OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **December 8, 2016**

TO: Phillip Fielder, P.E., Permits and Engineering Group Manager

THROUGH: Phil Martin, P.E., Engineering Manager, Existing Source Permit Section

THROUGH: Peer Review

FROM: Jian Yue, P.E., New Source Permits Section

SUBJECT: Evaluation of Permit Application **No. 98-087-C (M-10)**
Holcim (US) Inc.
Holcim Ada Portland Cement Production Plant (SIC 3241)
Facility ID: 826
Section 32, T4N, R6E, Pontotoc County
Latitude: 34.767°, Longitude: -96.699°
14500 County Road 1550, Ada, OK 74820

SECTION I. INTRODUCTION

This permit is initiated by Air Quality as an administrative amendment to correct a typo contained in Specific Condition No. 13 of Permit No. 98-087-C (M-8) as shown below, the underlined word is a typo for "now".

13. Upon issuance, this permit replaces Permit No. 98-087-C (M-7), which is <u>not</u> cancelled.

This is the only change, the rest of this permit remains the same as represented in Permit No. 98-087-C (M-8).

Holcim has requested a modification to the construction permit (No. 98-087-C (M-7)), issued on October 16, 2014, that authorized exchanging the two existing wet kiln lines with one semi-wet single-stage preheater/precalciner kiln line for the Ada Portland Cement Production Plant (SIC 3241). This change was being prompted by the Portland cement MACT rule, NESHAP Subpart LLL among other economic drivers in the industry and specific to the plant. Due to the inherent presence of organic substrate in the Ada Plant's raw material, the current process emits total hydrocarbon (THC) at quantities greater than the emission limits set forth in Subpart LLL. The more modern semi-wet technology utilizes a single stage preheater and flash calciner arrangement in front of the kiln. This additional step helps to promote self-combustion of organics that evolve from the raw materials.

In Permit No. 98-087-C (M-7), the modernized kiln was treated as a modification to the existing kiln system. This permit will replace Permit No. 98-087-C (M-7) and the modernized kiln and

clinker cooler will be subject to NSPS Subpart F and NESHAP Subpart LLL standards as new sources. Since the kiln and clinker cooler will be subject to more stringent emission standards and monitoring requirements than the requirements of the previous permit that went through a Tier II process, this permit is considered a Tier I minor modification.

The semi-wet single-stage preheater/precalciner process will use thermal energy more efficiently and will decrease energy usage and emissions per unit of production. This change will not affect processing equipment in the quarry. It is expected that all crushing, raw grinding, feed systems, storage systems and dispatch systems will continue to be utilized. Add-on control technologies (i.e., inherent dry scrubbing for SO_2; in-line low NOx calciner, low NOx burner and selective non-catalytic reduction (SNCR) for NOx) will be incorporated into the process to further reduce emissions. However, SNCR may not be needed in some operational scenarios to meet emission limit. Holcim will demonstrate continuous compliance with the NOx emission limit via CEMs with or without the operation of SNCR. A fabric filter baghouse will replace the current electrostatic precipitators (ESPs) for point source PM emissions control, and the new baghouse will be used to control emissions from the clinker cooler and alkali bypass as well as the kiln. A full complement of continuous monitoring devices (i.e., NOx, SO_2, CO, CO_2, PM, Hg, Opacity) will be installed on the system as well.

In addition to the kiln system replacement, the proposed project also includes the installation of four (4) new nuisance dust collectors and the removal of six (6) existing dust collectors. All other existing equipment will remain unchanged.

This facility is currently operating under Permit No. 98-087-TV(M-1) issued on January 13, 2011.

SECTION II. PROPOSED PROJECT DESCRIPTION

Currently, the Ada Plant operates as a "wet process" cement manufacturing facility. This method converts the raw material to a slurry and conveys it to the one of two kilns currently in use at the plant. The two existing rotary kilns are 12 feet in diameter by 450 feet in length, and together have a nominal clinker production capacity of 2,208 tons per day (TPD). The demonstrated true clinker production capacity of the existing kilns is 675,980 tons per year (TPY).

The proposed project would exchange the two (2) wet kiln lines with one semi-wet single-stage preheater/precalciner kiln line, 12 feet in diameter by 177 feet in length, with a nominal clinker production capacity of 2,200 TPD and a true capacity of 764,453 TPY. It is expected that this modernization will result in increased production and energy efficiency and improved environmental performance and while ensuring the long-term economic viability of the plant in a competitive marketplace.

A. PSD Applicability Analysis

The proposed project is a physical change at an existing PSD source, thus the project needs to be determined if it is a major modification under PSD. Per OAC 252:100-8-31, major modification means any physical change in or change in the method of operation of a major stationary source

that would result in a significant emissions increase of a regulated NSR pollutant and a significant net emission increase of the pollutant from the major stationary source. First step is to determine if the project results in a significant emission increase.

a. Project Emission Increases

The first step is to determine if the project results in a significant emission increase. Project emission increases include emission increases from new and modified sources and associated emission increases from existing and unmodified sources. For this project, Holcim elected to calculate these emission increases based on potential to emit to baseline emissions. Holcim selected July 2005 – June 2007 as the baseline period for CO_2e and January 2007 - December 2008 as the baseline period for all other pollutants. Emission increases from new and modified sources are the same as potential emissions of these sources since baseline emissions from these sources are zero. This project will increase kiln clinker production, therefore, all applicable existing sources will have associated emission increases due to the production increase. Since production increase rate is 38.99% (potential production of 693,500 metric tons/year versus baseline production of 498,972 metric tons/year), associated emission increases from all affected sources are calculated as a 38.99% increase from baseline emissions. A few emission sources are seldom used and were not represented in the 2007 and 2008 Emission Inventories. The associated increases from these sources are conservatively set equal to their potential emissions.

Pollutants	**Kiln & New Sources Potential Emissions**	**Potential Emissions From Other Affected Sources**	**Baseline Emissions From Other Affected Sources**	**Associated Emission Increases**	**Project Emission Increases**
	TPY	**TPY**	**TPY**	**TPY**	**TPY**
CO_2e	772,097.4	-	-	-	772,097.4
CO	1,531.5	-	-	-	1,531.5
NOx	573.34	-	-	-	573.34
SO_2	152.89	-	-	-	152.89
PM	16.19	155.92	112.19	43.73	59.92
PM_{10}	16.19	155.92	112.19	43.73	59.92
$PM_{2.5}$	14.42	124.74	89.75	34.99	49.41
Pb	0.02	-	-	-	0.02
VOC	202	-	-	-	202

Pollutants	Project Emission Increases	PSD Significance Level	Netting Required?
	TPY	**TPY**	
CO_2e	772,097.4	75,000	Yes
CO	1,531.5	100	Yes
NOx	573.34	40	Yes
SO_2	152.89	40	Yes
PM	59.92	25	Yes
PM_{10}	59.92	15	Yes
$PM_{2.5}$	49.41	10	Yes
Pb	0.02	0.6	No
VOC	202	40	Yes

b. Net Emission Increases

The second step is to determine if the project results in a significant net emission increase after considering any other contemporaneous emission increases and decreases in actual emissions. In this project, baseline emissions from the existing kiln system and the six dust collectors to be removed are contemporaneous emission decreases. Only contemporaneous emission increases come from the new pug mill project in 2013, which involves only one emission source, an emergency generator. The following table summarizes contemporaneous $PM/PM_{10}/PM_{2.5}$ emission increases and decreases.

Emission Point ID	EU Name	Contemporaneous Emission Changes*	
		PM/PM_{10} (tpy)	**$PM_{2.5}$ (tpy)**
461-KL1	Kiln #1		
462-KL1	Kiln #2	-174.120	-163.503
471-GQ1	Clinker Cooler #1	-4.276	-2.251
472-GQ1	Clinker Cooler #2	-12.150	-6.395
471-BFA	Cooler 1 Baghouse–Compartments 1-4 W/Flap Valve (Group 3 CSTP)	0.000	0.000
491-BF1	Cooler #1 Nuisance Dust Collector Transfer (Group 3 CSTP)	-0.825	-0.660
472-BFA	Cooler 2 Baghouse-Compartments 1 through 4 W/Flap Valve (Group 3 CSTP)	0.000	0.000
492-BF1	Cooler #2 Nuisance Dust Collector Trans. (Group 3 CSTP)	-0.825	-0.660
49A-BF1	D-11 Dust Collector	-0.852	-0.682
42A-BF2	Insufflation Dust Bin Dust Collector	-0.011	-0.009
51A-BC2/51A-BF1	Clk. Recl. Belt Transfers 1 and 2 and Dust Collector (Group 3 CSTP)	-0.027	-0.021
59A-BF5	D-16 Dust Collector	-0.008	-0.006
	Landfill Pug Mill Diesel Generator (Installed in 2013)	0.848	-
Total		**-192.246**	**-174.187**

*For sources to be removed, emissions are based on 2007-2008 baseline years. Emission increase from the pug mill generator is based on potential to emit.

The following table summarizes other contemporaneous emission increases and decreases.

Pollutants	Contemporaneous Emission Increase from Pug Mill Generator	Contemporaneous Emission Decreases from Removal of Existing Kilns	Total
	TPY	TPY	TPY
CO_2e	443.26	-700,313.8	-699,870.54
CO	2.57	-1867.46	-1864.89
NOx	11.95	-1162.02	-1150.51
SO_2	0.79	-2648.26	-2647.47
Pb	-	-0.02	-0.02
VOC	0.95	-379.46	-378.51

The following table summarizes net emission increases.

Pollutants	Project Emission Increases	Contemporaneous Emission Changes	Net Emission Increases	PSD Significance Level	PSD Review Required?
	TPY	TPY	TPY	TPY	
CO_2e	772,097.4	-699,870.54	72,226.89	75,000	No
CO	1,531.5	-1864.89	-333.39	100	No
NOx	573.34	-1150.51	-577.17	40	No
SO_2	152.89	-2647.47	-2494.58	40	No
PM	58.32	-192.25	-133.93	25	No
PM_{10}	58.32	-192.25	-133.93	15	No
$PM_{2.5}$	48.12	-174.19	-126.07	10	No
Pb	0.02	-0.02	0	0.6	No
VOC	202	-378.51	-176.51	40	No

There are no pollutants with a net emission change that exceeds a PSD significance level, therefore, this project is not subject to PSD review.

B. NSPS Applicability Analysis

NSPS, Subpart F, *Standards of Performance for Portland Cement Plants*, provides standards of performance for affected facilities in portland cement plants which have been constructed, reconstructed or modified after August 17, 1971. There are two key dates to determine which emission standard an affected facility must meet: August 17, 1971 and June 16, 2008. If an affected facility is constructed, reconstructed or modified after June 16, 2008, the emission unit must meet separate emission limits than an affected facility constructed, reconstructed or modified after August 17, 1971. Since the proposed project is occurring after the June 16, 2008 date, the proposed kiln and clinker cooler are subject to the June 16, 2008 standards under NSPS, Subpart F.

C. NESHAP Applicability

The Kiln and Clinker Cooler are subject to new source emission standards under Subpart LLL.

SECTION III. FACILITY DESCRIPTION AFTER PROJECT

After the project, the plant will contain one (1) semi-wet single-stage preheater/precalciner kiln line, 12 feet in diameter by 177 feet in length, with a nominal clinker production capacity of 2,200 TPD and a true capacity of 764,453 TPY.

The facility also operates process units which conduct the following operations:

- Mining and transport of raw materials (limestone and shale);
- Raw material crushing, screening, and transport operations;
- Coal crushing, transport, and storage;
- Raw material preparation, transport, and storage;
- Clinker cooling, transport, and storage;
- Finish milling resulting in production of cement;
- Product transport, storage, loading, and shipping.

Holcim Ada's cement manufacturing process begins with mining (i.e., drilling and blasting) of raw materials: calcium carbonate (limestone) and argillaceous materials (shale) from the quarry. The raw materials are then loaded into trucks which haul the materials to be unloaded at the primary crusher. The materials then travel by conveyor to the secondary crusher where they are discharged onto an overland conveyor belt system.

The conveying system transports the raw material to the raw material storage silos. It is then fed into the raw mills. Water is added to the materials, which are then ground into slurry. Additional raw materials, such as sand, spent catalyst, mill scale, etc. may be added to the mix to adjust the chemistry of the slurry to meet quality standards.

The slurry is pumped from the raw mills to the kiln feed storage tanks. The kiln feed is pumped to the kiln system, where it undergoes physical and chemical changes during the heating process to form hydraulic calcium silicates found in clinker. Heat for the kiln is provided by natural gas, coal, tire-derived fuel (TDF), liquid fuels (i.e., non-hazardous used oil and bio-diesel) and/or other approved alternative non-hazardous fuels. The kiln exhaust is vented through a baghouse. Cement kiln dust (CKD) collected by the baghouse is transported to a waste dust bin, insufflation bin, or shipping silos. The kiln is also equipped with selective non-catalytic reduction (SNCR) for NOx control.

The clinker is discharged from the kiln into the clinker cooler and then transported to clinker storage silos. The clinker cooler exhausts to the same baghouse as the kiln. From the clinker storage silos, the clinker is conveyed to the finish mills to be finely ground. Gypsum and additional materials are ground with the clinker. The cement is transported from the finish mill to the shipping silos or packing silos for distribution by truck, rail, or bagged product. Dust collectors are in place to collect and recover product and also control emissions from the

bagging. Dust collectors in the shipping area are used to convey product to and between silos and to the truck and rail loading areas.

Coal, TDF, whole tires and other solid fuels are received by truck or rail. Rail cars are unloaded with a shaker apparatus, if necessary, to remove the materials from the cars. The coal is stored outside and transferred to the coal silo and then conveyed to coal mills for grinding into a fine powder prior to injection into the kiln or precalciner.

Conveyor system transfer points (*i.e.*, Affected Sources subject to the Portland Cement MACT) are specified, where applicable, in the following equipment listing. As conveyor system transfer points are subject to varying monitoring requirements depending on whether they are totally enclosed, partially enclosed, etc., they have been grouped into the following three categories:

Group 1: Totally enclosed conveying system transfer points (enclosed on all sides, top and bottom);

Group 2: Partially enclosed or unenclosed conveying system transfer points (have at least one side, top or bottom that is open); and

Group 3: Partially enclosed or totally enclosed conveying system transfer points directed to an air pollution control device (APCD).

At Holcim's Ada Plant, the majority of the conveyor system transfer points are located within the main production building. Thus, any emissions from these units are fugitive in nature and is almost entirely enclosed in the building.

Plant operations are 24 hrs/day, 7 days/week, and 52 weeks/yr (8,760 hrs/yr).

The applicant has identified each emission unit according to the 2009 Emissions Inventory Turnaround Document and assigned each emission unit a specific designation within one of eleven Emission Unit Groups.

SECTION IV. EQUIPMENT

EUG 1 – Fugitives	
Emission Unit	**EU Name/Model**
N/A	Truck Traffic on Paved Roads
N/A	Truck Traffic on Unpaved Roads
N/A	Storage Piles

EUG 2 – Primary Crusher, Secondary Crusher, Screening, Material Transfer			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
21A-IM1	Primary Crusher	1000	Pre-1971
21A-AF1	Primary Apron Feeder	1250	Pre-1971
21A-SX1	Dribble Conveyor	1000	Pre-1971
21A-HP1	Primary Crusher Hopper	1250	Pre-1971

EUG 2 – Primary Crusher, Secondary Crusher, Screening, Material Transfer			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
21A-BC1	Primary Belt	1250	Pre-1971
211-IM1 212-IM1	Secondary Crushers	675 (each)	Pre-1971
211-BC2	#1 Recirculating Belt	675	Pre-1971
211-BC1	#1 Screen Feed Belt	1300	Pre-1971
212-BC1	#2 Screen Feed Belt	1300	Pre-1971
212-BC3	#2 Recirculating Belt	675	Pre-1971
211-VS1 211-VS2 212-VS1 212-VS2	Secondary Crusher Screening	1250 (total)	Pre-1971
211-BC3	#1 Screen Discharge Belt	625	Pre-1971
212-BC2	#2 Screen Discharge Belt	625	Pre-1971
291-BC8	Secondary Belt to Surge Bin	1250	Pre-1971
291-3B1	Surge Bin	1250	Pre-1971
291-AF1	Quarry Apron Feeder	1000	Pre-1971
291-BC1	Flight 1 Drop	1000	Pre-1971
291-BC2	Flight 2 Drop	1000	Pre-1971
291-BC3	Flight 3 Drop	1000	Pre-1971
291-BC4	Flight 4 Drop	1000	Pre-1971
291-BC5	Flight 5 Drop	1000	Pre-1971
291-BC6	Flight 6 Drop	1000	Pre-1971
291-BC7	Flight 7 Drop	1000	Pre-1971
291-ST1	Radial Stacker	1100	Pre-1971
291-BC9	Raw Incline Belt	1100	Pre-1971

Equipment is not subject to Subpart OOO (40 CFR § 60.670) as the same was not constructed, reconstructed or modified after August 31, 1983.

* Capacities listed are individual, nominal capacity unless otherwise specified.

EUG 3 – Coal Unloading, Processing and Transfer			
Emission Unit	**EU Name/Model******	**Capacity* (Tons/Hour)**	**Construction Date**
L11-VD1	Coal Shaker**	330	1975
L31-RC1	Coal Crusher**	330	1975
L31-VD1 L31-VD2	Coal Crusher Material Transfers**	165 (each)	1975
L61-RM1/ L61-BF1	Coal Mill #1**/ Coal Mill 1 Baghouse, with Explosion Vents**	16	1975/ Baghouse in 2006
L62-RM1/ L62-BF1	Coal Mill #2**/ Coal Mill 2 Baghouse, with Explosion Vents**	16	1975/ Baghouse in 2006
L11-HP1 L11-HP2	Coal Unloading Hoppers**	165 (each)	1975

EUG 3 – Coal Unloading, Processing and Transfer			
Emission Unit	**EU Name/Model******	**Capacity* (Tons/Hour)**	**Construction Date**
L11-VF1	West Vibrating Feeder**	165	1975
L11-VF2	East Vibrating Feeder**	165	1976
L11-BC1	Coal Unloading Belt**	330	1976
L01-MI1	Coal/Coke Blender**	330	2000
L31-SG1 L31-SG2	Coal Slide Gates**	165 (each)	1975
L31-BC1	Coal Tunnel Belt**	330	1975
L31-RC1	Crusher Roller**	330	1975
L31-BC2	Conveyor Belt**	330	1975
L31-3B1	Coal Bin**	660	1975
L61-WF1 L62-WF1	Feed O Weights**	16 (each)	1975
L61-SC1 L62-SC1	Screw Conveyors**	16 (each)	1975
481-PF1	Rotary Schenck Feeder (Kiln 1) (Group 1 CSTP)***	16	2006
482-PF1	Rotary Schenck Feeder (Kiln 2) (Group 1 CSTP)***	16	2006
L91-BI1	Pulverized Solid Fuel Bin (Line 1)***	25	2006
L92-BI1	Pulverized Solid Fuel Bin (Line 2) ***	25	2006
L93-BF1	Nuisance Fine Coal Storage Bin Dust Collector**	22	TBD
L91-SC1	Screw Conveyor (Line 1) (Group 1)***	16	2006
L92-SC1	Screw Conveyor (Line 2) (Group 1)***	16	2006
L91-SC2	Screw conveyor#2 (line1)(Group1)	16	2009
L61-RF1	Baghouse Rotary Airlock-IDF	20	2006
L62-RF1	Baghouse Rotary Airlock-IDF	20	2006

* Capacities listed are individual, nominal capacity.

** Identified units are "affected facilities" subject to NSPS Subpart Y (40 CFR § 60.250).

***Identified units are "affected sources" subject to both NSPS Subpart Y and NESHAP Subpart LLL (40 CFR § 63.1340(b)(7)). Pursuant to § 63.1356, CSTP used to convey coal from the coal mill to the kilns will comply with the more stringent PM limits of NESHAP, Subpart LLL.

****The EU Name/Model descriptions are the descriptions in use at the facility. However, it is understood that other materials may be processed by the equipment. For example, the coal shaker may process both coal and petroleum coke.

