyrene	Polycyclic Organic Matter
191242	Benzo[g,h,i,j]Perylene	Polycyclic Organic Matter
207089	Benzo[k]Fluoranthene	Polycyclic Organic Matter
56832736	Benzo[fluoranthenes	Polycyclic Organic Matter
65850	Benzoic Acid	
98077	Benzotrichloride	Benzotrichloride
94360	Benzoyl Peroxide	
16883833	Benzyl 2,2-Dimethyl-1-isopropyl-3-(2-Methyl-1-Oxopropoxy)Propyl	
100516	Benzyl Alcohol	
100447	Benzyl Chloride	Benzyl Chloride
140294	Benzyl Cyanide	Cyanide Compounds
109	Beryllium & Compounds	Beryllium Compounds
7787475	Beryllium Chloride	Beryllium Compounds
7787497	Beryllium Fluoride	Beryllium Compounds
13597994	Beryllium Nitrate	Beryllium Compounds
1304569	Beryllium Oxide	Beryllium Compounds
13510491	Beryllium Sulfate	Beryllium Compounds
127913	Beta-Pinene	
57578	Beta-Propiolactone	Beta-Propiolactone
92524	Biphenyl	Biphenyl
108601	Bis(2-chloro-1-methylethyl) ether	
117817	Bis(2-Ethylhexyl)Phthalate	Bis(2-Ethylhexyl)Phthalate (Dehp)
542881	Bis(Chloromethyl)Ether	Bis(Chloromethyl) Ether
7440699	Bismuth	
80057	BisPhenol A	
1675543	Bisphenol A Diglycidyl Ether	
25068386	Bisphenol A Epichlorohydrin Polymer	
37312337	Bisphenol A Epichlorohydrin Polymer with Toluene Diisocyanate	
2095036	Bisphenol F Diglycidyl Ether	
7440428	Boron	
75274	Bromodichloromethane	
75252	Bromoform	Bromoform
106978	Butane	
816682	Butanedioic Acid, Hydroxy-Lead (2+) Salt	Lead Compounds
35296721	Butanol	
85687	Butyl Benzyl Phthalate	
124174	Butyl Carbitol Acetate	Glycol Ethers
142961	Butyl Ether	
123728	Butyraldehyde	
68186914	C.I. Pigment Black 28	Chromium Compounds
71631157	C.I. Pigment Black 30	Chromium Compounds
147148	C.I. Pigment Blue 15	
1103384	C.I. Pigment Red 49, Barium Salt (2:1)	
125	Cadmium & Compounds	Cadmium Compounds
543908	Cadmium Acetate	Cadmium Compounds
7789426	Cadmium Bromide	Cadmium Compounds
10108642	Cadmium Chloride	Cadmium Compounds
34330648	Cadmium Chloride Monohydrate	Cadmium Compounds
14486192	Cadmium Fluoroborate	Cadmium Compounds
7790809	Cadmium Iodide	Cadmium Compounds
10325947	Cadmium Nitrate	Cadmium Compounds
1306190	Cadmium Oxide	Cadmium Compounds

1306247	Cadmium Selenide	Cadmium Compounds
12626367	Cadmium Selenide Sulfide	Cadmium Compounds
2223930	Cadmium Stearate	Cadmium Compounds
10124364	Cadmium Sulfate	Cadmium Compounds
1306236	Cadmium Sulfide	Cadmium Compounds
7440702	Calcium	
13765190	Calcium Chromate	Chromium Compounds
156627	Calcium Cyanamide	Calcium Cyanamide
1305620	Calcium Hydroxide	
79925	Camphene	
76222	Camphor	
105602	Caprolactam	
133062	Captan	Captan
63252	Carbaryl	Carbaryl
86748	Carbazole	Polycyclic Organic Matter
112152	Carbitol Acetate	Glycol Ethers
CO2	Carbon Dioxide	
75150	Carbon Disulfide	Carbon Disulfide
CO	Carbon Monoxide	
56235	Carbon Tetrachloride	Carbon Tetrachloride
463796	Carbonic Acid	
463581	Carbonyl Sulfide	Carbonyl Sulfide
120809	Catechol	Catechol
111159	Cellosolve Acetate	Glycol Ethers
110805	Cellosolve Solvent	Glycol Ethers
9004346	Cellulose	
608	Ceramic Fibers (Man-Made)	Fine Mineral Fibers
133904	Chloramben	Chloramben
57749	Chlordane	Chlordane
16887006	Chloride	
7782505	Chlorine	Chlorine
10049044	Chlorine Dioxide	
107200	Chloroacetaldehyde	
79118	Chloroacetic Acid	Chloroacetic Acid
108907	Chlorobenzene	Chlorobenzene
510156	Chlorobenzilate	Chlorobenzilate
124481	Chlorodibromomethane	
CFC	Chlorofluorocarbons	
67663	Chloroform	Chloroform
107302	Chloromethyl Methyl Ether	Chloromethyl Methyl Ether
126998	Chloroprene	Chloroprene
68186903	Chrome Antimony Titanium Buff	Chromium Compounds
14307336	Chromic Acid (H2Cr2O7), Calcium Salt (1:1)	Chromium Compounds
7789120	Chromic Acid (H2Cr2O7), Disodium Salt, Dyhydrate	Chromium Compounds
14018952	Chromic Acid (H2Cr2O7), Zinc Salt (1:1)	Chromium Compounds
7738945	Chromic Acid (VI)	Chromium Compounds
24613896	Chromic Acid Chromium (+3) Salt	Chromium Compounds
1308389	Chromic Oxide	Chromium Compounds
10101538	Chromic Sulfate	Chromium Compounds
13530682	Chromic Sulfuric Acid	Chromium Compounds
7440473	Chromium	Chromium Compounds
136	Chromium & Compounds	Chromium Compounds
12012350	Chromium (2) Carbide	Chromium Compounds
10025737	Chromium (III) Chloride	Chromium Compounds
10060125	Chromium Chloride, Hexahydrate	Chromium Compounds
12018018	Chromium Dioxide	Chromium Compounds
1308141	Chromium Hydroxide	Chromium Compounds
1333820	Chromium Trioxide	Chromium Compounds
12018198	Chromium Zinc Oxide	Chromium Compounds
21679312	Chromium(III) acetylacetonate	Chromium Compounds
14977618	Chromyl Chloride	Chromium Compounds
7788967	Chromyl Fluoride	Chromium Compounds
218019	Chrysene	Polycyclic Organic Matter
8007452	Coal Tar	Polycyclic Organic Matter
139	Cobalt & Compounds	Cobalt Compounds
1345160	Cobalt Aluminate	Cobalt Compounds
68186867	Cobalt Aluminate Spinel (C.I. Pigment Blue 28)	Cobalt Compounds
7542098	Cobalt Carbonate	Cobalt Compounds
68187495	Cobalt Chromite Green Spinel	Chromium Compounds
16842038	Cobalt Hydrocarbonyl	Cobalt Compounds
61789513	Cobalt Naphthenate	Cobalt Compounds
27253312	Cobalt Neodecanoate	Cobalt Compounds
10026229	Cobalt Nitrate Hexahydrate	Cobalt Compounds
1307966	Cobalt Oxide	Cobalt Compounds
1308061	Cobalt Oxide (II,III)	Cobalt Compounds
10124433	Cobalt Sulfate	Cobalt Compounds
1317426	Cobalt Sulfide	Cobalt Compounds
68186856	Cobalt Titanate Green Spinel	Nickel Compounds
10141056	Cobalt(II) Nitrate	Cobalt Compounds
10294505	Cobalt(II) Phosphate Octahydrate	Cobalt Compounds
140	Coke Oven Emissions	Coke Oven Emissions
7440508	Copper	
544923	Copper Cyanide	Cyanide Compounds
191071	Coronene	Polycyclic Organic Matter
1319773	Cresol	Cresol/Cresylic Acid (Mixed Isomers)
14464461	Cristobalite	
98828	Cumene	Cumene
80159	Cumene Hydroperoxide	
57125	Cyanide	Cyanide Compounds
144	Cyanide & Compounds	Cyanide Compounds
108918	Cyclohexanamine	
110827	Cyclohexane	
53880050	Cyclohexane, 5-Isocyanato-1-(Isocyanatomethyl)-1,3,3-Trimethyl-,	
108941	Cyclohexanone	
542927	Cyclopentadiene	
287923	Cyclopentane	
72559	Dde (1,1-Dichloro-2,2-Bis(p-Chlorophenyl) Ethylene)	Dde (1,1-Dichloro-2,2-Bis(p- Chlorophenyl) Ethylene)
2051243	Decachlorobiphenyl (PCB-209)	Polychlorinated Biphenyls (Aroclors)
16672392	Di[Ethylene Glycol Monobutyl Ether] Phthalate	Glycol Ethers
68855549	Diatomaceous Earth, Flux-Calcined	
334883	Diazomethane	Diazomethane

95481622	Dibasic Esters	
15845520	Dibasic Lead Phosphate	Lead Compounds
192654	Dibenzo[a,e]Pyrene	Polycyclic Organic Matter
53703	Dibenzo[a,h]Anthracene	Polycyclic Organic Matter
189640	Dibenzo[a,h]Pyrene	Polycyclic Organic Matter
189559	Dibenzo[a,j]Pyrene	Polycyclic Organic Matter
224420	Dibenzo[a,j]Acridine	Polycyclic Organic Matter
191300	Dibenzo[a,j]Pyrene	Polycyclic Organic Matter
132649	Dibenzofuran	Dibenzofuran
84742	Dibutyl Phthalate	Dibutyl Phthalate
111444	Dichloroethyl Ether	Dichloroethyl Ether (Bis[2-Chloroethyl]Ether)
62737	Dichlorvos	Dichlorvos
77736	Dicyclopentadiene	
111422	Diethanolamine	Diethanolamine
110816	Diethyl Disulfide	
84662	Diethyl Phthalate	
64675	Diethyl Sulfate	Diethyl Sulfate
352932	Diethyl Sulfide	
111466	Diethylene Glycol	
4246519	Diethylene Glycol Diamino Propyl Ether	Glycol Ethers
120558	Diethylene Glycol Dibenzoate	Glycol Ethers
112367	Diethylene Glycol Diethyl ether	Glycol Ethers
4206615	Diethylene Glycol Diglycidyl Ether	Glycol Ethers
111966	Diethylene Glycol Dimethyl Ether	Glycol Ethers
693210	Diethylene Glycol Dinitrate	Glycol Ethers
764998	Diethylene Glycol Divinyl Ether	Glycol Ethers
1002671	Diethylene Glycol Ethyl Methyl Ether	Glycol Ethers
10143530	Diethylene Glycol Ethylvinyl Ether	Glycol Ethers
10143541	Diethylene Glycol Mono-2-Cyanoethyl Ether	Glycol Ethers
112345	Diethylene Glycol Monobutyl Ether	Glycol Ethers
111900	Diethylene Glycol Monoethyl Ether	Glycol Ethers
18912806	Diethylene Glycol Monoisobutyl Ether	Glycol Ethers
111773	Diethylene Glycol Monomethyl Ether	Glycol Ethers
929373	Diethylene Glycol Monovinyl Ether	Glycol Ethers
10143563	Diethyleneglycol-Mono-2-Methyl-Pentyl Ether	Glycol Ethers
DIISOCYAN	Diisocyanates	
624920	Dimethyl Disulfide	
115106	Dimethyl Ether	
131113	Dimethyl Phthalate	Dimethyl Phthalate
77781	Dimethyl Sulfate	Dimethyl Sulfate
75183	Dimethyl Sulfide	
79447	Dimethylcarbamoyl Chloride	Dimethylcarbamoyl Chloride
117840	Di-n-octyl phthalate	
29911282	Dipropylene Glycol Butyl Ether	
34590948	Dipropylene Glycol Methyl Ether	
64742525	Distillates (petroleum), Hydrotreated Heavy Naphthenic	
64742478	Distillates (petroleum), Hydrotreated Light	
5989275	d-Limonene	
27176870	Dodecylbenzenesulfonic Acid	
EPOXYRES	Epoxy Resins	
74840	Ethane	
64175	Ethanol	
141435	Ethanolamine	
112505	Ethoxytriglycol	Glycol Ethers
7085850	Ethyl 2-Cyanoacrylate	
141786	Ethyl Acetate	
140885	Ethyl Acrylate	Ethyl Acrylate
100414	Ethyl Benzene	Ethylbenzene
51796	Ethyl Carbamate Chloride	Ethyl Carbamate (Urethane) Chloride (Chloroethane)
75003	Ethyl Chloride	Ethyl Chloride
75081	Ethyl Mercaptan	
624895	Ethyl Methyl Sulfide	
74851	Ethylene	
106934	Ethylene Dibromide	Ethylene Dibromide (Dibromoethane)
107062	Ethylene Dichloride	Ethylene Dichloride (1,2-Dichloroethane)
107211	Ethylene Glycol	Ethylene Glycol
1559359	Ethylene Glycol 2-Ethylhexyl Ether	Glycol Ethers
3775857	Ethylene Glycol Bis(2,3-Epoxy-2-Methylpropyl) Ether	Glycol Ethers
7529273	Ethylene Glycol Diallyl Ether	Glycol Ethers
629141	Ethylene Glycol Diethyl Ether	Glycol Ethers
109864	Ethylene Glycol Methyl Ether	Glycol Ethers
622082	Ethylene Glycol Monobenzyl Ether	Glycol Ethers
111762	Ethylene Glycol Monobutyl Ether	
110496	Ethylene Glycol Monomethyl Ether Acetate	Glycol Ethers
7795917	Ethylene Glycol Mono-Sec-Butyl Ether	Glycol Ethers
764487	Ethylene Glycol Monovinyl Ether	Glycol Ethers
75218	Ethylene Oxide	Ethylene Oxide
96457	Ethylene Thiourea	Ethylene Thiourea
67425	Ethylenebis(Oxyethylenenitrilo)) Tetraacetic Acid	Glycol Ethers
10137969	Ethyleneglycol Mono-2-Methylpentyl Ether	Glycol Ethers
23495127	Ethyleneglycol Monophenyl Ether Propionate	Glycol Ethers
10137981	Ethyleneglycolmono-2,6,8-Trimethyl-4-Nonyl Ether	Glycol Ethers
151564	Ethyleneimine	Ethyleneimine (Aziridine)
75343	Ethylidene Dichloride (1,1-Dichloroethane)	Ethylidene Dichloride (1,1-Dichloroethane)
68409814	Fatty acids, C6-C19, branched, cobalt (2+) salts	Cobalt Compounds
13408623	Ferricyanide	Cyanide Compounds
1308312	Ferrochromite III	Chromium Compounds
383	Fine Mineral Fibers	Fine Mineral Fibers
16872110	Fluoboric acid	
206440	Fluoranthene	Polycyclic Organic Matter
86737	Fluorene	Polycyclic Organic Matter
7782414	Fluorine	
50000	Formaldehyde	Formaldehyde
110009	Furan	
99854	gamma-Terpinene	
65997173	Glass, Oxide	
613	Glasswool (Man-Made Fibers)	Fine Mineral Fibers
171	Glycol Ethers	Glycol Ethers
13967505	Gold (I) Potassium Cyanide	Cyanide Compounds
37187647	Gold Cyanide	Cyanide Compounds
64742945	Heavy Aromatic Solvent Naphtha (Petroleum)	

76448	Heptachlor	Heptachlor
28655712	Heptachlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
142825	Heptane	
118741	Hexachlorobenzene	Hexachlorobenzene
26601649	Hexachlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
87683	Hexachlorobutadiene	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene	Hexachlorocyclopentadiene
67721	Hexachloroethane	Hexachloroethane
66251	Hexaldehyde	
822060	Hexamethylene Diisocyanate	Hexamethylene Diisocyanate
28182812	Hexamethylene Diisocyanate Homopolymer	
680319	Hexamethylphosphoramide	Hexamethylphosphoramide
110543	Hexane	Hexane
107835	Hexane Isomers (except n-Hexane)	
13586828	Hexanoic acid, 2-ethyl-, cobalt salt	Cobalt Compounds
136527	Hexanoic acid, 2-ethyl-, cobalt(2+) salt	Cobalt Compounds
302012	Hydrazine	Hydrazine
HC	Hydrocarbons	
7647010	Hydrochloric Acid	Hydrochloric Acid (Hydrogen Chloride (Gas Only))
7664393	Hydrogen Fluoride	Hydrogen Fluoride (Hydrofluoric Acid)
HFC	Hydrofluorocarbons	
12021953	Hydrofluozirconic Acid	
74908	Hydrogen Cyanide	Cyanide Compounds
7783075	Hydrogen Selenide	Selenium Compounds
7783064	Hydrogen Sulfide	
61788327	Hydrogenated Terphenyl	
123319	Hydroquinone	Hydroquinone
95136	Indene	Polycyclic Organic Matter
193395	Indeno[1,2,3-c,d]Pyrene	Polycyclic Organic Matter
10043660	Iodine 131	Radionuclides (Including Radon)
7439896	Iron	
68187097	Iron Chromite Brown Spinel (C.I. Pigment Brown 35)	Chromium Compounds
12645497	Iron Manganese Zinc Oxide	Manganese Compounds
14038438	Iron(iii) Ferrocyanide	Cyanide Compounds
75285	Isobutane	
78831	Isobutanol	
115117	Isobutene	
110190	Isobutyl Acetate	
4439241	Isobutyl Cellosolve	Glycol Ethers
513440	Isobutyl Mercaptan	
78842	Isobutyraldehyde	
ISOCYAN	Isocyanates	
78591	Isophorone	Isophorone
4098719	Isophorone Diisocyanate	
78795	Isoprene	
67630	Isopropanol	
75332	Isopropyl Mercaptan	
590863	Isovaleraldehyde	
8008206	Kerosene	
1302767	Kyanite	
1317368	Lead (II) Oxide	Lead Compounds
1314416	Lead (II, IV) Oxide	Lead Compounds
301042	Lead Acetate	Lead Compounds
7784409	Lead Arsenate	Lead Compounds
10031137	Lead Arsenite	Lead Compounds
65997184	Lead Bisilicate (Frits)	Lead Compounds
598630	Lead Carbonate	Lead Compounds
7758976	Lead Chromate	Lead Compounds
12656858	Lead Chromate Molybdate Sulfate (C.I. Pigment Red 104)	Lead Compounds
18454121	Lead Chromate Oxide	Lead Compounds
602	Lead Compounds (Inorganic)	Lead Compounds
603	Lead Compounds (Other Than Inorganic)	Lead Compounds
1309600	Lead Dioxide	Lead Compounds
13814965	Lead Fluoroborate	Lead Compounds
61790145	Lead Naphthenate	Lead Compounds
27253287	Lead Neodecanoate	Lead Compounds
10099748	Lead Nitrate	Lead Compounds
1335257	Lead Oxide	Lead Compounds
12141207	Lead Oxide Phosphonate	Lead Compounds
7446277	Lead Phosphate	Lead Compounds
7428480	Lead Stearate	Lead Compounds
1335326	Lead Subacetate	Lead Compounds
7446142	Lead Sulfate	Lead Compounds
12060003	Lead Titanate	Lead Compounds
12626812	Lead Titanate Zircon	Lead Compounds
64742898	Light Aliphatic Solvent Naphtha (Petroleum)	
7439932	Lithium	
14307358	Lithium Chromate	Chromium Compounds
1334787	m,p-Tolualdehyde	
7439954	Magnesium	
13423615	Magnesium Chromate	Chromium Compounds
14104859	Magnesium Dichromate	Chromium Compounds
1335268	Magnesium Peroxide	
108316	Maleic Anhydride	Maleic Anhydride
198	Manganese & Compounds	Manganese Compounds
598629	Manganese Carbonate	Manganese Compounds
1313139	Manganese Dioxide	Manganese Compounds
68186947	Manganese Ferrite Black Spinel (C.I. Pigment Black 26)	Manganese Compounds
1336932	Manganese Napthenate	Manganese Compounds
10377669	Manganese Nitrate	Manganese Compounds
7785877	Manganese Sulfate	Manganese Compounds
8030704	Manganese Tallate	Manganese Compounds
1317357	Manganese Tetroxide	Manganese Compounds
1317346	Manganese Trioxide	Manganese Compounds
7783166	Manganese(II) Hypophosphite Monohydrate	Manganese Compounds
12079651	Manganese, Tricarbonyl (.eta.5-2,4-cyclopentadien-1-yl)-	Manganese Compounds
108394	m-Cresol	Cresol/Cresylic Acid (Mixed Isomers)
64742887	Medium Aliphatic Solvent Naphtha (Petroleum)	
149304	Mercaptobenzothiazole	
7487947	Mercuric Chloride	Mercury Compounds
21908532	Mercuric Oxide	Mercury Compounds

199	Mercury & Compounds	Mercury Compounds
22967926	Mercury (Organic)	Mercury Compounds
62384	Mercury Acetato Phen	Mercury Compounds
CH4	Methane	
75718	Methane, Dichlorodifluoro-	
67561	Methanol	Methanol
72435	Methoxychlor	Methoxychlor
111104	Methoxyethyl Oleate	Glycol Ethers
112356	Methoxytriglycol	Glycol Ethers
137053	Methyl 2-Cyanoacrylate	
110430	Methyl Amyl Ketone	
74839	Methyl Bromide	Methyl Bromide (Bromomethane)
140056	Methyl Cellosolve Acetylricinoleate	Glycol Ethers
3121617	Methyl Cellosolve Acrylate	Glycol Ethers
74873	Methyl Chloride	Methyl Chloride (Chloromethane)
71556	Methyl Chloroform	Methyl Chloroform (1,1,1-Trichloroethane)
78933	Methyl Ethyl Ketone	
74884	Methyl Iodide	Methyl Iodide (Iodomethane)
108101	Methyl Isobutyl Ketone	Methyl Isobutyl Ketone (Hexone)
624839	Methyl Isocyanate	Methyl Isocyanate
593759	Methyl Isocyanide	Cyanide Compounds
74931	Methyl Mercaptan	
593748	Methyl Mercury	Mercury Compounds
80626	Methyl Methacrylate	Methyl Methacrylate
1634044	Methyl Tert-Butyl Ether	Methyl Tert-Butyl Ether
616444	Methyl Thiophene	
26914181	Methylantracene	Polycyclic Organic Matter
65357699	Methylbenzopyrene	Polycyclic Organic Matter
41637905	Methylchrysene	Polycyclic Organic Matter
108872	Methylcyclohexane	
96377	Methylcyclopentane	
74953	Methylene Bromide	
75092	Methylene Chloride	Methylene Chloride (Dichloromethane)
142	Methylene Chloride Soluble Organics (MCSO)	Coke Oven Emissions
60344	Methylhydrazine	Methylhydrazine
7439987	Molybdenum	
1313275	Molybdenum Oxide	
27323188	Monochlorobiphenyl	
MONO	Monoterpenes	
108383	m-Xylene	Xylenes (Mixed Isomers)
121697	N,N-Dimethylaniline	N,N-Dimethylaniline
68122	N,N-Dimethylformamide	N,N-Dimethylformamide
8030306	Naphtha	
91203	Naphthalene	Napthalene
123864	n-Butyl Acetate	
2426086	n-Butyl Glycidyl Ether	
109795	n-Butyl Mercaptan	
37244965	Nepheline Syenite	
2201152	N-Ethyl-1-Phenyl-Cyclohexanamine	
112594	N-Hexyl Carbitol	Glycol Ethers
226	Nickel & Compounds	Nickel Compounds
10101970	Nickel (II) Sulfate Hexahydrate	Nickel Compounds
14336700	Nickel 59	Nickel Compounds
373024	Nickel Acetate	Nickel Compounds
8007189	Nickel Antimony Titanium Oxide (C.I. Pigment Yellow 53)	Nickel Compounds
13462889	Nickel Bromide	Nickel Compounds
12710360	Nickel Carbide	Nickel Compounds
3333673	Nickel Carbonate	Nickel Compounds
13463393	Nickel Carbonyl	Nickel Compounds
7718549	Nickel Chloride	Nickel Compounds
6018899	Nickel Diacetate TET	Nickel Compounds
12054487	Nickel Hydroxide	Nickel Compounds
13138459	Nickel Nitrate	Nickel Compounds
604	Nickel Refinery Dust	Nickel Compounds
12035722	Nickel Subsulfide	Nickel Compounds
13770893	Nickel Sulfamate	Nickel Compounds
7786814	Nickel Sulfate	Nickel Compounds
15751005	Nickel(2+), hexakis[1H-imidazole- κ 3-N3]-, dichloride, (OC-6-11)-	Nickel Compounds
1313991	Nickel(II) Oxide	Nickel Compounds
1314063	Nickel(III) Oxide	Nickel Compounds
1271289	Nickelocene	Nickel Compounds
Nitrate	Nitrate Compounds	
7697372	Nitric Acid	
98953	Nitrobenzene	Nitrobenzene
10102440	Nitrogen Dioxide	
NOX	Nitrogen Oxides	
N2O	Nitrous Oxide	
872504	N-Methyl-2-Pyrrolidone	
62759	N-Nitrosodimethylamine	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine	N-Nitrosomorpholine
684935	N-Nitroso-N-Methylurea	N-Nitroso-N-Methylurea
53742077	Nonachlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
111842	Nonane	
106945	n-Propyl Bromide	
107039	n-Propyl Mercaptan	
103651	n-Propylbenzene	
90040	o-Anisidine	o-Anisidine
95578	o-Chlorophenol	
95487	o-Cresol	Cresol/Cresylic Acid (Mixed Isomers)
55722264	Octachlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
111659	Octane	
112801	Oleic Acid	
529204	o-Tolualdehyde	
95534	o-Toluidine	o-Toluidine
2768323	Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-	
95476	o-Xylene	Xylenes (Mixed Isomers)
130498292	PAH, total	Polycyclic Organic Matter
56382	Parathion	Parathion
106445	p-Cresol	Cresol/Cresylic Acid (Mixed Isomers)
99876	p-Cymene	
105055	p-Diethylbenzene	

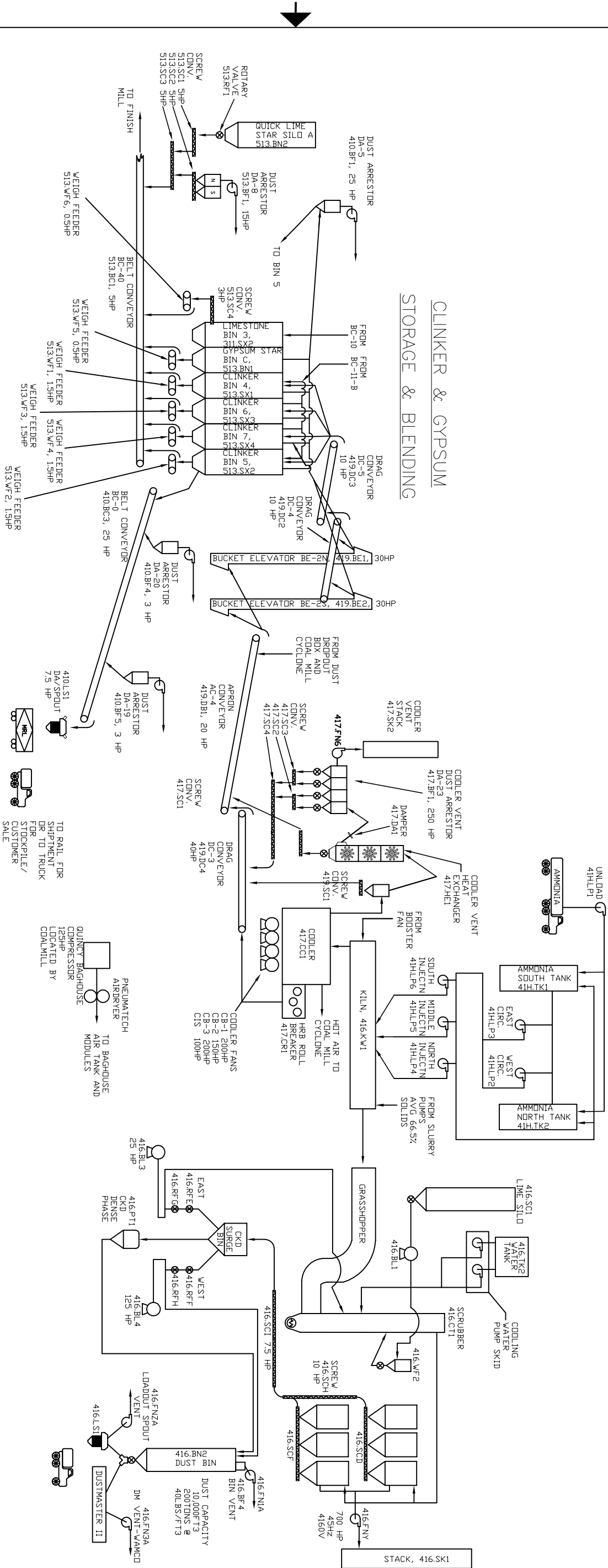
123911	p-Dioxane	p-Dioxane
25429292	Pentachlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
82688	Pentachloronitrobenzene	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol	Pentachlorophenol
109660	Pentane	
590352	Pentane, 2,2-dimethyl-	
562492	Pentane, 3,3-dimethyl-	
PFC	Perfluorocarbons	
10101505	Permanganic acid	Manganese Compounds
198550	Perylene	Polycyclic Organic Matter
85018	Phenanthrene	Polycyclic Organic Matter
108952	Phenol	Phenol
PFHEXARESIN	Phenol Formaldehyde Resin with Hexamethylenetetramine	
28064144	Phenol, Polymer with Formaldehyde, Glycidyl Ether	
122996	Phenyl Cellosolve	Glycol Ethers
103719	Phenyl Isocyanate	
75445	Phosgene	Phosgene
7803512	Phosphine	Phosphine
7789040	Phosphoric Acid Chromium (+3) Salt	Chromium Compounds
13455362	Phosphoric acid, cobalt(2+) salt (2:3)	Cobalt Compounds
13011546	Phosphoric acid, monoammonium monosodium salt	
92203026	Phosphoric Acid, Reaction Products with Aluminum Hydroxide and	Chromium Compounds
7723140	Phosphorus	Phosphorus
398	Phosphorus & Compounds	
85449	Phthalic Anhydride	Phthalic Anhydride
1336363	Polychlorinated Biphenyls	Polychlorinated Biphenyls (Aroclors)
246	Polycyclic Organic Matter	Polycyclic Organic Matter
RESINCURAG	PolyEpoxy Resin AminophenylFluorene Curing Agent	
27252875	Polyethylene Glycol Allyl Ether Acetate	
25852475	Polyglycol Dimethylacrylates	
ISOCYANP	Polysocyanates	
9016879	Polymeric Diphenylmethane Diisocyanate	
9003081	Polymerized Melamine Molding Compound	
7440097	Potassium	
7789006	Potassium Chromate	Chromium Compounds
151508	Potassium Cyanide	Cyanide Compounds
7778509	Potassium Dichromate	Chromium Compounds
13746662	Potassium Ferricyanide	Cyanide Compounds
13943583	Potassium Ferrocyanide	Cyanide Compounds
1310583	Potassium Hydroxide	
14220178	Potassium Nickel Cyanide	Nickel Compounds
7722647	Potassium permanganate	Manganese Compounds
506616	Potassium Silver Cyanide	Cyanide Compounds
106503	p-Phenylenediamine	p-Phenylenediamine
463490	Propadiene	
74986	Propane	
123386	Propionaldehyde	Propionaldehyde
114261	Propoxur	Propoxur (Baygon)
2807309	Propyl Cellosolve	Glycol Ethers
115071	Propylene	
78875	Propylene Dichloride	Propylene Dichloride (1,2-Dichloropropane)
107982	Propylene Glycol 1-Methyl Ether	
108656	Propylene Glycol Monomethyl Ether Acetate (1-Methoxy-2-Propyl	
5131668	Propylene Glycol n-Butyl Ether	
57018527	Propylene Glycol Tert-Butyl Ether	
75569	Propylene Oxide	Propylene Oxide
106423	p-Xylene	Xylenes (Mixed Isomers)
129000	Pyrene	Polycyclic Organic Matter
110861	Pyridine	
14808607	Quartz	
91225	Quinoline	Quinoline
106514	Quinone	Quinone (p-Benzoquinone)
605	Radionuclides	Radionuclides (Including Radon)
400	Radionuclides (Including Radon)	Radionuclides (Including Radon)
606	Radon And Its Decay Products	Radionuclides (Including Radon)
142844006	Refractory Ceramic Fiber	
483658	Retene	Polycyclic Organic Matter
1314289	Rhenium Oxide	
617	Rockwool (Man-Made Fibers)	Fine Mineral Fibers
81072	Saccharin	
253	Selenium & Compounds	Selenium Compounds
7446084	Selenium Dioxide	Selenium Compounds
7488564	Selenium Disulfide	Selenium Compounds
7783791	Selenium Hexafluoride	Selenium Compounds
7446346	Selenium Monosulfide	Selenium Compounds
12640890	Selenium Oxide	Selenium Compounds
7783008	Selenous Acid	Selenium Compounds
7631869	Silica	
7440213	Silicon	
112945525	Silicon Dioxide	
7440224	Silver	
506649	Silver Cyanide	Cyanide Compounds
616	Slagwool (Man-Made Fibers)	Fine Mineral Fibers
7440235	Sodium	
1333831	Sodium Bifluoride	
7775113	Sodium Chromate	Chromium Compounds
10034829	Sodium Chromate(VI)	Chromium Compounds
143339	Sodium Cyanide	Cyanide Compounds
10588019	Sodium Dichromate	Chromium Compounds
16925250	Sodium Hexafluoroantimonate	Antimony Compounds
1310732	Sodium Hydroxide	
7631994	Sodium Nitrate	
STLITE	Staurolite	
8052413	Stoddard Solvent	
7440246	Strontium	
7789062	Strontium Chromate	Chromium Compounds
100425	Styrene	Styrene
96093	Styrene Oxide	Styrene Oxide
14808798	Sulfate	
18496258	Sulfide	
7704349	Sulfur	

SO2	Sulfur Dioxide	
SF6	Sulfur Hexafluoride	
7664939	Sulfuric Acid	
26140603	Terphenyl	
994058	tert-Amyl Methyl Ether	
75650	tert-Butanol (2-Propanol, 2-Methyl-)	
540885	tert-Butyl Acetate	
75661	tert-Butyl Mercaptan	
26914330	Tetrachlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
127184	Tetrachloroethylene	Tetrachloroethylene (Perchloroethylene)
78002	Tetraethyl Lead	Lead Compounds
110010	Tetrahydrothiophene	
7440280	Thallium	Radionuclides (Including Radon)
110021	Thiophene	
7440291	Thorium-232	Radionuclides (Including Radon)
7440315	Tin	
7440326	Titanium	
13463677	Titanium Dioxide	
7550450	Titanium Tetrachloride	Titanium Tetrachloride
108883	Toluene	Toluene
26471625	Toluene Diisocyanates (mixture)	
95807	Toluene-2,4-Diamine	Toluene-2,4-Diamine
TF	Total Fluorides	
TRS	Total Reduced Sulfur	
TRS (H2S)	Total Reduced Sulfur (as H2S)	
TRS as S	Total Reduced Sulfur (as S)	
8001352	Toxaphene	Toxaphene (Chlorinated Camphene)
123739	trans-Crotonaldehyde	
37680685	Trichlorobiphenyl	Polychlorinated Biphenyls (Aroclors)
79016	Trichloroethylene	Trichloroethylene
75694	Trichlorofluoromethane	
121448	Triethylamine	Triethylamine
112276	Triethylene glycol	Glycol Ethers
112492	Triethylene Glycol Dimethyl Ether	Glycol Ethers
1582098	Trifluralin	Trifluralin
143226	Triglycol Monobutyl Ether	Glycol Ethers
7756947	Triisobutylene	
25551137	Trimethylbenzene	
15625895	Trimethylolpropane Triacrylate	
7440611	Uranium	Radionuclides (Including Radon)
1344576	Uranium Dioxide	Radionuclides (Including Radon)
7783815	Uranium Hexafluoride	Radionuclides (Including Radon)
1344598	Uranium Oxide	Radionuclides (Including Radon)
541093	Uranyl Acetate	Radionuclides (Including Radon)
110623	Valeraldehyde	
7440622	Vanadium	
108054	Vinyl Acetate	Vinyl Acetate
593602	Vinyl Bromide	Vinyl Bromide
75014	Vinyl Chloride	Vinyl Chloride
75354	Vinylidene Chloride	Vinylidene Chloride (1,1-Dichloroethylene)
VOC	Volatile Organic Compounds	
1330207	Xylenes (Mixture of o, m, and p Isomers)	Xylenes (Mixed Isomers)
7440655	Yttrium	
7440666	Zinc	
13530659	Zinc Chromate	Chromium Compounds
50922297	Zinc Chromite	Chromium Compounds
557211	Zinc Cyanide	Cyanide Compounds
68186889	Zinc Iron Chromite Brown Spinel (C.I. Pigment Brown 33)	Chromium Compounds
7779900	Zinc Phosphate	
37224570	Zinc Potassium Chromate	Chromium Compounds
11103869	Zinc Potassium Chromate Hydroxide	Chromium Compounds
14940682	Zircon	

CO2	Carbon Dioxide
CH4	Methane
N2O	Nitrous Oxide

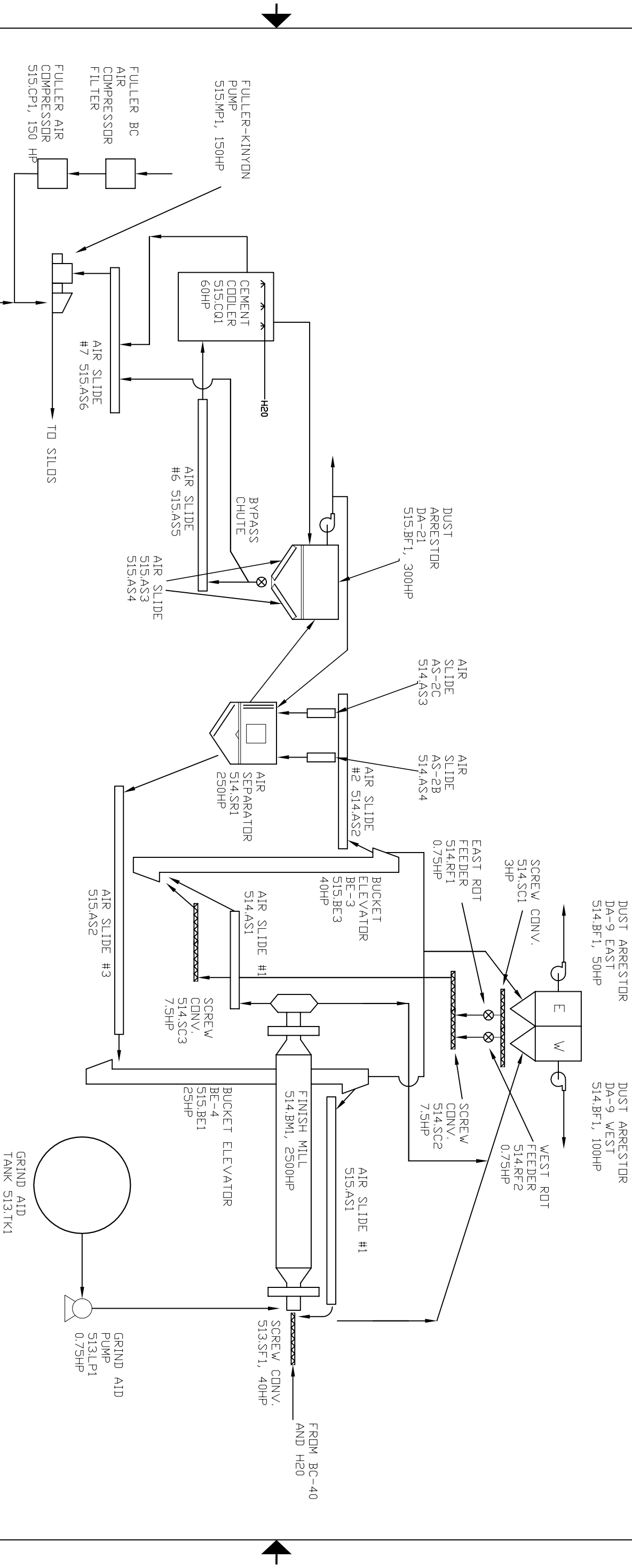
Exhibit A

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



ASH GROVE CEMENT 100 MT HWY 518 CLANCY, MT 59634		PLANT PROCESS/FLOW DIAGRAM		
CLINKER FLOW SHEET		CLINKER FLOW SHEET		
DATE: 11/1/18	SIZE	FSCM NO.	DWG NO.	REV
Spencer Ready	SCALE	N/A	0004	2
SHEET		SHEET		

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



FINISH GRINDING

ASH GROVE CEMENT 100 MT HWY 518 CLANCY, MT 59634				PLANT PROCESS/FLOW DIAGRAM			
FINISH MILLING							
DATE: 10/16/08	SIZE	FSCM NO.	DWG NO.	0005	REV	2	
COLBY THOMAS	SCALE	N/A	SHEET				

Exhibit B

September 15, 2022

Chris Hines
Ash Grove Cement Company
Montana City Portland Cement Plant
100 Montana Highway 518
Clancy, MT 59634

Sent via email: chris.hines@ashgrove.com

RE: Final Title V Operating Permit #OP2005-12

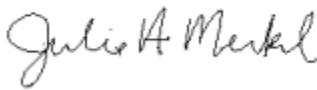
Dear Mr. Hines:

DEQ prepared this Final Operating Permit #OP2005-12, for Ash Grove, located in Section 12 and 13, Township 9 North, Range 3 West, in Jefferson County, Montana.

This permit must be kept at the facility or a DEQ-approved location.

If you have any questions, contact Troy Burrows, the permit writer, at (406) 444-1452 or by email at troy.burrows@mt.gov.