EUG 4 – Raw Mill Silos, Bucket Elevators and Interstices			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
K1A-BE1	Additive System Bucket Elevator	100	Pre-1971
K1A-3S1	S-2 Interstice (Storage Bin) (Group 3)	100	Pre-1971

EUG 4 – Raw Mill Silos, Bucket Elevators and Interstices			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
K1A-3S1	S-2 Interstice Transfer 1 (Group 2 CSTP)	25	Pre-1971
K1A-3S1	S-2 Interstice Transfer 2 (Group 2 CSTP)	25	Pre-1971
X11-3S2	Mill Scale Interstice (Storage Bin) (Group 3)	15	Pre-1971
X11-3S2	Mill Scale Interstice Transfer (GROUP 2 CSTP)	15	Pre-1971
X11-3S4	I-2 Interstice (Storage Bin) Group 3	15	Pre-1971
X11-3S4	I-2 Interstice Transfer (Group 2 CSTP)	15	Pre-1971
291-3S1	L-1 Silo (Storage Bin) Group 3	100	Pre-1971
291-3S1	L-1 Silo Transfer (Group 2 CSTP)	100	Pre-1971
291-3S2	L-2 Silo (Storage Bin) Group 3	100	Pre-1971
291-3S2	L-2 Silo Transfer (Group 2 CSTP)	100	Pre-1971
291-3S3	L-3 Silo (Storage Bin) Group 3	100	Pre-1971
291-3S3	L-3 Silo Transfer (Group 2 CSTP)	100	Pre-1971
331-BC1	Raw Mill #1 Feedbelt Transfer 1 (Group 2 CSTP)	200	Pre-1971
331-BC1	Raw Mill #1 Feedbelt Transfer 2 (Group 2 CSTP)	200	Pre-1971
331-BF1	D-7a Dust Collector Transfer **	100	1993
331-BF2	D-7b Dust Collector Transfer (L1 Food-O-Weight transfer to 331-BC1 Feed Belt) (Group 3)**	100	1993
331-BF3	D-7c Dust Collector Transfer (L2 Feed-O-Weight transfer to 331-BC1 Feed Belt)**	100	1993
331-WF1	L-1 Feed O Weight (Group 2 CSTP)	100	Pre-1971
331-WF2	L-2 Feed O Weight (Group 2 CSTP)	100	Pre-1971
331-WF3	L-3 Feed O Weight (Group 2 CSTP)	100	Pre-1971
331-WF4	Raw Mill #1 S1 FOW (Group 2 CSTP)	15	Pre-1971
331-WF5	Raw Mill #1 I1 FOW (Group 2 CSTP)	15	Pre-1971
361-BM1	Raw Mill #1 (Raw Mill)	120	Pre-1971
291-3S4	L-4 Silo (Storage Bin) Group 3	100	Pre-1971
291-3S4	L-4 Silo Transfer (Group 2 CSTP)	100	Pre-1971
291-3S5	L-5 Silo (Storage Bin) Group 3	100	Pre-1971
291-3S5	L-5 Silo Transfer (Group 2 CSTP)	100	Pre-1971
291-3S6	L-6 Silo (Storage Bin) Group 3	100	Pre-1971
291-3S6	L-6 Silo Transfer (Group 2 CSTP)	100	Pre-1971
332-BC1	Raw Mill #2 Feedbelt Transfer 1 (Group 2 CSTP)	200	Pre-1971
332-BC2	#2 Raw Mill crossover feed belt (Group 2 CSTP)**	200	2000
332-BF1	D-8a Dust Collector (L4 Feed-O-Weight transfer to 332-BC1 Feed Belt) **	100	1993
332-BF2	D-8b Dust Collector (L4 Feed-O-Weight transfer	100	1993

EUG 4 – Raw Mill Silos, Bucket Elevators and Interstices			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
	to 332-BC1 Feed Belt)**		
332-BF3	D-8c Dust Collector (L4 Feed-O-Weight transfer to 332-BC1 Feed Belt)**	100	1993
332-WF1	L-4 Feed O Weight (Group 2 CSTP)	100	Pre-1971
332-WF2	L-5 Feed O Weight (Group 2 CSTP)	100	Pre-1971
332-WF3	L-6 Feed O Weight (Group 2 CSTP)	100	Pre-1971
332-WF4	Raw Mill #2 S2 FOW (Group 2 CSTP)	15	Pre-1971
332-WF5	Raw Mill #2 I2 FOW (Group 2 CSTP)	15	Pre-1971
362-BM1	Raw Mill #2 (Raw Mill)	180	Pre-1971
291-BFC	D-1 Dust Collector	100	Pre-1971
291-BFD	D-2 Dust Collector	100	Pre-1971
291-BCA	Row Incline Extension Belt Group 3	1100	Pre-1971
291-BCB	L-5 Extension Belt Group 3	1100	Pre-1971
291-BCC	L-6 Extension Belt Group 3	1100	Pre-1971
291-BCE	L-2 Extension Belt Group 3	1100	Pre-1971
291-BCF	L-3 Extension Belt Group 3	1100	Pre-1971
K1A-AF1	Additive Hopper Apron Feeder Group 2	100	Pre-1971
K1A-BC1	Additive Incline Belt Group 3	100	Pre-1971
K1A-BC2	Additive Incline Belt 1st Extension Belt Group 3	100	Pre-1971
K1A-BC4	Additive Incline Belt (Group 3)	100	Pre-1971
X11-BC3	Sand Interstice Belt Group 3	100	Pre-1971
X11-BC5	Mill Scale Interstice Belt Group 3	100	Pre-1971
KIA-HP1	Additive Hopper Group 2	100	Pre-1971

**Identified units are subject to both NSPS Subpart F and NESHAP Subpart LLL. Pursuant to § 63.1356, If an affected facility subject to this subpart has a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. These units will comply with NESHAP Subpart LLL requirements which are more stringent.

* Capacities listed are either individual, nominal capacity or the capacity of the individual source as determined based on the nominal capacity of the associated inlet stream.

Note: Silos may contain various materials based on requirements for product quality control.

EUG 5 – Kiln System				
Emission Unit	**EU Name/Model**	**Capacity***		**Construction Date**
		Tons/Hr**	**MMBTUH**	
463-KL1	Kiln System (W/Cooler & Alkali Bypass)	156	500	TBD
423-BF2	Nuisance Filter Dust Collector	8	-	TBD
4A3-BF2	Nuisance Bypass Dust Collector	6	-	TBD

* Capacities listed are estimated nominal capacities.

** Inlet capacity – estimated nominal feed rate capacity (tons of dry solids per hour).

EUG 6 – Clinker Cooler Systems – Coolers, Storage Silos, Interstices and Conveyors			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
49A-3S1	C-1 Clinker Silo (Storage Bin)	60	Pre-1971
49A-3S2	C-2 Clinker Silo (Storage Bin)	60	Pre-1971
49A-3S3	C-3 Clinker Silo (Storage Bin)	60	Pre-1971
49A-3S4	C-4 Clinker Silo (Storage Bin)	60	Pre-1971
49A-3S5	C-5 Clinker Silo (Storage Bin)	60	Pre-1971
49A-3S6	C-6 Clinker Silo (Storage Bin)	60	Pre-1971
KIA-3S6	CKD Interstice (Storage Bin)	15	Pre-1971
K1A-BF3	Grindout Bin dust collector Transfer (Group 3)**	50	1992
49A-BC1	Clinker Extension Belt #5 Transfer 1 (Group 3 CSTP)	110	Pre-1971
49A-BC1	Clinker Extension Belt #5 Transfer 2 (Group 3 CSTP)	110	Pre-1971
49A-BC2	Clinker Extension Belt #2 Transfer 1 (Group 3 CSTP)	110	Pre-1971
49A-BC2	Clinker Extension Belt #2 Transfer 2 (Group 3 CSTP)	110	Pre-1971
49A-BC3	Clinker Extension Belt #6 (Group 3 CSTP)	110	Pre-1971
49A-BC4	Clinker Extension Belt #3 (Group 3 CSTP)	110	Pre-1971
49A-SC1	D-11 Dust Collector Screw Transfer 1 (Group 2 CSTP)	110	Pre-1971
49A-SC1	D-11 Dust Collector Screw Transfer 2 (Group 2 CSTP)	110	Pre-1971
49A-SC2	D-4 Dust Collector Screw (Group 3 CSTP)	110	Pre-1971
49A-SC3	D-3 Dust Collector Screw (Group 3 CSTP)	110	Pre-1971
49A-SQ1	Spout Clinker Outside Chute C-3 (Group 3 CSTP)**	110	1989
49A-SQ2	Spout Clinker Outside Chute C-4 (Group 3 CSTP)**	110	1989
49A-SQ3	Spout Clinker Outside Chute C-6 (Group 3 CSTP)**	110	1989
471-GQ1	Clinker Cooler #1**	110	1984
471-GQ1	Clinker Cooler #1 Transfer (Group 3 CSTP)**	110	1984
491-BC1	Clinker Incline (North) (Group 2 CSTP)	110	Pre-1971
491-BC2	Clinker Reversing Belt (West) Transfers 1 through 4 (Group 2 CSTP)	110	Pre-1971
491-BE1	Clinker Elevator (West) (Group 1 CSTP)	110	Pre-1971
491-CV1	Clinker Cooler #1 Drag Transfers 1 and 2 (Group 3 CSTP)**	110	1984
491-FVA	Double Tip Valve #1 Cooler Exhaust K1 (Group 1 CSTP)	10	1984

EUG 6 – Clinker Cooler Systems – Coolers, Storage Silos, Interstices and Conveyors			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
491-FVB	Double Tip Valve #2 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVC	Double Tip Valve #3 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVD	Double Tip Valve #4 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVE	Double Tip Valve #5 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVF	Double Tip Valve #6 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVG	Double Tip Valve #7 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVH	Double Tip Valve #8 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVI	Double Tip Valve #9 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVJ	Double Tip Valve #10 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVK	Double Tip Valve #11 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVL	Double Tip Valve #12 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVM	Double Tip Valve #13 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVN	Double Tip Valve #14 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVO	Double Tip Valve #15 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-FVP	Double Tip Valve #16 Cooler Exhaust K1 (Group 1 CSTP)	10	1984
491-SC1	Clinker Cooler #1 Heat Exchanger Screw (Group 1 CSTP)	110	1984
491-VC1	West NF Clinker Conveyor (Group 2 CSTP)**	110	1984
472-GQ1	Clinker Cooler #2	110	1984
472-GQ1	Clinker Cooler #2 Transfer (Group 3 CSTP)**	110	1984
492-BC1	Clinker Incline Belt (South) (Group 2 CSTP)**	110	Pre-1971
492-BC2	Clinker Reversing Belt (East) Transfers 1 through 4 (Group 3 CSTP)	110	Pre-1971
492-BE1	Clinker Elevator (East) (Group 3 CSTP)	110	Pre-1971
492-CV1	Clinker Cooler #2 Drag Transfers 1 and 2 (Group 3 CSTP)**	110	1984
492-FVA	Double Tip Valve #1 Cooler Exhaust K2	10	1984

EUG 6 – Clinker Cooler Systems – Coolers, Storage Silos, Interstices and Conveyors			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
	(Group 1 CSTP)		
492-FVB	Double Tip Valve #2 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVC	Double Tip Valve #3 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVD	Double Tip Valve #4 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVE	Double Tip Valve #5 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVF	Double Tip Valve #6 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVG	Double Tip Valve #7 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVH	Double Tip Valve #8 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVI	Double Tip Valve #9 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVJ	Double Tip Valve #10 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVK	Double Tip Valve #11 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVL	Double Tip Valve #12 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVM	Double Tip Valve #13 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVN	Double Tip Valve #14 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVO	Double Tip Valve #15 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-FVP	Double Tip Valve #16 Cooler Exhaust K2 (Group 1 CSTP)	10	1984
492-SC1	Clinker Cooler #2 Heat Exchanger Screw (Group 1 CSTP)	110	1984
492-VC1	East NF Clinker Conveyor (Group 2 CSTP)	110	Pre-1971
493-BF1	Nuisance Clinker Transport Dust Collector**	138	TBD
49A-BF3	D-3 Dust Collector	110	Pre-1971
42A-3B1	Waste Dust Bin/Pug mill	650	Pre-1971
42A-BF1	Waste Dust Bin/ Pug Mill Dust Collector	650	Pre-1971
42A-3B2	Insufflation Dust Bin	250	Pre-1971
42A-BF2	Insufflation Dust Bin Dust Collector	250	Pre-1971
42A-BX1	Dustless Unloader(group 2)	150	1990
42A-3B1	Waste Dust bin transfer to Truck Dry loading	100	2007

EUG 6 – Clinker Cooler Systems – Coolers, Storage Silos, Interstices and Conveyors			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
	(Group 3)**		
Landfill Pug Screw Transfer	Dustless Unloader (Group2)**	35	2013
Landfill Generator	Allis-Chalmers Diesel Generator	88-hp	Pre 2006

**Identified units are subject to both NSPS Subpart F and NESHAP Subpart LLL. Pursuant to § 63.1356, If an affected facility subject to this subpart has a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. These units will comply with NESHAP Subpart LLL requirements which are more stringent.

* Capacities listed are individual, nominal capacity.

EUG 7 – Finish Mills, Finish Mill Conveyors, Cement Elevators and Storage			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
49A-3S1	C-1 Clinker Silo Transfer (Group 2 CSTP)	60	Pre-1971
49A-3S2	C-2 Clinker Silo Transfer (Group 2 CSTP)	60	Pre-1971
49A-3S3	C-3 Clinker Silo Transfer (Group 2 CSTP)	60	Pre-1971
49A-3S4	C-4 Clinker Silo Transfer (Group 2 CSTP)	60	Pre-1971
49A-3S5	C-5 Clinker Silo Transfer (Group 2 CSTP)	60	Pre-1971
49A-3S6	C-6 Clinker Silo Transfer (Group 2 CSTP)	60	Pre-1971
51A-HP1	Clinker Reclaim Hopper (Group 3 CSTP)**	110	1994
59A-3S1	Silo Cement #21 through 33 (Storage Bin). Emissions are controlled by dust collectors 59A-BF1, 59A-BF2, 59A-BF3	225	Pre-1971
59A-3S2		225	Pre-1971
59A-3S3		225	Pre-1971
59A-3S4		225	Pre-1971
59A-3S5		225	Pre-1971
59A-3S6		225	Pre-1971
59A-3S7		225	Pre-1971
59A-3S8		225	Pre-1971
59A-3S9		225	Pre-1971
59A-3SA		225	Pre-1971
59A-3SB		225	Pre-1971
59A-3SC		225	Pre-1971
59A-3SD		225	Pre-1971
59A-PP1	Z-Flap FK-Pump Transfers 1 and 2 (Group 1 CSTP)	150	1988
59A-PP2	250M FK-Pump Transfers 1 and 2 (Group 1 CSTP)	150	1987
59A-SC1	D-12 Dust Collector Screw (Group 3 CSTP)	120	Pre-1971

EUG 7 – Finish Mills, Finish Mill Conveyors, Cement Elevators and Storage			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
59A-SC2	D-13 Dust Collector Screw (Group 3 CSTP)	120	Pre-1971
59B-3S1	Silo Cement #1 through 18 (Storage Bin) emissions are controlled by dust collectors 59B-BF1, 59B-BF2, and 59B-BF3	75	Pre-1971
59B-3S2		75	Pre-1971
59B-3S3		75	Pre-1971
59B-3S4		75	Pre-1971
59B-3S5		75	Pre-1971
59B-3S6		75	Pre-1971
59B-3S7		75	Pre-1971
59B-3S8		75	Pre-1971
59B-3S9		75	Pre-1971
59B-3SA		75	Pre-1971
59B-3SB		75	Pre-1971
59B-3SC		75	Pre-1971
59B-3SD		75	Pre-1971
59B-3SE		75	Pre-1971
59B-3SF		75	Pre-1971
59B-3SG		75	Pre-1971
59B-3SH		75	Pre-1971
59B-3SI		75	Pre-1971
59B-BF3	Dust Collector Silo 4 Transfer (Group 3 CSTP)	100	Pre-1971
59B-SC1	D-18 Dust Collector Screw (Group 3 CSTP)	100	Pre-1971
59B-SC2	D-17 Dust Collector Screw (Group 3 CSTP)	100	Pre-1971
K1A-3S3	MR-2 Interstice (Storage Bin) Group 3	10	Pre-1971
K1A-3S3	K1A-3S3 Transfer 1 (Group 2 CSTP)**	25	1990
K1A-3S3	K1A-3S3 Transfer 2 (Group 2 CSTP)**	25	1990
K1A-3S5	G-1 Gypsum Silo Storage Bin and Transfers 1 and 2 (Group 1 CSTP)	15	Pre-1971
KIA-3S6	Grindout Interstice Transfer 1 (Group 1 CSTP)	30	1992
531-WF5	Mason Rock #1 FOW (Group 3 CSTP)**	25	Pre-1971 Modified in 1992
531-BC1	FM #1 Feed Belt (Group 2 CSTP)	110	Pre-1971
531-BF1	D9a Dust Collector Transfer (Group 3 CSTP)**	60	1994
531-BF2	D9b Dust Collector Transfer (Group 3 CSTP)**	60	1994
531-BF3	D9c Dust Collector Transfer (Group 3 CSTP)**	60	1994
531-RF1	Grindout Interstice Rotary Feeder #1 (Group 1 CSTP)	30	1986

EUG 7 – Finish Mills, Finish Mill Conveyors, Cement Elevators and Storage			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
531-SC1	FM #1 Grindout Screw (G-2) (Group 3 CSTP)**	30	Pre-1971 Modified in 1986
531-WF1	C-1 Clinker FOW (Group 3 CSTP)	60	Pre-1971
531-WF2	G-1 Gypsum FOW #1 FM (Group 3 CSTP)	15	Pre-1971
531-WF3	C-2 Clinker FOW(Group 3 CSTP)	60	Pre-1971
531-WF4	C-3 Clinker FOW (Group 3 CSTP)	60	Pre-1971
561-AS1	FM #1 Mill Discharge Airslide (Group 3 CSTP)	250	Pre-1971
561-AS2	FM #1 Long Airslide Transfers 1 and 2 (Group 1 CSTP)	250	Pre-1971
561-AS3	FM #1 Splitter Airslide #2 (Group 3 CSTP)	125	Pre-1971
561-AS4	FM #1 Splitter Airslide #1 (Group 3 CSTP)	125	Pre-1971
561-AS5	FM #1 Reject #1 Airslide (Group 3 CSTP)	125	Pre-1971
561-AS6	FM #1 Reject #2 Airslide (Group 3 CSTP)	125	Pre-1971
561-BE1	FM #1 Elevator (Group 3 CSTP)	250	Pre-1971
561-BM1	FM #1 (Finish Mill) and Transfer (Group 1 CSTP)	60	Pre-1971
561-SC1	FM #1 Dust Collector Screw (Group 3 CSTP)	110	Pre-1971
561-SR1	Separator #1 Transfers 1 through 3 (Group 1 CSTP)	30 each	Pre-1971
561-SR2	Separator #2 Transfers 1 through 3 (Group 1 CSTP)	30 each	Pre-1971
591-AS1	Airslide From Sep #1 To Cooler #1 (Group 1 CSTP)	30	Pre-1971
591-AS2	Airslide From Sep #2 To Cooler #2 (Group 1 CSTP)	30	Pre-1971
591-AS3	Airslide From #1 Cooler To FK Pump (Group 1 CSTP)	30	Pre-1971
591-AS4	Airslide From #2 Cooler To FK Pump (Group 1 CSTP)	30	Pre-1971
591-AS5	Airslide - #1 Seps To FK Pump Trans.1 (Group 1 CSTP)	30	Pre-1971
591-AS5	Airslide - #1 Seps To FK Pump Trans.2 (Group 1 CSTP)	30	Pre-1971
591-CQ1	Cement Cooler #1 (Group 1 CSTP)	30	Pre-1971
591-CQ2	Cement Cooler #2 (Group 1 CSTP)	30	Pre-1971
KIA-3S6	Grindout Interstice Transfer 2 (Group 1 CSTP)	30	Pre-1971 Converted in 1986
532-BC1	FM #2 Feed Belt (Group 2 CSTP)	110	Pre-1971
532-BC2	Belt Conveyor (Mas Rock) To FM #2	25	Pre-1971

EUG 7 – Finish Mills, Finish Mill Conveyors, Cement Elevators and Storage			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
	(Group 3 CSTP)**		Modified in 1992
532-BF1	D10c Dust Collector Transfer (Group 3 CSTP)	60	Pre-1971
532-BF2	D10b Dust Collector Transfer (Group 3 CSTP)	60	Pre-1971
532-BF3	D10a Dust Collector Transfer (Group 3 CSTP)	60	Pre-1971
532-RF1	Grindout Interstice Rotary Feeder #2 (Group 1 CSTP)	30	1986
532-SC1	FM #2 Grindout Screw (G-2) (Group 3 CSTP)	30	Pre-1971
532-WF1	Feed O Weight Mason Rock #2 (Group 2 CSTP)	25	Pre-1971
532-WF2	C-4 Clinker FOW (Group 3 CSTP)	60	Pre-1971
532-WF3	C-5 Clinker FOW (Group 3 CSTP)	60	Pre-1971
532-WF4	G-1 Gypsum FOW #2 FM (Group 3 CSTP)	15	Pre-1971
532-WF5	C-6 Clinker FOW (Group 3 CSTP)	60	Pre-1971
562-AS1	FM #2 Mill Discharge Airslide (Group 3 CSTP)	250	Pre-1971
562-AS2	FM #2 Long Airslide Transfers 1 and 2 (Group 1 CSTP)	250	Pre-1971
562-AS3	FM #2 Splitter Airslide #4 (Group 3 CSTP)	125	Pre-1971
562-AS4	FM #2 Splitter Airslide #3 (Group 3 CSTP)	125	Pre-1971
562-AS5	FM #2 Reject #3 Airslide (Group 3 CSTP)	125	Pre-1971
562-AS6	FM #2 Reject #4 Airslide (Group 3 CSTP)	125	Pre-1971
562-BE1	FM #2 Elevator (Group 3 CSTP)	250	Pre-1971
562-SC1	FM #2 Dust Collector Screw (Group 3 CSTP)	110	Pre-1971
562-BM1	FM #2 (Finish Mill) and Transfer (Group 3 CSTP)	60	Pre-1971
562-SR1	Separator #3 Transfers 1 through 3 (Group 1 CSTP)	30 each	Pre-1971
562-SR2	Separator #4 Transfers 1 through 3 (Group 1 CSTP)	30 each	Pre-1971
56A-BI1	Bin (Storage Bin)**	50	1986
56A-BI1	Bin Transfer (Group 1 CSTP)	10	1995
592-AS1	Airslide From Sep #3 To Cooler #3 (Group 1 CSTP)	30	Pre-1971
592-AS2	Airslide From Sep #4 To Cooler #4 (Group 1 CSTP)	30	Pre-1971
592-AS3	Airslide From #3 Cooler To FK Pump (Group 1 CSTP)	30	Pre-1971
592-AS4	Airslide From #4 Cooler To FK Pump (Group 1 CSTP)	30	Pre-1971
592-AS5	Airslide - #2 Seps To FK Pump Transfers1 and 2(Group 1 CSTP)	30 each	Pre-1971

EUG 7 – Finish Mills, Finish Mill Conveyors, Cement Elevators and Storage			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
592-CQ1	Cement Cooler #3 (Group 1 CSTP)	30	Pre-1971
592-CQ2	Cement Cooler #4 (Group 1 CSTP)	30	Pre-1971
561-BF1	FM #1 East Dust Collector**	250	2007
562-BF2	FM #2 West Dust Collector**	250	2007

**Identified units are subject to both NSPS Subpart F and NESHAP Subpart LLL. Pursuant to § 63.1356, If an affected facility subject to this subpart has a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. These units will comply with NESHAP Subpart LLL requirements which are more stringent.

* Capacities listed are individual, nominal capacity.

EUG 8 – Cement Packing, Dispatch, and Distribution System			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
59A-3S1	Silo Cement #21 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S2	Silo Cement #22 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S3	Silo Cement #23 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S4	Silo Cement #24 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S5	Silo Cement #25 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S6	Silo Cement #26 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S7	Silo Cement #27 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S8	Silo Cement #28 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3S9	Silo Cement #29 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3SA	Silo Cement #30 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3SB	Silo Cement #31 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3SC	Silo Cement #32 Transfer (Group 3 CSTP)	200	Pre-1971
59A-3SD	Silo Cement #33 Transfer (Group 3 CSTP)	200	Pre-1971
59B-3S1	Silo Cement #1 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971

EUG 8 – Cement Packing, Dispatch, and Distribution System			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
59B-3S2	Silo Cement #2 Transfer (Group 1 CSTP)	40	Pre-1971
59B-3S3	Silo Cement #3 Transfer (Group 1 CSTP)	40	Pre-1971
59B-3S4	Silo Cement #4 Transfer (Group 1 CSTP)	40	Pre-1971
59B-3S5	Silo Cement #5 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3S6	Silo Cement #6 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3S7	Silo Cement #7 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3S8	Silo Cement #8 Transfer (Group 1 CSTP)	40	Pre-1971
59B-3S9	Silo Cement #9 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SA	Silo Cement #10 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SB	Silo Cement #11 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971/1995
59B-3SC	Silo Cement #12 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SD	Silo Cement #13 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SE	Silo Cement #14 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SF	Silo Cement #15 Transfer (Group 1 CSTP)	40	Pre-1971
59B-3SG	Silo Cement #16 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SH	Silo Cement #17 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
59B-3SI	Silo Cement #18 Transfers 1 and 2 (Group 1 CSTP)	40 each	Pre-1971
611-PP1	Packhouse FK Pump Transfers 1 and 2 (Group 1 CSTP)	47 each	Pre-1974
62A-WB1	Track 3 loading (Group 2 CSTP)**	200	1995
62A-WB2	Track 2 loading (Group 2 CSTP)**	200	1995
62A-WB3	Track 1 loading (Group 2 CSTP)**	200	1995
624-AS1	Airslide from Silo 30 to Truck Loading Spout (Group 3 CSTP)	188	Pre-1971
624-AS2	Airslide from Silo 32 to Truck Loading Spout (Group 3 CSTP)	188	Pre-1971

EUG 8 – Cement Packing, Dispatch, and Distribution System			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
626-AS1	Airslide from Silo 31 to truck/rail load out spout track 2 (Group 3 CSTP)	188	Pre-1971
626-AS2	Airslide from Silo 33 to truck/rail load out spout track 2 (Group 3 CSTP)	188	Pre-1971
622-AS1	Silo #24 Air Slide Conveyor to truck/rail load out spout track2 (Group 1)**	188	2006
622-AS2	Silo #26 Air Slide Conveyor to truck/rail load out spout track 2 (Group 1)	188	2006
621-AS1	Silo #21 Air Slide Conveyor to truck/rail load out spout track 3 (Group 1)	188	2006
621-AS3	Silo #23 Air Slide Conveyor to truck/rail load out spout track 3 (Group1)	188	2006
623-AS1	Silo #27 Air Slide Conv. To truck load out track 1(Group 1)	188	2006
623-AS2	Silo #27 Air Slide Conv. To truck/rail load out spout track 1(Group 1)	188	2006
623-LS1	Bay #1 load out Spout(Group3)**	200	2006
622-LS1	Bay 2 load out Spout(Group 3)**	200	2006
621-LS1	Bay 3 load out Spout (Group 3)**	200	2006
661-3B2	Bin Type I Packing Transfers 1 and 2 (Group 3 CSTP)**	100 each	1992
661-BE2	Elevator Packhouse North Type I (Group 1 CSTP)	67	Pre-1971
661-BE3	Elevator Packhouse South Type I (Group 1 CSTP)	67	Pre-1971
661-BF3	Dust Collector for Basement Screw SC-7 (Group 3 CSTP)**	80	1992
661-SC1	Screw Conv Silos 9 - 12 To Ph (Group 1 CSTP)	110	Pre-1971
661-SC2	Screw Conv Silos 9 16-18 To Ph (Group 1 CSTP)	110	Pre-1971
661-SC3	Screw Conv Silos 5-7 13 14 16-18 To Ph (Group 1 CSTP)	110	Pre-1971
661-SC4	Screw Conv Silos 5-7 13 14 To Ph (Group 1 CSTP)	110	Pre-1971
661-SC5	Screw Conv Silos 1 13 14 To Ph (Group 1 CSTP)	110	Pre-1971

EUG 8 – Cement Packing, Dispatch, and Distribution System			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
661-SC6	Screw Conv Silos 1 South To Ph (Group 1 CSTP)	110	Pre-1971
661-SC7	Screw Conv Type-I To Pk Bin Elev Transfers 1 and 2 (Group 1 CSTP)	110 each	Pre-1971
661-SC8	Screw Conv Type-I To Pk Bin Elev Transfers 1 and 2 (Group 1 CSTP)	67 each	Pre-1971
662-BE1	Elevator South Masonry (Group 3 CSTP)	67	Pre-1971
662-BF3	Dust Collector Masonry Packer Trans (Group 3 CSTP)**	80	1992
662-SC1	Mas. Elev. Dust coll. Screw (Group 3 CSTP)	67	Pre-1971
662-SC2	Masonry Cleanup Screw (Group 3 CSTP)	67	Pre-1971
66A-SC1	Screw Conv to 66A-VS1 (Group 3 CSTP)**	67	2009
662-SC9	Screw Conv Silo 15 (Masonry) (Group 1 CSTP)	67	1992
662-SCA	Screw Conv Silos 2 3 4 (Masonry) (Group 1 CSTP)	67	1992
662-SCB	Screw Conv To Elevator (Masonry) (Group 1 CSTP)	67	1992
662-SCD	Screw Conveyor Silo 8 (Masonry) (Group 1 CSTP)	67	1992
66A-VS1	Scalping Screen & Material Transfers 1 through 3(Group 3 CSTP)**	67 each	2009
671-FQ1	Bag flattening belt(Group 2 CSTP)**	67	2009
671-BW1	Weigh Belt System (Group 2 CSTP)**	67	2009
671-BC8	Diverter Belt. (Group 2 CSTP)**	67	2009
671-BCA	Line 1 Palletizer (Group 2 CSTP)	67	2009
671-BCB	Line 1 Curve Belt (Group 2 CSTP)**	67	2009
671-BCC	Line 1 Alignment Belt (Group 2 CSTP)**	67	2009
671-BCD	Line 1 Bag Rotation Belt (Group 2 CSTP)**	67	2009
66A-BCA	Line 2 Curve Belt (Group 2 CSTP)**	67	2009
671-BCF	Line 2 Bag Alignment Belt**	67	2009
671-BCG	Line 2 Bag Rotation Belt**	67	2009
66A-SC2	Screw Conv to Packing Bin 66A-3B3 (Group 3 CSTP)**	67	2009
EU-P-10	Packhouse Train Loading	30	Pre-1971

EUG 8 – Cement Packing, Dispatch, and Distribution System			
Emission Unit	**EU Name/Model**	**Capacity* (Tons/Hour)**	**Construction Date**
662-3B1	Packhouse Masonry Cement Storage Bin**	30	1992
671-BT1	Broken Bag Diverter Belt (Group 2 CSTP)**	67	2009
66A-PM1	Haver Sprout Packing Machine	67	2009
621-BF1	Bay Spout Dust Collector**	200	2004
622-BF1	Bay Spout Dust Collector**	200	2004
623-BF1	Bay Spout Dust Collector**	200	2004
66A-3B3	Packing Bin**	67	2008
662-BF1	D-19 Masonry Dust Collector	50	Pre-1971
661-BF2	Haver Packing Dust Collector	50	Pre-1971
661-SCA	D-22 Packing Dust Collector Screw(Group 3 CSTP)	50	Pre-1971
661-AS1	Airslide to Bin 661-3B2 (Group 1 CSTP)	70	2009
66A-SC4	Spillage conveyor to 66A-SC5 (Group 3 CSTP)**	67	2009
66A-SC5	Collecting screw to 661-SC7(Group 3)	67	Pre-1971
671-BC1	Power Roller Conveyor from Haver (Group 2)**	67	2009
671-BC2	Exit Conveyor from Haver Packing Machine (Group 2)**	67	2009
671-BC3	1ST Curve Conveyor (Group 2)**	67	2009
671-BC4	Incline Conveyor (Group 2)**	67	2009
671-BC5	2ND Curve Conveyor (Group 2)**	67	2009
671-BC6	Short Belt Conveyor (Group 2)**	67	2009
671-BC7	Short Belt Conveyor before Diverter Belt (Group 2)**	67	2009
671-BCE	South Side Curve Conveyor to Palletizer (Group 2)**	67	2009
671-BCF	West Side after Curve Conveyor (Group 2)**	67	2009
671-BCG	West Side Bag Turner Conveyor (Group 2)**	67	2009
671-RB1	North Roller Conveyor (Group 2)**	67	2009
671-RB2	South Roller Conveyor (Group 2)**	67	2009
671-RB3	Full Pallet Roller Conveyors Staging (Group 1)	67	2009
671-WR1	Pallet Wrapper(Group 1)	67	2009

**Identified units are subject to both NSPS Subpart F and NESHAP Subpart LLL. Pursuant to § 63.1356, If an affected facility subject to this subpart has a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner

or operator of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. These units will comply with NESHAP Subpart LLL requirements which are more stringent.
* Capacities listed are individual, nominal capacity.

EUG 9 – Insignificant Fuel-Burning Equipment			
Emission Unit	**EU Name/Model**	**Capacity**	**Construction Date**
N/A	Natural Gas Space Heaters*	150,000 Btu/hr (each)	Pre-1971

*Estimated total of approximately 39 units throughout the facility.

EUG 9B – Other Fuel-Burning Equipment			
Emission Unit	**EU Name/Model**	**Capacity**	**Construction Date**
46A-1G1	Emergency Diesel Generator-Kiln	350 KW	2006

EUG 10 – Miscellaneous Insignificant Activities			
Emission Units	**EU Name/Model**	**Capacity**	**Construction Date**
F21-FT1	Unleaded Gasoline-Outside - Purchasing Office	1,200 gal.	1971
F21-FT2	On Road Diesel-Outside - Purchasing Office	550 gal.	Pre-1971
F21-FT3	Off Road Diesel-Outside - Purchasing Office	3000 gal.	1971
I11-TK2	Used oil-Inside Garage Building	600 gal.	--
I11-TK1	30 wt. oil-Inside Garage Building	300 gal.	--
F21-FT4	Diesel (for auxiliary drive)-Inside 5.5’ X 19’ room beneath Kilns	240 gal.	Pre-1971
480-TK2	Used oil-Beneath Kilns	600 gal.	--
53A-3B4	TDA Finish Mill Grinding Aid-South of Mill Bdg.	10,575 gal	2006
53A-3B3	Grinding Aid (HEA 2GL)-South of Mill Building	6,628 gal.	Unknown
53A-3B2	Masonry additive (65AE)-Inside South End of Mill Building	7,713 gal.	Unknown
V11-TK1	Liquid AFR - Between Kiln Building and Bulk Silos	16,800 gal.	2005
W01-TK2	KDT (CKD Slurry Additive)-Southwest Side of CKD Dust Bin	12,000 gal.	Unknown
G01-3I1	Lube-Underneath Kilns	160 gal.	--
G01-3I1	Lube-Underneath Kilns	160 gal.	--
G01-3I1	Lube-Underneath Kilns	160 gal.	--
G01-3I1	Lube-Underneath Kilns	160 gal.	--
G01-3I1	Lube-Underneath Kilns	115 gal.	--
I21-FT1	Off Road Diesel-Outside Near Quarry Office	5,000 gal.	Pre-1971

EUG 10 – Miscellaneous Insignificant Activities			
Emission Units	**EU Name/Model**	**Capacity**	**Construction Date**
I21-FT2	Off Road Diesel-Outside Near Quarry Office	5,000 gal.	Pre-1971
I21-FT3	Unleaded Gasoline-Outside Near Quarry Office	1,000 gal.	1974
I21-TK1	30 wt. Oil-Outside near Quarry Office	1,000 gal.	--
I21-TK2	Used Oil-Outside near Quarry Office	300 gal.	--
Rock Blasting	Rock Blasting	<5 TPY	N/A
Truck Loading	Truck Loading	<5 TPY	N/A
Truck Unloading	Truck Unloading	<5 TPY	N/A

SECTION V. ESTIMATED EMISSIONS

Particulate matter (PM) emission estimates reflect the worst-case potential emissions assuming operation at nominal throughput capacity and 8,760 hour/yr operation. Emissions of particulate matter are based on the emission factors listed in the following table.

ESTIMATED PM EMISSIONS BY EMISSION UNIT (EXCLUDING KILNS)

Group 1 Units (those that are completely enclosed) are included in this table but do not have emissions shown since they will not have PM emissions.

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
1	Paved Roads	Truck Traffic on Paved Roads	18,463 (miles/yr)	0.689 (lb/VMT)	Note 1	1.5	6.4	N/A
1	Unpaved Roads	Truck Traffic on Unpaved Roads	33,000 (miles/yr)	4.515 (lb/VMT)	Note 2	17.0	74.5	N/A
1	Storage Piles	Storage Piles	8,818.5	4.07 (lb/acre/day)	Multiple	4.1	17.9	N/A
2	21A-IM1	Primary Crusher	1000	0.0054	Note 3	5.4	23.7	77.6
2	21A-HP1	Primary Crusher Hopper	1250	0.003	Note 4	3.8	16.6	80.5
2	21A-AF1	Primary Apron Feeder	1250	0.003	Note 4	3.8	16.6	80.5
2	211-IM1	Secondary Crushers (each)	675	0.0054	Note 3	3.6	15.8	72.6
2	212-IM1		675	0.0054	Note 3	3.6	15.8	72.6
2	211-VS1	Secondary Crusher Screening (each)	337.5	0.025	Note 5	8.4	36.8	64.3
2	211-VS2		337.5	0.025	Note 5	8.4	36.8	64.3
2	212-VS1		337.5	0.025	Note 5	8.4	36.8	64.3
2	212-VS2		337.5	0.025	Note 5	8.4	36.8	64.3
2	291-3B1	Surge Bin	1250	0.0054	Note 3	6.8	29.8	80.5
2	291-BC1	Flight 1-7 Drops (each)	1000	0.003	Note 4	3.0	13.1	77.6
2	291-BC2		1000	0.003	Note 4	3.0	13.1	77.6
2	291-BC3		1000	0.003	Note 4	3.0	13.1	77.6
2	291-BC4		1000	0.003	Note 4	3.0	13.1	77.6
2	291-BC5		1000	0.003	Note 4	3.0	13.1	77.6
2	291-BC6		1000	0.003	Note 4	3.0	13.1	77.6

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
2	291-BC7		1000	0.003	Note 4	3.0	13.1	77.6
2	291 STI	Radial Stacker	1100	0.00474	Note 6	5.2	22.8	78.8
2	21A-BC1	Primary Belt	1250	0.003	Note 4	3.8	16.6	80.5
2	211-BC2	#1 Recirculating Belt	675	0.003	Note 4	2.0	8.8	72.6
2	211-BC3	#1 Screen Discharge Belt	625	0.003	Note 4	1.9	8.3	71.7
2	291-BC8	Secondary Belt to Surge Bin	1250	0.003	Note 4	3.8	16.6	80.5
2	212-BC1	#2 Screen Feed Belt	1300	0.003	Note 4	3.9	17.1	81.0
2	212-BC3	#2 Recirculating Belt	675	0.003	Note 4	2.0	8.8	72.6
2	212-BC2	#2 Screen Discharge Belt	625	0.003	Note 4	1.9	8.3	71.7
2	291-AF1	Quarry Apron Feeder	1000	0.003	Note 4	3.0	13.1	77.6
2	291-BC9	Raw Incline Belt	1100	0.003	Note 4	3.3	14.5	78.8
2	21A-SX1	Dribble Conveyor	1000	0.003	Note 4	3.0	13.1	77.6
2	211-BC1	#1 Screen Feed Belt	1300	0.003	Note 4	0.00	0.00	81.0
3	L11-VD1	Coal/Coke Car Shaker	330	0.003	Note 4	1.0	4.4	64.1
3	L31-RC1	Coal/Coke Crushers	330	0.04	Note 7	13.2	57.8	64.1
3	L31-VD1	Coal/Coke Crusher Material Transfers (each)	165	0.003	Note 4	0.5	2.2	56.4
3	L31-VD2		165	0.003	Note 4	0.5	2.2	56.4
3	L61-RM1/L61-BF1	Coal/Coke Mill #1 / Coal/Coke Mill 1 Baghouse with explosion vents	16	0.003	Note 4	0.1	0.2	26.3
3	L62-RM1/L62-BF1	Coal/Coke Mill #2 / Coal/Coke Mill 2 Baghouse with Explosion Vents	16	0.003	Note 4	0.1	0.2	26.3
3	L11-HP1	Coal/Coke Unloading Hoppers (each)	165	0.003	Note 4	0.5	2.2	56.4
3	L11-HP2		165	0.003	Note 4	0.5	2.2	56.4
3	L11-VF1	West Vibrating Feeder	165	0.003	Note 4	0.5	2.2	56.4
3	L11-VF2	East Vibrating Feeder	165	0.003	Note 4	0.5	2.2	56.4
3	L11-BC1	Coal/Coke Unloading Belt	330	0.00453	Note 8	1.5	6.6	64.1
3	L01-MI1	Coal/Coke Blender	330	0.003	Note 4	1.0	4.4	64.1
3	L31-SG1	Coal/Coke Slide Gates (each)	165	0.003	Note 4	0.5	2.2	56.4
3	L31-SG2		165	0.003	Note 4	0.5	2.2	56.4
3	L31-BC1	Coal/Coke Tunnel Belt	330	0.003	Note 4	1.0	4.4	64.1
3	L31-RC1	Crusher Roller	330	0.003	Note 4	1.0	4.4	64.1
3	L31-BC2	Conveyor Belt	330	0.003	Note 4	1.0	4.4	64.1

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
3	L31-3B1	Coal/Coke Bin	660	0.003	Note 4	2.0	8.8	72.3
3	L61-WF1	Feed O Weights (each)	16	0.003	Note 4	0.05	0.22	26.3
3	L62-WF1		16	0.003	Note 4	0.05	0.22	26.3
3	L61-SC1	Screw Conveyors (each)	16	0.003	Note 4	0.05	0.22	26.3
3	L62-SC1		16	0.003	Note 4	0.05	0.22	26.3
3	481-PF1	Rotary Schenck Feeders (Kiln 1 & 2) (Group 1 CSTP) (each)	16	--	--			26.3
3	482-PF1		16	0.003	Note 4	0.05	0.22	26.3
3	L91-BI1	Pulverized Solid Fuel Bins (Line 1 & 2) (each)	25	0.003	Note 4	0.1	0.4	35.4
3	L92-BI1		25	0.003	Note 4	0.1	0.4	35.4
3	L93-BF1	Nuisance Fine Coal Storage Bin Dust Collector	22 TPH/ 5,000 acfm	0.01 gr/dscf	NSPS Standard	0.43	1.88	32.46
3	L91-SC1	Screw Conveyors (Lines 1 & 2) (Group 1 CSTP) (each)	16	--	--			26.3
3	L92-SC1		16	--	--			26.3
3	L91-SC2	Screw conveyor#2(line1)(Group1)	16	--	--			26.3
3	L61-RF1	Baghouse Rotary Airlock-IDF	20	0.003	Note 4	0.1	0.4	30.5
3	L62-RF1	Baghouse Rotary Airlock-IDF	20	0.003	Note 4	0.1	0.4	30.5
4	K1A-BE1	Additive System Bucket Elevator	100	0.003	Note 4	0.3	1.3	51.3
4	K1A-3S1	S-2 Interstice (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	K1A-3S1	S-2 Interstice Transfer 1 (Group 2 CSTP)	25	0.003	Note 4	0.1	0.4	35.4
4	K1A-3S1	S-2 Interstice Transfer 2 (Group 2 CSTP)	25	0.003	Note 4	0.1	0.4	35.4
4	X11-3S2	Millscale Interstice (Storage Bin) (Group 3 CSTP)	15	0.003	Note 4	0.05	0.22	25.2
4	X11-3S2	Millscale Interstice (Transfer) (Group 2 CSTP)	15	0.003	Note 4	0.05	0.22	25.2
4	X11-3S4	I-2 CKD Interstice (Storage Bin) (Group 3 CSTP)	15	0.003	Note 4	0.05	0.22	25.2
4	X11-3S4	1-2 CKD Interstice Transfer (Group 2 CSTP)	15	0.003	Note 4	0.05	0.22	25.2
4	291-3S1	L-1 Silo (Storage Bin) (Group 3	100	0.003	Note 4	0.3	1.3	51.3

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
		CSTP)						
4	291-3S1	L-1 Silo Transfer (Group 2 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S2	L-2 Silo (Storage Bin) (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S2	L-2 Silo Transfer (Group 2 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S3	L-3 Silo (Storage Bin) (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S3	L-3 Silo Transfer (Group 2 CSTP) (each)	100	0.003	Note 4	0.3	1.3	51.3
4	331-BC1	Raw Mill #1 Feedbelt Transfer 1 (Group 2)	200	0.003	Note 4	0.6	2.6	58.5
4	331-BC1	Raw Mill #1 Feedbelt Transfer 2 (Group 2)	200	0.003	Note 4	0.6	2.6	58.5
4	331-BF1	Feed Belt Dust Collector Transfer (L1 Feed-0-Weight transfer to 331-BC1 Feed Belt) D-7a, b, c (each) (Group 3)	100	0.0031	Note 9	0.3	1.3	51.3
4	331-BF2		100	0.0031	Note 9	0.3	1.3	51.3
4	331-BF3		100	0.0031	Note 9	0.3	1.3	51.3
4	331-WF1	L-1, L-2, & L-3 Feed O Weights (each) (Group 2)	100	0.0031	Note 9	0.3	1.3	51.3
4	331-WF2		100	0.0031	Note 9	0.3	1.3	51.3
4	331-WF3		100	0.0031	Note 9	0.3	1.3	51.3
4	331-WF4	Raw Mill #1 S1 & I1 FOWs (each) (Group 2)	15	0.0031	Note 9	0.05	0.22	25.2
4	331-WF5		15	0.0031	Note 9	0.05	0.22	25.2
4	361-BM1	Raw Mill #1	120	0.012	Note 10	1.4	6.1	53.1
4	291-3S4	L-4 Silo (Storage Bin) (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S4	L-4 Silo Transfer (Group 2 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S5	L-5 Silo (Storage Bin) (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S5	L-5 Silo Transfer (Group 2	100	0.003	Note 4	0.3	1.3	51.3