Sincerely,



Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626



Troy M Burrows
Air Quality Scientist
Air Quality Bureau
(406) 444-1452

cc: Branch Chief, Air Permitting and Monitoring Branch, US EPA Region VIII 8ARD-PM, fallon.gail@epa.gov
Carson Coate, US EPA Region VIII, Montana Office, coate.carson@epa.gov
Jeff Briggs, Ash Grove Cement Company, jeff.briggs@ashgrove.com
Doug Kuenzli, Ash Grove Cement Company, doug.kuenzli@ashgrove.com

Montana Department of Environmental Quality
Air, Energy & Mining Division
Air Quality Bureau

AIR QUALITY OPERATING PERMIT #OP2005-12

Issued to:

**Ash Grove Cement Company
Montana City Portland Cement Plant
100 Montana Highway 518
Clancy, MT 59634**

Final/Effective Date:	09/15/2022
Expiration Date:	09/15/2027
Complete Renewal Application Due:	03/15/2027
 Draft Issue Date:	 04/29/2022
Proposed Issue Date:	06/16/2022
End of EPA 45-day Review:	07/31/2022
Date of Decision:	08/15/2022
 Renewal Application Received:	 12/06/2021
Application Deemed Substantively Complete:	12/08/2021
Application Deemed Administratively Complete:	12/08/2021
AFS Number: 030-043-0001A	

Permit Issuance and Appeal Processes: DEQ issues this permit as effective and final on September 15, 2022. This permit must be kept at the facility or a DEQ-approved location (Montana Code Annotated (MCA) Sections 75-2-217 and 218, Administrative Rules of Montana (ARM), ARM Title 17, Chapter 8, Subchapter 12, Operating Permit Program).

Montana Air Quality Operating Permit
Department of Environmental Quality

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Terms not otherwise defined in this permit or in the Definitions and Abbreviations in Appendix B of this permit have the meaning assigned to them in the referenced regulations.

SECTION I. GENERAL INFORMATION

The following general information is provided pursuant to ARM 17.8.1210(1).

Company Name: Ash Grove Cement Company

Mailing Address: 100 Montana Highway 518

City: Clancy **State:** Montana **Zip:** 59634

Plant Location: Approximately 1.8 km east of the I-15 and Highway 518 interchange near Montana City and approximately 5 km south of East Helena.

Responsible Official: Chris Hines

Facility Contact Person: Jeff Briggs

Primary SIC Code: 3241 (plant), 1422 (quarry)

Nature of Business: Portland Cement Manufacturing

Description of Process:

The production of Portland cement begins at the quarry. For Ash Grove, approximately 85 to 99 percent of the raw materials used in the cement process are combined high and low-grade limestone quarried from Clark's Gulch quarry. Limestone rock and other raw materials are blasted and loaded onto trucks and transported to the crusher or to stockpiles. The raw materials are conveyed from the primary and secondary crushers and delivered by bucket elevator to the storage bins. From the storage bins, the raw materials are conveyed to the ball mill where the ore is ground with water to form slurry and sent to storage tanks. In the tanks, the slurry is blended thoroughly before entering the kiln. Slurry is pumped to the uphill end of the kiln and heated, evaporating water from the slurry forming clinker. The Ash Grove plant uses a combination of natural gas, coal and/or coke, heavy oils and pitch as fuel sources for the clinker production. When the clinker leaves the kiln, it is cooled, transported by drag chains, pan conveyor and bucket elevator to the clinker bins or outside storage. From there, the clinker goes to the finish ball mill, where it is ground together with gypsum to produce Portland cement. The final cement product is conveyed to storage silos where it is loaded into railroad cars, bulk trucks, or bagged and loaded onto trucks.

SECTION II. SUMMARY OF EMISSION UNITS

The emission units regulated by this permit include the following (ARM 17.8.1211):

Emissions Unit ID		Description	Pollution Control Device/Practice
EU001	AS	Air Separator	Baghouse (DA-21)/which is integral to the process and collects all product through the Air Separator
EU002	CLC	Clinker Cooler	Baghouse (DA-23)
EU003	CPC	Conveyor/Primary Crusher	Baghouse (DA-1)
EU004	FC	Fuel Conveyors	None/ Conveyor and Transfer Point Covers, and Structural Enclosures
EU005	FT	Fuel Transfer	None/Structural Enclosures
EU006	KILN	Cement Kiln	Pulse Jet Baghouse/SNCR/Semi-Dry Scrubber, Low-NOx Burner
EU007	PSC	Product Separator and Cement Coolers	Baghouse (DA-9 East)
EU008	RD	Road Dust	None/Reasonable Precautions
EU009	SLB	Storage Loadout - B	Baghouse (DA-15)
EU010	ST	Stone Transfer	None/Reasonable Precautions
EU011	TBC	Transfer Belt Conveyors	Baghouse (DA-4)
EU012	TBM	Transfer/Convey to Ball Mill	Baghouse (DA-6)
EU013	TFM	Transfer to/from Finish Mill	Baghouse (DA-9 West)
EU014	TLS	Transfer to Limestone Silos	Baghouse (DA-5)
EU015	WE	Wind Erosion	None/Reasonable Precautions
EU016	AUXE	105 Hp Auxiliary Kiln Drive Engine	40 CFR 63, Subpart ZZZZ
EU017	GD	Gasoline Dispensing	40 CFR 63, Subpart CCCCCC
EU018	PLO2	Product Loadout 2	Baghouses (DA-19, DA-20, and DCL Spout)
EU019	SC	Secondary Crusher	Baghouse (DA-3)
EU020	DL	Dust Loadout	Baghouses (DA-24, DA-25, and DCL Spout)

SECTION III. PERMIT CONDITIONS

The following requirements and conditions are applicable to the facility or to specific emission units located at the facility (ARM 17.8.1211, 1212, and 1213).

A. Facility-Wide

Conditions	Rule Citation	Rule Description	Pollutant/Parameter	Limit
A.1	ARM 17.8.105	Testing Requirements	Testing Requirements	-----
A.2	ARM 17.8.304(1)	Visible Air Contaminants	Opacity	40%
A.3	ARM 17.8.304(2)	Visible Air Contaminants	Opacity	20%
A.4	ARM 17.8.308(1)	Particulate Matter, Airborne	Fugitive Opacity	20%
A.5	ARM 17.8.308(2)	Particulate Matter, Airborne	Reasonable Precautions	-----
A.6	ARM 17.8.308	Particulate Matter, Airborne	Reasonable Precaution, Construction	20%
A.7	ARM 17.8.309	Particulate Matter, Fuel Burning Equipment	Particulate Matter	$E = 0.882 * H^{-0.1664}$ or $E = 1.026 * H^{-0.233}$
A.8	ARM 17.8.310	Particulate Matter, Industrial Processes	Particulate Matter	$E = 4.10 * P^{0.67}$ or $E = 55 * P^{0.11} - 40$
A.9	ARM 17.8.322(4)	Sulfur Oxide Emissions, Sulfur in Fuel	Sulfur in Fuel (liquid or solid fuels)	1 lb/MMBtu fired
A.10	ARM 17.8.322(5)	Sulfur Oxide Emissions, Sulfur in Fuel	Sulfur in Fuel (gaseous)	50 gr/100 CF
A.11	ARM 17.8.324(3)	Hydrocarbon Emissions, Petroleum Products	Gasoline Storage Tanks	-----
A.12	ARM 17.8.324	Hydrocarbon Emissions, Petroleum Products	65,000 Gallon Capacity	-----
A.13	ARM 17.8.324	Hydrocarbon Emissions, Petroleum Products	Oil-effluent Water Separator	-----
A.14	ARM 17.8.342	NESHAPs General Provisions	SSM Plans	Submittal
A.15	ARM 17.8.1211(1)(c) and 40 CFR Part 98	Greenhouse Gas Reporting	Reporting	-----
A.16	ARM 17.8.1212	Reporting Requirements	Prompt Deviation Reporting	-----
A.17	ARM 17.8.1212	Reporting Requirements	Compliance Monitoring	-----
A.18	ARM 17.8.1207	Reporting Requirements	Annual Certification	-----

Conditions

- A.1. Pursuant to ARM 17.8.105, any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of DEQ, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct test, emission or ambient, for such periods of time as may be necessary using methods approved by DEQ.

Compliance demonstration frequencies that list “as required by DEQ” refer to ARM 17.8.105. In addition, for such sources, compliance with limits and conditions listing “as required by DEQ” as the frequency, is verified annually using emission factors and engineering calculations by DEQ’s compliance inspectors during the annual emission inventory review; in the case of Method 9 tests, compliance is monitored during the regular inspection by the compliance inspector.

- A.2. Pursuant to ARM 17.8.304(1), Ash Grove shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes, unless otherwise specified by rule or in this permit.
- A.3. Pursuant to ARM 17.8.304(2), Ash Grove shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over six consecutive minutes, unless otherwise specified by rule or in this permit.
- A.4. Pursuant to ARM 17.8.308(1), Ash Grove shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes, unless otherwise specified by rule or in this permit.
- A.5. Pursuant to ARM 17.8.308(2), Ash Grove shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter, unless otherwise specified by rule or in this permit.
- A.6. Pursuant to ARM 17.8.308, Ash Grove shall not operate a construction site or demolition project unless reasonable precautions are taken to control emissions of airborne particulate matter. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes, unless otherwise specified by rule or in this permit.
- A.7. Pursuant to ARM 17.8.309, unless otherwise specified by rule or in this permit, Ash Grove shall not cause or authorize particulate matter caused by the combustion of fuel to be discharged from any stack or chimney into the outdoor atmosphere in excess of the maximum allowable emissions of particulate matter for existing fuel burning equipment and new fuel burning equipment calculated using the following equations:

For existing fuel burning equipment (installed before November 23, 1968):

$$E = 0.882 * H^{-0.1664}$$

For new fuel burning equipment (installed on or after November 23, 1968):

$$E = 1.026 * H^{-0.233}$$

Where H is the heat input capacity in million BTU (MMBtu) per hour and E is the maximum allowable particulate emissions rate in pounds per MMBtu.

- A.8. Pursuant to ARM 17.8.310, unless otherwise specified by rule or in this permit, Ash Grove shall not cause or authorize particulate matter to be discharged from any operation, process, or activity into the outdoor atmosphere in excess of the maximum hourly allowable emissions of particulate matter calculated using the following equations:

$$\begin{array}{ll}\text{For process weight rates up to 30 tons per hour:} & E = 4.10 * P^{0.67} \\ \text{For process weight rates in excess of 30 tons per hour:} & E = 55.0 * P^{0.11} - 40\end{array}$$

Where E = rate of emissions in pounds per hour and P = process weight rate in tons per hour.

- A.9. Pursuant to ARM 17.8.322(4), Ash Grove shall not burn liquid or solid fuels containing sulfur in excess of 1 pound per million BTU fired, unless otherwise specified by rule or in this permit.
- A.10. Pursuant to ARM 17.8.322(5), Ash Grove shall not burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions, unless otherwise specified by rule or in this permit.
- A.11. Pursuant to ARM 17.8.324(3), Ash Grove shall not load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device or is a pressure tank as described in ARM 17.8.324(1), unless otherwise specified by rule or in this permit.
- A.12. Pursuant to ARM 17.8.324, unless otherwise specified by rule or in this permit, Ash Grove shall not place, store or hold in any stationary tank, reservoir or other container of more than 65,000 gallon capacity any crude oil, gasoline or petroleum distillate having a vapor pressure of 2.5 pounds per square inch absolute or greater under actual storage conditions, unless such tank, reservoir or other container is a pressure tank maintaining working pressure sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is designed and equipped with a vapor loss control device, properly installed, in good working order and in operation.
- A.13. Pursuant to ARM 17.8.324, unless otherwise specified by rule or in this permit, Ash Grove shall not use any compartment of any single or multiple-compartment oil-effluent water separator, which compartment receives effluent water containing 200 gallons a day or more of any petroleum product from any equipment processing, refining, treating, storing or handling kerosene or other petroleum product of equal or greater volatility than kerosene, unless such compartment is equipped with a vapor loss control device, constructed so as to prevent emission of hydrocarbon vapors to the atmosphere, properly installed, in good working order and in operation.
- A.14. Pursuant to ARM 17.8.302 and ARM 17.8.342, and 40 CFR 63.6, the owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan (if a plan is required by 40 CFR 63.6(e)(3) and the Table for General Provision Applicability of the appropriate subpart), meeting the requirements of 40 CFR 63.6, and must make the plan available upon request. In addition, if the startup, shutdown, and malfunction plan is subsequently revised, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must

make each such previous version available for a period of 5 years after revision of the plan. The owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown, and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in 40 CFR 63.10(d)(5).

- A.15. Pursuant to ARM 17.8.1211(1)(c) and 40 CFR Part 98, Ash Grove shall comply with requirements of 40 CFR Part 98 – Mandatory Greenhouse Gas Reporting, as applicable (ARM 17.8.1211(1)(c), NOT an applicable requirement under Title V).
- A.16. Ash Grove shall promptly report deviations from permit requirements including those attributable to upset conditions, as upset is defined in the permit. To be considered prompt, deviations shall be reported to DEQ using the schedule and content as described in Section V.E (unless otherwise specified in an applicable requirement) (ARM 17.8.1212).
- A.17. On or before February 15 and August 15 of each year, Ash Grove shall submit to DEQ the compliance monitoring reports required by Section V.D. These reports must contain all information required by Section V.D, as well as the information required by each individual emissions unit. For the reports due by February 15 of each year, Ash Grove may submit a single report, if it contains all the information required by Sections V.B & V.D. Per ARM 17.8.1207,

any application form, report, or compliance certification submitted pursuant to ARM Title 17, Chapter 8, Subchapter 12 (including semiannual monitoring reports), shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under ARM Title 17, Chapter 8, Subchapter 12, shall state that, “based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.”

- A.18. By February 15 of each year, Ash Grove shall submit to DEQ the compliance certification required by Section V.B. The annual certification required by Section V.B must include a statement of compliance based on the information available that identifies any observed, documented or otherwise known instance of noncompliance for each applicable requirement. Per ARM 17.8.1207,

any application form, report, or compliance certification submitted pursuant to ARM Title 17, Chapter 8, Subchapter 12 (including annual certifications), shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under ARM Title 17, Chapter 8, Subchapter 12, shall state that, “based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.”

B. EU001 – Air Separator (AS)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Method	Demonstration Frequency	Reporting Requirements
B.1, B.4, B.7, B.9, B.10, B.11	Opacity	10%	Method 9	As Required by DEQ and Section III.A.1	Semi-Annual
B.2, B.5, B.7, B.9, B.10, B.11	Particulate Matter	0.01 gr/dscf	Method 5	Once during 5-year permit term	Semi-Annual
B.3, B.6, B.8, B.10, B.11	Emission Control Equipment	Operation and maintenance of emission control equipment	Operation and maintenance of baghouse	Whenever process equipment is operating	Semi-Annual

Conditions

- B.1. Ash Grove shall not cause or authorize emissions to be discharged into the outdoor atmosphere from the air separator baghouse (DA-21) that exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart F).
- B.2. Particulate emissions from the air separator baghouse (DA-21) shall not exceed 0.01 gr/dscf (ARM 17.8.752).
- B.3. Ash Grove shall operate and maintain a baghouse to control emissions from the high efficiency air separator (ARM 17.8.752).

Compliance Demonstration

- B.4. As required by DEQ and Section III.A.1, Ash Grove shall perform a Method 9 test, to demonstrate compliance with the 10% opacity limit in Section III.B.1. The test methods and procedures shall be conducted in accordance with the Montana Source Test Protocol and Procedures manual (ARM 17.8.106 and ARM 17.8.1213).
- B.5. A Method 5 or other DEQ approved test shall be performed once during the 5-year permit period, to monitor compliance with the particulate emission limit in Section III.B.2. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual and maintained on site (ARM 17.8.106 and ARM 17.8.1213).
- B.6. Ash Grove shall operate, inspect, and maintain the baghouse in accordance with Appendix E to monitor compliance with Section III.B.3 (ARM 17.8.1213).

Recordkeeping

- B.7. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).
- B.8. Ash Grove shall maintain, on site, records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E. All

inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- B.9. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
- B.10. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- B.11. The semiannual monitoring report shall provide (ARM 17.8.1212):
- A summary of results of any source testing that was performed during the semiannual period; and
 - A summary of any instance that the baghouse was not operated and maintained as required by Section III.B.6.

C. EU002 – Clinker Cooler (CLC)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
C.1, C.4, C.7, C.11, C.12.	Opacity	20%	Method 9	As Required by DEQ and Section III.A.1	Semiannual
C.2, C.3, C.5, C.6, C.7, C.8, C.9, C.10, C.11, C.12.	Particulate Matter	0.07 lb/ton of clinker produced	Method 5 (or equivalent)	Annually	Semiannual
			CPMS	Ongoing	40 CFR 63, Subpart LLL
		Operation and maintenance of baghouse (DA-23)	Operate and maintain baghouse in accordance with Appendix E	Maintenance Log	Semiannual

Conditions

- C.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from the clinker cooler baghouse that exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.304(1)).
- C.2. Ash Grove may not exceed a PM emission rate of 0.07 lb/ton of clinker produced from the clinker cooler stack, excluding startup and shutdown periods of operation, based on an annual Method 5 stack performance test and PM continuous parametric monitoring system

(CPMS). Condensable particulate matter is not included in Method 5 reporting and is not included in determining compliance (ARM 17.8.749, ARM 17.8.342, and 40 CFR 63, Subpart LLL).

- C.3. Ash Grove shall operate and maintain the baghouse (DA-23) when process equipment is operating (ARM 17.8.749).

Compliance Demonstration

- C.4. As required by DEQ and Section III.A.1, Ash Grove shall perform a Method 9 test, to demonstrate compliance with the 20% opacity limit in Section III.C.1. The test methods and procedures shall be conducted in accordance with the Montana Source Test Protocol and Procedures manual and maintained on site (ARM 17.8.106 and ARM 17.8.1213).
- C.5. Ash Grove shall monitor the clinker cooler stack emissions to demonstrate compliance with the PM limit of 0.07 lb/ton of clinker in Section III.C.2 as follows: (a) annually conducting a Method 5 (or equivalent) performance stack test; and (b) operating a PM CPMS. Condensable particulate matter is not included in Method 5 reporting and is not included in determining compliance (40 CFR 63, Subpart LLL, ARM 17.8.105, ARM 17.8.106, ARM 17.8.749, and ARM 17.8.342).
- C.6. Ash Grove shall operate, inspect, and maintain the baghouse in accordance with Appendix E to monitor compliance with Section III.C.3 (ARM 17.8.1213).

Recordkeeping

- C.7. All compliance source test recordkeeping shall be performed in accordance with the test method used, the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).
- C.8. Ash Grove shall calculate and record the PM CPMS arithmetic average operating parameter in units of the operating limit on a 30-operating day rolling average basis, updated at the end of each kiln operating day. For any exceedance of the 30 process operating day PM CPMS average value from the established operating parameter, Ash Grove must:
- a. Within 48 hours of the exceedance, visually inspect the APCD;
 - b. If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and
 - c. Within 30 days of the exceedance or at the same time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the PM CPMS operating limit within 45 days. Ash Grove is not required to conduct additional testing for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph.

PM CPMS exceedances leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a presumptive violation of this condition (ARM 17.8.342 and 40 CFR 63, Subpart LLL).

- C.9. Ash Grove shall maintain, on site, records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- C.10. Ash Grove shall comply with all applicable reporting requirements contained in 40 CFR 63 Subpart LLL (ARM 17.8.1212 and 40 CFR Part 63).
- C.11. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- C.12. The semiannual reporting shall provide the following (ARM 17.8.1212):
- A summary of results of any source testing that was performed during that semiannual period; and
 - A summary of any instance that the baghouse was not operated and maintained as required by Section III.C.6.

D. EU003 – Conveyor/Primary Crushing (CPC)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
D.1, D.4, D.7, D.9, D.10	Opacity	7%	Method 9	Once during 5- year permit term	As required by the Protocol
D.2,D.5, D.7, D.9, D.10	Particulate Matter	0.02 gr/dscf	Method 5	Once during 5- year permit term	As required by the Protocol
D.3,D.6, D.8, D.9, D.10	Emissions Control Equipment	Operation and maintenance of emission control equipment	Operation and maintenance of baghouse	Semiannual	Semiannual

Conditions

- D.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any transfer point or belt conveyor or from any other affected facility any stack emissions that exhibit greater than 7 percent opacity (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
- D.2. Particulate emissions from the dust collection system (DA-1) shall not exceed 0.02 gr/dscf (ARM 17.8.752).

- D.3. Ash Grove shall operate and maintain emission control equipment when process equipment is operating (ARM 17.8.749).

Compliance Demonstration

- D.4. A Method 9 test shall be performed once during the 5-year permit period to monitor compliance with the 7% opacity limit in Section III.D.1. The test methods and procedures shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- D.5. A Method 5 or other DEQ approved test shall be performed once during the 5-year permit period to monitor compliance with the particulate emission limitation in Section III.D.2. The test methods and procedures shall be conducted in accordance with 40 CFR 60.675(b) and the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- D.6. Ash Grove shall inspect and maintain the baghouse in accordance with Appendix E of this permit to monitor compliance with Section III.D.3 (ARM 17.8.1213).

Recordkeeping

- D.7. All source testing recordkeeping shall be performed in accordance with the Source Test Protocol and Procedures Manual and maintained on site (ARM 17.8.106 and ARM 17.8.1212).
- D.8. Ash Grove shall maintain records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- D.9. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- D.10. The semiannual reporting shall provide a summary of results of any source testing that was performed during that semiannual period (ARM 17.8.1212).