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
		CSTP)						
4	291-3S6	L-6 Silo (Storage Bin) (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	291-3S6	L-6 Silo Transfer (Group 2 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	332-BC1	Raw Mill #2 Feedbelt Transfer #1 (Group 2)	200	0.003	Note 4	0.6	2.6	58.5
4	332-BC2	#2 Raw Mill Crossover feed belt (Group 2)	200	0.003	Note 4	0.6	2.6	58.5
4	332-BF1	Feed Belt Dust Collectors D-8a, b, c (each) (L4 Feed-0-Weight transfer to 332-BC1 Feed Belt)	100	0.0031	Note 9	0.3	1.3	51.3
4	332-BF2		100	0.0031	Note 9	0.3	1.3	51.3
4	332-BF3		100	0.0031	Note 9	0.3	1.3	51.3
4	332-WF1	L-4, L-5 & L-6 Feed O Weights (each) (Group 2)	100	0.0031	Note 9	0.3	1.3	51.3
4	332-WF2		100	0.0031	Note 9	0.3	1.3	51.3
4	332-WF3		100	0.0031	Note 9	0.3	1.3	51.3
4	332-WF4	Raw Mill #2 S2 & I2 FOWs (each) (Group 2)	15	0.0031	Note 9	0.05	0.22	25.2
4	332-WF5		15	0.0031	Note 9	0.05	0.22	25.2
4	362-BM1	Raw Mill #2 (Group 2)	180	0.012	Note 11	2.2	9.6	57.4
4	291-BFC	D-1 Dust Collector	100	0.0031	Note 9	0.3	1.3	51.3
4	291-BFD	D-2 Dust Collector	100	0.0031	Note 9	0.3	1.3	51.3
4	291-BCA	Row Incline Extension Belt (Group 3 CSTP)	1100	0.003	Note 4	3.3	14.5	78.8
4	291-BCB	L-5 Extension Belt (Group 3 CSTP)	1100	0.003	Note 4	3.3	14.5	78.8
4	291-BCC	L-6 Extension Belt (Group 3 CSTP)	1100	0.003	Note 4	3.3	14.5	78.8
4	291-BCE	L-2 Extension Belt (Group 3 CSTP)	1100	0.003	Note 4	3.3	14.5	78.8
4	291-BCF	L-3 Extension Belt (Group 3 CSTP)	1100	0.003	Note 4	3.3	14.5	78.8
4	K1A-AF1	Additive Hopper Apron Feeder (Group 2 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	K1A-BC1	Additive Incline Belt (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
4	K1A-BC2	Additive iIncline Belt 1st Extension Belt (Group 3 CSTP)	100	0.00014	Note 12	0.01	0.04	51.3
4	K1A-BC4	Additive Incline Belt (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
4	K1A-BC3	Mill Scale Interstice Belt (Group 3 CSTP)	100	0.00014	Note 12	0.01	0.04	51.3
4	KIA-BC5	CKD Interstice Belt (Group 3 CSTP)	100	0.00014	Note 12	0.01	0.04	51.3
4	KIA-HP1	Additive Hopper	100	0.003	Note 4	0.3	1.3	51.3
5	423-BF2	Nuisance Filter Dust Collector	8 TPH /5,000 acfm	0.01gr/dscf	Note 13	0.43	1.88	16.5
5	4A3-BF2	Nuisance Bypass Dust Collector	6 TPH /5,000 acfm	0.01gr/dscf	Note 13	0.43	1.88	13.6
6	49A-3S1	C-1 Clinker Silo (Storage Bin)	60	0.0099	Note 14	0.6	2.6	46.3
6	49A-3S2	C-2 Clinker Silo (Storage Bin)	60	0.0099	Note 14	0.6	2.6	46.3
6	49A-3S3	C-3 Clinker Silo (Storage Bin)	60	0.0099	Note 14	0.6	2.6	46.3
6	49A-3S4	C-4 Clinker Silo (Storage Bin)	60	0.0099	Note 14	0.6	2.6	46.3
6	49A-3S5	C-5 Clinker Silo (Storage Bin)	60	0.0099	Note 14	0.6	2.6	46.3
6	49A-3S6	C-6 Clinker Silo (Storage Bin)	60	0.0099	Note 14	0.6	2.6	46.3
6	K1A-3S6	CKD Interstice (Storage Bin)	15	0.0099	Note 14	0.1	0.4	25.2
6	K1A-BF3	Grindout Dust Bin Collector Transfer (Group 3)	50	0.003	Note 4	0.20	0.88	44.6
6	49A-BC1	Clinker Extension Belt #5 Transfer 1 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-BC1	Clinker Extension Belt #5 Transfer 2 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-BC2	Clinker Extension Belt #2 Transfer 1 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-BC2	Clinker Extension Belt #2 Transfer 2 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-BC3	Clinker Extension Belt #6 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-BC4	Clinker Extension Belt #3 (Group 3 CSTP) (each)	110	0.003	Note 4	0.3	1.3	52.2

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
6	49A-SC1	D-11 Dust Collector Screw Transfer 1 (Group 2 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-SC1	D-11 Dust Collector Screw Transfer 2 (Group 2 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-SC2	D-4 Dust Collector Screw (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-SC3	D-3 Dust Collector Screw (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-SQ1	Spout Clinker Outside Chute C-3 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-SQ2	Spout Clinker Outside Chute C-4 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	49A-SQ3	Spout Clinker Outside Chute C-6 (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	471-GQ1	Clinker Cooler #1 Transfer (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	491-BC1	Clinker Incline (North) (Group 2 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	491-BC2	Clinker Reversing Belt (West) Transfer 1 (Group 2 CSTP)	110	0.0031	Note 9	0.3	1.3	52.2
6	491-BC2	Clinker Reversing Belt (West) Transfer 2 (Group 2 CSTP)	110	0.0031	Note 9	0.3	1.3	52.2
6	491-BC2	Clinker Reversing Belt (West) Transfer 3 (Group 2 CSTP)	110	0.0031	Note 9	0.3	1.3	52.2
6	491-BC2	Clinker Reversing Belt (West) Transfer 4 (Group 2 CSTP)	110	0.0031	Note 9	0.3	1.3	52.2
6	491-BE1	Clinker Elevator (West) (Group 1 CSTP)	110	--	--			52.2
6	491-CV1	Clinker Cooler #1 Drag Transfer 1 (associated with Cooler #1 Nuisance Dust Collector) (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	491-CV1	Clinker Cooler #1 Drag Transfer 2 (associated with Cooler #1 Nuisance Dust	110	0.003	Note 4	0.3	1.3	52.2

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
		Collector) (Group 3 CSTP)						
6	491-FVA through FVP	Double Tip Valve #1 Cooler Exhaust K1 (Group 1 CSTP)	10	--	--			19.2
6	491-SC1	Clinker Cooler #1 Heat Exchanger Screw (Group 1 CSTP)	110	--	--			52.2
6	491-VC1	West NF Clinker Conveyor (Group 2 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	472-GQ1	Clinker Cooler #2 Transfer (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	492-BC1	Clinker Incline Belt (South) (Group 2 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	492-BC2	Clinker Reversing Belt (East) Transfer 1 (Group 2 CSTP)	110	0.0015	Note 15	0.2	0.9	52.2
6	492-BC2	Clinker Reversing Belt (East) Transfer 2 (Group 2 CSTP)	110	0.0015	Note 15	0.2	0.9	52.2
6	492-BC2	Clinker Reversing Belt (East) Transfer 3 (Group 2 CSTP)	110	0.0015	Note 15	0.2	0.9	52.2
6	492-BC2	Clinker Reversing Belt (East) Transfer 4 (Group 2 CSTP)	110	0.0015	Note 15	0.2	0.9	52.2
6	492-BE1	Clinker Elevator (East) (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	492-CV1	Clinker Cooler #2 Drag Transfer 1 (associated with 492-BF1, Cooler #2 Nuisance Dust Collector Transfer) (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	492-CV1	Clinker Cooler #2 Drag Transfer 2 (associated with 492-BF1, Cooler #2 Nuisance Dust Collector Transfer) (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	492-SC1	Clinker Cooler #2 Heat Exchanger Screw (Group 1	110	--	--			52.2

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
		CSTP)						
6	492-VC1	East NF Clinker Conveyor (Group 2 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
6	493-BF1	Nuisance Clinker Transport Dust Collector	138 TPH/ 5,000 acfm	0.01 gr/dscf	Note 13	0.43	1.88	52.89
6	49A-BF3	D-3 Dust Collector	110	0.0031	Note 9	0.3	1.3	52.2
6	42A-BX1	Dustless Unloader (Group 2)	35	0.003	Note 4	0.11	0.46	41.3
6	42A-3B1	Waste Dust Bin	650	0.003	Note 4	2.0	8.8	72.1
6	42A-BF1	Waste Dust Bin Dust Collector (Group 3)	650	0.003	Note 4	2.0	8.8	72.1
6	42A-3B2	Insufflation Dust Bin	250	0.003	Note 4	0.8	3.5	61.0
6	42A-BF2	Insufflation Dust Bin Dust Collector	250	0.003	Note 4	0.8	3.5	61.0
6	Landfill Pug Screw Transfer	Dustless Unloader (Group 2)	35	0.003	Note 4	0.11	0.46	41.3
7	51A-HP1	Clinker Reclaim Hopper (Group 3 CSTP) (associated with Hopper Dust Collector 51A-BF1)	110	0.0031	Note 9	0.3	1.3	52.2
7	59A-3S1	Cement Silos #21 thru #33 (Storage Bins) (each) emissions are controlled by dust collectors 59A-BF1, 59A-BF2, 59A-BF3	225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S2		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S3		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S4		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S5		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S6		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S7		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S8		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3S9		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3SA		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3SB		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3SC		225	0.00014	Note 15	0.03	0.14	59.8
7	59A-3SD		225	0.00014	Note 15	0.03	0.14	59.8

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
7	59A-PP1	Z-Flap FK-Pump Transfer 1 (Group 1 CSTP)	150	--	--			55.4
7	59A-PP2	250M FK-Pump Transfers 1 (Group 1 CSTP)	150	--	--			55.4
7	59A-SC1	D-12 & D-13 Dust Collector Screws (Group 3 CSTP)	120	0.003	Note 4	0.4	1.8	53.1
7	59A-SC2		120	0.003	Note 4	0.4	1.8	53.1
7	59B-3S1	Cement Silos #1 thru #18 (Storage Bins) emissions are controlled by dust collectors 59B-BF1, 59B-BF2, and 59B-BF3	75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S2		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S3		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S4		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S5		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S6		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S7		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S8		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3S9		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SA		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SB		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SC		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SD		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SE		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SF		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SG		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SH		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-3SI		75	0.00014	Note 15	0.01	0.05	48.4
7	59B-SC1	D-18 Dust Collector Screws (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
7	59B-SC2	D-17 Dust Collector Screws (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
7	K1A-3S5	G-1 Gypsum Silo (Storage Bin) (Group 1 CSTP)	15	--	--			25.2
7	K1A-3S5	G-1 Gypsum Silo Transfer 1 (Group 1 CSTP)	15	--	--			25.2
7	K1A-3S5	G-1 Gypsum Silo Transfer 2 (Group 1 CSTP)	15	--	--			25.2

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
7	K1A-3S6	Grindout Interstice Transfer 1 (Group 1 CSTP)	30	--	--			40.0
7	K1A-3S6	Grindout Interstice Transfer 2 (Group 1 CSTP)	30	0.003	Note 4			40.0
7	531-WF5	Masonry Rock #1 FOW (Group 3 CSTP)	25	0.003	Note 4	0.1	0.4	35.4
7	531-BC1	FM #1 Feed Belt (Group 1, CSTP)	110	--	--			52.2
7	531-BF1	D9a, b, & c Dust Collectors	60	0.003	Note 4	0.2	0.9	46.3
7	531-BF2		60	0.003	Note 4	0.2	0.9	46.3
7	531-BF3		60	0.003	Note 4	0.2	0.9	46.3
7	531-RF1	Grindout Interstice Rotary Feeder #1 (Group 1 CSTP)	30	--	--			40.0
7	531-SC1	FM #1 Grindout Screw (G-2) (Group 3 CSTP)	30	0.003	Note 4	0.1	0.4	40.0
7	531-WF1	C-1, C-2 & C-3 Clinker FOWs (Group 3 CSTP)	60	0.003	Note 4	0.2	0.9	46.3
7	531-WF3		60	0.003	Note 4	0.2	0.9	46.3
7	531-WF4		60	0.003	Note 4	0.2	0.9	46.3
7	531-WF2	G-1 Gypsum FOW #1 FM (Group 3 CSTP)	15	0.003	Note 4	0.05	0.22	25.2
7	561-AS1	FM#1 Mill Discharge Airslide (Group 3 CSTP)	250	0.003	Note 4	0.8	3.5	61.0
7	561-AS2	FM#1 Long Airslide Transfer 1 (Group 1 SCTP)	250	--	--			61.0
7	561-AS2	FM#1 Long Airslide Transfer 2 (Group 1 SCTP)	250	--	--			61.0
7	561-AS3	FM #1 Splitter Airslide #2 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5
7	561-AS4	FM #1 Splitter Airslide #1 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5
7	561-AS5	FM #1 Reject Airslide #1 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5
7	561-AS6	FM #1 Reject Airslide #2 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
7	561-BE1	FM #1 Elevator (Group 3 CSTP)	250	0.003	Note 4	0.8	3.5	61.0
7	561-BM1	FM #1 (Finish Mill) (Group 1 CSTP)	60	--	--			46.3
7	561-BM1	FM #1 Transfer (CSTP)	60	0.003	Note 4	0.2	0.9	46.3
7	561-SC1	FM #1 Dust Collector Screw (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
7	561-SR1	Separator #1 Transfer 1 (Group 1 CSTP)	30	--	--			40.0
7	561-SR1	Separator #1 Transfer 2 (Group 1 CSTP)	30	--	--			40.0
7	561-SR1	Separator #1 Transfer 3 (Group 1 CSTP)	30	--	--			40.0
7	561-SR2	Separator #2 Transfer 1 (Group 1 CSTP)	30	--	--			40.0
7	561-SR2	Separator #2 Transfer 2 (Group 1 CSTP)	30	--	--			40.0
7	561-SR2	Separator #2 Transfer 3 (Group 1 CSTP)	30	--	--			40.0
7	591-AS1	Airslide from Sep 1 to Cooler 1 (Group 1 CSTP)	30	--	--			40.0
7	591-AS2	Airslide from Sep 2 to Cooler 2 (Group 1 CSTP)	30	--	--			40.0
7	591-AS3	Airslide from #1 Cooler to FK pump (Group 1 CSTP)	30	--	--			40.0
7	591-AS4	Airslide from #2 Cooler to FK Pump (Group 1 CSTP)	30	--	--			40.0
7	591-AS5	Airslide from #1 Sep to FK Pump Transfer 1 (Group 1 CSTP)	30	--	--			40.0
7	591-AS5	Airslide from #1 Sep to FK Pump Transfer 2 (Group 1 CSTP)	30	--	--			40.0
7	591-CQ1	Cement Cooler #1 (Group 1 CSTP)	30	--	--			40.0

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
7	591-CQ2	Cement Cooler #2 (Group 1 CSTP)	30	--	--			40.0
7	532-BC1	FM #2 Feed Belt (Group 1 CSTP)	110	--	--			52.2
7	532-BC2	Belt Conveyor (Masonry Rock) To FM #2 (Group 3 CSTP)	25	0.003	Note 4	0.1	0.4	35.4
7	532-BF1	D10a, b & c Dust Collector Transfers	60	0.003	Note 4	0.2	0.9	46.3
7	532-BF2		60	0.003	Note 4	0.2	0.9	46.3
7	532-BF3		60	0.003	Note 4	0.2	0.9	46.3
7	532-RF1	Grindout Interstice Rotary Feeder #2 (Group 1 CSTP)	30	--	--			40.0
7	532-SC1	FM #2 Grindout Screw (G-2) (Group 3 CSTP)	30	0.003	Note 4	0.1	0.4	40.0
7	532-WF1	Feed O Weight Mason Rock #2 (Group 1 CSTP)	25	--	--			35.4
7	532-WF2	C-4, C-5 & C-6 Clinker FOWs (associated with D10a, D10b, & D10c Dust Collectors 532-BF1, 532-BF2, &532-BF3 (Group 3 CSTP)	60	0.003		0.2	0.9	46.3
7	532-WF3		60	0.003	Note 4	0.2	0.9	46.3
7	532-WF5		60	0.003	Note 4	0.2	0.9	46.3
7	532-WF4	G-1 Gypsum FOW #2 FM (Group 3 CSTP)	15	0.003	Note 4	0.05	0.22	25.2
7	562-AS1	FM #2 Mill Discharge Airslide (Group 3 CSTP)	250	0.003	Note 4	0.8	3.5	61.0
7	562-AS2	FM #2 Long Airslide Transfer 1 (Group 1 CSTP)	250	--	--			61.0
7	562-AS2	FM #2 Long Airslide Transfer 2 (Group 1 CSTP)	250	--	--			61.0
7	562-AS3	FM #2 Splitter Airslide #3 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5
7	562-AS4	FM #2 Splitter Airslide #4 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5
7	562-AS5	FM #2 Reject Airslide #3 (Group 3 CSTP)	125	0.003	Note 4	0.4	1.8	53.5
7	562-AS6	FM #2 Reject Airslide #4	125	0.003	Note 4	0.4	1.8	53.5

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
		(Group 3 CSTP)						
7	562-BE1	FM #2 Elevator (Group 3 CSTP)	250	0.003	Note 4	0.8	3.5	61.0
7	562-SC1	FM #2 Dust Collector Screw (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
7	562-BM1	FM #2 (Finish Mill) (Group 3 CSTP)	60	0.028	Note 16	1.7	7.4	46.3
7	562-BM1	FM #2 Transfer (Group 3 CSTP)	60	0.028	Note 16	1.7	7.4	46.3
7	562-SR1	Separator #3 Transfer 1 (Group 1 CSTP)	30	--	--			40.0
7	562-SR1	Separator #3 Transfer 2 (Group 1 CSTP)	30	--	--			40.0
7	562-SR1	Separator #3 Transfer 3 (Group 1 CSTP)	30	--	--			40.0
7	562-SR2	Separator #4 Transfer 1 (Group 1 CSTP)	30	--	--			40.0
7	562-SR2	Separator #4 Transfer 2 (Group 1 CSTP)	30	--	--			40.0
7	562-SR2	Separator #4 Transfer 3 (Group 1 CSTP)	30	--	--			40.0
7	56A-BI1	Bin (Group 1)	50	0.003	Note 4			44.6
7	56A-BI1	Bin Transfer & Screws (Group 1)	10	0.003	Note 4			19.2
7	592-AS1	Airslide from Sep #3 to Cooler #3 (Group 1 CSTP)	30	--	--			40.0
7	592-AS2	Airslide from Sep #4 to Cooler #4 (Group 1 CSTP)	30	--	--			40.0
7	592-AS3	Airslide from #3 cooler to FK pump (Group 1 CSTP)	30	--	--			40.0
7	592-AS4	Airslide from #4 cooler to FK pump (Group 1 CSTP)	30	--	--			40.0
7	592-AS5	Airslide from #2 sep to FK Pump transfer 1 (Group 1 CSTP)	30	--	--			40.0

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
7	592-AS5	Airslide from #2 sep to FK Pump transfer 2 (Group 1 CSTP)	30	--	--			40.0
7	592-CQ1	Cement Cooler #3 (Group 1 CSTP)	30	--	--			40.0
7	592-CQ2	Cement Cooler #4 (Group 1 CSTP)	30	--	--			40.0
7	59B-BF3	Dust Collector Silo 4 Transfer	100	0.003	Note 4	0.3	1.3	51.3
7	561-BF1	FM #1 East Dust Collector	250	0.00014	Note 15	0.04	0.18	61.0
7	562-BF2	FM #2 West Dust Collector	250	0.00014	Note 15	0.04	0.18	61.0
7	K1A-3S3	KIA-3S3 Transfer 1 (Group 2 CSTP)	25	0.003	Note 4	0.1	0.4	35.4
7	K1A-3S3	KIA-3S3 Transfer 2 (Group 2 CSTP)	25	0.003	Note 4	0.1	0.4	35.4
7	K1A-3S3	MR-2 Interstice (Storage Bin)	10	0.003	Note 4	0.03	0.13	19.2
7	49A-3S1	C-1 thru C-6 Clinker Silo Transfers (Group 2 CSTP) (each)	60	0.0099	Note 14	0.6	2.6	46.3
7	49A-3S2	C-1 thru C-6 Clinker Silo Transfers (Group 2 CSTP) (each) Cement Silos #21 thru #33 Transfers (Group 3 CSTP)	60	0.0099	Note 14	0.6	2.6	46.3
7	49A-3S3		60	0.0099	Note 14	0.6	2.6	46.3
7	49A-3S4		60	0.0099	Note 14	0.6	2.6	46.3
7	49A-3S5		60	0.0099	Note 14	0.6	2.6	46.3
7	49A-3S6		60	0.0099	Note 14	0.6	2.6	46.3
8	59A-3S1		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S2	Cement Silos #21 thru #33 Transfers (Group 3 CSTP) Silo Cement #1 Transfer 1 (Group 1 CSTP)	200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S3		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S4		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S5		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S6		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S7		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S8		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3S9		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3SA		200	0.00099	Note 17	0.2	0.9	58.5

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
8	59A-3SB		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3SC		200	0.00099	Note 17	0.2	0.9	58.5
8	59A-3SD		200	0.00099	Note 17	0.2	0.9	58.5
8	59B-3S1		40	--	--			42.5
8	59B-3S1	Silo Cement #1 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S2	Silo Cement #2 Transfer (Group 1 CSTP)	40	--	--			42.5
8	59B-3S3	Silo Cement #3 Transfer (Group 1 CSTP)	40	--	--			42.5
8	59B-3S4	Silo Cement #4 Transfer (Group 1 CSTP)	40	--	--			42.5
8	59B-3S5	Silo Cement #5 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S5	Silo Cement #5 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S6	Silo Cement #6 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S6	Silo Cement #6 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S7	Silo Cement #7 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S7	Silo Cement #7 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S8	Silo Cement #8 Transfer (Group 1 CSTP)	40	--	--			42.5
8	59B-3S9	Silo Cement #9 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3S9	Silo Cement #9 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SA	Silo Cement #10 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SA	Silo Cement #10 Transfer 2 (Group 1 CSTP)	40	--	--			42.5

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
8	59B-3SB	Silo Cement #11 Transfer 1(Group 1 CSTP)	40	--	--			42.5
8	59B-3SB	Silo Cement #11 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SC	Silo Cement #12 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SC	Silo Cement #12 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SD	Silo Cement #13 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SD	Silo Cement #13 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SE	Silo Cement #14 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SE	Silo Cement #14 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SF	Silo Cement #15 Transfer (Group 1 CSTP)	40	--	--			42.5
8	59B-3SG	Silo Cement #16 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SG	Silo Cement #16 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SH	Silo Cement #17 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SH	Silo Cement #17Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SI	Silo Cement #18 Transfer 1 (Group 1 CSTP)	40	--	--			42.5
8	59B-3SI	Silo Cement #18 Transfer 2 (Group 1 CSTP)	40	--	--			42.5
8	611-PP1	Packhouse FK Pump Transfer 1 (Group 1 CSTP)	47	--	--			44.0
8	611-PP1	Packhouse FK Pump Transfer 2 (Group 1 CSTP)	47	--	--			44.0
8	624-AS1	Airslide from silo 30 to Truck	188	0.00099		0.2	0.9	57.8

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
		Loading Spout (Group 3 CSTP)						
8	624-AS2	Airslide from silo 32 to Truck Loading Spout (Group 3 CSTP)	188	0.00099	Note 17	0.2	0.9	57.8
8	626-AS1	Airslide from silo 31 to truck/rail load out spout track 2 (Group 3 CSTP)	188	0.00099	Note 17	0.2	0.9	57.8
8	626-AS2	Airslide from silo 33 to truck/rail load out spout track 2 (Group 3 CSTP)	188	0.00099	Note 17	0.2	0.9	57.8
8	622-AS1	Silo #24 Air Slide Conveyor to truck/rail load out spout track2(Group 1)	188	--	--			57.8
8	622-AS2	Silo #26 Air Slide Conveyor to truck/rail load out spout track 2(Group 1)	188	--	--			57.8
8	621-AS1	Silo #21 Air Slide Conveyor to truck/rail load out spout track 3(Group 1)	188	--	--			57.8
8	621-AS3	Silo #23 Air Slide Conveyor to truck/rail load out spout track 3(Group1)	188			0.00	0.00	57.8
8	623-AS1	Silo #27 Air Slide Conv. To truck load out track 1(Group 1)	188	--	--			57.8
8	623-AS2	Silo #27 Air Slide Conv. To truck/rail load out spout track 1(Group 1)	188	--	--			57.8
8	623-LS1	Bay #1 load out Spout(Group3)	200	0.003	Note 4	0.6	2.6	58.5
8	622-LS1	Bay 2 load out Spout(Group 3)	200	0.003	Note 4	0.6	2.6	58.5
8	621-LS1	Bay 3 load out Spout (Group 3)	200	0.003	Note 4	0.6	2.6	58.5
8	661-3B2	Bin Type I Packing Transfer 1 (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
8	661-3B2	Bin Type I Packing Transfer 2 (Group 3 CSTP)	100	0.003	Note 4	0.3	1.3	51.3
8	661-BE2	Elevator Packhouse North Type I (Group 1 CSTP)	67	--	--			47.3

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
8	661-BE3	Elevator Packhouse South Type 1 (Group 1 CSTP)	67	--	--			47.3
8	661-BF3	Dust Collector for Basement Screw SC-7 (Group 3 CSTP)	80	0.003	Note 4	0.2	0.9	49.1
8	661-SC1	Screw Conv from Silos to Packhouse (Group 1 CSTP)	110	--	--			52.2
8	661-SC2	Screw Conv from Silos to Packhouse (Group 1 CSTP) Elevator South Masonry (Group 3 CSTP)	110	0.003	Note 4	0.3	1.3	52.2
8	661-SC3		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC4		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC5		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC6		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC7		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC7		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC8		110	0.003	Note 4	0.3	1.3	52.2
8	661-SC8		110	0.003	Note 4	0.3	1.3	52.2
8	662-BE1		67	0.003	Note 4	0.2	0.9	47.3
8	662-SC1	Mason Elev. Screw /D-19 Dust Collector (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	66A-SC1	Screw Conv Screen to Masonry Pk Bin (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	662-SC9	Screw Conveyor Silo 15 (Masonry) (Group 1 CSTP)	67	--	--			47.3
8	662-SCA	Screw Conveyor Silo 2, 3, 4 (Masonry) (Group 1 CSTP)	67	--	--			47.3
8	662-SCB	Screw Conveyor to Elevator (Masonry) (Group 1 CSTP)	67	--	--			47.3
8	662-SCD	Screw Conveyor Silo 8 (Masonry) (Group 1 CSTP)	67	--	--			47.3
8	66A-VS1	Scalping Screen (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	66A-VS1	Material Gate Transfer 1 (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	66A-VS1	Material Gate Transfer 2 (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
8	66A-VS1	Material Gate Transfer 3 (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	671-FQ1	Bag flattening belt (Group 1 CSTP)	67	--	--			47.3
8	671-BW1	Weight Belt System (Group 2 CSTP)	67	0.003	Note 4	0.20	0.88	47.3
8	671-BC8	Diverter Belt (Group 1 CSTP)	67	--	--			47.3
8	671-BCA	Palletizer Feed Belt (Group 1 CSTP)	67	--	--			47.3
8	671-BCB	Line 1 Curve Belt (Group 1 CSTP)	67	--	--			47.3
8	671-BCC	Line 1 Alignment Belt (Group 1 CSTP)	67	--	--			47.3
8	671-BCD	Line 1 Bag Rotation Belt Group 1 CSTP)	67	--	--			47.3
8	66A-BCA	Line 2 Curve Belt (Group 1 CSTP)	67	--	--			47.3
8	66A-SC2	Screw Conv Masonry Spillage 66a-Sc3 (Group 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	62A-WB1	Track 3 loading (Group 2 CSTP)	200	0.0015	Note 4	0.3	1.3	58.5
8	62A-WB2	Track 2 loading (Group 2 CSTP)	200	0.0015	Note 4	0.3	1.3	58.5
8	62A-WB3	Track 1 loading (Group 2 CSTP)	200	0.0015	Note 4	0.3	1.3	58.5
8	*671-BCF*	Line 2 Bag Alignment Belt	67	0.003	Note 4	0.2	0.9	47.3
8	*671-BCG*	Line 2 Bag Rotation Belt	67	0.003	Note 4	0.2	0.9	47.3
8	662-3B1	Packhouse Masonry Cement Storage Bin (Group 3)	30	0.003	Note 4	0.1	0.4	40.0
8	671-BTI	Broken Bag Diverter Belt (Group 2 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	66A-PM1	Haver Sprout Packing Machine (Group 3)	67	0.00022	Note 18	0.01	0.04	47.3
8	621-BF1	Bay Spout Dust Collector	200	0.003	Note 4	0.6	2.6	58.5

EUG #	Emission Unit	Process Description	Process Rate (ton/hr)	Emission Factor (lb/ton)	Emission Factor Reference	Estimated PM/PM_{10} (lb/hr)	Estimated PM/PM_{10} (TPY)	Calculated PM Allowable (lb/hr)*
8	622-BF1	Bay Spout Dust Collector	200	0.003	Note 4	0.6	2.6	58.5
8	623-BF1	Bay Spout Dust Collector	200	0.003	Note 4	0.6	2.6	58.5
8	66A-3B3	Packing Bin	67	0.0099	Note 14	0.7	3.1	47.3
8	662-BF1	D-19 Masonry Dust Collector	50	0.00014	Note 15	0.01	0.04	44.6
8	661-BF2	Haver Packing Dust Collector (Group 3 CSTP)	50	0.00014	Note 15	0.01	0.04	44.6
8	661-SCA	D-22 Packing Dust Collector Screw (Group 3 CSTP)	50	0.00014	Note 15	0.01	0.04	44.6
8	661-AS1	Airslide to Bin 661-3B2 (Group 1 CSTP)	70	--	--			47.8
8	66A-SC4	Spillage conveyor to 66A-SC5 (Goup 3 CSTP)	67	0.003	Note 4	0.2	0.9	47.3
8	66A-SC5	Collecting Screw to 661-SC7 (Group 3)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC1	Power Roller Conveyor From Havor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC2	Exit Conveyor from Havor Packing Machine (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC3	1st Curve Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC4	Incline Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC5	2nd Curve Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC6	Short Belt Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BC7	Short Belt Conveyor Before Diverter Belt (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BCE	South Side Curve Conveyor to Pallitizer (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BCF	West Side After Curve Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-BCG	West Side Bag Turner Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3
8	671-RB1	North Roller Conveyor (Group 2)	67	0.003	Note 4	0.2	0.9	47.3

Note 1: AP-42, Section 13.2.1, 5th edition, 12/03 (Paved Roads)
Note 2: AP-42, Section 13.2.2, 5th edition, 12/03 (Unpaved Roads)
Note 3: AP-42 Table 11.19.2-2, 8/04 (Tertiary Crushing)
Note 4: AP-42 Table 11.19-2, 8/04 (Conveyor Transfer Uncontrolled)
Note 5: AP-42 Table 11.19.2-2, 8/04 (Screening)
Note 6: 13.2.4, 11/06
Note 7: AP-42 Table 11.19.2-4, 9/04 (Grinding (dry) with Fabric Filter Control)
Note 8: AP-42, Section 13.2.4, Equation 1,11/06
Note 9: AP-42 Table 11.6-4, 1/95 (Raw Mill Feed with Fabric Filter)
Note 10: AP-42, Table 11.6-4, 1/95 (Raw Mill with filter)
Note 11: AP-42, Table 11.6-4, 1/95 (Raw Mill with filter)
Note 12: AP-42 Table 11.19.2-2, 8/04 (Conveyor Transfer Point - controlled)
Note 13: Engineering Design Specification
Note 14: AP-42 Table 11.19.2-4, 9/04 (Product Storage With Fabric Filter Control)
Note 15: AP-42 Table 11.19-2, 8/04 (Conveyor Transfer Point)
Note 16: AP-42 Table 11.6-4, 1/95 (Finish Grinding Mill Separator with Fabric Filter)
Note 17: AP-42 Table 11.12-2, 6/06 (Cement Unloading to Elevated Storage (pneumatic))
Note 18: AP-42 Table 11.6-4, 1/95 (Primary Limestone Screening with Fabric Filter)
* Note – The column titled “Calculated PM Allowable (lb/hr)” includes the allowable hourly emissions in accordance with equations from OAC 252:100-19 Appendix G.

ESTIMATED KILN AND OTHER FUEL BURNING EQUIPMENT EMISSIONS

Potential emissions from the proposed kiln and emissions units vented through the main kiln stack (i.e., the kiln, preheater/precalciner, alkali bypass, and clinker cooler) are estimated using emission factors and the maximum true clinker production capacity of the system of 764,453 TPY. The emission factors for NOx and SO_2 are based on NSPS Subpart F standards. The emission factor for VOC is based on NESHAP Subpart LLL standard. The emission factors for CO and GHG (as CO2e) are based on engineering design specifications for the proposed kiln system. The emission factor for lead (Pb) is an engineering estimate based on historical stack test results.

The NSPS Subpart F and NESHAP Subpart LLL PM standards are for the filterable PM only. Total PM emissions include the filterable and condensable PMs. The *filterable* PM/PM_{10} emission factor is based on NSPS Subpart F standard. *Filterable* $PM_{2.5}$ is estimated as a ratio applied to the *filterable* PM/PM_{10} factor. The $PM_{2.5}$-to-PM ratio (i.e., 0.077 / 0.082) is from information published by the Portland Cement Association (PCA). An emission factor for condensable $PM/PM_{10}/PM_{2.5}$ (all condensable particulate emissions are assumed to be $PM_{2.5}$ or smaller) is estimated based on information presented in AP-42 Table 11.6-2 (1/95) for a "Preheater kiln with fabric filter": $PM_{condensable}=PM_{filterable}*0.033/0.25$. Total particulate emission factors are then calculated as the sum of filterable and condensable emissions factors.

Pollutant	Emission Factor (lb/ton clinker)	Emission Factor Reference	Total Estimated Kiln Emissions	
			lb/hr	TPY
PM/PM_{10} (Filterable)	0.02	NSPS Subpart F Standard	1.75	7.64
PM/PM_{10} (Condensable)	0.0027	AP-42 Table 11.6-2	0.23	1.04
PM/PM_{10} (Filterable + Condensable)	0.023	-	1.98	8.68
$PM_{2.5}$ (Filterable + Condensable)	0.022	Information Published from PCA	1.92	8.41
NOx	1.5	NSPS Subpart F Standards	130.90	573.34
SO_2	0.4		34.91	152.89
CO	4.0	Engineering Design Specification	349.07	1,528.91
GHG as CO_2e	1.01 ton/ton clinker		176,278	772,098
VOC	24 ppmdv	NESHAP Subpart LLL Standard for THC	46.05	201.71
Pb	5.23E-05	5/2009 Stack Test	0.005	0.02
Arsenic	2.49E-06	5/2009 Stack Test	0.00	0.00
Antimony	9.0E-06	5/2009 Stack Test	0.00	0.00

Pollutant	Emission Factor (lb/ton clinker)	Emission Factor Reference	Total Estimated Kiln Emissions	
			lb/hr	TPY
Cadmium	4.46E-06	5/2009 Stack Test	0.00	0.00
Chromium	1.28E-03	5/2009 Stack Test	0.11	0.49
Cobalt	1.26E-05	5/2009 Stack Test	0.00	0.00
Mercury	2.15E-05	5/2009 Stack Test	0.002	0.01
Hydrogen chloride	7.0E-02	2009 CEMS	6.11	26.76
Manganese	2.26E-04	5/2009 Stack Test	0.02	0.09
Benzene	5.93E-02	5/2009 Stack Test	5.18	22.67
Selenium	0.00015	AP-42, 5th Ed., 1/95, Table 11.6-9, Portland Cement Manufacturing	0.01	0.06
Biphenyl	6.10E-06		0.00	0.00
Bis(2-ethylhexyl)phthalate	9.50E-05		0.009	0.04
Carbon disulfide	0.00011		0.009	0.04
Chlorobenzene	1.60E-05		0.002	0.01
Ethylbenzene	1.90E-05		0.002	0.01
Methyl ethyl keytone	3.00E-05		0.002	0.01
Methylene chloride	0.00049		0.04	0.19
Phenol	0.00011		0.009	0.04
Styrene	1.50E-06		0.00	0.00
Toluene	1.95E-02	5/2009 Stack Test	1.70	7.45
Xylenes	4.07E-02	5/2009 Stack Test	3.55	15.56

*VOC emission factor is in mg/Nm^3 dry at 10% O_2, Nm3 = Normal cubic meters, the proposed kiln's exhaust flow rate is 475,324 Nm^3/hr, or 24,656,241.21 acf/hr.
Note: maximum calculated HAP emissions are identified in the above table where HAPs are shown in italicized font.

The following table lists emissions from the two diesel generators on-site based on emission factors from AP-42 (10/96), Table 3.3-1.

Pollutants	Emissions from Landfill Generator		Emissions from Kiln Generator		Total	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
NOx	2.73	11.95	14.51	3.63	7.61	12.03
CO	0.59	2.57	3.13	0.78	3.79	3.13
VOC	0.22	0.95	1.16	0.29	7.23	2.61
SO_2	0.18	0.79	0.96	0.24	0.44	0.78

TOTAL FACILITY-WIDE ESTIMATED EMISSIONS

The following emission estimates are based on the above-referenced emission factors, test data, etc. and assume continuous operation (8,760 hours) per year.

Emission Unit	Name	PM/PM_{10}		$PM_{2.5}$		SO_2		NO_x		VOC		CO	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
--	Non-Kiln Facility-Wide	255.27	1,118.08	204.22	894.46	0.44	0.78	7.61	12.03	7.23	2.61	3.79	3.13
463-KL1	Kiln	1.98	8.68	1.92	8.41	34.91	152.89	130.90	573.34	46.13	202.03	349.07	1,528.91
Total After Project		**257.25**	**1,126.76**	**206.14**	**902.87**	**35.35**	**153.67**	**138.51**	**585.37**	**53.36**	**204.64**	**352.86**	**1,532.04**
Total Before Project		**463.9**	**2031.9**	**435.62**	**1,908.00**	**540.44**	**2,366.18**	**513.61**	**2,228.33**	**157.23**	**659.41**	**668.99**	**2,916.53**
Emission Changes		**-206.65**	**-905.14**	**-229.48**	**-1005.13**	**-505.09**	**-2212.51**	**-375.10**	**-1642.96**	**-103.87**	**-454.77**	**-316.13**	**-1,384.49**

Note: PM_{10} emissions are assumed to equal PM emissions for purposes of determining potential to emit. For the kiln, the $PM_{2.5}$-to-PM ratio (i.e., 0.077 / 0.082) is from information published by the Portland Cement Association (PCA). For non-kiln sources, $PM_{2.5}$ is assumed to be 80% of PM/PM_{10}

SECTION VI. INSIGNIFICANT ACTIVITIES

Insignificant activities identified, justified in the application and listed in OAC 252:100-8, Appendix I, are listed below. Record keeping for activities indicated with "*" will be established in the Specific Conditions of the Permit. Any activity to which a state or federal applicable requirement applies is not insignificant even if it is included on the list.

- Space heaters, boilers and emergency flares less than or equal to 5 MMBTUH heat input (commercial natural gas). The facility includes numerous space heaters (150,000 MMBTUH) which are considered "trivial activities".
- ***** Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period. The facility has equipment for dispensing gasoline and diesel.
- ***** Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage pressure. Holcim maintains several diesel fuel and gear oil tanks which meet these criteria.
- ***** Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant. Rock blasting, truck loading and truck unloading operations meet this criterion.
- Cold degreasing operations utilizing solvents that are denser than air. These activities are conducted as a part of routine maintenance and are considered trivial activities, and recordkeeping will not be required in the Specific Conditions.
- Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes. These activities are conducted as a part of routine maintenance and are considered trivial activities and recordkeeping will not be required in the Specific Conditions.
- Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas. The facility includes chemical/paint/solvent storage area(s).
- Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas. These activities are conducted as a part of routine maintenance and are considered trivial activities, and recordkeeping will not be required in the Specific Conditions.

The facility contains several trivial activities which include, but are not limited to the following: Non-contact cooling tower, electrical transformers and substations which do not involve fuel-burning activities, unpaved roadways, maintenance, upkeep and replacement types of activities.

SECTION VII. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in "attainment" of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility that result in emissions not authorized in the permit and that exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities refer to those individual emission units either listed in Appendix I or whose actual calendar year emissions do not exceed the following limits.

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

Emission limitations and operational requirements necessary to assure compliance with all applicable requirements for all sources are taken from the operating permit application, or developed from the applicable requirements.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for affirmative defense, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]
Section 19-4 regulates emissions of PM from new and existing indirect-fired fuel-burning equipment, with emission limits based on maximum design heat input rating. Holcim fuel-burning equipment is all direct-fired so this section does not apply.

Section 19-10 limits particulate emissions from new and existing indirectly fired wood fuel-burning equipment. Holcim does not use indirectly fired wood fuel-burning equipment.
Section 19-12 limits particulate emissions from new and existing direct-fired fuel-burning units (and/or) emission points in an industrial process based on process weight rate, as specified in Appendix G. As shown in the table located in Section III (Estimated Emissions), all emission points are in compliance with Subchapter 19.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]

Section 25-3 requires that, subject to limited exceptions, no discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. This section also states that units subject to an opacity limit promulgated under section 111 of the Federal Clean Air Act are exempt from this section. The rest of the facility except the kiln is subject to the 10% opacity limit of NESHAP Subpart LLL, and is exempt from opacity requirements of this section. The new kiln is subject to both NSPS Subpart F and NESHAP Subpart LLL, however, both rules stated that opacity limit does not apply to any kiln subject to a PM limit that uses a PM continuous parametric monitoring system (CPMS). Therefore, the kiln is subject to opacity requirements of this section. Per 252:100-25-5(c)(1), continuous emission monitoring for opacity is not required for sources already subject to a new source performance standard promulgated in 40 CFR Part 60 pursuant to section 111 of the Clean Air Act, Holcim shall demonstrate compliance with opacity requirements of this section by conducting initial certified Method 9 test within 180 days of the kiln's initial start up.