E. EU004 – Fuel Conveyors (FC)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
E.1, E.3, E.4, E.5, E.6, E.7, E.8	Opacity	20%	Method 9	As required by DEQ and Section III.A.1	Semiannual
			Use and maintenance of structural enclosures and covers	Whenever process equipment is operating	Semiannual
E.2, E.4, E.5, E.6, E.7	Particulate Matter	$E=55.0p^{0.11-40}$	Use and maintenance of structural enclosures and covers	Whenever process equipment is operating	Semiannual

Conditions

- E.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from the Fuel Conveyors that exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.340, 40 CFR 60, Subpart Y and ARM 17.8.304).
- E.2. Pursuant to ARM 17.8.310, the particulate emissions from process weight shall not exceed the value calculated by $E=55.0p^{0.11-40}$, where E = rate of emission in pounds per hour and p = process weight rate in tons per hour (ARM 17.8.310).

Compliance Demonstration

- E.3. As required by DEQ and Section III.A.1, Ash Grove shall conduct either a semiannual Method 9 source test or a weekly visual survey of visible emissions on the Fuel Conveyors. Under the visual survey option, once per calendar week, during daylight hours, Ash Grove shall visually survey the Fuel Conveyors for any visible emissions. If visible emissions are observed during the visual survey, Ash Grove must either conduct a Method 9 source test, or shut down the equipment for repairs. The Method 9 source test or source shutdown must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, Ash Grove shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then Ash Grove shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) in a log, including any corrective action taken. Conducting a visual survey does not relieve Ash Grove of the liability for a violation determined using Method 9 (ARM 17.8.101(27)).

Method 9 source tests must be performed in accordance with the Montana Source Test Protocol and Procedures Manual, except that prior notification of the test is not required. Each observation period must be a minimum of 6 minutes unless any one reading is 20% or greater, then the observation period must be a minimum of 20 minutes or until a violation of the standard has been documented, whichever is a shorter period (ARM 17.8.1213).

- E.4. Whenever process equipment is operating, Ash Grove shall use and maintain, as they were intended, all conveyor covers, transfer point cover, or structural enclosures surrounding process equipment to monitor compliance with Section III.E.1 and III.E.2 (ARM 17.8.1213).

Recordkeeping

- E.5. If visual surveys are performed, Ash Grove shall maintain a log to verify that the visual surveys were performed as specified in Section III.E.3. Each log entry must include the date, time, results of survey (and results of subsequent Method 9, if applicable), and observer's initials. If any corrective action is required, the time, date, observer's initials, and any preventive or corrective action taken must be recorded in the log (ARM 17.8.1212).
- E.6. Ash Grove shall maintain on site a log of all repair and maintenance activity to structural enclosures. The log must include, but is not limited to, the date, time, and action(s) taken. The maintenance log shall be maintained as a permanent business record for at least five years following the activity. The log shall be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.106 and ARM 17.8.1212).

Reporting

- E.7. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- E.8. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during the semiannual period (ARM 17.8.1212).

F. EU005 –Fuel Transfer (FT)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
F.1, F.3, F.5, F.6, F.7, F.8	Opacity	20%	Method 9	As required by DEQ and Section III.A.1	Semiannual
F.2, F.4, F.5, F.6, F.7	Particulate Matter	$E=55.0p^{0.11-40}$	Use and maintenance of structural enclosure	Whenever process equipment is operating	Semiannual

Conditions

- F.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from Fuel Transfer that exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.340, 40 CFR 60, Subpart Y. and ARM 17.8.304(2)).
- F.2. Pursuant to ARM 17.8.310, the particulate emissions from process weight shall not exceed the value calculated by $E = 55.0p^{0.11-40}$, where E = rate of emission in pounds per hour and p = process weight rate in tons per hour (ARM 17.8.310).

Compliance Demonstration

- F.3. As required by DEQ and Section III.A.1, Ash Grove shall conduct either a semiannual Method 9 source test or a weekly visual survey of visible emissions on the Fuel Transfer. Under the visual survey option, once per calendar week, during daylight hours, Ash Grove shall visually survey the Fuel Transfer for any visible emissions. If visible emissions are observed during the visual survey, Ash Grove must either conduct a Method 9 source test, or shut down the equipment for repairs. The Method 9 source test or source shutdown must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, Ash Grove shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then Ash Grove shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) in a log, including any corrective action taken. Conducting a visual survey does not relieve Ash Grove of the liability for a violation determined using Method 9 (ARM 17.8.101(27)).

Method 9 source tests must be performed in accordance with the Montana Source Test Protocol and Procedures Manual, except that prior notification of the test is not required. Each observation period must be a minimum of 6 minutes unless any one reading is 20% or greater, then the observation period must be a minimum of 20 minutes or until a violation of the standard has been documented, whichever is a shorter period of time (ARM 17.8.1213).

- F.4. During truck or rail car unloading, Ash Grove shall use and maintain the structural enclosure surrounding the hopper, dual flow feeder, and a portion of a conveyor belt CB-22 for monitoring pertaining to the particulate matter limit in Section III.F.2 (ARM 17.8.309).

Recordkeeping

- F.5. If visual surveys are performed, Ash Grove shall maintain a log to verify that the visual surveys were performed as specified in Section III.F.3. Each log entry must include the date, time, results of survey (and results of subsequent Method 9, if applicable), and observer's initials. If any corrective action is required, the time, date, observer's initials, and any preventive or corrective action taken must be recorded in the log (ARM 17.8.1212).
- F.6. Ash Grove shall maintain on site a log of all repair and maintenance activity to structural enclosures. The log must include, but is not limited to, the date, time, and action(s) taken. The maintenance log shall be maintained as a permanent business record for at least five years following the activity. The log shall be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.106 and ARM 17.8.1212).

Reporting

- F.7. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- F.8. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during the semiannual period (ARM 17.8.1212).

G. EU006 – Cement Kiln (KILN)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Method	Demonstration Frequency	Reporting Requirements
G.1, G.13, G.14, G.27, G.30, G.39, G.42, G.43	Opacity	40%	Operation and maintenance of Pulse Jet Baghouse	Whenever process equipment is operating	Semiannual
			Method 9	As requested by DEQ	Semiannual
G.2, G.13, G.14, G.15, G.16, G.17, G.18, G.25, G.27, G.29, G.30, G.35, G.36, G.39, G.41, G.42, G.43	Filterable Particulate Matter	0.07 lb/ton of clinker based on a 30-day rolling average from the kiln during startup, shutdown, malfunction and normal operation	Operation and maintenance of Pulse Jet Baghouse	Whenever process equipment is operating	Semiannual
			Method 5	Annually	Semiannual
			CPMS	Ongoing	Semiannual
G.3, G.16, G.17, G.18, G.30, G.33, G.35, G.36, G.39, G.40, G.41, G.42, G.43	Sulfur Dioxide (SO ₂)	2.0 lb/ton clinker (30-day rolling average) from the kiln during startup, shutdown, malfunction and normal operation	CEMS	Ongoing	Semiannual
		Semi-Dry Scrubbing Control			
G.4, G.5, G.30, G.33, G.35, G.36, G.39, G.40, G.41, G.42, G.43	Oxides of Nitrogen (NO _x)	Operate Low NO _x Burner Technology	CEMS	Ongoing	Semiannual
		Operate SNCR			
		7.5 lb/ton of clinker (30-day rolling average) from the kiln during startup, shutdown, malfunction and normal operation			
G.6, G.19, G.28, G.42, G.43	Operational Limit (glass)	800 tons/rolling 12-month period	Recordkeeping	When using glass	Semiannual
G.7, G.20, G.23, G.26, G.27, G.36, G.42, G.43	Dioxins/Furans	0.20 ng per dscm corrected to 7% Oxygen	Method 23	Every 30 Months	Semiannual
			Inspection of Combustion Components	Annual	Semiannual

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
G.8, G.21, G.26, G.30, G.34, G.35, G.36, G.39, G.42, G.43	Mercury	55 lbs per million tons of clinker (30-day rolling average)	40 CFR 63, Subpart LLL	40 CFR 63, Subpart LLL	40 CFR 63, Subpart LLL
G.9, G.10, G.22, G.26, G.30, G.36, G.39, G.42, G.43	Total Hydrocarbons (THC) or Total Organic HAP	THC 24 ppm or Organic Air Toxics – 12 ppmv	40 CFR 63, Subpart LLL	40 CFR 63, Subpart LLL	40 CFR 63, Subpart LLL
G.11, G.23, G.26, G.30, G.31, G.36, G.39, G.42	Operational Limit	Inlet temperature to PMCD	Continuous Monitor	Ongoing	Semiannual
G.12, G.24, G.26, G.30, G.42	Work Practices	Work Practices	40 CFR 63, Subpart LLL	40 CFR 63, Subpart LLL	40 CFR 63, Subpart LLL

Conditions

- G.1. Ash Grove may not cause or authorize to be discharged into the atmosphere from the cement kiln any stack emissions that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304 and ARM 17.8.752).
- G.2. Ash Grove shall install and operate baghouse control technology on the kiln exhaust and may not exceed a filterable PM emission rate of 0.07 lb/ton of clinker based on a 30-day rolling average from the kiln during startup, shutdown, malfunction, and normal operation (Consent Decree 57 and ARM 17.8.749).
- G.3. Ash Grove shall install and operate Semi-Dry Scrubbing control technology on the kiln stack and comply with an SO₂ emission limit of 2.0 lb/ton of clinker based on a 30-day rolling average including startup, shutdown, and malfunction periods (Consent Decree 47 and ARM 17.8.749).
- G.4. Ash Grove shall continuously operate low NO_x burner technology on the kiln (Consent Decree 27 and ARM 17.8.749).
- G.5. Ash Grove shall install and operate selective non-catalytic reduction (SNCR) control technology and comply with a NO_x emission limit of 7.5 lb/ton of clinker based on a 30-day rolling average including startup, shutdown, and malfunction periods (Consent Decree 28 and ARM 17.8.749).
- G.6. The amount of post-consumer recycled glass used by Ash Grove in the cement kiln shall be limited to 800 tons during any rolling 12-month period (ARM 17.8.752).
- G.7. Ash Grove may not cause to be discharged into the atmosphere from the kiln, excluding hours of operation during startup and shutdown, any gases that contain dioxins and furans (D/F) in excess of (40 CFR 63, Subpart LLL, ARM 17.8.342, and ARM 17.8.749):

- a. 0.20 nanograms per dry standard cubic meter (ng per dscm) (8.7×10^{-11} grains per dry standard cubic feet (gr per dscf)) Toxic Equivalent (TEQ) corrected to 7% oxygen; and
 - b. 0.40 ng per dscm (1.7×10^{-10} gr per dscf) TEQ corrected to 7% oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.
- G.8. Ash Grove may not exceed emissions of 55 pounds of mercury per million tons of clinker from the main kiln stack averaged over 30 days of continuous monitoring excluding hours of operation of startup, and shutdown (40 CFR 63, Subpart LLL, ARM 17.8.342 and ARM 17.8.749).
- G.9. Ash Grove may not exceed emissions of 24 parts per million by volume (ppmv) THC (measured as propane and corrected to 7% oxygen) from the main kiln stack averaged over 30 days of continuous monitoring excluding hours of operation of startup and shutdown (40 CFR 63, Subpart LLL, ARM 17.8.342, and ARM 17.8.749).
- G.10. As an alternative to the THC limit in Section III.G.9, Ash Grove may comply with a 12 ppmv on a rolling 30-day average organic air toxic limit from the main kiln stack excluding hours of operation of startup and shutdown (40 CFR 63, Subpart LLL, ARM 17.8.342, and ARM 17.8.749).
- G.11. Ash Grove shall utilize “work practices” for the existing kiln as identified in 40 CFR 63.1346(f), 40 CFR 63.1346(g), and 40 CFR 63.1348(b)(9) (40 CFR 63, Subpart LLL, ARM 17.8.342, and ARM 17.8.749).
- G.12. Ash Grove shall operate the kiln such that the temperature of the gas at the inlet to the kiln particulate matter control device (PMCD) does not exceed the applicable temperature limit specified in 40 CFR 63.1346(b) (ARM 17.8.342 and 40 CFR 63, Subpart LLL).

Compliance Demonstration

- G.13. Ash Grove shall inspect and maintain the Pulse Jet Baghouse in accordance with Appendix E of this permit to monitor compliance with the opacity and particulate limits in Section III.G.1 and Section III.G.2 (ARM 17.8.749).
- G.14. Ash Grove shall perform a Method 9 test as requested by DEQ. The test methods shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- G.15. Ash Grove shall install, operate, and maintain a PM CPMS on the kiln and establish a Site-Specific Operating Limit (SSOL) for PM in accordance with the requirements of Appendix B of the Consent Decree and 40 CFR 63.1350(b) and (d). Ash Grove shall conduct the performance test using EPA Method 5 or Method 5I of Appendix A-3 of 40 CFR Part 60. The test methods shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual with the following exceptions: if demonstrating compliance with 40 CFR Part 52.1396, the test shall consist of three runs, with each run at least 120 minutes in duration and each run collecting a minimum sample of 60 dry standard cubic feet, per 40

CFR Part 52.1396. Condensable particulate matter is not included in Method 5 reporting and is not included in determining compliance. The compliance demonstration shall be an initial test and within 365 operating days thereafter. Ash Grove may employ the SSOL methodology in 40 CFR 63.1349(b) in lieu of this methodology (Consent Decree 56, 59, 60, ARM 17.8.342, and ARM 17.8.749).

- G.16. Ash Grove shall record the hourly clinker production rates in accordance with the requirements found at 40 CFR 63.1350(d) (40 CFR 63, Subpart LLL, ARM 17.8.342, and ARM 17.8.749).
- G.17. Ash Grove shall record the daily clinker production rates in accordance with the requirements found at 40 CFR 60.63(b) (ARM 17.8.340 and 40 CFR 52.1396).
- G.18. Ash Grove shall install and operate a NO_x CEMS and SO₂ CEMS at each stack from which the kiln directly discharges emissions. The CEMS shall be operated at all times during kiln operation except during CEMS breakdowns, repairs, calibration checks and zero and span adjustments (Consent Decree 32, 34, 51, 52, and ARM 17.8.749).
- G.19. Ash Grove shall maintain a log of the amount of recycled glass used in the kiln each month. By the 25th day of each month, Ash Grove shall total the amount of recycled glass used in the kiln during the previous 12 months to monitor compliance with the limitation in Section III.G.6 (ARM 17.8.749 and ARM 17.8.1213).
- G.20. Ash Grove shall monitor compliance with the D/F emission limit by conducting a performance test using Method 23 of Appendix A of 40 CFR 60. The performance test shall be conducted every 30 months. Ash Grove shall repeat the performance test for the kiln within 90 days of initiating any significant change in the feed or fuel from that used in the previous performance test (40 CFR 63.1349, ARM 17.8.342 and ARM 17.8.1213).
- G.21. Ash Grove shall monitor compliance with the mercury limit in Section G.8 using a mercury CEMS or sorbent trap monitoring system as specified in 40 CFR 63.1350(k) (ARM 17.8.105, ARM 17.8.106, ARM 17.8.342, ARM 17.8.749, and 40 CFR 63, Subpart LLL).
- G.22. Ash Grove shall demonstrate compliance with the THC limit (measured as propane and corrected to 7% oxygen) in Section III.G.9 or the alternative limit in Section III.G.10 in accordance with the requirements of 40 CFR 63.1350(i) or (j). (ARM 17.8.105, ARM 17.8.106, ARM 17.8.342, ARM 17.8.749, and 40 CFR 63, Subpart LLL).
- G.23. Ash Grove shall install, calibrate, maintain and continuously operate a continuous monitor to record the temperature of the exhaust gases from the kiln upstream of the kiln PM control device for monitoring of D/F emissions. The calibration of all thermocouples and other temperature sensors shall be completed at least once every 3 months (40 CFR 63.1350, ARM 17.8.342 and ARM 17.8.1213).
- G.24. Ash Grove shall conduct an inspection of the components of the kiln's combustion system at least once per year (40 CFR 63.1350 and ARM 17.8.1213).

Recordkeeping

- G.25. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the Pulse Jet Baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ upon request (ARM 17.8.1212).
- G.26. Ash Grove shall comply with all applicable recordkeeping and notification requirements contained in 40 CFR 63 Subpart LLL (ARM 17.8.342 and 40 CFR Part 63, Subpart LLL).
- G.27. All test records must be maintained on site and submitted to DEQ in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).
- G.28. Ash Grove shall maintain on site, records required by Section III. G.19 and submit the information to DEQ upon request (ARM 17.8.1212).
- G.29. Ash Grove shall calculate and record the PM CPMS arithmetic average operating parameter in units of the operating limit on a 30-day operating day rolling average basis, updated at the end of each kiln operating day. For any exceedance of the 30 process operating day PM CPMS average value from the establish operating parameter, Ash Grove must:
- Within 48 hours of the exceedance, visually inspect the APCD;
 - If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and
 - Within 30 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or reestablish the PM CPMS operating limit within 45 days. Ash Grove is not required to conduct additional testing for any exceedances that occur between the time of the original exceedance and the PM emission compliance test required under this paragraph.

PM CPMS exceedances leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a presumptive violation of this condition (ARM 17.8.342 and 40 CFR 63, Subpart LLL).

- G.30. Ash Grove shall calculate and record the 30-day operating day rolling emission rates of SO₂ and NO_x in lb/ton of clinker produced including startup, shutdown, and malfunction periods, as the total of all hourly emissions data for the cement kiln in the preceding 30 days, divided by the total tons of clinker produced in that kiln during the same 30-day operating period, using the following equation (40 CFR Part 52.1396):

$$E_D = k \frac{1}{(n)} \sum_{i=1}^n C_i Q_i / P_i$$

Where:

E_D = 30 kiln operating day average emission rate of NO_x or SO₂, lb/ton of clinker;

C_i = Concentration of NO_x or SO₂ for hour i , ppm;
 Q_i = volumetric flow rate of effluent gas for hour i , where C_i and Q_i are on the same basis (either wet or dry), scf/hr;
 P_i = total kiln clinker produced during production hour i , ton/hr;
 k = conversion factor, 1.194×10^{-7} for NO_x and 1.660×10^{-7} for SO₂; and.
 n = number of kiln operating hours over 30 kiln operating days, $n = 1$ to 720

For each kiln operating hour for which Ash Grove does not have at least one valid 15-minute CEMS data value, Ash Grove must use the average emissions rate (lb/hr) from the most recent previous hour for which valid data are available. Hourly clinker production shall be determined by Ash Grove in accordance with the requirements found at 40 CFR 60.63(b). Ash Grove must operate the monitoring system and always collect data at all required intervals the kiln is operating, except for periods of monitoring system malfunction, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control devices (including, as applicable, calibration checks and zero and span adjustments) (40 CFR 52.1396, 40 CFR 60, Subpart F and ARM 17.8.340).

At the end of each kiln operating day, Ash Grove shall calculate and record a new 30-day rolling average SO₂ and NO_x emission rate in lb/ton clinker from the arithmetic average of all valid hourly emission rates for the current kiln operating day and the previous 29 successive kiln operating days for each unit (40 CFR Part 52.1396).

- a. Ash Grove shall maintain on site the following records for at least five years (40 CFR Part 52.1396 and ARM 17.8.1212):
 - b. All CEMS data, including the date, place, and time of sampling or measurement; parameters sampled or measured; and results.
 - c. All particulate matter stack test results.
 - d. All records of clinker production.
 - e. Records of quality assurance and quality control activities for emissions measuring systems including, but not limited to, any records required by 40 CFR Part 60, Appendix F, Procedure 1.
 - f. Records of all major maintenance activities conducted on emission units, air pollution control equipment, CEMS and clinker production measurement devices.
 - g. Any other records required by 40 CFR Part 60, Subpart F, or 40 CFR Part 60, Appendix F, Procedure 1.
- G.31. Ash Grove shall maintain on site, records of calibration as required by Section III.G.23 (ARM 17.8.1212).
- G.32. Ash Grove shall meet Regional Haze Requirements 40 CFR 52.1396 for recordkeeping, reporting, and equipment operation requirements as identified in 40 CFR 52.1396(h), 52.1396(i), and 52.1396(m), respectively (40 CFR 52.1396 and ARM 17.8.749)

- G.33. Ash Grove shall use the CEMS required under Section III.G.18 to monitor and record the NO_x and SO₂ emission rate in units of pounds of NO_x and SO₂ per ton of clinker and shall be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 CFR Part 60. For purposes of the NO_x and SO₂ limits in Section III.G.3 and III.G.5, all emissions of NO_x and SO₂ from the kiln stack shall be measured by CEMS. Emissions from the kiln (in pounds) shall be calculated for each Operating Day and the previous 29 Operating Days and the total divided by the sum of the clinker produced (in tons) that Operating Day and the previous 29 Operating Days and the resulting value compared to the limit. During any time when CEMS are inoperable and otherwise not measuring emissions, Ash Grove shall use the average emission rate (lb/hr) from the most recent previous hour for which valid data are available (Consent Decree 32, 34, 35, 36, 51, 52, 53, 54, and ARM 17.8.749).
- G.34. Ash Grove shall calculate and record the 30-operating day rolling emission rates of mercury in lb/million ton of clinker produced, as specified in 40 CFR 63.1350(k) (ARM 17.8.342 and 40 CFR 63, Subpart LLL).
- G.35. Ash Grove shall determine and record hourly and daily clinker production rates by either one of the two following methods:
- a. Install, calibrate, maintain, and operate a permanent weight scale system to measure and record weight rates of the amount of clinker produced in tons of mass per hour. The system for measuring hourly clinker production must be maintained within $5 \pm$ percent accuracy; or
 - b. Install, calibrate, maintain, and operate a permanent weight scale system to measure and record weight rates of the amount of feed to the kiln in tons of mass per hour. Ash Grove shall calculate hourly clinker production rates using a kiln-specific feed-to-clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. This ratio should be updated no less frequently than once per month. If this ratio changes at clinker reconciliation, the new ratio must be used going forward, but it is not necessary to retroactively change clinker production rates previously estimated. The system for measuring hourly clinker production must be maintained within ± 5 percent accuracy (Consent Decree 33, 63.1350, 52.1396 and ARM 17.8.749).
- G.36. For each continuous monitoring system (CMS) required in this section, Ash Grove must develop, and submit to DEQ for approval upon request, a site-specific monitoring plan that addresses the following paragraphs “a” through “c”. This site-specific monitoring plan, if requested, must be submitted at least 30 days before the initial performance evaluation of Ash Grove’s CMS (ARM 17.8.749).
- a. Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).
 - b. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

- c. Performance evaluation procedures and acceptable criteria (e.g., calibrations).