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originated in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2 limits emissions of hydrogen sulfide (H_2S) from new and existing equipment, sources, or facilities. Emissions of H_2S shall not cause an ambient air concentration of H_2S greater than 0.2 ppm, on a 24 hour average, at standard conditions. The plant is not known to be a source of emissions of H_2S.
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. For liquid fuels the limit is 0.8 lb/MMBTU heat input over 3 hours. For solid fuels the limit is 1.2 lb/MMBTU heat input over 3 hours. For a combination fuels the limit is determined by proration using the formula in OAC 252:100-31-25(1)(D). The total heat input for the kiln system, including the preheater/precalciner, is 500 MMBTUH, which results in SO_2 emission rate of 0.699 lb/MMBTU. The kiln will be continuously monitored via a Continuous SO_2 Emissions Monitoring System (CEMS) and will operate within permit requirements for SO_2 emissions. The kiln will use only those alternative fuels authorized in the permit and that will meet applicable restrictions or prohibitions that exist in other provision of state or federal statues or rules, e.g., OAC 252:100-8-32.1, 252:100-31-7, 252:100-42, and/or 40 CFR Part 60,61, and/or 63.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
This subchapter limits new fuel-burning equipment built after July 1, 1977 with rated heat input greater than or equal to 50 MMBTU/hr and burns solid fossil fuel, gaseous fuel, or liquid fuel, or a combination thereof. For gas-fired equipment the limit is 0.20 lb/MMBTU heat input, over 3 hour average. For liquid-fired equipment the limit is 0.30 lb/MMBTU heat input, over three-hour average. For solid fossil fuel-burning the limit is 0.70 lb/MMBTU heat input, over three-hour average. For a combination fuels the limit is determined by proration using the formula in OAC 252:100-33- 2(a)(4). The total heat input for the kiln system, including the preheater/precalciner, is 500 MMBTUH, which results in NOx emission rate of 0.59342 lb/MMBTU. The kiln will be continuously monitored via a Continuous NOx Emissions Monitoring System (CEMS) and will operate within permit requirements for NOx emissions.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
This facility has none of the affected sources: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic reforming unit, or petroleum catalytic cracking unit.

OAC 252:100-37 (Volatile Organic Compounds) [Parts 3 and 7 Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The two gasoline storage tanks are equipped with submerged fill systems.
Part 5 limits the VOC content of coating used in coating lines or operations. This facility will not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.
Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion. Holcim has ongoing maintenance scenarios to ensure essentially complete fuel combustion by all fuel-burning equipment.

OAC 252:100-39 (VOC in Nonattainment and Former Nonattainment Areas) [Not Applicable]
This subchapter applies to facilities in Tulsa and Oklahoma Counties only. This facility is located in Pontotoc County, and is not subject.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained unless a modification is approved by the Director. Since no Area of Concern (AOC) has been designated anywhere in the state, there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and

operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Quality Rules are not applicable to this facility:

OAC 252:100-7	Minor Source Permitting	not type of emission unit
OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-47	Landfills	not type of source category

SECTION VIII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable At This Time]

PSD analysis is required when an existing major source increases emissions by significant amounts (after netting, etc.). The significant quantity (TPY) of emissions of each pollutant in question is shown in the following table.

SO_2	NO_x	CO	VOC	$PM/PM_{10}/PM_{2.5}$	Sulfuric Acid Mist	Total Reduced S Compounds	H_2S	Fluorides	Lead
40	40	100	40	25/15/10	7	10	10	3	0.6

SECTION III.A concluded that the proposed project will not require PSD review.

NSPS, 40 CFR Part 60 [Subparts F and Y Applicable]

Subpart F, Portland Cement Plants. This subpart sets standards of performance for Portland Cement Plants built or modified after August 17, 1971. Affected facilities include kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems. The proposed kiln and the clinker cooler are subject to this subpart as new sources and shall comply with applicable requirements. The other affected sources subject to this subpart are also subject to NESHAP Subpart LLL. Pursuant to § 63.1356, if an affected facility subject to this subpart has a different emissions limit or requirement for the same pollutant under another

regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. These units will comply with NESHAP Subpart LLL requirements which are more stringent.

Subpart Y, Coal Preparation Plants. This subpart applies to the following affected facilities in coal preparation plants which process more than 200 tons per day: thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems that commence construction or modification after October 24, 1974. The coal crushing, transport, and storage operations at Holcim are subject to the limitations of this subpart. The permit will require compliance with the applicable requirements. Pursuant to 40 CFR § 63.1340(b)(7), CSTP used to convey coal from the coal mill to the kilns are also subject to NESHAP Subpart LLL. Pursuant to § 63.1356, if an affected facility subject to this subpart has a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. Since the PM limits of NESHAP, Subpart LLL are more stringent, these CSTP units are exempt from the less stringent PM limits of NSPS, Subpart Y.

Subpart OOO, Nonmetallic Mineral Processing Plants. This subpart applies to each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station constructed, reconstructed or modified after August 31, 1983. The primary crusher, secondary crusher, and material transfer operations at the quarry meet the definitions of nonmetallic mineral processing plants. However, all equipment at the quarry was constructed prior to 1983 and is not subject to this subpart. The other affected units at other processes are subject to NSPS Subpart F and are exempt from this subpart.

Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This subpart affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. For owners and operators of non-fire pump engines, this subpart is applicable to those manufactured after April 1, 2006. The emergency diesel generator for the kiln (46A-1G1) was manufactured in January 2006 and the diesel generator at the new pug mill was manufactured before 2006 and are not subject to this subpart.

NESHAP, 40 CFR Part 61 [Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride, except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams that contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63 [Subparts LLL and ZZZZ Applicable]

Subpart LLL, Portland Cement Manufacturing Industry. This subpart applies to each kiln and in-line kiln/raw mill (except those burning hazardous waste and which are subject to CFR Part 63, Subpart EEE); clinker cooler; raw mill; finish mill; raw material dryer; raw material, clinker or

finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system at new and existing Portland cement plants which are either a major source or an area source. The facility is an existing major source of HAP emissions, whereby the above-listed affected sources are subject to the applicable provisions of this subpart. The kiln and clinker cooler shall be subject to new source standards under this subpart.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions.

A RICE ≤ 500-hp located at a major source is new or reconstructed if construction or reconstruction commenced after June 12, 2006. The emergency 350 kW diesel generator (46A-1G1) and the 88-hp diesel generator at the new pug mill were both constructed before June 12, 2006 and are existing stationary emergency sources at a major facility. These generators shall comply with the following requirements:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

CAM, 40 CFR Part 64 [Not Applicable]

This part applies to any pollutant-specific emission unit at a major source that is required to obtain an operating permit, for any application for an initial operating permit submitted after April 18, 1998, that addresses “large emissions units,” or any application that addresses “large

emissions units" as a significant modification to an operating permit, or for any application for renewal of an operating permit, if it meets all of the following criteria.

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY

Many sources at the Holcim facility are subject to Subpart LLL and will use bag filter controls for PM_{10} emissions. The equipment is subject to several emission limitations including PM_{10} as specified in OAC 252:100-19. The bagfilters will be utilized to achieve compliance with this PM_{10} emission limit. Without controls, PM_{10} emissions from several sources (including the kilns) are greater than major source levels. As such, these sources meet the applicability criteria of CAM. However, the rule exempts units subject to NSPS and NESHAP that were proposed after the 1990 amendments to the Act from CAM requirements. As 40 CFR Part 63, Subpart LLL was proposed after 1990, the sources subject to this subpart are exempted from CAM applicability.

Coal crushing operations at Holcim are subject to applicable limitations (OAC 252:100-19 and 40 CFR 60 Subpart Y) for which bag filters are used to comply. Uncontrolled emissions from the coal crushing operations could exceed 100 TPY. As such, these sources initially meet the applicability criteria of CAM. However, the bag filters are primarily utilized for product recovery (*i.e.,* coal). In accordance with EPA's "Criteria for Determining Whether Equipment is Air Pollution Control Equipment or Process Equipment" dated November 27, 1995, the bag filters associated with the facility's coal unloading, processing and transfer operations are properly classified as process equipment due to their primary function of product recovery and are not considered to be air pollution control equipment:

1. The primary purpose of the bag filters is the recovery of coal to reduce fuel costs.
2. Significant annual fuel cost savings result from the recovery of the coal (estimated to be approximately $337,000 per year based on maximum permitted emission rates, 4,220 tons of coal recovered annually, and $80/ton cost of coal). The current estimated cost associated with a baghouse is approximately $3 to $5 per standard cubic foot of air flow. Assuming an air flow of 25,000 dscf/min, the estimated cost of a baghouse would range from $75,000 to $125,000. As indicated above, the estimated annual fuel savings exceed this cost.
3. Based on the significant fuel cost savings referenced above, installation of the bag filters is indicated even if no air quality regulations were in place.

As the bag filters are utilized for product recovery and are therefore classified as process equipment, CAM is determined not to be applicable to these units.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments). More information on this federal program is available on the web page: *www.epa.gov/ceppo*.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subpart A and F Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.
This facility does not utilize any Class I & II substances.
Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.
The Standard Conditions of the permit address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; § 82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

SECTION VII. INSPECTION & COMPLIANCE STATUS

Tier Classification and Public Review

This application has been determined to be a **Tier I** based on the request for a minor modification to a Part 70 construction permit. The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the real property.

The draft permit was proposed to EPA for a 45-day EPA review. Comments were received from the EPA and a response to those comments is provided below.

Response to Comments from the EPA on the Proposed Permit

ODEQ received comments concerning Holcim Ada Portland Cement Production Plant, Permit No. 98-087-C (M-8) on June 24, 2016. The following is a response to those comments.

Comment #1

The permit memorandum indicates that Permit No. 98-087-C (M-8) is a modification of a previously issued permit on October 16, 2014 for a new kiln and clinker cooler at the Holcim Ada cement plant. This permit replaces the previous construction permit which EPA considers is void for construction purposes. The new construction permit will replace the existing two kilns and clinker coolers with one new semi-wet single stage preheater/precalciner that will meet the applicable EPA rules at 40 CFR 60 - Subpart F and 40 CFR 63 - Subpart LLL.

Response to Comment #1

Correct, ODEQ is modifying the existing construction permit to clarify some applicability issues.

The memorandum, on page 1, has been updated to clarify that this permit action is a re-opening of the existing construction to require the semi-wet single stage preheater/precalciner to meet the requirements of 40 CFR 60 – Subpart F and 40 CFR 63 – Subpart LLL.

Specific Condition #13 already states that the existing construction permit is canceled.

Comment#2

The permit memorandum states "The add-on SNCR control technology is included in the design due to Holcim's corporate policy, not for regulatory compliance." (page 2 first paragraph). Since the documents do not have the detailed calculations of emissions from the units, EPA would like ODEQ to note that if these NOx reduction credits have been taken into consideration in the "contemporaneous netting" calculations and for meeting the emission limits in the draft permit, it would be considered used for regulatory compliance and therefore should have emission limits based on use of SNCR. EPA is requesting that ODEQ ensure that the emission calculations and emission factors for all the pollutants from the kiln are included in the public record for this permit action. On page 47 of the permit memorandum states that the emission factors are based on Subpart F standards. Please provide the emission factor for NOx with SNCR and without SNCR and the resultant NOx emissions.

Response to Comment #2

Calculations detailing how NOx emissions were derived are provided on pgs. 47/48 of the Memorandum. There are no NOx reduction credits for the purpose of contemporaneous netting. The facility is simply proposing to comply with the NSPS factor of 1.5 lb/ton. Since the SNCR may be utilized to meet the NSPS limit during some operational scenarios, the limit is based on utilizing the SNCR and also when the unit can meet the limit without the SNCR. All the factors for the kiln are provided in the public record in both the application and permit memo on pgs. 47/48. The facility is required to comply with the NSPS standard of 1.5 lb/ton at all times. NOx will be monitored with CEMs. It is therefore, not necessary to document what level of emissions below the standard will be achieved as there are no standards to compare this with.

In other words, since the standard only requires the unit to meet an emission level, the amount of reduction achieved is not needed.

To clarify SNCR operation requirements Specific Condition No. 1 for Kiln System C.1) has been modified to read as follows:

C. Compliance Demonstration

1) Compliance with NOx, CO, and SO_2 emission limits shall be demonstrated by their CEMS data. The SNCR shall be operated as needed. Owner or operator shall comply with all applicable monitoring requirements specified in NSPS Subpart F for NOx and SO_2.

Comment #3

Since this is a modification to a construction permit issued October 16, 2014, the baseline for the project should meet the requirements of 40 CFR 52.21(b)(48)(ii) "within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Administrator for a permit required under this section or by the reviewing authority for a permit required by a plan, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990." The baseline for criteria pollutants in the permit memorandum is stated as January 2005 through December 2006 and July 2005 through June 2007 for GHG. Please document compliance with 40 CFR 52.21(b)(48)(ii).

Response to Comment #3

Holcim began actual construction in January 2015, therefore, the baseline years from July 2005 through June 2007 for GHG are within the 10-year period immediately preceding the date the owner or operator begins actual construction of the project. For criteria pollutants, Holcim changed baseline years to 2007 and 2008, still showing net emission increases less than PSD significance levels. The PSD Applicability Analysis of Section II in the permit memorandum has been revised accordingly.

After a small change to the baseline emissions the project still results in a net emission decrease for all pollutants

Comment #4

For the contemporaneous emission table that determines the net emission increase please list all the specific projects, including the 2006 indirect firing system project, during the 5 year contemporaneous period with the federally enforceable permit limits on emission decreases and increases, and the associated dates. The table provided is a summary table and the public record should have this supplemental information for the table in the permit memorandum.

Response to Comment #4

Per OAC 252:100-8-9-31, an increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs within 3 years before the date that the increase from the particular change occurs. As stated in the permit memorandum: "Only contemporaneous emission increases come from the new pug mill project in 2013, which involves only one emission source, an emergency generator". The 2006 indirect firing system project is outside of the contemporaneous period. Tables have been added in the permit memorandum to list contemporaneous emissions increases and decreases separately as shown on Pages 4 & 5 of the Memorandum.

Comment #5

The condition in the draft permit pg 70: "The two existing long-wet kilns shall be shut down and rendered inoperable before the new semi-wet kiln becomes operational. The new kiln will be considered operational only after a reasonable shakedown period, not to exceed 180 days. Until such time, the two old long-wet kilns and associated equipment will continue to operate according to the requirements of Permit No. 98-087-TV (M-1) or any Title V operating permit in effect."
A shakedown period not to exceed 180 days is only required for a replacement unit (40 CFR 52.21(b)(3)(viii). Therefore ODEQ should explain the time considered for the practical shakedown period for the tie-ins of the new kilns, and whether it assessed the potential for the shakedown period potentially violate current NAAQS standards. Please note that 40 CFR 52.21(b)(3)(ii) & (iii) states that the emission decreases must occur prior to any increase in emissions.

Response to Comment #5

The wording about the shakedown period has been removed from the specific condition in comment. The revised condition will read as follows:

F. The two existing long-wet kilns shall be shut down and rendered inoperable before the new semi-wet kiln becomes operational.

Comment #6

Since the permit memorandum is the basis for the applicable regulations in the draft permit, ODEQ should affirmatively determine that MACT LLL definitively applies to this construction permit of a new kiln and clinker cooler. (See Page 1 introduction " In this permit, modernized kiln and clinker cooler will be treated as a new source ……" and page 3 "Holcim is choosing....." etc.). EPA notes that the draft permit does have the citations for both 40 CFR 60 - Subpart F and 40 CFR 63 - Subpart LLL for the clinker and cooler, and believes that the permit memorandum should have definitive language stating affirmatively the applicability of the NSPS and NESHAP regulations to the source.

Response to Comment #6

The wordings in comment have been revised to read as follows:

In SECTION I. INTRODUCTION,
"This permit will replace Permit No. 98-087-C (M-7) and will clarify that the modernized kiln and clinker cooler will be subject to NSPS Subpart F and NESHAP Subpart LLL standards as new sources."

In SECTION II.C. NESHAP Applicability,

"The Kiln and Clinker Cooler are subject to new source emission standards under Subpart LLL."

Both the memorandum and specific conditions already stated definitively that the kiln is subject to NSPS Subpart F.

Comment #7

The draft permit on page 64, " Non Grandfathered Units" B please explain how the annual emission inventory process rates that presumably will change based on production rates can be practically enforceable. ("Compliance with the specified emission limitations shall be based on the use of AP-42 factors and the process rates referenced in the Permit Memorandum along with the annual emissions inventory")

Response to Comment #7

The condition has been revised to read as follows:

"Compliance with the specified emission limitations shall be based on the use of AP-42 factors and recorded actual annual throughputs."

On August 8, 2016, EPA provided follow up comments on the above responses and the following is a response to these follow up comments.

Follow Up Comment on Response #2

The draft permit on page 2 stated "The potential emissions represented in this application do not account for any control of NOx due to the operation of the SNCR." The EPA concern was that the emissions in the draft permit did not account for emissions reflecting use of the SNCR. However, your response indicates that SNCR will be used to meet the NSPS limit during some operations/time. Please clarify any alternate operating conditions or periods of operation when this control technology will not be used while the new kiln is operating. Also, for the record please indicate the emission factor that will be used while the kiln is being operated without SNCR since the table on page 47 only shows the regulatory NSPS emission factor.

ODEQ Response

To clarify, the sentence in question on Page 2 of the Memorandum has been revised to read "However, SNCR may not be needed in some operational scenarios to meet emission limit. Holcim will demonstrate continuous compliance with the NOx emission limit via CEMs with or without the operation of SNCR." At current time, Holcim does not have the first hand knowledge of certain operating conditions or periods of operation when the NSCR will not be used since

they have no actual operating data. The question regarding emission factor was already addressed in previous response #2.

Follow Up Comment on Response #3

Since your response to comment # 1 indicates that Specific Condition # 13 states that the existing construction permit is canceled, please indicate the date ODEQ considered the permit application complete for this permitting action. Will this be a new condition included in the proposed/final permit on page 22?

ODEQ Response

For this permit application, the application was considered complete on March 22, 2016. Yes, the condition canceling the existing construction permit will be included.

Follow Up Comment on Response #5

EPA has concerns about the language in Condition F "The two existing long-wet kilns shall be shut- down and *rendered inoperable* before the new semi-wet kiln becomes *operational.*" It is unclear in this case what ODEQ defines as "becomes operational" for the new semi-wet kiln. Does this mean there will be zero emissions from the existing wet-kilns…..is there any period of time where the two wet-kilns could operate simultaneously with the new semi-wet kiln? EPA recommends clear practically enforceable language in order for the emissions reductions at the two existing wet-kilns to ensure that the reductions are creditable and federally enforceable such as "The exiting kilns shall be permanently shutdown having zero emissions as part of this permitting action, prior to the release of any emissions from the new kiln."

ODEQ Response

ODEQ concurs and Condition F for the kiln has been revised accordingly.

Follow Up Comment on Response #7

For this condition we prefer language indicating that the new kiln will utilize data from the installed and certified CEMS, and for units without CEMS emission factors based on site specific testing data should be utilized to determine emissions, and lastly AP-42 factors from other similar units in conjunction with the recorded annual throughputs.

ODEQ Response

The condition in question is not the condition for the kiln. The requirement of CEMS for the kiln is already listed under the kiln section. The conditions refered to in the commnet have been revised to read "Compliance with the specified emission limitations shall be based emission factors derived from site specific testing data, and lastly AP-42 emission factors if no testing data availabe, in conjuction with the recorded actual annual throughputs."

Fee Paid

Part 70 Construction Permit modification application fee of $5,000.

SECTION VIII. SUMMARY

The applicant has demonstrated the ability to comply with the requirements of the applicable Air Quality rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance and enforcement issues concerning this facility. Issuance of the construction permit is recommended.

PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

Holcim (US) Inc.
Ada Portland Cement Production Facility **Permit No. 98-087-C (M-10)**

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on March 22, 2016. The Evaluation Memorandum dated December 8, 2016 explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain limitations or permit requirements. Continuing operations under this permit constitute acceptance of, and consent to the conditions contained herein:

1. Points of emissions and emissions limitations for each point: [OAC 252:100-8-6(a)(1)]

EUG 1: Fugitives

Emission Unit	Name	Construction Date
N/A	Truck Traffic on Paved Roads	Pre-1971
N/A	Truck Traffic on Unpaved Roads	Pre-1971
N/A	Storage Piles	Pre-1971

A. There are no emission limits applicable to these units.

EUG 2: Primary Crusher, Secondary Crusher, Screening, Material Transfer

This emission group consists of grandfathered sources which are limited to the existing equipment as is.

Emission Unit	Name	Construction Date
21A-IM1	Primary Crusher	Pre-1971
21A-AF1	Primary Apron Feeder	Pre-1971
21A-HP1	Primary Crusher Hopper	Pre-1971
211-IM1 212-IM1	Secondary Crushers (each)	Pre-1971
211-VS1 211-VS2 212-VS1 212-VS2	Secondary Crusher Screening (each)	Pre-1971
291-3B1	Surge Bin	Pre-1971
291-BC1 291-BC2 291-BC3 291-BC4 291-BC5 291-BC6 291-BC7	Flight 1-7 Drops (each)	Pre-1971
291-ST1	Radial Stacker	Pre-1971

Emission Unit	Name	Construction Date
21A-BC1	Primary Belt	Pre-1971
211-BC2	#1 Recirculating Belt	Pre-1971
211-BC3	#1 Screen Discharge Belt	Pre-1971
291-BC8	Secondary Belt to Surge Bin	Pre-1971
212-BC1	#2 Screen Feed Belt	Pre-1971
212-BC3	#2 Recirculating Belt	Pre-1971
212-BC2	#2 Screen Discharge Belt	Pre-1971
291-AF1	Quarry Apron Feeder	Pre-1971
291-BC9	Raw Incline Belt	Pre-1971
21A-SX1	Dribble Conveyor	Pre-1971
211-BC1	#1 Screen Feed Belt	Pre-1971

EUG 3: Coal Unloading, Processing and Transfer

Emission Unit	Name	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY	lb/hr	TPY
L11-VD1	Coal/Coke Car Shaker	1975	1.0	4.4	0.80	3.52
L31-RC1	Coal/Coke Crusher	1975	13.2	57.8	10.56	46.24
L31-VD1 L31-VD2	Coal/Coke Crusher Material Transfers (each)	1975	0.5	2.2	0.40	1.76
L61-RM1 L62-RM1	Coal Mill #1 (associated with baghouse L61-BF1) and Coal Mill #2 (associated with baghouse L62-BF1)(each)	2006	0.1	0.2	0.04	0.16
L11-HP1 L11-HP2	Coal/Coke Unloading Hoppers (each)	1975	0.5	2.2	0.40	1.76
L11-VF1	West Vibrating Feeder	1975	0.5	2.2	0.40	1.76
L11-VF2	East Vibrating Feeder	1976	0.5	2.2	0.40	1.76
L11-BC1	Coal/Coke Unloading Belt	1976	1.5	6.6	1.21	5.28
L01-MI1*	Coal/Coke Blender	2000	1.0	4.4	0.80	3.52
L31-SG1* L31-SG2*	Coal/Coke Slide Gates (each)	1975	0.5	2.2	0.40	1.76
L31-BC1*	Coal/Coke Tunnel Belt	1975	1.0	4.4	0.80	3.52
L31-RC1*	Crusher Roller	1975	1.0	4.4	0.80	3.52
L31-BC2*	Conveyor Belt	1975	1.0	4.4	0.80	3.52
L31-3B1*	Coal/Coke Bin	1975	2.0	8.8	1.61	7.04
L61-WF1	#2 coal mill weigh feeder belt	1975	0.1	0.2	0.04	0.16
L62-WF1	# 1 coal mill weigh feeder belt	1975	0.1	0.2	0.04	0.16
L61-SC1	#2 screw conveyor	1975	0.1	0.2	0.04	0.16
L62-SC1	#1 screw conveyor	1975	0.1	0.2	0.04	0.16
L61-RF1	Baghouse Rotary Airlock-IDF	2006	0.1	0.4	0.07	0.32
L62-RF1	Baghouse Rotary Airlock-IDF	2006	0.1	0.4	0.07	0.32
L93-BF1	Nuisance Fine Coal Storage Bin Dust Collector	TBD	0.43	1.88	0.34	1.50

*Equipped with dry fog dust suppression system.