Reporting

- G.37. Ash Grove shall submit Method 9, Method 5, Method 6 or other DEQ approved test reports in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212)
- G.38. Ash Grove shall comply with all applicable reporting and notification requirements contained in 40 CFR 63 Subpart LLL (ARM 17.8.342 and 40 CFR Part 63, Subpart LLL).
- G.39. Ash Grove shall submit a summary report semiannually, which contains the information specified in 40 CFR 63.10(e)(3)(vi) and 40 CFR 63.1354. The summary report shall include the following (ARM 17.8.1212, ARM 17.8.342 and 40 CFR Part 63):
 - a. The company name and address of the affected source (40 CFR 63.10);
 - b. An identification of each hazardous air pollutant monitored at the affected source (40 CFR 63.10);
 - c. The beginning and ending dates of the reporting period (40 CFR 63.10);
 - d. A brief description of the process units (40 CFR 63.10);
 - e. The emission and operating parameter limitations specified in the relevant standard(s) (40 CFR 63.10);
 - f. The monitoring equipment manufacturer(s) and model number(s) (40 CFR 63.10);
 - g. The date of the latest CMS certification or audit (40 CFR 63.10);
 - h. The total operating time of the affected source during the reporting period (40 CFR 63.10);
 - i. An emission data summary (or similar summary if the owner or operator monitors control system parameters) (40 CFR 63.10);
 - j. A CMS performance summary (or similar summary if the owner or operator monitors control system parameters) (40 CFR 63.10);
 - k. A description of any changes in CMS, processes, or controls since the last reporting period (40 CFR 63.10);
 - l. The name, title, and signature of the responsible official who is certifying the accuracy of the report (40 CFR 63.10);
 - m. The date of the report (40 CFR 63.10);
 - n. All exceedances of maximum control device inlet gas temperature limits (40 CFR 63.1354);

- o. All failures to calibrate thermocouples and other temperature sensors (40 CFR 63.1354);
 - p. Notification of failure to conduct any combustion system component inspections conducted within the reporting period. (40 CFR 63.1354); and
 - q. All failures to comply with any provision of the Operation and Maintenance Plan (40 CFR 63.1354).
- G.40. Ash Grove shall submit excess emissions reports for SO₂ and NO_x emissions exceeding the limits in Sections III.G.3 and III.G.5. Reports shall be submitted semiannually, no later than the 30th day following the end of each semiannual period, respectively. The excess emissions reports shall be submitted to DEQ as well as to the Director, Office of Enforcement, Compliance and Environmental Justice, U.S. Environmental Protection Agency, Region 8, and shall include the following:
- a. The magnitude, date(s), and duration of each period of excess emission,
 - b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the unit,
 - c. The nature and cause of a malfunction (if known),
 - d. The corrective action taken, or preventative measures adopted,
 - e. CEMS performance reports including dates and duration of each period during which the CEMS was inoperative, reason(s) why the CEMS was inoperative, steps taken to prevent recurrence, and CEMS repairs or adjustments, and
 - f. A statement indicating when no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted during the reporting period.

If installation of additional emission controls is necessary to comply with the SO₂ and NO_x emissions limitations under this rule, compliance is extended to October 18, 2017 (within five years of the effective date of this rule) in accordance with 40 CFR Part 52.1396 (40 CFR Part 52.1396).

- G.41. Ash Grove shall comply with all applicable reporting and notification requirements contained in Section XIV of the Consent Decree (Consent Decree Section XIV and ARM 17.8.1212).
- G.42. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- G.43. The semiannual monitoring report shall provide the following (ARM 17.8.1212 and 40 CFR Part 52.1396):
- a. A summary of results of any source testing that was performed during that semiannual period; and

- b. The results of any CEMS performance tests required by 40 CFR Part 60, Appendix F, Procedure 1.

H. EU007 – Product Separator and Cement Coolers (PSC)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Method	Demonstration Frequency	Reporting Requirements
H.1, H.4, H.7, H.8, H.9, H.10, H.11	Opacity	40%	Method 9	Once during 5- year permit term	As required by Protocol
H.2, H.5, H.8, H.9, H.10, H.11	Particulate Matter	0.02 gr/dscf	Method 5	Once during 5- year permit term	As required by Protocol
H.3, H.6, H.7, H.10, H.11	Emission Control Equipment	Operation and maintenance of emission control equipment	Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual

Conditions

- H.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304).
- H.2. Particulate emissions from the dust collection system (DA-9 East) shall not exceed 0.02 gr/dscf (ARM 17.8.752).
- H.3. Ash Grove shall operate and maintain emissions control equipment when process equipment is operating (ARM 17.8.749).

Compliance Demonstration

- H.4. Ash Grove shall perform a Method 9 test once during the 5-year permit period to monitor compliance with the 40% opacity limit in Section III.H.1. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- H.5. A Method 5 or other DEQ approved test shall be performed once during the 5-year permit period to monitor compliance with the particulate emission limit in Section III.H.2. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- H.6. Ash Grove shall operate, inspect, and maintain a baghouse in accordance with Appendix E to monitor compliance with Section III.H.3 (ARM 17.8.1213).

Recordkeeping

- H.7. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E. All

inspections and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

- H.8. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).

Reporting

- H.9. All test reports shall be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).
- H.10. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- H.11. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during the semiannual period (ARM 17.8.1212).

I. EU008 –Road Dust (RD)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
I.1, I.3, I.5, I.6, I.7, I.8	Opacity	20%	Visual Survey	Weekly	Semiannual
I.2, I.4, I.5, I.6, I.7, I.8	Airborne Particulate Matter	Reasonable Precautions	Water and/or chemical dust suppressants	As needed	Semiannual

Conditions

- I.1. Ash Grove may not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.308(1)).
- I.2. Ash Grove shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308(2)).

Compliance Demonstration

- I.3. Once per calendar week, during daylight hours, Ash Grove shall visually survey active roads for any sources of excessive emissions. If visible emissions are observed during the visual survey, Ash Grove shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then Ash Grove shall immediately conduct a subsequent visual survey. The person conducting the visual survey shall record the results of the survey in a log, including any corrective action taken. Conducting a visual survey does not relieve Ash Grove of the liability for a violation determined using Method 9 (ARM 17.8.101(27) and ARM 17.8.1213).

- I.4. Ash Grove shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation (ARM 17.8.752).

Recordkeeping

- I.5. Ash Grove shall maintain on site a weekly log recording the results of the visual surveys. The log shall include, but is not limited to, the date, time, observer(s), observer(s) location, the area being surveyed, and the results of the visual survey(s). If any preventative or corrective action is required, the time, date, and a description of the action taken must be included in the log. The log shall be maintained as a permanent business record for at least five years following the activity. The log shall be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).
- I.6. If visual surveys are performed, Ash Grove shall maintain a log to verify that the visual surveys were performed as specified in Section III.I.3. Each log entry must include the date, time, results of survey (and results of subsequent Method 9, if applicable), and observer's initials. If any corrective action is required, the time, date, observer's initials, and any preventive or corrective action taken must be recorded in the log (ARM 17.8.1212).

Reporting

- I.7. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- I.8. The semiannual monitoring report shall provide a summary of the log of any preventative and corrective actions as required by Section III.I.5 (ARM 17.8.1212).

J. EU009 –Storage Loadout – B (SLB)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method	Frequency	Reporting Requirements
J.1, J.2, J.3, J.4, J.6, J.7, J.8, J.9	Opacity	40%	Method 9	As required by DEQ and Section III.A.1	As required by the Protocol
			O&M of baghouse	Whenever process equipment is operating	Semiannual
J.2, J.4., J.5., J.6., J.7, J.8, J.9	Particulate Matter	E=55.0P ^{0.11-40}	Method 5	As required by DEQ and Section III.A.1	As required by the Protocol
			O&M of baghouse	Whenever process equipment is operating	Semiannual

Conditions

- J.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304).
- J.2. Pursuant to ARM 17.8.310, the particulate emissions from process weight shall not exceed the value calculated by $E=55.0P^{0.11}-40$, where E = rate of emission in pounds per hour and P = process weight rate in tons per hour (ARM 17.8.310).

Compliance Demonstration

- J.3. As required by DEQ and Section III.A.1, a Method 9 opacity test shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- J.4. Ash Grove shall inspect and maintain a baghouse (DA-15) in accordance with Appendix E to monitor the opacity limit in Section III.J.1 and Section III.J.2 (ARM 17.8.1213).
- J.5. As required by DEQ and Section III.A.1, Ash Grove shall perform a Method 5 test or another approved test to monitor compliance with the particulate emissions limit in Section III.J.2. The test shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).

Recordkeeping

- J.6. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).
- J.7. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).

Reporting

- J.8. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- J.9. The semiannual reporting shall provide a summary of any source testing performed during the reporting period (ARM 17.8.1212).

K. EU010 – Stone Transfer (ST)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration		Reporting Requirements
			Method	Frequency	
K.1., K.2., K.3., K.4., K.5	Opacity	20%	Method 9	As required by DEQ and Section III.A.1	Semiannual

Conditions

- K.1. Ash Grove may not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater over six consecutive minutes (ARM 17.8.308).

Compliance Demonstration

- K.2. Ash Grove shall perform a Method 9 test on transfer points as requested by DEQ and Section III.A.1 to monitor compliance with Section III.K.1. The test and procedures shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).

Recordkeeping

- K.3. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).

Reporting

- K.4. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- K.5. The semiannual reporting shall provide a summary of any source testing that was performed during the annual period (ARM 17.8.1212).

L. EU011 – Transfer Belt Conveyors (TBC)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
L.1, L.3, L.5, L.6, L.7, L.8, L.9	Opacity	40%	Method 9	As required by DEQ and Section III.A.1	As required by the Protocol
			Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual
L.2, L.4, L.5, L.6, L.7, L.8, L.9	Particulate Matter	E=55.0P ^{0.11-40}	Method 5	As required by DEQ and Section III.A.1	As required by the Protocol
			Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual

Conditions

- L.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304).
- L.2. The particulate emissions from process weight shall not exceed the value calculated by $E = 55.0 * P^{0.11} - 40$, where E is the rate of emissions in pounds/hour and P is the process weight rate in tons/hour (ARM 17.8.310).

Compliance Demonstration

- L.3. As required by DEQ and Section III.A.1, a Method 9 opacity test shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- L.4. Ash Grove shall inspect and maintain a baghouse (DA-4) in accordance with Appendix E to monitor the opacity limit in Section III.L.1 (ARM 17.8.1213).
- L.5. As required by DEQ and Section III.A.1, Ash Grove shall perform a Method 5 test or another approved test to monitor compliance with the particulate emissions limit in Section III.L.2. The test shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).

Recordkeeping

- L.6. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).
- L.7. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- L.8. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- L.9. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during the semiannual period (ARM 17.8.1212).

M. EU012 – Transfer/Convey to Ball Mill (TBM)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
M.1, M.3, M.5, M.6, M.7, M.8, M.9	Opacity	40%	Method 9	As required by DEQ and Section III.A.1	As required by the Protocol

			Operation and Maintenance of baghouse	Whenever process equipment is operating	Semiannual
M.2, M.4, M.5, M.6, M.7, M.8, M.9	Particulate Matter	$E=55.0P^{0.11}-40$	Method 5	As required by DEQ and Section III.A.1	As required by DEQ
			Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual

Conditions

- M.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304).
- M.2. The particulate emissions from process weight shall not exceed the value calculated by $E=55.0 * P^{0.11}-40$, where E is the rate of emissions in pounds/hour and P is the process weight in tons/hour (ARM 17.8.310).

Compliance Demonstration

- M.3. As required by DEQ and Section III.A.1, Ash Grove shall conduct a Method 9 opacity test in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- M.4. As required by DEQ and Section III.A.1, Ash Grove shall conduct a Method 5 test or another DEQ approved test to monitor compliance with the particulate emissions limit in Section III.M.2. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- M.5. Ash Grove shall inspect and maintain the baghouse (DA-6) in accordance with Appendix E of this permit to monitor compliance with the limits in Sections III.M.1 and III.M.2 (ARM 17.8.1213).

Recordkeeping

- M.6. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).
- M.7. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the baghouse in accordance with Appendix E of this permit. All inspection and maintenance records shall be available to DEQ for inspection and shall be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- M.8. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

M.9. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during the semiannual period (ARM 17.8.1212).

N. EU013 – Transfer to/from Finish Mill (TFM)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method	Frequency	Reporting Requirements
N.1, N.5, N.10, N.12, N.13, N.14	Opacity	40%	Method 9	Every 2 years	As required by the Protocol
N.2, N.6, N.10, N.12, N.13, N.14	Particulate Matter	0.02 gr/dscf	Method 5	Every 2 years	As required by the Protocol
N.3, N.7, N.9, N.13, N.14	Emission Control Equipment	Operation and maintenance of emission control equipment	Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual
N.4, N.8, N.11, N.14	PM CAM Plan	ARM 17.8.1506	Provisions from CAM Plan, Appendix F	Ongoing	Semiannual

Conditions

- N.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304).
- N.2. Particulate emissions from the dust collection system (DA-9 West) shall not exceed 0.02 gr/dscf (ARM 17.8.752).
- N.3. Ash Grove shall operate and maintain emission control equipment when process equipment is operating (ARM 17.8.749).
- N.4. Ash Grove shall provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations at the Finish Mill House Baghouse for PM (ARM 17.8.1504).

Compliance Demonstration

- N.5. Ash Grove shall perform a Method 9 test every two years to monitor compliance with the opacity limit in Section III.N.1. The test methods and procedures shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- N.6. Ash Grove shall conduct a Method 5 or another DEQ approved test every two years to monitor compliance with the particulate emission limit in Section III.N.2. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).

- N.7. Ash Grove shall operate, inspect, and maintain a baghouse in accordance with Appendix E of this permit to monitor compliance with Section III.N.3 (ARM 17.8.1213).
- N.8. Ash Grove shall monitor compliance by following the Compliance Assurance Monitoring (CAM) Plan (Appendix F). The CAM Plan, written by Ash Grove in accordance with ARM 17.8.1504 is summarized in Appendix F and is available in full upon request by DEQ or the facility (ARM 17.8.1503 and ARM 17.8.1213).

Recordkeeping

- N.9. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site (ARM 17.8.106 and ARM 17.8.1212).
- N.10. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).
- N.11. Ash Grove shall prepare and keep data in accordance with 40 CFR Part 64 and the CAM Plan, Appendix F of this permit (ARM 17.8.1212 and 40 CFR Part 64).

Reporting

- N.12. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).
- N.13. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- N.14. The semiannual monitoring report shall provide (ARM 17.8.1212):
- a. A summary of results of any source testing that was performed during the semiannual period; and
 - b. Any reporting required by 40 CFR Part 64 (CAM), Appendix F, as applicable, during that semiannual period.

O. EU014 – Transfer to Limestone Silos (TLS)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
O.1, O.3, O.5, O.6, O.7, O.8, O.9	Opacity	40%	Method 9	As required by DEQ and Section III.A.1	As required by the Protocol
			Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual
O.2, O.4, O.5, O.6, O.7, O.8, O.9	Particulate Matter	$E=55.0P^{0.11}-40$	Method 5	As required by DEQ and Section III.A.1	As required by the Protocol
			Operation and maintenance of baghouse	Whenever process equipment is operating	Semiannual

Conditions

- O.1. Ash Grove may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes (ARM 17.8.304).
- O.2. The particulate emissions from process weight shall not exceed the value calculated by $E=55.0 * P^{0.11} - 40$, where E is the rate of emissions in pounds/hour and P is the process weight rate in tons/hour (ARM 17.8.310).

Compliance Demonstration

- O.3. As required by DEQ and Section III.A.1, Ash Grove shall perform a Method 9 opacity test in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).
- O.4. As required by DEQ and Section III.A.1, Ash Grove shall perform a Method 5 or another DEQ approved test to monitor compliance with the particulate emissions limit in Section III.O.2. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures (ARM 17.8.106 and ARM 17.8.1213).
- O.5. Ash Grove shall inspect and maintain the baghouse (DA-5) in accordance with Appendix E of this permit to monitor compliance with the limits in Sections III.O.1 and III.O.2 (ARM 17.8.1213).

Recordkeeping

- O.6. All compliance source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual and shall be maintained on site (ARM 17.8.106).

- O.7. Ash Grove shall maintain on site records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- O.8. The annual compliance certification must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- O.9. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during the semiannual period (ARM 17.8.1212).

P. EU015 – Wind Erosion (WE) – (from quarry activities)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration		Reporting Requirements
			Method	Frequency	
P.1, P.2, P.3, P.4, P.5	Airborne Particulate Matter	20%	Method 9	As required by DEQ and Section III.A.1	Annually

Conditions

- P.1. Ash Grove may not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.308(1)).

Compliance Demonstration

- P.2. Ash Grove shall perform a Method 9 test as required by DEQ and Section III.A.1. The test methods and procedures shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1213).

Recordkeeping

- P.3. Ash Grove shall maintain on site any Method 9 test report. The test report shall be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

Reporting

- P.4. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- P.5. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during that semiannual period (ARM 17.8.1212).

Q. EU016 – 105-hp Auxiliary Kiln Drive (Stationary Diesel) Engine (AUXE)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration		Reporting Requirements
			Method	Frequency	
Q.1, Q.2, Q.3, Q.4, Q.5	Engine Maintenance	Inspection and Maintenance	40 CFR 63, Subpart ZZZZ	40 CFR 63, Subpart ZZZZ	Semiannual

Conditions

- Q.1. Ash Grove shall comply with inspection, maintenance, and operation requirements for the 105-hp Auxiliary Kiln Drive Engine including (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ):
- Changing oil and filter every 1,000 hours of operation or annually, whichever comes first;
 - Inspecting air cleaner every 1,000 hours of operation or annually, whichever comes first and replacing as necessary;
 - Inspecting all hoses and belts every 500 hours of operation or annually, whichever comes first and replacing as necessary; and
 - Minimizing the engine's time spent at idle and minimize the engine's startup time to a period of time needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time, the non-startup emission limitations apply.

Compliance Demonstration

- Q.2. Ash Grove shall maintain compliance with the described requirements in Section III.Q.1 (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

Recordkeeping

- Q.3. Ash Grove shall keep records of the maintenance conducted on the 105-hp Auxiliary Kiln Drive Engine to demonstrate that the 105-hp Auxiliary Kiln Drive Engine was operated and maintained according to the Ash Grove maintenance plan (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

Reporting

- Q.4. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- Q.5. The semiannual monitoring report shall provide a summary of results of any source testing that was performed during that semiannual period (ARM 17.8.1212).

R. EU017 – Gasoline Dispensing (GD)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration		Reporting Requirements
			Method	Frequency	
R.1, R.2, R.3, R.4, R.5	Gasoline Dispensing	40 CFR 63, Subpart CCCCCC	40 CFR 63, Subpart CCCCCC	40 CFR 63, Subpart CCCCCC	Semiannual

Conditions

- R.1. When handling gasoline dispensing, Ash Grove shall take measures to (ARM 17.8.342 and 40 CFR 63, Subpart CCCCCC):
- Minimize gasoline spills;
 - Clean up spills as expeditiously as practical;
 - Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; and
 - Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

Compliance Demonstration

- R.2. Ash Grove shall maintain compliance with the described requirements in Section III.R.1 (ARM 17.8.342 and 40 CFR 63, Subpart CCCCCC).

Recordkeeping

- R.3. Ash Grove shall maintain records as described in 40 CFR 63.11125, as applicable (ARM 17.8.342 and 40 CFR 63, Subpart CCCCCC).

Reporting

- R.4. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- R.5. The semiannual monitoring report shall provide a summary of results of any deviations from 40 CFR 63, Subpart CCCCCC (ARM 17.8.1212).

S. EU018 – Product Loadout 2 (PLO2)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration		Reporting Requirements
			Method	Frequency	
S.1, S.2 S.4, S.6, S.7, S.8, S.9	Opacity	10%	Method 22 and Method 9	40 CFR 60 Subpart F and As Required by DEQ and Section III.A.1	Semi-Annual
S.3, S.5, S.8, S.9	Emission Control Equipment	Operation and maintenance of baghouse	Operation and maintenance of baghouse	Maintenance Log	Semi-Annual

Conditions

- S.1. Ash Grove shall comply with all applicable standards, limitations, and the reporting, record keeping, and notification requirements of 40 CFR 60, Subpart F (Standards of Performance for Portland Cement Plants) which include, but are not limited to the following (ARM 17.8.340 and 40 CFR 60, Subpart F):
- Ash Grove shall not cause or authorize emissions to be discharged into the outdoor atmosphere from the DCL loadout spout's baghouse for truck loading from belt conveyor (BC-0)'s that exhibit an opacity of 10% or greater averaged over six consecutive minutes.