A. The above emission units are "affected facilities" subject to Subpart Y and shall comply with all applicable requirements. [40 CFR § 60.250-60.258]

§60.250 Applicability and designation of affected facility.
§60.251 Definitions.
§60.252 Standards for thermal dryers.
§60.253 Standards for pneumatic coal-cleaning equipment.
§60.254 Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles.
§60.255 Performance tests and other compliance requirements.
§60.256 Continuous monitoring requirements.
§60.257 Test methods and procedures.
§60.258 Reporting and recordkeeping

B. The following listed emission units are "affected sources" subject to both NSPS Subpart Y and NESHAP Subpart LLL and shall comply with the most stringent standards. These units shall comply with all applicable requirements including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above emission units any gases which exhibit opacity in excess of 10%.

[40 CFR §§ 63.1345 and 63.6(h)]

Emission Unit	Name	Construction Date
481-PF1 482-PF1	Rotary Schenck Feeders (Kiln 1 & 2)(Group 1 CSTP)	2006
L91-BI1 L92-BI1	Pulverized Solid Fuel Bins (Lines 1 and 2)	2006
L91-SC1 L92-SC1	Screw conveyors (Lines 1 & 2)	2006
L93-BF1	Nuisance Fine Coal Storage Bin Dust Collector	TBD

These units are group 1 units which are totally enclosed conveying system transfer points (enclosed on all sides, top and bottom), no emissions are expected from these units.

EUG 4: Raw Mill Silos, Bucket Elevators and Interstices

Grandfathered Units

Emission Unit	Name	Construction Date
K1A-BE1	Additive System Bucket Elevator	Pre-1971
K1A-3S1	S-2 Sand Interstice (Storage Bin), S-2 Sand Interstice Transfer 1 (Group 2 CSTP), S-2 Sand Interstice Transfer 2 (Group 2 CSTP) (each)	Pre-1971
X11-3S2	Mill Scale Interstice (Storage Bin) Group 3	Pre-1971
X11-3S2	Mill Scale Interstice Transfer (Group 2 CSTP)	Pre-1971
K1A-3S3	MR-2 Interstice (Storage Bin)	Pre-1971
X11-3S4	I-2 CKD Interstice (Storage Bin) (Group 3 CSTP) & I-2 CKD Interstice Transfer (Group 2 CSTP)	Pre-1971
291-3S1 291-3S2 291-3S3	L-1 Silo (Storage Bin) (Group 3 CSTP), L-1 Silo Transfer (Group 2 CSTP), L-2 Silo (Storage Bin) (Group 3 CSTP), L-2 Silo Transfer (Group 2 CSTP), L-3 Silo (Storage Bin) (Group 3 CSTP), & L-3 Silo Transfer (Group 2 CSTP) (each)	Pre-1971
331-BC1	Raw Mill #1 Feedbelt Transfer 1 (Group 2 CSTP) & Raw Mill #1 Feedbelt Transfer 2 (Group 2 CSTP) (each)	Pre-1971
331-WF1 331-WF2 331-WF3	L-1 Feed O Weight, L-2 Feed O Weight, & L-3 Feed O Weight (each) (All Group 2)	Pre-1971
331-WF4 331-WF5	Raw Mill #1 S1 & I1 FOWs (each) (all Group 2)	Pre-1971
361-BM1	Raw Mill #1	Pre-1971
291-3S4 291-3S5 291-3S6	L-4 Silo (Storage Bin) (Group 3 CSTP), L-4 Silo Transfer (Group 2 CSTP), L-5 Silo (Storage Bin) (Group 3 CSTP), L-5 Silo Transfer (Group 2 CSTP), L-6 Silo (Storage Bin) (Group 3), & L-6 Silo Transfer (Group 2 CSTP) (each)	Pre-1971
332-BC1	Raw Mill #2 Feedbelt (Group 2 CSTP)	Pre-1971
332-WF1 332-WF2 332-WF3	L-4. L-5, & L-6 Feed O Weights (Group 2 CSTP)(each)	Pre-1971
332-WF4 332-WF5	Raw Mill #2 S2 & I2 FOWs (Group 2 CSTP) (each)	Pre-1971
362-BM1	Raw Mill #2	Pre-1971
291-BFC	D-1 Dust Collector	Pre-1971
291-BFD	D-2 Dust Collector	Pre-1971
291-BCA	Row Incline Extension Belt Group 3	Pre-1971
291-BCB	L-5 Extension Belt Group 3	Pre-1971

Emission Unit	Name	Construction Date
291-BCC	L-6 Extension Belt Group 3	Pre-1971
291-BCE	L-2 Extension Belt Group 3	Pre-1971
291-BCF	L-3 Extension Belt Group 3	Pre-1971
K1A-AF1	Additive Hopper Apron Feeder Group 2	Pre-1971
K1A-BC1	Additive Incline Belt Group 3	Pre-1971
K1A-BC2	Additive Incline Belt 1st Extension Belt Group 3	Pre-1971
K1A-BC4	Additive Incline belt (Group 3)	Pre-1971
K1A-BC3	Mill Scale Interstice Belt Group 3	Pre-1971
KIA-BC5	Interstice Belt Group 3	Pre-1971
KIA-HP1	Additive Hopper Group 2	Pre-1971

A. These grandfathered sources are limited to the existing equipment as is. These units are "affected sources" subject to Subpart LLL (40 CFR § 63.1340) and shall comply with all applicable requirements including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%.

[40 CFR §§ 63.1345 and 63.6(h)]

Non Grandfathered Units

Emission Unit	Name	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY	lb/hr	TPY
331-BF1 331-BF2 331-BF3	Feed Belt Dust Collector Transfers (Group 3 CSTP), (each) (L1 Feed-O-Weight Transfer to 331-BC1 Feed Belt)	1993	0.3	1.3	0.24	1.04
332-BC2	#2 Raw Mill crossover feed belt (Group 2 CSTP)	2000	0.6	2.6	0.47	2.08
332-BF1 332-BF2 332-BF3	Feed Belt Dust Collector Transfers D-8a, b, c (Group 2 CSTP) (each) (L4 Feed-O-Weight Transfer to 332-BC1 Feed Belt)	1993	0.3	1.3	0.24	1.04

B. Compliance with the specified emission limitations shall be based emission factors derived from site specific testing data, and lastly AP-42 emission factors if no testing data availabe, in conjuction with the recorded actual annual throughputs..

C. Raw silo dust collectors (291-BFC and 291-BFD) shall be equipped with a mechanism to activate the cleaning cycles for the dust collectors and permittee shall maintain records of proper baghouse maintenance.

D. These emission units are subject to both NSPS Subpart F and NESHAP Subpart LLL and shall comply with the most stringent standard including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%.

[40 CFR §§ 63.1345 and 63.6(h)]

EUG 5: Kiln System

Emission Unit	Name	Control Device	Construction Date
463-KL1	Kiln System (w/Cooler & Alkali Bypass)	Baghouse	TBD
423-BF2	Nuisance Filter Dust Collector	Dust Collector	TBD
4A3-BF2	Nuisance Bypass Dust Collector	Dust Collector	TBD

The kiln is subject to both NSPS Subpart F and NESHAP Subpart LLL and shall comply with the most stringent standards including but not limited to the following:

	463-KL1		423-BF2		4A3-BF2	
Pollutant	**lb/ton clinker***	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
PM/PM_{10} (Filterable)	0.02	7.64	-	-	-	-
PM/PM_{10} (Condensable)	0.0027	1.04	-	-	-	-
PM/PM_{10}(Filterable + Condensable)	0.023	8.68	0.43	1.88	0.43	1.88
$PM_{2.5}$ (Filterable + Condensable)	0.022	8.41	0.34	1.50	0.34	1.50
NOx	1.50	573.34	-	-	-	-
CO	4.0	1,528.91	-	-	-	-
VOC	24 ppmvd	202	-	-	-	-
SO_2	0.4	152.89	-	-	-	-
Pb	5.23E-05	0.02	-	-	-	-

*Based on 30-operating day rolling average.

A. Other Emissions and Opacity Limits

The permittee shall not cause to be discharged into the atmosphere from the kiln stack any gases which:

1) Exhibit opacity greater than 20%; [OAC 252:100-25]
2) Contain dioxins/furans in excess of:
   a. 0.20 ng per dscm ($8.7x10^{-11}$ gr per dscf) (TEQ) corrected to 7% oxygen; or
   b. 0.40 ng per dscm ($1.7x10^{-10}$ gr per dscf) (TEQ) corrected to 7% oxygen, when the average of the performance test run average temperature at the inlet to the PM control device is 204°C (400°F) or less. [40 CFR § 63.1343(b)]
3) Contain mercury in excess of 21 lb/MM tons; [40 CFR § 63.1343(b)]
4) Contain THC in excess of 24 ppmvd, measured as propane and corrected to 7% oxygen; [40 CFR § 63.1343(b)]
5) Contain HCl in excess of 3 ppmvd corrected to 7% oxygen. [40 CFR § 63.1343(b)]

B. Operating Limits

The temperature of the gas at the inlet to the kiln PM control device (PMCD) shall not exceed the applicable temperature limit as determined and established in accordance with 40 CFR § 63.1349(b)(3)(iv). [40 CFR § 63.1346(b)]

C. Compliance Demonstration

1) Compliance with NOx, CO, and SO_2 emission limits shall be demonstrated by their CEMS data. The SNCR shall be operated as needed to ensure compliance with NOx emission limit. Owner or operator shall comply with all applicable monitoring requirements specified in NSPS Subpart F for NOx and SO_2. [40 CFR §60.63(d)-(g)]

2) Compliance with VOC emission limits shall be demonstrated using the THC CEMS data as a surrogate and shall comply with all applicable monitoring requirements set in NESHAP Subpart LLL. [40 CFR §63.1350(i)]

3) Permittee shall monitor clinker production rate continuously. [40 CFR §63.1350(d)]

4) Permittee shall monitor stack gas flow rate continuously. [40 CFR §63.1350(n)]

5) For Particulate Emission Limitations:
   a. The owner or operator of a kiln subject to limitations on particulate matter emissions shall demonstrate initial compliance by conducting a performance test as specified in § 63.1349(b)(1)(i) through § 63.1349(b)(1)(iv). [40 CFR § 63.1349(b)(1)]
   b. Permittee shall also monitor continuous performance through use of a PM continuous parametric monitoring system (PM CPMS). The PM CPMS shall be used to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. The performance test must be repeated annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test using the procedures in §63.1349(b)(1) (i) through (vi). Test must also be repeated if there is a change in the analytical range of the instrument, or if the instrument itself is replaced or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration. [40 CFR § 63.1350]

6) For D/F Emission Limitations:
   a. The owner or operator of an affected source subject to limitations on D/F emissions shall demonstrate initial compliance with the D/F emission limit by conducting a performance test using Method 23 of appendix A-7 to part 60 of this chapter. Performance testing to determine compliance with dioxin/furan emission limitations shall be repeated every thirty (30) months. [40 CFR § 63.1349(b)(3) & (c)]
   b. To demonstrate continuous compliance, the owner or operator must comply with all requirements in 40 CFR § 63.1350 (g). Specifically, the owner and operator must install, calibrate, maintain, and continuously operate a CMS to record the temperature of the exhaust gases from the kiln and alkali bypass, if applicable, at the inlet to, or upstream of, the kiln and/or alkali bypass PMCDs. Performance testing

to determine compliance with dioxin/furan emission limitations shall be repeated every thirty (30) months. [40 CFR § 63.1350(g)]

7) For Opacity Limit
   a. Conduct an initial certified Method 9 test within 180 days of the kiln's initial start up.

8) For THC Limit
   a. The owner or operator must install, operate, and maintain a THC continuous emission monitoring system in accordance with Performance Specification 8A of appendix B to part 60 of this chapter and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of this part. The owner or operator must operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in part 60 of this chapter. [40 CFR § 63.1350(i)]
   b. Use the THC CEMS to conduct the initial compliance test for the first 30 kiln operating days of kiln operation. [40 CFR § 63.1349b(4)]

9) For Mercury Limit
   a. The owner or operator must install and operate a mercury continuous emissions monitoring system (Hg CEMS) in accordance with Performance Specification 12A (PS 12A) of appendix B to part 60 of this chapter or an integrated sorbent trap monitoring system in accordance with Performance Specification 12B (PS 12B) of appendix B to part 60 of this chapter. You must monitor mercury continuously according to paragraphs (k)(1) through (5) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (4) of this section. [40 CFR § 63.1350(k)]
   b. Use the Hg CEMS to conduct the initial compliance test for the first 30 kiln operating days of kiln operation. [40 CFR § 63.1349b(5)]

10) For HCL Limit
   a. The owner or operator must monitor HCl emissions continuously according to paragraph (l)(1) or (2) and paragraphs (m)(1) through (4) of this section. [40 CFR § 63.1350(l)]
   b. Demonstrate compliance using the performance test methods and procedures in §63.1349(b)(6). [40 CFR § 63.1348(8)]

11) Notwithstanding the performance testing timeframes specified above, the permittee shall repeat the performance testing pursuant to the following:
   a. If the permittee plans to undertake a change in operations that may adversely affect compliance with the specified D/F emission limitation, the permittee must conduct a performance test and establish new temperature limit(s) as specified in 40 CFR § 63.1349(b)(3).
   b. If the permittee plans to undertake a change in operations that may adversely affect compliance with the specified PM emission limitations, the permittee shall conduct a performance test as specified in 40 CFR § 63.1349(b)(1).

c. In preparation for and while conducting a performance test required under Paragraph C(1) above, the permittee may operate under the planned operational change conditions for a period not to exceed 360 hours provided the following conditions are met. The permittee shall submit to the DEQ temperature and other monitoring data that are recorded during the pretest operations.
   i) The permittee shall provide the DEQ written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with applicable requirements specified under 40 CFR Subpart LLL, or as soon as practicable where such 60 day advance notice is not feasible. The above notice shall include the following:
      a) Description of the planned change;
      b) Emission standards that may be affected by the change; and
      c) Schedule for completing the required performance test, and when the planned operational change period would begin.
   ii) Performance test results must be documented in a test report according to 40 CFR § 63.1349(a).
   iii) The test plan must be made available to the DEQ prior to testing, if requested by the DEQ.
   iv) The performance test must be conducted, and it must be completed within 360 hours after the planned operational change period begins.

[40 CFR § 63.1349(d)]

D. Kiln Fuel Requirements
1) The following fuels may be burned in the kilns:
   a. natural gas,
   b. petroleum coke,
   c. coal,
   d. fuel oil, and
   e. alternative non-hazardous materials (as identified below).
2) The sulfur content of those materials not previously utilized as fuels at the facility shall be determined and recorded.
3) The quantity of fuel fed to each kiln shall be recorded on a daily basis.
4) "Alternative non-hazardous materials" as defined herein include, but are not limited to the following:

▪ Grease	▪ Pharmaceuticals (off-spec. and out-of-date)	▪ Absorbents (natural & synthetic, booms and loose)	▪ Carbon (printer toner & activated carbon)
▪ Wood	▪ Paper (waste & post-consumer)	▪ Filter Media (natural & synthetic)	▪ Plastic (waste & post consumer
▪ Waste Tires	▪ Rubber (natural & synthetic)	▪ Inks (water-based)	▪ Agricultural Products & Vegetable Matter

			(not subject to putrification)
▪ Oil	▪ Waxes (waste & off-spec.)	▪ Surfactants (waste & off-spec.)	▪ Off-Spec., Spent or Waste Chemical Products & Fuels
▪ Polymers & Resins	▪ Textile Waste (rags, synthetic & natural)	▪ Personal Protection Equipment (suits & gloves)	

5) Alternative non-hazardous materials may be used as fuel in the kilns under the following conditions:
   a. Heat substitution provided by the material shall not exceed 50% of the total kiln heat requirement, with the exception of whole tires at mid-kiln which are limited to 35% of the total kiln heat requirement, calculated on an annual average;
   b. Material must have a heat input of at least 2,500 Btu/lb as generated and 5,000 Btu/lb as burned;
   c. Material must not be defined as a RCRA hazardous waste according to 40 CFR 261;
   d. Material must not be defined as a medical waste according to 40 CFR 259;
   e. Maximum chlorine content of the material shall not exceed 100 lb/hr;
   f. Combustion of the material shall not result in an increase of criteria pollutant emissions as compared to the combustion of equivalent amounts (heat input basis) of traditional fuels;
   g. With the exception of liquid fuels (which may be burned at all temperatures, including startup), the materials shall not be burned in the kiln(s) unless the kiln(s) are at normal operating temperature for producing clinker;
   h. Storage of the materials shall minimize fugitive emission in accordance with OAC 252:100-29-2(a);
   i. Handling and storage of the materials shall be conducted in accordance with all applicable DEQ Waste Management Division and Water Quality Division rules, regulations, and permit requirements;
   j. Prior to use in the kiln(s), each type of alternative non-hazardous fuel shall be evaluated for compliance with OAC 252:100-41-43(a)(5) by sampling, laboratory analysis, and/or engineering judgment. Any sampling and laboratory analysis shall be conducted in accordance with Test Methods for the Evaluation of Solid Waste, SW-846, published by the U.S. EPA Office of Solid Waste, ASTM Physical/Chemical Methods, or other methods approved by EPA or ODEQ. No RCRA regulated hazardous waste shall be accepted into the kiln(s).
   k. The following records shall be maintained on-site for a minimum of five (5) years after the date of recording and made available to regulatory personnel upon request:
      i. Shipments of alternative non-hazardous materials received on-site (daily);
      ii. Accounting of alternative non-hazardous materials fed to the kiln(s) by weight and specific type (monthly);
      iii. Internal kiln(s) temperature (hourly during periods when alternative non-hazardous materials are being introduced into the kiln(s); and

iv. Evaluations performed pursuant to Conditions 5 (l).

E. The indirect firing system which helps ensure Kiln stability shall be operated.

F. The exiting kilns shall be permanently shutdown having zero emissions as part of this permitting action, prior to the release of any emissions from the new kiln.

EUG 6: Clinker Cooler Systems – Coolers, Storage Silos, Interstices and Conveyors

Grandfathered Units

Emission Unit	Name	Construction Date
49A-3S1 49A-3S2 49A-3S3 49A-3S4 49A-3S5 49A-3S6	C-1, C-2, C-3, C-4, C-5, & C-6 Clinker Silos (Storage Bins) (each)	Pre-1971
49A-BC1 49A-BC1 49A-BC2 49A-BC2 49A-BC3 49A-BC4	Clinker Extension Belt #5 Transfer 1 & 2, Clinker Extension Belt #2 Transfer 1 & 2, Clinker Extension Belt #6, & Clinker Extension Belt #3 (Group 3 CSTP) (each)	Pre-1971
49A-SC1	D-11 Dust Collector Screw Transfer 1 & 2 (Group 2 CSTP) (each)	Pre-1971
49A-SC2	D-4 Dust Collector Screw (Group 3 CSTP)	Pre-1971
49A-SC3	D-3 Dust Collector Screw (Group 3 CSTP)	Pre-1971
491-BC1	Clinker Incline (North) (Group 2 CSTP)	Pre-1971
491-BC2	Clinker Reversing Belt (West) Transfer 1, 2, 3, & 4 (Group 2 CSTP) (each)	Pre-1971
492-BC2	Clinker Reversing Belt (East) Transfers 1, 2, & 3 (Group 2 CSTP) Clinker Reversing Belt (East) Transfer 4 (Group 2 CSTP)	1984 Pre-1971
492-BE1	Clinker Elevator (East) (Group 3 CSTP)	Pre-1971
492-VC1	East NF Clinker Conveyor (Group 2 CSTP)	Pre-1971
42A-3B1	Waste Dust Bin	Pre-1971
42A-BF1	Waste Dust Bin Dust Collector (Group 3)	Pre-1971
42A-3B2	Insufflation Dust Bin	Pre-1971
42A-BF2	Insufflation Dust Bin Dust Collector	Pre-1971
49A-BF2	D-4 Dust Collector	Pre-1971
49A-BF3	D-3 Dust Collector	Pre-1971

A. These grandfathered sources are limited to the existing equipment as is. These units are "affected sources" subject to Subpart LLL (40 CFR § 63.1340) and shall comply with all applicable requirements including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%. [40 CFR §§ 63.1345 and 63.6(h)]

Non Grandfathered Units

Emission Unit	Name	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY	lb/hr	TPY
49A-SQ1 49A-SQ2 49A-SQ3	Spout Clinker Outside Chutes C-3, C-4, & C-6 (Group 3 CSTP) (each)	1989	0.3	1.3	0.24	1.04
471-GQ1	Clinker Cooler #1 Transfer (Group 3 CSTP)	1984	0.3	1.3	0.24	1.04
491-CV1	Clinker Cooler #1 Drag Transfer 1 & 2 (associated with Cooler Nuisance Dust Collector) (Group 3 CSTP) (each)	1984	0.3	1.3	0.24	1.04
491-VC1	West NF Clinker Conveyor (Group 2 CSTP)	1984	0.3	1.3	0.24	1.04
472-GQ1	Clinker Cooler #2 Transfer (Group 3 CSTP)	1984	0.3	1.3	0.24	1.04
492-BC1	Clinker Incline Belt (South) (Group 2 CSTP)	1984	0.3	1.3	0.24	1.04
492-CV1	Clinker Cooler #2 Drag Transfers 1 & 2 (associated with Cooler Nuisance Dust Collector Transfer) (Group 3 CSTP) (each)	1984	0.3	1.3	0.24	1.04
42A-BX1	Dustless Unloader (Group 2)	1990	0.11	0.46	0.08	0.37
Landfill Pug Screw Transfer	Dustless Unloader (Group 2)	2013	0.11	0.46	0.08	0.37
493-BF1	Nuisance Clinker Transport Dust Collector	TBD	0.43	1.88	0.34	1.504

B. Except for 493-BF1, Compliance with the specified emission limitations shall be based emission factors derived from site specific testing data, and lastly AP-42 emission factors if no testing data availabe, in conjuction with the recorded actual annual throughputs..