Compliance Demonstration

- S.2. Ash Grove shall maintain compliance with the applicable monitoring requirements of 40 CFR 60, Subpart F. 40 CFR 60, Subpart F currently indicates at §60.64(b)(3) that an affected source subject to the 10% opacity limit must follow the appropriate monitoring procedures in §63.1350(f) which include (ARM 17.8.340 and 40 CFR 60 Subpart F):
- Conduct a monthly 10-minute visible emissions performance test using Method 22. The performance test must be conducted while the affected source is in operation.
 - If no visible emissions are observed in six consecutive monthly tests, the frequency of performance testing may decrease from monthly to semi-annually. If visible emissions are observed during any semi-annual test, resume performance testing on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.
 - If no visible emissions are observed during the semi-annual tests, the frequency of performance testing may decrease from semi-annually to annually. If visible emissions are observed during any annual performance test, resume performance testing on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

- d. If visible emissions are observed during any Method 22 performance test, conduct 30 minutes of opacity observations, recorded at 15-second intervals, in accordance with Method 9. The Method 9 performance test must begin within 1 hour of any observation of visible emissions.
 - e. If visible emissions are observed during any Method 22 visible emissions test, Ash Grove must initiate, within one-hour, the corrective actions specified in the operation and maintenance plan in accordance with Appendix E.
- S.3. Ash Grove shall continuously operate, inspect, and maintain the baghouse in accordance with Appendix E of this permit to monitor compliance with Section III.S.2 (ARM 17.8.1213).

Recordkeeping

- S.4. Ash Grove shall maintain compliance with the applicable recordkeeping requirements of 40 CFR 60, Subpart F (ARM 17.8.340 and 40 CFR 60, Subpart F).
- S.5. Ash Grove shall maintain, on site, records of all observations, inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- S.6. Ash Grove shall maintain compliance with the applicable reporting requirements of 40 CFR 60, Subpart F (ARM 17.8.340 and 40 CFR 60, Subpart F).
- S.7. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).
- S.8. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- S.9. The semiannual monitoring report shall provide (ARM 17.8.1212):
- a. A summary of results of any source testing that was performed during the semiannual period;
 - b. A summary of the date, times, and corrective actions associated with any monitoring that showed visible emissions; and
 - c. A summary of any instance that the baghouse was not operated and maintained as required by Section III.S.2.

T. EU019 – Secondary Crusher (SC)

Condition(s)	Pollutant/ Parameter	Permit Limit	Compliance Demonstration Method Frequency		Reporting Requirements
T.1, T.3, T.5, T.6, T.7, T.8, T.9	40 CFR 60, Subpart OOO	40 CFR 60, Subpart OOO	40 CFR 60, Subpart OOO	40 CFR 60, Subpart OOO	40 CFR 60, Subpart OOO
T.2, T.4, T.6, T.5, T.8, T.9	Emissions Control Equipment	Operation and maintenance of baghouse	Operation and maintenance of baghouse in accordance with Appendix E	Maintenance Log	Semiannual

Conditions

- T.1. Ash Grove shall comply with all applicable standards, limitations, and the reporting, recordkeeping, and notification requirements of 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
- T.2. Ash Grove shall continuously operate and maintain emission control equipment when process equipment is operating (ARM 17.8.749).

Compliance Demonstration

- T.3. Ash Grove shall comply with all applicable monitoring and compliance demonstration requirements of 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
- T.4. Ash Grove shall inspect and maintain the baghouse in accordance with Appendix E of this permit to monitor compliance with Section III.T.2 (ARM 17.8.1213).

Recordkeeping

- T.5. Ash Grove shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
- T.6. Ash Grove shall maintain records of all inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- T.7. Ash Grove shall comply with all applicable reporting and notification requirements of 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

- T.8. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- T.9. The semiannual reporting shall provide a summary of results of any source testing that was performed during that semiannual period (ARM 17.8.1212).

U. EU018 – Product Loadout 2 (PLO2)

Condition(s)	Pollutant/Parameter	Permit Limit	Compliance Demonstration		Reporting Requirements
			Method	Frequency	
U.1, U.2 U.4, U.6, U.7, U.8, U.9	Opacity	10%	Method 22 and Method 9	40 CFR 60 Subpart F and As Required by DEQ and Section III.A.1	Semi-Annual
U.3, U.5, U.8, U.9	Emission Control Equipment	Operation and maintenance of baghouse	Operation and maintenance of baghouse	Maintenance Log	Semi-Annual

Conditions

- U.1. Ash Grove shall comply with all applicable standards, limitations, and the reporting, record keeping, and notification requirements of 40 CFR 60, Subpart F (Standards of Performance for Portland Cement Plants) which include, but are not limited to the following (ARM 17.8.340 and 40 CFR 60, Subpart F):
- Ash Grove shall not cause or authorize emissions to be discharged into the outdoor atmosphere from the DCL loadout spout's baghouse for truck loading from belt conveyor (BC-0)'s that exhibit an opacity of 10% or greater averaged over six consecutive minutes.

Compliance Demonstration

- U.2. Ash Grove shall maintain compliance with the applicable monitoring requirements of 40 CFR 60, Subpart F. 40 CFR 60, Subpart F currently indicates at §60.64(b)(3) that an affected source subject to the 10% opacity limit must follow the appropriate monitoring procedures in §63.1350(f) which include (ARM 17.8.340 and 40 CFR 60 Subpart F):
- Conduct a monthly 10-minute visible emissions performance test using Method 22. The performance test must be conducted while the affected source is in operation.
 - If no visible emissions are observed in six consecutive monthly tests, the frequency of performance testing may decrease from monthly to semi-annually. If visible emissions are observed during any semi-annual test, resume performance testing on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

- c. If no visible emissions are observed during the semi-annual tests, the frequency of performance testing may decrease from semi-annually to annually. If visible emissions are observed during any annual performance test, resume performance testing on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.
 - d. If visible emissions are observed during any Method 22 performance test, conduct 30 minutes of opacity observations, recorded at 15-second intervals, in accordance with Method 9. The Method 9 performance test must begin within 1 hour of any observation of visible emissions.
 - e. If visible emissions are observed during any Method 22 visible emissions test, Ash Grove must initiate, within one-hour, the corrective actions specified in the operation and maintenance plan in accordance with Appendix E.
- U.3. Ash Grove shall continuously operate, inspect, and maintain the baghouse in accordance with Appendix E of this permit to monitor compliance with Section III.U.2 (ARM 17.8.1213).

Recordkeeping

- U.4. Ash Grove shall maintain compliance with the applicable recordkeeping requirements of 40 CFR 60, Subpart F (ARM 17.8.340 and 40 CFR 60, Subpart F).
- U.5. Ash Grove shall maintain, on site, records of all observations, inspection and maintenance activities performed on the baghouse in accordance with the requirements in Appendix E of this permit. All inspection and maintenance records must be available to DEQ for inspection and must be submitted to DEQ upon request (ARM 17.8.1212).

Reporting

- U.6. Ash Grove shall maintain compliance with the applicable reporting requirements of 40 CFR 60, Subpart F (ARM 17.8.340 and 40 CFR 60, Subpart F).
- U.7. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).
- U.8. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).
- U.9. The semiannual monitoring report shall provide (ARM 17.8.1212):
- d. A summary of results of any source testing that was performed during the semiannual period;
 - e. A summary of the date, times, and corrective actions associated with any monitoring that showed visible emissions; and
 - f. A summary of any instance that the baghouse was not operated and maintained as required by Section III.U.2.

SECTION IV. NON-APPLICABLE REQUIREMENTS

Air Quality Administrative Rules of Montana (ARM) and Federal Regulations identified as not applicable to the facility or to a specific emissions unit at the time of the permit issuance are listed below (ARM 17.8.1214). The following list does not preclude the need to comply with any new requirements that may become applicable during the permit term.

A. Facility-Wide

The following table contains non-applicable requirements that are administrated by the Air Quality Bureau of the Department of Environmental Quality.

Rule Citation	Reason
ARM 17.8.320 ARM 17.8.321 ARM 17.8.323 ARM 17.8.331 through 333 ARM 17.8.1601 <i>et seq.</i> ARM 17.8.1701 <i>et seq.</i> ARM 17.8.1801 <i>et seq.</i>	These rules are not applicable because the facility is not listed in the source category cited in the rule.
ARM 17.8.1106 to 1107 ARM 17.8.1110 to 1111	These rules do not apply because no changes have been made at the facility that would trigger these procedural requirements.
40 CFR 60, Subparts C, Ca, Cb, Cc, Cd, Ce, Cf 40 CFR 60, Subparts D, Da, Db, Dc 40 CFR 60, Subparts E, Ea, Eb, Ec 40 CFR 60, Subparts G, H, I, J, Ja 40 CFR 60, Subparts K, Ka, Kb 40 CFR 60, Subparts L-X 40 CFR 60, Subpart Z 40 CFR 60, Subparts AA-EE 40 CFR 60, Subparts GG-HH 40 CFR 60, Subparts KK-NN 40 CFR 60, Subparts PP-XX 40 CFR 60, Subparts AAA-BBB 40 CFR 60, Subpart DDD 40 CFR 60, Subparts FFF-LLL 40 CFR 60, Subpart NNN 40 CFR 60, Subparts PPP-XXX 40 CFR 60, Subparts AAAA-FFFF 40 CFR 60, Subparts IIII-MMMM 40 CFR 60, Subparts OOOO, OOOOa 40 CFR 60, Subparts QQQQ, TTTT 40 CFR 60, Subpart UUUUa 40 CFR 60, Appendix G, I 40 CFR 61, Subparts B-F	These requirements are not applicable because the facility is not an affected source as defined in these regulations.

40 CFR 61, Subparts H-L 40 CFR 61, Subparts N-R 40 CFR 61, Subpart T 40 CFR 61, Subparts V-W 40 CFR 61, Subpart Y 40 CFR 61, Subpart BB 40 CFR 61, Subpart FF 40 CFR 63, Subparts F-J 40 CFR 63, Subparts L-O 40 CFR 63, Subparts Q-U 40 CFR 63, Subparts W-Y 40 CFR 63, Subparts AA-EE 40 CFR 63, Subparts GG- YY 40 CFR 63, Subparts CCC-EEE 40 CFR 63, Subparts GGG-JJJ 40 CFR 63, Subparts MMM-RRR 40 CFR 63, Subparts TTT-VVV 40 CFR 63, Subpart XXX 40 CFR 63, Subpart AAAA 40 CFR 63, Subparts CCCC-KKKK 40 CFR 63, Subparts MMMM-YYYY 40 CFR 63, Subparts AAAAAA-NNNNN 40 CFR 63, Subparts PPPPP-UUUUU 40 CFR 63, Subpart WWWWW 40 CFT 63, Subparts YYYYYY-ZZZZZ 40 CFR 63, Subpart BBBBBB 40 CFR 63, Subparts DDDDDD-HHHHHH, 40 CFR 63, Subpart JJJJJ 40 CFR 63, Subparts LLLLLL-TTTT 40 CFR 63, Subparts VVVVVV-ZZZZZZ 40 CFR 63, Subparts AAAAAAA-EEEEEEE 40 CFR 63, Subpart HHHHHHH 40 CFR 63, Appendices B-E 40 CFR 68 40 CFR 72-78 40 CFR 85-97 (83 and 84 are reserved)	
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B. Emission Units

The permit application identified applicable requirements: non-applicable requirements for individual or specific emission units were not listed. DEQ has listed all non-applicable requirements in Section IV.A, these requirements relate to each specific unit, as well as facility wide.

C. Streamlining Provisions

As requested in the Title V permit application, DEQ has determined that pursuant to ARM 17.8.1212, that several permit conditions were able to be streamlined as described in the March 5, 1996, EPA Memorandum titled, “White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program”. Similar permit conditions as required by 40 CFR 63, Subpart LLL (Portland Cement MACT), the Ash Grove Consent Decree (Consent Decree in United States v. Ash Grove Cement Co., Case No. 2:13-cv-02299-JTM-DJW, doc. 27 (D. Kan. 8/14/13), as amended by doc. 28 on 10/16/15) and the Regional Haze Federal Implementation Plan provisions were simplified by taking the most stringent condition and including only that permit condition within the permit. The conditions which have been “subsumed” are described below.

Streamlined Rule Citation	Subsumed Rule	Reason
Consent Decree 57 and ARM 17.8.749; Ash Grove shall install and operate baghouse control technology on the kiln exhaust and may not exceed a filterable PM emission rate of 0.07 lb/ton of clinker based on a 30-day rolling average from the kiln during startup, shutdown, malfunction and normal operation.	<p>Until September 9, 2015 (effective date of 40 CFR 63 Subpart LLL), Ash Grove shall not cause or authorize to be discharged into the atmosphere from the cement kiln any stack emissions which contain particulate matter in excess of the amount allowed by the following equations (in III.G.2.(a) and (b)). This emission limitation shall apply at all times, including startups, shutdowns, emergencies and malfunctions (ARM 17.8.310, ARM 17.8.752, and 40 CFR Part 52.1396):</p> <p>a. If the process weight rate of the kiln is less than or equal to 30 tons per hour, then the emission limit shall be calculated using $E = 4.10p^{0.67}$ where E = rate of emission in pounds per hour and p = process weight rate in tons per hour.</p> <p>b. If the process weight rate of the kiln is greater than 30 tons per hour, then the emission limit shall be calculated using $E = 55.0p^{0.11} - 40$, where E = rate of emission in pounds per hour and P = process weight rate in tons per hour.</p>	Consent Decree is more stringent than the process weight rule.
Same as above	Ash Grove may not exceed a PM emission rate of 0.07 lb/ton of clinker produced from the kiln stack excluding startup and shutdown periods based on an annual Method 5 stack performance test and a PM continuous parametric monitoring system (PM CPMS). Condensable particulate matter is not included in	Consent Decree is more stringent than 40 CFR Part 52.1396.

Streamlined Rule Citation	Subsumed Rule	Reason
	Method 5 reporting and is not included in determining compliance. For all reporting under 40 CFR 63 Subpart LLL, Startup means the period starting when a shutdown kiln first begins firing fuel and ending when it begins producing clinker. Startup “begins” when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. Startup “ends” when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first (40 CFR 63 Subpart LLL, ARM 17.8.342 and ARM 17.8.749).	
Consent Decree 47 and ARM 17.8.749: By September 10, 2014, Ash Grove shall install and operate Semi-Dry Scrubbing control technology on the kiln stack and shall demonstrate compliance with an SO ₂ emission limit of 2.0 lb/ton of clinker based on a 30-day rolling average including, startup, shutdown, and malfunction periods by the 210th operating day after September 10, 2014, (Consent Decree 47 and ARM 17.8.749).	Ash Grove shall apply a sulfur dioxide control process (the kiln) to remove the sulfur dioxide from the gases emitted by burning of fuel of any sulfur content which results in an emission of sulfur in pounds per hour not in excess of the pounds per hour of sulfur that would have been emitted by burning fuel of the sulfur content indicated without such a cleaning device (ARM 17.8.322).	Consent Decree is the most stringent condition. Compliance with the Consent Decree limit assures compliance with this limit as well.
Same as above.	Ash Grove may not exceed a sulfur dioxide (SO ₂) emission rate of 11.5 lb/ton of clinker no later than April 17, 2013 (180 days following October 18, 2012). Ash Grove shall limit SO ₂ emissions from the kiln during startup, shutdown, malfunction, emergencies, and normal operation to 11.5 lb/ton of clinker produced based on a 30-day rolling average. An SO ₂ Continuous Emission Monitoring system (CEMS) shall be maintained, calibrated, and operated at all times to demonstrate compliance with the emission limit and shall satisfy CEMS requirements under 40 CFR 52. (Regional Haze FIP 40 CFR 52.1396 and ARM 17.8.749).	Consent Decree is the most stringent condition. Compliance with the Consent Decree limit assures compliance with this limit as well.
Consent Decree 27 and ARM 17.8.749. Ash Grove shall install	Ash Grove may not exceed a NO _x emissions rate of 7.5 lb/ton of	Consent Decree is the most stringent condition.

Streamlined Rule Citation	Subsumed Rule	Reason
and operate by September 10, 2014, selective non-catalytic reduction (SNCR) control technology, and demonstrate compliance with the 7.5 lb/ton of clinker based on a 30-day rolling average including startup, shutdown, and malfunction periods, beginning by the 30th operating day after 9/10/2014	clinker no later than October 18, 2017. Ash Grove shall limit NO _x emissions from the kiln during startup, shutdown, malfunction, emergencies, and normal operation to 7.5 lb/ton of clinker produced based on a 30-day rolling average. Commencing on October 18, 2017, Ash Grove shall maintain, calibrate, and operate a NO _x CEMS at all times to demonstrate compliance with the emission limit and shall satisfy CEMS requirements under 40 CFR 52 (Regional Haze FIP 40 CFR 52.1396 and ARM 17.8.749).	Compliance with the Consent Decree limit assures compliance with this limit as well.
Ash Grove shall install, operate, and maintain a PM CPMS on the kiln and establish a Site-Specific Operating Limit (SSOL) for PM in accordance with the requirements of Appendix B of the Consent Decree and 40 CFR 63.1350(b) and (d). Ash Grove shall conduct the performance test using EPA Method 5 or Method 5I of Appendix A-3 of 40 CFR Part 60. The test methods shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual with the following exceptions: If demonstrating compliance with 40 CFR Part 52.1396, the test shall consist of three runs, with each run at least 120 minutes in duration and each run collecting a minimum sample of 60 dry standard cubic feet, per 40 CFR Part 52.1396. Condensable particulate matter is not included in Method 5 reporting and is not included in determining compliance. The compliance demonstration shall be an initial test and within 365 operating days thereafter. Ash Grove may employ the SSOL methodology in 40 CFR 3.1349(b) in lieu of this methodology (Consent Decree 56, 59, 60, and ARM 17.8.749).	Within 60 days of the compliance deadline and at least once per calendar year thereafter, Ash Grove shall perform a Method 5 stack test to monitor compliance with the particulate matter limit in Section III.G.2. The test methods shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual with the following exceptions: the test shall consist of three runs, with each run at least 120 minutes in duration and each run collecting a minimum sample of 60 dry standard cubic feet. The average of the results of three test runs shall be used by the owner/operator for demonstrating compliance (ARM 17.8.106, ARM 17.8.1213, and 40 CFR Part 52.1396).	Consent Decree requirement contains the most stringent monitoring condition. Compliance with the Consent Decree assures compliance with the subsumed condition. The Regional Haze requirement contains specific run times and volumes, while the PC MACT requirement specifies that that no condensable PM emissions are included in the Method 5 tests or in determining compliance. These two conditions have been included in the modified permit condition.

Streamlined Rule Citation	Subsumed Rule	Reason
<p>Ash Grove shall install and operate a NO_x CEMS and SO₂ CEMS at each stack from which the kiln directly discharges emissions. The CEMS shall be operated at all times during kiln operation except during CEMS breakdowns, repairs, calibration checks and zero and span adjustments (Consent Decree 32, 34, 51, 52, and ARM 17.8.749).</p>	<p>Ash Grove shall, at all times after April 17, 2013 (180 days following October 18, 2012), maintain, calibrate, and operate a continuous emissions monitoring system (CEMS) in full compliance with the requirements found at 40 CFR 60.63 (f) and (g) to accurately measure and record concentration by volume of SO₂ and NO_x emissions into the atmosphere. If installation of additional emission controls is necessary to comply with the SO₂ and NO_x emissions limitations under this rule, compliance is extended to October 18, 2017 (within five years of the effective date of this rule) in accordance with 40 CFR Part 52.1396. The CEMS shall be used in combination with data on actual clinker production to monitor compliance with the limits in Section III.G.2 and III.G.3 (40 CFR Part 52.1396).</p>	<p>The Consent Decree requirements contains the most stringent NO_x and SO₂ monitoring condition, Compliance with the Consent Decree condition assures compliance with the subsumed conditions.</p>

SECTION V. GENERAL PERMIT CONDITIONS

A. Compliance Requirements

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(a)-(c)&(e), §1206(6)(c)&(b)

1. The permittee must comply with all conditions of the permit. Any noncompliance with the terms or conditions of the permit constitutes a violation of the Montana Clean Air Act, and may result in enforcement action, permit modification, revocation and reissuance, or termination, or denial of a permit renewal application under ARM Title 17, Chapter 8, Subchapter 12.
2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
3. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. If appropriate, this factor may be considered as a mitigating factor in assessing a penalty for noncompliance with an applicable requirement if the source demonstrates that both the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations, and that such health, safety, or environmental impacts were unforeseeable and could not have otherwise been avoided.
4. The permittee shall furnish to DEQ, within a reasonable time set by DEQ (not to be less than 15 days), any information that DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to DEQ copies of those records that are required to be kept pursuant to the terms of the permit. This subsection does not impair or otherwise limit the right of the permittee to assert the confidentiality of the information requested by DEQ, as provided in 75-2-105, MCA.
5. Any schedule of compliance for applicable requirements with which the source is not in compliance with at the time of permit issuance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it was based.
6. For applicable requirements that will become effective during the permit term, the source shall meet such requirements on a timely basis unless a more detailed plan or schedule is required by the applicable requirement or DEQ.