C. Records of proper baghouse maintenance shall be maintained for 493-BF1, which shall be operated in accordance with manufacturer's recommendations and within the recommended pressure differential range.

D. These emission units are subject to both NSPS Subpart F and NESHAP Subpart LLL and shall comply with the most stringent standard including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%. [40 CFR §§ 63.1345 and 63.6(h)]

Emission Unit	EU Name/Model	Horsepower	Construction Date
Landfill Generator	Allis-Chalmers Diesel Generator	88	Pre-2006

Pollutants	Landfill Generator Emissions	
	lb/hr	TPY
NOx	2.45	10.74
CO	0.53	2.31
VOC	0.19	0.85
SO_2	0.16	0.71

EUG 7: Finish Mills, Finish Mill Conveyors, Cement Elevators and Storage

Grandfathered Units

Emission Unit	Name	Construction Date
49A-3S1 49A-3S2 49A-3S3 49A-3S4 49A-3S5 49A-3S6	C-1 thru C-6 Clinker Silo Transfers (Group 2 CSTP) (each)	Pre-1971
59A-3S1 59A-3S2 59A-3S3 59A-3S4 59A-3S5 59A-3S6 59A-3S7 59A-3S8 59A-3S9 59A-3SA 59A-3SB 59A-3SC 59A-3SD	Silo Cement #21 thru #33 (Storage Bins) (each) emissions are controlled by dust collectors 59A-BF1, 59A-BF2, 59A-BF3	Pre-1971
59A-SC1 / 59A-BF1 59A-SC2 / 59A-BF2	D-12 & D-13 Dust Collector Screws (Group 3 CSTP) (each)	Pre-1971

Emission Unit	Name	Construction Date
59B-3S1 59B-3S2 59B-3S3 59B-3S4 59B-3S5 59B-3S6 59B-3S7 59B-3S8 59B-3S9 59B-3SA 59B-3SB 59B-3SC 59B-3SD 59B-3SE 59B-3SF 59B-3SG 59B-3SH 59B-3SI	Silo Cement #1 thru #18 (Storage Bins) (each) emissions are controlled by dust collectors 59B-BF1, 59B-BF2, and 59B-BF3	Pre-1971
59B-BF3	Dust Collector Silo 4 Transfer (Group 3 CSTP)	Pre-1971
59B-SC1 / 59B-BF1 59B-SC2 / 59B-BF2	D-18 & D-17 Dust Collector Screws (Group 3 CSTP) (each)	Pre-1971
K1A-3S3	MR-2 Interstice (Storage Bin),	Pre-1971
531-WF1 531-WF3 531-WF4	C-1, C-2, & C-3 Clinker FOWs (associated with Emission Points D9a, D9b, & D9c Dust Collectors 531-BF1, 531-BF2, and 531-BF3)(Group 3 CSTP) (each)	Pre-1971
531-WF2	G-1 Gypsum FOW #1 FM (Group 3 CSTP)	Pre-1971
561-AS1	FM #1 Mill Discharge Airslide (Group 3 CSTP)	Pre-1971
561-AS3 561-AS4	FM #1 Splitter Airslide #2 & #1 (Group 3 CSTP) (each)	Pre-1971
561-AS5 561-AS6	FM #1 Reject #1 & #2 Airslides (Group 3 CSTP) (each)	Pre-1971
561-BE1	FM #1 Elevator (Group 3 CSTP)	Pre-1971
561-SC1	FM #1 Dust Collector Screw (Group 3 CSTP)	Pre-1971
532-BF1 532-BF2 532-BF3	D10a, D10b, & D10c Dust Collector Transfers (Group 3 CSTP) (each)	Pre-1971

Emission Unit	Name	Construction Date
532-SC1	FM #2 Grindout Screw (G-2) (Group 3 CSTP)	Pre-1971
532-WF2 532-WF3 532-WF5	C-4, C-5, & C-6 Clinker FOWs (associated with D10a, D10b, & D10c Dust Collectors 532-BF1, 532-BF2, and 532-BF3)(Group 3 CSTP) (each)	Pre-1971
532-WF4	G-1 Gypsum FOW #2 FM (Group 3 CSTP)	Pre-1971
562-AS1	FM #2 Mill Discharge Airslide (Group 3 CSTP)	Pre-1971
562-AS3 562-AS4	FM #2 Splitter Airslide #3 & #4 (Group 3 CSTP) (each)	Pre-1971
562-AS5 562-AS6	FM #2 Reject #3 & #4 Airslides (Group 3 CSTP) (each)	Pre-1971
562-BE1	FM #2 Elevator (Group 3 CSTP)	Pre-1971
562-SC1	FM #2 Dust Collector Screw (Group 3 CSTP)	Pre-1971
562-BM1	FM #2 (Finish Mill) & FM #2 Transfer (Group 3 CSTP) (each)	Pre-1971

A. These grandfathered sources are limited to the existing equipment as is. These units are "affected sources" subject to Subpart LLL (40 CFR § 63.1340) and shall comply with all applicable requirements including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%. [40 CFR §§ 63.1345 and 63.6(h)]

Non Grandfathered Units

Emission Unit	Name	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY		
K1A-3S3	K1A-3S3 Transfer 1 and 2 (Group 2 CSTP)	1990	0.1	0.4	0.07	0.32
531-WF5	Mason Rock #1 FOW (Group 3 CSTP)	Pre-1971 Modified in 1992	0.1	0.4	0.07	0.32
531-SC1	FM #1 Grindout Screw (G-2) (Group 3 CSTP)	Pre-1971 Modified in 1986	0.1	0.4	0.07	0.32
532-BC2	Belt Conveyor (Mas Rock) To FM #2 (Group 3 CSTP)	Pre-1971 Modified in 1992	0.1	0.4	0.07	0.32
51A-HP1	Clinker Reclaim Hopper (Group 3 CSTP) (associated with Hopper	1994	0.3	1.3	0.24	1.04

Emission Unit	Name	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY		
	Dust Collector 51A-BF1)					
531-BF1 531-BF2 531-BF3	D9a, D9b, & D9c Dust Collector Transfers (Group 3 CSTP) (each)	1994	0.2	0.9	0.16	0.72
561-BF1	FM #1 East Dust Collector	2007	0.04	0.18	0.03	0.14
562-BF2	FM #2 West Dust Collector	2007	0.04	0.18	0.03	0.14

B. These emission units are subject to both NSPS Subpart F and NESHAP Subpart LLL and shall comply with the most stringent standard including but not limited to the following:
   1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%.

      [40 CFR §§ 63.1345 and 63.6(h)]

C. Compliance with the specified emission limitations shall be based emission factors derived from site specific testing data, and lastly AP-42 emission factors if no testing data availabe, in conjuction with the recorded actual annual throughputs..

EUG 8: Cement Packing, Dispatch and Distribution System

Grandfathered Units

Emission Unit	EU Name/Model	Construction Date
59A-3S1 59A-3S2 59A-3S3 59A-3S4 59A-3S5 59A-3S6 59A-3S7 59A-3S8 59A-3S9 59A-3SA 59A-3SB 59A-3SC 59A-3SD	Silo Cement #21 thru #33 Transfers (Group 3 CSTP) (each)	Pre-1971
624-AS1	Airslide from Silo 30 to Truck Loading Spout (Group 3 CSTP)	Pre-1971
624-AS2	Airslide from Silo 32 to Truck Loading Spout (Group 3 CSTP)	Pre-1971
626-AS1	Airslide from Silo 31 to Truck/Rail Load Out Spout Track 2	Pre-1971

Emission Unit	EU Name/Model	Construction Date
	(Group 3 CSTP)	
626-AS2	Airslide from Silo 33 to Truck/Rail Load Out Spout Track 2 (Group 3 CSTP)	Pre-1971
662-BE1	Elevator South Masonry (Group 3 CSTP)	Pre-1971
662-SC1 / 662-BF1	Mas. Elev. Screw / D-19 Dust coll.. Screw (Group 3 CSTP)	Pre-1971
66A-VS1	Scalping Screen Screw (Group 2 CSTP) & Material Gate Trans 1, 2, & 3 (Group 3 CSTP) (each)	Pre-1971
671-BT1	Broken Bag Diverter Belt (Group 2 CSTP)	Pre-1971
662-BF1	D-19 Masonry Dust Collector	Pre-1971
661-BF2	Haver Packing Dust Collector (Group 3 CSTP)	Pre-1971
661-SCA	D-22 Packin gDust Collector Screw (Group 3 CSTP)	Pre-1971
66A-SC5	Collecting Screw to 661-SC7 (Group 3 CSTP)	Pre-1971

A. These grandfathered sources are limited to the existing equipment as is. These units are "affected sources" subject to Subpart LLL (40 CFR § 63.1340) and shall comply with all applicable requirements including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%. [40 CFR §§ 63.1345 and 63.6(h)]

Non Grandfathered Units

Emission Unit	EU Name/Model	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY		
621-BF1 622-BF1 623-BF1	Bay Spout Dust Collectors (each)	2004	0.6	2.6	0.47	2.08
623-LS1	Bay #1 Load Out Spout (Group 3)	2006	0.6	2.6	0.47	2.08
622-LS1	Bay #2 Load Out Spout (Group 3)	2006	0.6	2.6	0.47	2.08
621-LS1	Bay #3 Load Out Spout (Group 3)	2006	0.6	2.6	0.47	2.08
62A-WB1	Track 3 loading (Group 2 CSTP)	1995	0.3	1.3	0.24	1.04
62A-WB2	Track 2 loading (Group 2 CSTP)	1995	0.3	1.3	0.24	1.04
62A-WB3	Track 1 loading (Group 2 CSTP)	1995	0.3	1.3	0.24	1.04
661-3B2	Bin Type I Packing Transfers 1 & 2 (Group 3 CSTP) (each)	1992	0.3	1.3	0.24	1.04
661-BF3	Dust Collector for Basement Screw SC-7 (Group 3 CSTP)	1992	0.2	0.9	0.16	0.72
671-BW1	Weight Belt System (Group 2	2009	0.2	0.9	0.16	0.72

Emission Unit	EU Name/Model	Construction Date	PM/PM_{10}		$PM_{2.5}$	
			lb/hr	TPY		
	CSTP)					
662-3B1	Packhouse Cement Masonry Storage Bin (Group 3 CSTP) (each)	1992	0.1	0.4	0.07	0.32
66A-SC2	Screw Conv Masonry Spillage-66a-Sc3 (Group 3 CSTP)	2009	0.2	0.9	0.16	0.72
662-3B1	Packhouse masonry Cement Storage Bin	1992	0.1	0.4	0.07	0.32
66A-PM1	Haver Sprout Packing Machine (Group 3 CSTP)	2009	0.01	0.04	0.01	0.032
66A-3B3	Packing Bin	2008	0.7	3.1	0.57	2.48
671-BCF	Line 2 Bag Alignment Belt	2009	0.2	0.9	0.16	0.72
671-BCG	Line 2 Bag Rotation Belt	2009	0.2	0.9	0.16	0.72
66A-SC4	Spillage conveyor to 66A-SC5 (Goup 3 CSTP)	2009	0.2	0.9	0.16	0.72
671-BC1	Power Roller Conveyor From Havor (Group 2)	2009	0.2	0.9	0.16	0.72
671-BC2	Exit Conveyor from Havor Packing Machine (Group 2)	2009	0.2	0.9	0.16	0.72
671-BC3	1st Curve Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72
671-BC4	Incline Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72
671-BC5	2nd Curve Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72
671-BC6	Short Belt Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72
671-BC7	Short Belt Conveyor Before Diverter Belt (Group 2)	2009	0.2	0.9	0.16	0.72
671-BCE	South Side Curve Conveyor to Pallitizer (Group 2)	2009	0.2	0.9	0.16	0.72
671-BCF	West Side After Curve Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72
671-BCG	West Side Bag Turner Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72
671-RB1	North Roller Conveyor (Group 2)	2009	0.2	0.9	0.16	0.72

B. These emission units are subject to both NSPS Subpart F and NESHAP Subpart LLL and shall comply with the most stringent standard including but not limited to the following:

1. Except as specified in 40 CFR § 63.6(h), the permittee shall not cause to be discharged from the above sources any gases which exhibit opacity in excess of 10%.

[40 CFR §§ 63.1345 and 63.6(h)]

C. Compliance with the specified emission limitations shall be based emission factors derived from site specific testing data, and lastly AP-42 emission factors if no testing data availabe, in conjuction with the recorded actual annual throughputs..

EUG 9B – Other Fuel-Burning Equipment

Emission Unit	EU Name/Model	Capacity	Construction Date
46A-1G1	Emergency Diesel Generator	350 KW	2006

This emission unit is limited to operate 500 hours/year.

Pollutants	Emissions from 46A-1G1	
	lb/hr	TPY
NOx	14.51	3.63
CO	3.13	0.78
VOC	1.16	0.29
SO_2	0.96	0.24

2. The permittee shall be authorized to operate the facility continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]

3. The permittee shall comply with all applicable requirements of NSPS Subpart F for each affected source located in EUG 5, EUG 6 (non-grandfathered), EUG 7 (non-grandfathered), and EUG 8 (non-grandfathered). The following lists general requirements besides those listed in Specific Condition #1 for individual affected sources. [40 CFR § 60.60 to 60.66]
   §60.60 Applicability and designation of affected facility
   §60.61 Definitions
   §60.62 Standards
   §60.63 Monitoring of operations
   §60.64 Test methods and procedures
   §60.65 Recordkeeping and reporting requirements
   §60.66 Delegation of authority

4. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutant Emissions: Portland Cement Manufacturing Industry, NESHAP Subpart LLL, for each affected source located at the Portland Cement Plant. The following lists general requirements besides those listed in Specific Condition #1 for individual affected sources. [40 CFR §§ 63.1340 to 63.1359]
   <u>General</u>
   §63.1340 What parts of my plant does this subpart cover?
   §63.1341 Definitions.
   <u>Emission Standards and Operating Limits</u>
   §63.1342 Standards: General.
   §63.1343 What standards apply to my kilns, clinker coolers, raw material dryers, and open clinker storage piles?
   §63.1344 Affirmative defense for violation of emission standards during malfunction.
   §63.1345 Emissions limits for affected sources other than kilns; clinker coolers; new and reconstructed raw material dryers.
   §63.1346 Operating limits for kilns.

§63.1347 Operation and maintenance plan requirements.
§63.1348 Compliance requirements.
Monitoring and Compliance Provisions
§63.1349 Performance testing requirements.
§63.1350 Monitoring requirements.
§63.1351 Compliance dates.
§63.1352 Additional test methods.
Notification, Reporting and Recordkeeping
§63.1353 Notification requirements.
§63.1354 Reporting requirements.
§63.1355 Recordkeeping requirements.
Other
§63.1356 Sources with multiple emissions limit or monitoring requirements.
§63.1357 Temporary, conditioned exemption from particulate matter and opacity standards.
§63.1358 Implementation and enforcement.

5. The two diesel generators (46A-1G1 and the landfill generator) are subject to NESHAP, 40 CFR Part 63, Subpart ZZZZ, and shall comply with all applicable requirements, including, but not limited to, the following no later than October 19, 2013.

What This Subpart Covers
§ 63.6580 What is the purpose of subpart ZZZZ?
§ 63.6585 Am I subject to this subpart?
§ 63.6590 What parts of my plant does this subpart cover?
§ 63.6595 When do I have to comply with this subpart?
Emission and Operating Limitations
§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary CI RICE located at an area source of HAP emissions?
General Compliance Requirements
§ 63.6605 What are my general requirements for complying with this subpart?
Testing and Initial Compliance Requirements
§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?
§ 63.6615 When must I conduct subsequent performance tests?
§ 63.6620 What performance tests and other procedures must I use?
§ 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
Continuous Compliance Requirements
§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
Notifications, Reports, and Records
§ 63.6645 What notifications must I submit and when?
§ 63.6650 What reports must I submit and when?
§ 63.6655 What records must I keep?
§ 63.6660 In what form and how long must I keep my records?
Other Requirements and Information
§ 63.6665 What parts of the General Provisions apply to me?
§ 63.6670 Who implements and enforces this subpart?
§ 63.6675 What definitions apply to this subpart?

6. The permittee shall take reasonable precautions, including but not limited to those specified in OAC 252:100-29-3(1) through (6), to minimize or prevent fugitive dust from becoming air borne and resulting in air pollution. In addition, the permittee is required by Consent Order No. 05-335 to comply with the following: [OAC 252:100-29-2(a) & (b)]

   A. Utilize a heavy-duty industrial vacuum loader truck as a reasonable precaution to minimize or prevent fugitive dust in the plant area from becoming airborne and resulting in air pollution.
   B. Utilize an irrigation system to wet unpaved roads at the facility as a reasonable precaution to minimize or prevent fugitive dust on the applicable unpaved roads from becoming airborne.

7. The following records shall be maintained on-site for a minimum of five years after the date of recording and made available to regulatory personnel upon request: [OAC 252:8-6(a)(3)(b)]

   A. Records as required by NESHAP Subpart LLL.
   B. Log of opacity observations which exceed normal parameters and corrective actions.
   C. NOx, CO, SO_2, THC, and Mercury CEMS data and/or fuel records sufficient to demonstrate compliance with emission limitations applicable to the Kilns.
   D. Records as required by NSPS Subpart F
   E. Records as required by NSPS Subpart Y.
   F. Records as required by NESHAP Subpart ZZZZ.

8. No later than 30 days after each anniversary date of the issuance of the original Title V permit (September 4, 2008), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6(c)(5)(a) & (d)]

9. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility:

   A. OAC 252:100-7 Minor Source Permitting
   B. OAC 252:100-11 Alternative Emissions Reduction
   C. OAC 252:100-15 Mobile Sources
   D. OAC 252:100-17 Incinerators
   E. OAC 252:100-23 Cotton Gins

F. OAC 252:100-24 Grain Elevators
H. OAC 252:100-35 Control of Emissions of CO
I. OAC 252:100-39 Non-attainment Areas
J. OAC 252:100-47 Landfills

[OAC 252:100-8-6(d)(2)]

10. The following records shall be maintained on-site to verify Insignificant Activities. All such records shall be made available to regulatory personnel upon request. These records shall be maintained for a period of at least five years after the time they are made. No recordkeeping is required for those operations which qualify as Trivial Activities.

    A. Throughput of gasoline storage/dispensing equipment (monthly average).
    B. Throughput of limestone at the blasting and truck loading (unloading) areas.

    [OAC 252:100-8-6(a)(3)(B)]

11. When monitoring results and/or periodic testing shows emissions in excess/violation of the established emission limits in the Specific Conditions, the owner or operator shall comply with the provisions for excess emissions in Subchapter 9. The above reporting shall not be applicable to emission events and/or episodes which are specifically exempted from compliance pursuant to the underlying applicable requirement (*e.g.*, NSPS, NESHAP, MACT, etc.). [OAC 252:100-9]

12. The permittee shall apply for a modification to its operating permit in effect within 180 days of commencement of operations of the proposed project. The application shall include the following information:

    a. Initial stack test results in accordance with NSPS Subpart F and NESHAP Subpart LLL requirements.
    b. Compliance demonstration and monitoring methodology for HCL.

13. Upon issuance, this permit replaces Permits No. 98-087-C (M-7) and 98-087-C (M-8), which are now cancelled.

PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 N. ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 98-087-C (M-10)

Holcim (US) Inc.,

having complied with the requirements of the law, is hereby granted permission to construct the Ada Portland Cement Production Plant located at Sec. 32-T4N-R6E, Pontotoc County, Oklahoma, subject to standard conditions dated June 21, 2016 and specific conditions, both attached.

In the absence of construction commencement, this permit shall expire 18 months from the issuance date , except as authorized under Section VIII of the Standard Conditions.

12/12/2016

Phillip Fielder, P.E. — Date

Permits and Engineering Group Manager

Holcim (US) Inc.
Attn: Mr. Mike Langan, Plant Manager
14500 County Road 1550
Ada, OK 74820

Re: **Construction Permit No. 98-087-C (M-10)**
Holcim Ada Portland Cement Production Plant (Facility ID: 826)
Section 32, T4N, R6E
Pontotoc County, OK

Dear Mr. Langan:

Enclosed is the permit authorizing construct of the referenced facility. Please note that this permit is issued subject to certain standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact me at (405) 702-4205.

Sincerely,

Jian Yue, P.E.
New Source Permits Section
AIR QUALITY DIVISION
Enclosure