B. Certification Requirements

ARM 17.8, Subchapter 12, Operating Permit Program §1207 and §1213(7)(a)&(c)-(d)

1. Any application form, report, or compliance certification submitted pursuant to ARM Title 17, Chapter 8, Subchapter 12, shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under ARM Title 17, Chapter 8, Subchapter 12, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

2. Compliance certifications shall be submitted by February 15 of each year, or more frequently if otherwise specified in an applicable requirement or elsewhere in the permit. Each certification must include the required information for the previous calendar year (i.e., January 1 – December 31).
3. Compliance certifications shall include the following:
 - a. The identification of each term or condition of the permit that is the basis of the certification
 - b. The identification of the method(s) or other means used by the owner or operator for determining the status of compliance with each term and condition during the certification period, consistent with ARM 17.8.1212
 - c. The status of compliance with each term and condition for the period covered by the certification, *including whether compliance during the period was continuous or intermittent* (based on the method or means identified in ARM 17.8.1213(7)(c)(ii), as described above)
 - d. Such other facts as DEQ may require to determine the compliance status of the source
4. All compliance certifications must be submitted to the Environmental Protection Agency, as well as to DEQ, at the addresses listed in the Notification Addresses Appendix C of this permit.

C. Permit Shield

ARM 17.8, Subchapter 12, Operating Permit Program §1214(1)-(4)

1. The applicable requirements and non-federally enforceable requirements are included and specifically identified in this permit and the permit includes a precise summary of the requirements not applicable to the source. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements and any non-federally enforceable requirements as of the date of permit issuance.
2. The permit shield described in 1 above shall remain in effect during the appeal of any permit action (renewal, revision, reopening, or revocation and reissuance) to the Board of Environmental Review (Board), until such time as the Board renders its final decision.
3. Nothing in this permit alters or affects the following:
 - a. The provisions of Sec. 7603 of the FCAA, including the authority of the administrator under that section
 - b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance
 - c. The applicable requirements of the Acid Rain Program, consistent with Sec. 7651g(a) of the FCAA

- d. The ability of the administrator to obtain information from a source pursuant to Sec. 7414 of the FCAA
 - e. The ability of DEQ to obtain information from a source pursuant to the Montana Clean Air Act, Title 75, Chapter 2, MCA
 - f. The emergency powers of DEQ under the Montana Clean Air Act, Title 75, Chapter 2, MCA
 - g. The ability of DEQ to establish or revise requirements for the use of Reasonably Available Control Technology (RACT) as defined in ARM Title 17, Chapter 8. However, if the inclusion of a RACT into the permit pursuant to ARM Title 17, Chapter 8, Subchapter 12, is appealed to the Board, the permit shield, as it applies to the source's existing permit, shall remain in effect until such time as the Board has rendered its final decision.
- 4. Nothing in this permit alters or affects the ability of DEQ to take enforcement action for a violation of an applicable requirement or permit term demonstrated pursuant to ARM 17.8.106, Source Testing Protocol.
 - 5. Pursuant to ARM 17.8.132, for the purpose of submitting a compliance certification, nothing in these rules shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance. However, when compliance or noncompliance is demonstrated by a test or procedure provided by permit or other applicable requirements, the source shall then be presumed to be in compliance or noncompliance unless that presumption is overcome by other relevant credible evidence.
 - 6. The permit shield will not extend to minor permit modifications or changes not requiring a permit revision (see Sections I & J).
 - 7. The permit shield will extend to significant permit modifications and transfer or assignment of ownership (see Sections K & N).

D. Monitoring, Recordkeeping, and Reporting Requirements

ARM 17.8, Subchapter 12, Operating Permit Program §1212(2)&(3)

- 1. Unless otherwise provided in this permit, the permittee shall maintain compliance monitoring records that include the following information:
 - a. The date, place as defined in the permit, and time of sampling or measurement
 - b. The date(s) analyses were performed
 - c. The company or entity that performed the analyses
 - d. The analytical techniques or methods used
 - e. The results of such analyses
 - f. The operating conditions at the time of sampling or measurement

2. The permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. All monitoring data, support information, and required reports and summaries may be maintained in computerized form at the plant site if the information is made available to DEQ personnel upon request, which may be for either hard copies or computerized format. Strip-charts must be maintained in their original form at the plant site and shall be made available to DEQ personnel upon request.
3. The permittee shall submit to DEQ, at the addresses located in the Notification Addresses Appendix C of this permit, reports of any required monitoring by February 15 and August 15 of each year, or more frequently if otherwise specified in an applicable requirement or elsewhere in the permit. The monitoring report submitted on February 15 of each year must include the required monitoring information for the period of July 1 through December 31 of the previous year. The monitoring report submitted on August 15 of each year must include the required monitoring information for the period of January 1 through June 30 of the current year. All instances of deviations from the permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official, consistent with ARM 17.8.1207.

E. Prompt Deviation Reporting

ARM 17.8, Subchapter 12, Operating Permit Program §1212(3)(b)

The permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. To be considered prompt, deviations shall be reported to DEQ within the following timeframes (unless otherwise specified in an applicable requirement):

1. For deviations which may result in emissions potentially in violation of permit limitations:
 - a. An initial phone notification (or faxed or electronic notification) describing the incident within 24 hours (or the next business day) of discovery: and,
 - b. A follow-up written, faxed, or electronic report within 30 days of discovery of the deviation that describes the probable cause of the reported deviation and any corrective actions or preventative measures taken.
2. For deviations attributable to malfunctions, deviations shall be reported to DEQ in accordance with the malfunction reporting requirements under ARM 17.8.110; and
3. For all other deviations, deviations shall be reported to DEQ via a written, faxed, or electronic report within 90 days of discovery (as determined through routine internal review by the permittee).

Prompt deviation reports do not need to be resubmitted with regular semiannual (or other routine) reports but may be referenced by the date of submittal.

F. Emergency Provisions

ARM 17.8, Subchapter 12, Operating Permit Program §1201(13) and §1214(5), (6)&(8)

1. An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation and causes the source to exceed a technology-based emission limitation under this permit due to the unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of reasonable preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates through properly signed, contemporaneous logs, or other relevant evidence, that:
 - a. An emergency occurred and the permittee can identify the cause(s) of the emergency
 - b. The permitted facility was at the time being properly operated
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in the permit
 - d. The permittee submitted notice of the emergency to DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirements of ARM 17.8.1212(3)(b). This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
3. These emergency provisions are in addition to any emergency, malfunction or upset provision contained in any applicable requirement.

G. Inspection and Entry

ARM 17.8, Subchapter 12, Operating Permit Program §1213(3)&(4)

1. Upon presentation of credentials and other requirements as may be required by law, the permittee shall allow DEQ, the administrator, or an authorized representative (including an authorized contractor acting as a representative of DEQ or the administrator) to perform the following:
 - a. Enter the premises where a source required to obtain a permit is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit

- c. Inspect at reasonable times any facilities, emission units, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit
 - d. As authorized by the Montana Clean Air Act and rules promulgated thereunder, sample or monitor, at reasonable times, any substances, or parameters at any location for the purpose of assuring compliance with the permit or applicable requirements
2. The permittee shall inform the inspector of all workplace safety rules or requirements at the time of inspection. This section shall not limit in any manner DEQ's statutory right of entry and inspection as provided for in 75-2-403, MCA.

H. Fee Payment

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(f) and ARM 17.8, Subchapter 5, Air Quality Permit Application, Operation, and Open Burning Fees §505(3)-(5) (STATE ONLY)

1. The permittee must pay application and operating fees, pursuant to ARM Title 17, Chapter 8, Subchapter 5.
2. Annually, DEQ shall provide the permittee with written notice of the amount of the fee and the basis for the fee assessment. The air quality operation fee is due 30 days after receipt of the notice unless the fee assessment is appealed pursuant to ARM 17.8.511. If any portion of the fee is not appealed, that portion of the fee that is not appealed is due 30 days after receipt of the notice. Any remaining fee, which may be due after the completion of an appeal, is due immediately upon issuance of the Board's decision or upon completion of any judicial review of the Board's decision.
3. If the permittee fails to pay the required fee (or any required portion of an appealed fee) within 90 days of the due date of the fee, DEQ may impose an additional assessment of 15% of the fee (or any required portion of an appealed fee) or \$100, whichever is greater, plus interest on the fee (or any required portion of an appealed fee), computed at the interest rate established under 15-31-510(3), MCA.

I. Minor Permit Modifications

ARM 17.8, Subchapter 12, Operating Permit Program §1226(3)&(11)

1. An application for a minor permit modification need only address in detail those portions of the permit application that require revision, updating, supplementation, or deletion, and may reference any required information that has been previously submitted.
2. The permit shield under ARM 17.8.1214 will not extend to any minor modifications processed pursuant to ARM 17.8.1226.

J. Changes Not Requiring Permit Revision

ARM 17.8, Subchapter 12, Operating Permit Program §1224(1)-(3), (5)&(6)

1. The permittee is authorized to make changes within the facility as described below, provided the following conditions are met:
 - a. The proposed changes do not require the permittee to obtain an air quality preconstruction permit under ARM Title 17, Chapter 8, Subchapter 7;
 - b. The proposed changes are not modifications under Title I of the FCAA, or as defined in ARM Title 17, Chapter 8, Subchapters 8, 9, or 10;
 - c. The emissions resulting from the proposed changes do not exceed the emissions allowable under this permit, whether expressed as a rate of emissions or in total emissions;
 - d. The proposed changes do not alter permit terms that are necessary to enforce applicable emission limitations on emission units covered by the permit; and
 - e. The facility provides the administrator and DEQ with written notification at least seven days prior to making the proposed changes.
2. The permittee and DEQ shall attach each notice provided pursuant to 1.e above to their respective copies of this permit.
3. Pursuant to the conditions above, the permittee is authorized to make Sec. 502(b)(10) changes, as defined in ARM 17.8.1201(30), without a permit revision. For each such change, the written notification required under 1.e above shall include a description of the change within the source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.
4. The permittee may make a change not specifically addressed or prohibited by the permit terms and conditions without requiring a permit revision, provided the following conditions are met:
 - a. Each proposed change does not weaken the enforceability of any existing permit conditions;
 - b. DEQ has not objected to such change;
 - c. Each proposed change meets all applicable requirements and does not violate any existing permit term or condition; and
 - d. The permittee provides contemporaneous written notice to DEQ and the administrator of each change that is above the level for insignificant emission units as defined in ARM 17.8.1201(22) and 17.8.1206(3), and the written notice describes each such change, including the date of the change, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

5. The permit shield authorized by ARM 17.8.1214 shall not apply to changes made pursuant to ARM 17.8.1224(3) and (5) but is applicable to terms and conditions that allow for increases and decreases in emissions pursuant to ARM 17.8.1224(4).

K. Significant Permit Modifications

ARM 17.8, Subchapter 12, Operating Permit Program §1227(1), (3)&(4)

1. The modification procedures set forth in 2 below must be used for any application requesting a significant modification of this permit. Significant modifications include the following:
 - a. Any permit modification that does not qualify as either a minor modification or as an administrative permit amendment
 - b. Every significant change in existing permit monitoring terms or conditions
 - c. Every relaxation of permit reporting or recordkeeping terms or conditions that limit DEQ's ability to determine compliance with any applicable rule, consistent with the requirements of the rule or
 - d. Any other change determined by DEQ to be significant
2. Significant modifications shall meet all requirements of ARM Title 17, Chapter 8, including those for applications, public participation, and review by affected states and the administrator, as they apply to permit issuance and renewal, except that an application for a significant permit modification need only address in detail those portions of the permit application that require revision, updating, supplementation or deletion.
3. The permit shield provided for in ARM 17.8.1214 shall extend to significant modifications.

L. Reopening for Cause

ARM 17.8, Subchapter 12, Operating Permit Program §1228(1)&(2)

This permit may be reopened and revised under the following circumstances:

1. Additional applicable requirements under the FCAA become applicable to the facility when the permit has a remaining term of 3 or more years. Reopening and revision of the permit shall be completed no later than 18 months after promulgation of the applicable requirement. No reopening is required under ARM 17.8.1228(1)(a) if the effective date of the applicable requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms or conditions have been extended pursuant to ARM 17.8.1220(12) or 17.8.1221(2);
2. Additional requirements (including excess emission requirements) become applicable to an affected source under the Acid Rain Program. Upon approval by the administrator, excess emission offset plans shall be deemed incorporated into the permit;

3. DEQ or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit; or
4. The administrator or DEQ determines that the permit must be revised or revoked and reissued to ensure compliance with the applicable requirements.

M. Permit Expiration and Renewal

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(g), §1220(11)&(12), and §1205(2)(d)

1. This permit is issued for a fixed term of five years.
2. Renewal of this permit is subject to the same procedural requirements that apply to permit issuance, including those for application, content, public participation, and affected state and administrator review.
3. Expiration of this permit terminates the permittee's right to operate unless a timely and administratively complete renewal application has been submitted consistent with ARM 17.8.1221 and 17.8.1205(2)(d). If a timely and administratively complete application has been submitted, all terms and conditions of the permit, including the application shield, remain in effect after the permit expires until the permit renewal has been issued or denied.
4. For renewal, the permittee shall submit a complete air quality operating permit application to DEQ not later than six months prior to the expiration of this permit, unless otherwise specified. If necessary to ensure that the terms of the existing permit will not lapse before renewal, DEQ may specify, in writing to the permittee, a longer time period for submission of the renewal application. Such written notification must be provided at least 1 year before the renewal application due date established in the existing permit.

N. Severability Clause

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(i)&(l)

1. The administrative appeal or subsequent judicial review of the issuance by DEQ of an initial permit under this subchapter shall not impair in any manner the underlying applicability of all applicable requirements, and such requirements continue to apply as if a final permit decision had not been reached by DEQ.
2. If any provision of a permit is found to be invalid, all valid parts that are severable from the invalid part remain in effect. If a provision of a permit is invalid in one or more of its applications, the provision remains in effect in all valid applications that are severable from the invalid applications.

O. Transfer or Assignment of Ownership

ARM 17.8, Subchapter 12, Operating Permit Program §1225(2)&(4)

1. If an administrative permit amendment involves a change in ownership or operational control, the applicant must include in its request to DEQ a written agreement containing a specific date for the transfer of permit responsibility, coverage, and liability between the current and new permittee.
2. The permit shield provided for in ARM17.8.1214 shall not extend to administrative permit amendments.

P. Emissions Trading, Marketable Permits, Economic Incentives

ARM 17.8, Subchapter 12, Operating Permit Program §1226(2)

Notwithstanding ARM 17.8.1226(1) and (7), minor air quality operating permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in the Montana State Implementation Plan or in applicable requirements promulgated by the administrator.

Q. No Property Rights Conveyed

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(d)

This permit does not convey any property rights of any sort, or any exclusive privilege.

R. Testing Requirements

ARM 17.8, Subchapter 1, General Provisions §105

The permittee shall comply with ARM 17.8.105.

S. Source Testing Protocol

ARM 17.8, Subchapter 1, General Provisions §106

The permittee shall comply with ARM 17.8.106.

T. Malfunctions

ARM 17.8, Subchapter 1, General Provisions §110

The permittee shall comply with ARM 17.8.110.

U. Circumvention

ARM 17.8, Subchapter 1, General Provisions §111

The permittee shall comply with ARM 17.8.111.

V. Motor Vehicles

ARM 17.8, Subchapter 3, Emission Standards §325

The permittee shall comply with ARM 17.8.325.

W. Annual Emissions Inventory

ARM 17.8, Subchapter 5, Air Quality Permit Application, Operation and Open Burning Fees §505 (STATE ONLY)

The permittee shall supply DEQ with annual production and other information for all emission units necessary to calculate actual or estimated actual amount of air pollutants emitted during each calendar year. Information shall be gathered on a calendar-year basis and submitted to DEQ by the date required in the emission inventory request, unless otherwise specified in this permit. Information shall be in the units required by DEQ.

X. Open Burning

ARM 17.8, Subchapter 6, Open Burning §604, 605 and 606

The permittee shall comply with ARM 17.8.604, 605 and 606.

Y. Montana Air Quality Permits

ARM 17.8, Subchapter 7, Permit, Construction and Operation of Air Contaminant Sources §745 and 764 (

1. Except as specified, no person shall construct, install, alter, or use any air contaminant source or stack associated with any source without first obtaining a permit from DEQ or Board. A permit is not required for those sources or stacks as specified by ARM 17.8.744(1)(a)-(k).
2. The permittee shall comply with ARM 17.8.743, 744, 745, 748, and 764.
3. ARM 17.8.745(1) specifies de minimis changes as construction or changed conditions of operation at a facility holding an air quality preconstruction permit issued under Chapter 8 that does not increase the facility's potential to emit by more than 5 tons per year of any pollutant, except
 - a. Any construction or changed condition that would violate any condition in the facility's existing air quality preconstruction permit, or any applicable rule contained in Chapter 8 is prohibited, except as provided in ARM 17.8.745(2);
 - b. Any construction or changed conditions of operation that would qualify as a major modification under Subchapters 8, 9 or 10 of Chapter 8;
 - c. Any construction or changed condition of operation that would affect the plume rise or dispersion characteristic of emissions that would cause or contribute to a violation of an ambient air quality standard or ambient air increment as defined in ARM 17.8.804;
 - d. Any construction or improvement project with a potential to emit more than 5 tons per year may not be artificially split into smaller projects to avoid air quality preconstruction permitting; or
 - e. Emission reductions obtained through offsetting within a facility are not included when determining the potential emission increase from construction or

changed conditions of operation unless such reductions are made federally enforceable.

4. Any facility making a de minimis change pursuant to ARM 17.8.745(1) shall notify DEQ if the change would include a change in control equipment, stack height, stack diameter, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change and must include the information requested in ARM 17.8.745(1).

Z. National Emission Standard for Asbestos

40 CFR, Part 61, Subpart M

The permittee shall not conduct any asbestos abatement activities except in accordance with 40 CFR 61, Subpart M (National Emission Standard for Hazardous Air Pollutants for Asbestos).

AA. Asbestos

ARM 17.74, Subchapter 3, General Provisions and Subchapter 4, Fees

The permittee shall comply with ARM 17.74.301, *et seq.*, and ARM 17.74.401, *et seq.* (State only)

BB. Stratospheric Ozone Protection – Servicing of Motor Vehicle Air Conditioners

40 CFR, Part 82, Subpart B

If the permittee performs a service on motor vehicles and this service involves ozone-depleting substance/refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR 82, Subpart B.

CC. Stratospheric Ozone Protection – Recycling and Emission Reductions

40 CFR, Part 82, Subpart F

The permittee shall comply with the standards for recycling and emission reductions in 40 CFR 82, Subpart F, except as provided for MVACs in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156;
2. Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158;
3. Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technical certification program pursuant to §82.161;
4. Persons disposing of small appliances, MVACs and MVAC-like (as defined at §82.152) appliances must comply with recordkeeping requirements pursuant to §82.166;
5. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and

6. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

DD. Emergency Episode Plan

The permittee shall comply with the requirements contained in Chapter 9.7 of the State of Montana Air Quality Control Implementation Plan.

Each major source emitting 100 tons per year located in a Priority I Air Quality Control Region, shall submit to DEQ a legally enforceable Emergency Episode Action Plan (EEAP) that details how the source will curtail emissions during an air pollutant emergency episode. The industrial EEAP shall be in accordance with DEQ's EEAP and shall be submitted according to a timetable developed by DEQ, following Priority I reclassification.

EE. Definitions

Terms not otherwise defined in this permit or in the Definitions and Abbreviations Appendix B of this permit, shall have the meaning assigned to them in the referenced regulations.

APPENDICES

Appendix A. INSIGNIFICANT EMISSION UNITS

Disclaimer: The information in this appendix is not State or Federally enforceable, but is presented to assist Ash Grove, the permitting authority, inspectors, and the public.

Pursuant to ARM 17.8.1201(22)(a), an insignificant emission unit means any activity or emissions unit located within a source that: (i) has a potential to emit less than five tons per year of any regulated pollutant; (ii) has a potential to emit less than 500 pounds per year of lead; (iii) has a potential to emit less than 500 pounds per year of hazardous air pollutants listed pursuant to Sec. 7412 (b) of the FCAA; and (iv) is not regulated by an applicable requirement, other than a generally applicable requirement that applies to all emission units subject to Subchapter 12.

List of Insignificant Activities:

The following table of insignificant sources and/or activities was provided by Ash Grove. Because there are no requirements to update such a list, the emission units and/or activities may change from those specified in the table.

Emissions Unit ID		Description
IEU01	CCP	Coal/Coke Preparation
IEU02	CDA	Clinker Drag Conveyor A
IEU03	CDB	Clinker Drag Conveyor B
IEU04	CSA	Transfer to/from Cement Storage Silos A
IEU05	CSB	Transfer to/from Cement Storage Silos B
IEU07	DT	Dust Return System
IEU08	EC	Clinker Bucket Conveyor
IEU09	LS	Lime Silo
IEU11	PST	Petroleum Storage Tanks
IEU12	QA	Quarry Activities
IEU13	RT	Raw Material Transfer
IEU14	SC	Slag/Silica/Clinker Conveyors
IEU15	SLA	Storage Loadout A
IEU16	SLM	Specialty Bin
IEU17	SLN	Storage Loadout at New Silos
IEU18	TFS	Transfer from Silos
IEU19	TSC	Transfer/Secondary Crushing
IEU20	VE	Vehicle Emissions
IEU21	OFH	Used Oil Fired Heater

Appendix B. DEFINITIONS and ABBREVIATIONS

"Act" means the Clean Air Act, as amended, 42 U.S. 7401, *et seq.*

"Administrative permit amendment" means an air quality operating permit revision that:

- (a) Corrects typographical errors
- (b) Identifies a change in the name, address or phone number of any person identified in the air quality operating permit, or identifies a similar minor administrative change at the source
- (c) Requires more frequent monitoring or reporting by Ash Grove
- (d) Requires changes in monitoring or reporting requirements that DEQ deems to be no less stringent than current monitoring or reporting requirements
- (e) Allows for a change in ownership or operational control of a source if DEQ has determined that no other change in the air quality operating permit is necessary, consistent with ARM 17.8.1225 or
- (f) Incorporates any other type of change that DEQ has determined to be similar to those revisions set forth in (a)-(e), above

"Applicable requirement" means all of the following as they apply to emission units in a source requiring an air quality operating permit (including requirements that have been promulgated or approved by DEQ or the administrator through rule making at the time of issuance of the air quality operating permit, but have future-effective compliance dates, provided that such requirements apply to sources covered under the operating permit):

- (a) Any standard, rule, or other requirement, including any requirement contained in a consent decree or judicial or administrative order entered into or issued by DEQ, that is contained in the Montana state implementation plan approved or promulgated by the administrator through rule making under Title I of the FCAA
- (b) Any federally enforceable term, condition or other requirement of any air quality preconstruction permit issued by DEQ under Subchapters 7, 8, 9 and 10 of this chapter, or pursuant to regulations approved or promulgated through rule making under Title I of the FCAA, including parts C and D
- (c) Any standard or other requirement under Sec. 7411 of the FCAA, including Sec. 7411(d)
- (d) Any standard or other requirement under Sec. 7412 of the FCAA, including any requirement concerning accident prevention under Sec. 7412(r)(7), but excluding the contents of any risk management plan required under Sec. 7412(r)
- (e) Any standard or other requirement of the acid rain program under Title IV of the FCAA or regulations promulgated thereunder

- (f) Any requirements established pursuant to Sec. 7661c(b) or Sec. 7414(a)(3) of the FCAA
- (g) Any standard or other requirement governing solid waste incineration, under Sec. 7429 of the FCAA
- (h) Any standard or other requirement for consumer and commercial products, under Sec. 7511b(e) of the FCAA
- (i) Any standard or other requirement for tank vessels, under Sec. 7511b(f) of the FCAA
- (j) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the FCAA, unless the administrator determines that such requirements need not be contained in an air quality operating permit
- (k) Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the FCAA, but only as it would apply to temporary sources permitted pursuant to Sec. 7661c(e) of the FCAA or
- (l) Any federally enforceable term or condition of any air quality open burning permit issued by DEQ under Subchapter 6

"DEQ" means the Montana Department of Environmental Quality.

"Excess Emissions" means any visible emissions from a stack or source, viewed during the visual surveys, that meets or exceeds 15% opacity (or 30% opacity if associated with a 40% opacity limit) during normal operating conditions.

"Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant, or any pollutant listed under Sec. 7412(b) of the FCAA. This term is not meant to alter or affect the definition of the term "unit" for purposes of Title IV of the FCAA.

"FCAA" means the Federal Clean Air Act, as amended.

"Federally enforceable" means all limitations and conditions which are enforceable by the administrator, including those requirements developed pursuant to 40 CFR Parts 60 and 61, requirements within the Montana state implementation plan, and any permit requirement established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, including operating permits issued under an EPA approved program that is incorporated into the Montana state implementation plan and expressly requires adherence to any permit issued under such program.

"Fugitive emissions" means those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

"General air quality operating permit" or "general permit" means an air quality operating permit that meets the requirements of ARM 17.8.1222, covers multiple sources in a source category, and is issued in lieu of individual permits being issued to each source.

"Hazardous air pollutant" means any air pollutant listed as a hazardous air pollutant pursuant to Sec. 112(b) of the FCAA.

"Non-federally enforceable requirement" means the following as they apply to emission units in a source requiring an air quality operating permit:

- (a) Any standard, rule, or other requirement, including any requirement contained in a consent decree, or judicial or administrative order entered into or issued by DEQ, that is not contained in the Montana state implementation plan approved or promulgated by the administrator through rule making under Title I of the FCAA
- (b) Any term, condition or other requirement contained in any air quality preconstruction permit issued by DEQ under Subchapters 7, 8, 9 and 10 of this chapter that is not federally enforceable
- (c) Does not include any Montana ambient air quality standard contained in Subchapter 2 of this chapter

"Permittee" means the owner or operator of any source subject to the permitting requirements of this subchapter, as provided in ARM 17.8.1204, that holds a valid air quality operating permit or has submitted a timely and complete permit application for issuance, renewal, amendment, or modification pursuant to this subchapter.

"Regulated air pollutant" means the following:

- (a) Nitrogen oxides or any volatile organic compounds
- (b) Any pollutant for which a national ambient air quality standard has been promulgated
- (c) Any pollutant that is subject to any standard promulgated under Sec. 7411 of the FCAA
- (d) Any Class I or II substance subject to a standard promulgated under or established by Title VI of the FCAA or
- (e) Any pollutant subject to a standard or other requirement established or promulgated under Sec. 7412 of the FCAA, including but not limited to the following:
 - (i) Any pollutant subject to requirements under Sec. 7412(j) of the FCAA. If the administrator fails to promulgate a standard by the date established in Sec. 7412(e) of the FCAA, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established in Sec. 7412(e) of the FCAA
 - (ii) Any pollutant for which the requirements of Sec. 7412(g)(2) of the FCAA have been met but only with respect to the individual source subject to Sec. 7412(g)(2) requirement

"Responsible official" means one of the following:

- (a) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars) or
 - (ii) The delegation of authority to such representative is approved in advance by DEQ
- (b) For a partnership or sole proprietorship: a general partner or the proprietor, respectively
- (c) For a municipality, state, federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a regional administrator of the environmental protection agency).
- (d) For affected sources: the designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the FCAA or the regulations promulgated thereunder are concerned, and the designated representative for any other purposes under this subchapter.

Abbreviations:

ARM	Administrative Rules of Montana
ASTM	American Society of Testing Materials
BACT	Best Available Control Technology
BDT	bone dry tons
BTU	British Thermal Unit
CFR	Code of Federal Regulations
CO	carbon monoxide
D/F	dioxins and furans
DEQ	Department of Environmental Quality
dscf	dry standard cubic foot
dscfm	dry standard cubic foot per minute
EEAP	Emergency Episode Action Plan
EPA	U.S. Environmental Protection Agency
EPA Method	Test methods contained in 40 CFR 60, Appendix A
EU	emissions unit
FCAA	Federal Clean Air Act
gr	grains
HAP	hazardous air pollutant
IEU	insignificant emissions unit
Mbdft	thousand board feet
MCA	Montana Code Annotated
Method 5	40 CFR 60, Appendix A, Method 5
Method 9	40 CFR 60, Appendix A, Method 9
MMbdft	million board feet
MMBTU	million British Thermal Units
MVAC	motor vehicle air conditioner
NO _x	oxides of nitrogen
NO ₂	nitrogen dioxide
O ₂	oxygen
Pb	lead
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in size
psi	pounds per square inch
scf	standard cubic feet
SIC	Source Industrial Classification
SO ₂	sulfur dioxide
SO _x	oxides of sulfur
tpy	tons per year
U.S.C.	United States Code
VE	visible emissions
VOC	volatile organic compound

Appendix C. NOTIFICATION ADDRESSES

Compliance Notifications:

Montana Department of Environmental Quality
Air, Energy, & Mining Division
Air Quality Bureau
P.O. Box 200901
Helena, MT 59620-0901
DEQ-ARMB-Admin@mt.gov

United States EPA
Air Program Coordinator
Region VIII, Montana Office
10 W. 15th Street, Suite 3200
Helena, MT 59626

Permit Modifications:

Montana Department of Environmental Quality
Air, Energy, & Mining Division
Air Quality Bureau
P.O. Box 200901
Helena, MT 59620-0901
DEQ-ARMB-Admin@mt.gov

Office of Partnerships and Regulatory Assistance
Air and Radiation Program
US EPA Region VIII 8P-AR
1595 Wynkoop Street
Denver, CO 80202-1129

Appendix D. AIR QUALITY INSPECTOR INFORMATION

Disclaimer: The information in this appendix is not State or Federally enforceable, but is presented to assist Ash Grove, permitting authority, inspectors, and the public.

1. Direction to Plant:

Exit Interstate 15 at the Montana City exit. Proceed east on Highway 518 for approximately 1 mile. The facility is located directly south of Highway 518.

2. Safety Equipment Required:

- a. All inspectors will be required to wear hard hats at all times when in the plant area. Hard hats will be furnished by the inspector and are to be maintained in good repair.
- b. Protective eye equipment will be used. Eye protection is mandatory in all plant areas. Safety glasses will meet or exceed ANSI Standard Z-87.
- c. Respirators and other personal equipment are to be used where needed and all such equipment will be provided by the inspector.
- d. Steel-toed safety boots shall be worn by all inspectors.
- e. Hearing protection with a minimum noise reduction rating of 24 DBA is mandatory in posted areas.

3. Facility Plot Plan:

A copy of the facility Plot Plan is on file with DEQ or may be received by contacting an Ash Grove representative.

**ASH GROVE CEMENT COMPANY
MONTANA CITY PLANT**

**Pollution Control Device
Inspection and Maintenance Plan
for
Title V Air Operating Permit
#OP2005-12**

December 3, 2021

Overview

Ash Grove Cement Company operates a portland cement pyroprocessing plant east of Montana City, Montana. The plant is located approximately 3 miles south of East Helena on a portion of the Boulder Batholith along Prickly Pear Creek.

Contained in this document is the Air Pollution Control Equipment and Maintenance Plan (Plan) that outlines the equipment used, general control equipment inspection information, and maintenance schedule for the control equipment.

The conditions in this plan refer to the plants baghouse dust collectors. References to Electrostatic Precipitators and Shaker Type Baghouses have been removed as Ash Grove does not operate any of these units at the facility.

Provisions For Changing The Plan

The requirements of the Plan may be changed if both Ash Grove Cement Company and the Department mutually agree in writing to any changes. Changes to the Plan cannot be implemented until both Ash Grove Cements Company and the Department agree in writing.

1. Pollution Control Device Equipment Information

The required control equipment information is contained in Appendix A

2. Inspection and Maintenance Schedule

Ash Grove will perform checks of the following baghouse inspections and maintenance and record any changes done to the equipment.

2.1. Daily Checks

Check exhaust for visible emission during daylight hours.

Regardless of the emission limit on the unit, plant baghouses should operate with essentially no visible emissions. If visible emissions are observed, Ash Grove will investigate the issue to determine the reason for the excess visible emissions. Possible actions can include, but are not limited to:

- Checking baghouse differential pressure loss and/or fan static pressure or fan amps (on PLC or operators screen)
- Checking compressed air system for leakage, if applicable.
- Shutting down the operating equipment and performing an internal inspection of filter bags.

2.2. Quarterly Checks (*Performed during shutdown only)

- 2.2.1. Check hoppers for:
 - Proper heater operation (if applicable)
 - Proper level alarm system (if applicable)
 - Proper vibrator operation (if applicable)
 - Exterior Corrosion
 - Air leakage
- 2.2.2. Check rotary valves
- 2.2.3. Check screw conveyor*
- 2.2.4. Check D.P. Transmitters for proper operation

2.3. Annual Checks

- 2.3.1. Collector Items for:
 - Proper ducting to and from fabric or cartridge filters
 - Good condition of exterior shell
 - Good condition of doors including seals
 - No hopper damage
 - Screw conveyor, or other air locking system functionality
- 2.3.2. Pulse-Jets for:
 - Good condition of inlet diffuser or blast plate
 - No damage of air pulse diaphragms
 - Functionality of solenoid(s) that activate pulse-pipes (i.e. check cleaning sequence, cycle times)
 - Pulse-pipe alignment and clamps
 - Proper connection of compressed air lines including oilers and filters
- 2.3.3. Reverse air for:
 - Proper reverse air fan operation
 - Placement of dampers
 - Good condition of damper drive systems
 - Proper bag tension and suspension
 - Good condition of inlet diffuser or blast plate
- 2.3.4. Check bags or cartridge filters for:
 - Proper fastening, bag tension, when applicable, hanging, and excess particle accumulation
 - Possible leaks (i.e. holes, tears, etc.)
- 2.3.5. Check fan items for:
 - Corrosion and material buildup

- Good fan bearings
- Bearing lubrication
- Good condition of fan housing

2.3.6. Check airlocks for:

- Good rotary feeder rotor condition
- Good rotor bearing condition
- No damage to drive sprocket
- No damage to driven sprocket
- Good condition of drive chain
- Proper lubrication

2.3.7. Check electrical and instrumentation:

- Fan motor
- Airlock motor
- Magnahelic tubing and enclosures (where applicable)

3. Documentation

3.1. Daily Observations

Ash Grove Cement Company will record identification information for the dust collectors, the date and time of inspection, the inspector's name, and if excess visible emissions are observed, the corrective action shall be recorded. Daily inspections are performed and records kept as identified in the appropriate Standard Operating Procedure (SOP).

3.2. Quarterly and Annual Inspections

Ash Grove Cement Company shall record identification information for the dust collectors, the date and time of inspection, the inspector(s) name(s), and the items inspected for each piece of pollution control equipment. The report will state whether maintenance or repairs were warranted. If maintenance is performed, Ash Grove Cement Company will record the date(s) of the maintenance activity and the item(s) repaired or replaced.

3.3. Component Failure Record

Ash Grove Cement Company will keep records of component failure(s) that are discovered during daily or annual inspections or that become apparent at any other time. The action taken upon discovery of a component failure will be recorded.

3.4. Record Retention

Pursuant to ARM 17.8.1212(s)(b), Ash Grove Cement Company will retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report or application.

Appendix A – Dust Collector Information

Dust Collector Designation	Plant Location	Emission Unit / Title V EU	Manufacturer	Model No.	Serial No.	Rated Capacity (acfm)	Airlock Information	D/P Gauge (Y/N)	Bag cleaning type	No. of bags	Bag material	No. of compartments	Air to cloth ratio	Exit gas temp
DA-1	Primary	CPC	Norblo	1994	DA-1	10,500	Rotary Valve	Yes	Pulse Jet	144	Polyester	1	3:1	Ambient
DA-2	BC-4 Area	SC	GE Electric	650-U	DA-2	1,000	Open	Yes	Pulse Jet	18	Polyester	1	2.6:1	Ambient
DA-3	Secondary	TSC	Norblo	BA-14	DA-3	6,000	Screw Conveyor	Yes	Pulse Jet	144	Polyester	1	2.1:1	Ambient
DA-4	Bin-2 Silo Tops	TBC	Norblo	BA-14	962-67	8,960	Open	No	Reverse Air	324	Polyester	3	1.3:1	Ambient
DA-5	Bin-5 Silo Tops	TLS	Norblo	BA-14	965-152CR	8,960	Open	Yes	Pulse Jet	200	Polyester	1	2.4:1	Ambient
DA-6	Raw Feeder Floor	TBM	Norblo	BA-14	962-64	7,480	Screw Conveyor	Yes	Pulse Jet	144	Polyester	1	2.2:1	Ambient
DA-8	Finish Feeder Floor	TFS	Norblo	BA-14	962-147CR	5,280	Screw Conveyor	Yes	Pulse Jet	144	Polyester	1	1.7:1	Ambient
DA-9E	Mill Room	PSC	BHA	09-2075	100-2073	9,200	Rotary Valve	Yes	Pulse Jet	144	Polyester	1	3.9:1	Ambient
DA-9W	Mill Room	TFM	BHA	09-2075	100-2073	14,311	Rotary Valve	Yes	Pulse Jet	216	Polyester	1	4.1:1	225°F
DA-12	Valve House	CSA	Norblo	962-6C	DA-12	3,370	Open	No	Pulse Jet	108	Polyester	1	2.1:1	Ambient
DA-13	Silo Tops	CDC	Norblo	964-186	73-20387-325	4,300	Open	Yes	Pulse Jet	96	Nomex	1	4.3:1	Ambient
DA-14	South Packer	SLA	Norblo	BA-12	962-69	3,300	Screw Conveyor	No	Rapper	324	Polyester	3	1.1:1	Ambient
DA-15	North Packer	SLB	Norblo	BA-124	962-71	7,480	Screw Conveyor	No	Rapper	216	Polyester	3	1.6:1	Ambient
DA-16	Specialty Bin	SLM	Norblo	963-239CCR	DA-16	6,000	FG	No	Rapper	216	Polyester	2	1.8:1	Ambient
DA-17	Silo #13 Bottom	SLN	Norblo	964-187	DA-17	6,000	Screw Conveyor	Yes	Pulse Jet	60	Polyester	3	3.0:1	Ambient
DA-18	Silo #11 Top	CSB	Norblo	BA-14	964-186	6,000	Open	No	Reverse Air	216	Polyester	2	2.0:1	Ambient
DA-19	Clinker East	PL-O1	DCE	Unknown	DA-19	1,000	Open	No	Pulse Jet	12	Polyester	1	3.2:1	Ambient
DA-20	Clinker West	PL-O2	DCE	Unknown	DA-20	1,000	Open	No	Pulse Jet	12	Polyester	1	3.2:1	Ambient
DA-21	Separator	FM	Fuller	Unknown	98-15030336	35,850	Rotary Valve	Yes	Pulse Jet	855	Nomex	1	2.2:1	174°F
DA-23	Cooler Vent	CLC	Mpul	289S-10-TRH	DA-23	34,800	Rotary Valve	Yes	Pulse Jet	1156 Total	Nomex	4	3.3:1	Varies
416.BFA – .BFF	Kiln	Kiln	Dustex	6136-16-17	NA	200,000	Rotary Valve	Yes	Pulse Jet	1632	Fiberglass PTFE membrane	6	3.2:1	< 500 F
416.BF3	Lime Silo	LS	Dustex	4205-5-5	DS201124414	1,000	None	Yes	Pulse Jet	25	Polyester	1	5.3:1	Ambient
416.BF4	Dust Bin	DL	Dustex	4205-6-6	DS201124414	1,00	None	Yes	Pulse Jet	36	Polyester	1	5.5:1	<200 F
416.BF5	DustMaster	DL	WAMCO	FC1J03PR	11-FC-12-0003240	125	None	Yes	Pulse Jet	3	Polyester	1	5:1	<200 F
416.BF6	Loadout Spout Dust	DL	DCL	CFM330	21207541	1,400	None	No	Pulse Jet	1	Polyester	1	4:2	<200 F
410.LS1	Loadout Spout BC-0	PL02	DCL	CFM330	217160202	1,800	None	No	Pulse Jet		Polyester	1	5.47:1	Ambient

Appendix F. CAM Plan – Transfer to/from Finish Mill

Monitoring Approach - Baghouse	
I. Indicator	Baghouse Differential Pressure
Measurement Approach	Inlet and outlet of the baghouse is monitored using a differential pressure transducer. The signal from the pressure transducer is recorded using a data acquisition system.
II. Indicator Range ¹	An excursion is defined as a daily average differential pressure of below 2 or above 10 inches of water pressure. An excursion triggers an inspection and possible corrective action.
III. Performance Criteria	
A. Data Representativeness	Pressure drop across the baghouse is measured across the tube sheet. The minimum accuracy of the device is ± 1 inch water pressure
B. Verification of Operational Status	N/A
C. QA/QC Practices and Criteria	
D. Monitoring Frequency	Pressure transducer is calibrated in accordance with manufacturer's recommendations.
	Pressure drop is continuously monitored and recorded. Data is stored in the plant histories and is accessed by the data acquisition system.
E. Data Collection Procedures	
F. Averaging Period	A data acquisition system measures pressure drop continuously
	24-hour

¹The above indicator ranges are a 24-hour average pressure range. Short-term spikes above or below this average do not necessarily indicate upset conditions. After cleaning, there may be a period of time required for the bags to build up a coating. During this period of time, the baghouse differential pressure may be out of range.

Although a complete hard copy of Ash Grove's Transfer to/from Finish Mill Baghouse CAM plan is not included in Appendix F of the permit, the contents of Ash Grove's CAM plan remain as applicable requirements as stated in the Title V Operating Permit #OP2005-12. To receive a hard copy of Ash Grove's Finish Transfer to/from Finish Mill Baghouse CAM plan, please contact one of the following:

The Department of Environmental Quality
Air, Energy, & Mining Division
Air Quality Bureau
1520 E. Sixth Ave.
P.O. Box 200901
Helena, Montana 59620-0901
Bureau Phone (406) 444-3490
DEQ-ARMB-Admin@mt.gov

OR

Ash Grove Cement Plant.
Montana City Plant
100 MT Highway 518
Clancy, MT 59634
Phone (406) 442-8855