Maryland
Department of
the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary
Adam Ortiz, Deputy Secretary

Mr. Kurt Deery, Environmental Engineer
Heidelberg Materials US Cement LLC
675 Quaker Hill Road
Union Bridge, MD 21791

APR 08 2025

Dear Mr. Deery:

Re: Renewal Part 70/ Title V Operating Permit #24-013-0012

Enclosed, please find the Renewal Part 70/Title V Operating Permit and Fact Sheet for the Heidelberg Materials US Cement LLC facility located in Carroll County, MD. The Permit will expire on September 30, 2029.

The Code of Maryland Regulations (COMAR) 26.11.03.11 states the following:

If the Department denies a Part 70 permit or issues it with terms and conditions that are objectionable to the applicant, the applicant may request that a contested case hearing be held regarding the permit. This request shall be made to the Department in writing not later than 15 days after the applicant receives notice that the permit has been denied or of the objectionable terms and conditions. The request shall include the basis for the request and refer to any objectionable terms and conditions.

Please note the following revised condition in the Permit under Section II, General Conditions, Number 5, Permit Renewal:

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit 12 months before the expiration of the permit. Upon submitting a complete application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

If you have any questions, please feel free to contact Ms. Susan Nash, at Susan. Nash @maryland.gov or (410) 537-3967.

Sincerely,

Suna Yi Sariscak, Manager
Air Quality Permits Program
Air & Radiation Administration

SYS/jm

Enclosures

cc: EPA Region III (w/encl)

KEEP PERMIT AT SITE

CONTROL NO. B - 07865

Wes Moore
Governor

State of Maryland

Serena McIlwain
Secretary

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

[ ] Construction Permit

[X] Part 70 Operating Permit

PERMIT NO. 24-013-0012

DATE ISSUED APR 08 2025

PERMIT FEE To be paid in accordance with COMAR 26.11.02.19B

EXPIRATION DATE September 30, 2029

LEGAL OWNER & ADDRESS

Heidelberg Materials US Cement LLC
675 Quaker Hill Road
Union Bridge, MD 21791
Attn: Mr. Kurt Deery, Environmental Engineer

SITE

Heidelberg Materials US Cement LLC
675 Quaker Hill Road
Union Bridge, MD 21791
AI # 2167

SOURCE DESCRIPTION

One Portland Cement Manufacturing Plant.

This source is subject to the conditions described on the attached pages.

Program Manager

Director, Air and Radiation Administration

MDE/ARMA/PER.009 (REV. 10-08-03)

(NOT TRANSFERABLE)

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

Heidelberg Materials US Cement LLC (Heidelberg, formerly Lehigh Cement Company LLC) owns and operates a Portland cement manufacturing plant at 675 Quaker Hill Road in Union Bridge, Maryland 21791. The plant is located in both Carroll and Frederick Counties. The Union Bridge Quarry is located in Frederick County (Maryland Air Quality Region II), while the main part of the Union Bridge Plant, including the New Windsor Quarry, is located in Carroll County (Maryland Air Quality Region III). The original plant at Union Bridge was built in 1910 and has been modernized several times, including the modernization/expansion where the four long-dry kilns were replaced with one pre-heater/pre-calciner kiln system. A permit to construct and New Source Review (NSR) and Prevention of Significant Deterioration (PSD) Approvals were issued on April 8, 1999, and revised on June 7, 2000, for the plant modernization and expansion. The primary SIC code for this facility is 3241.

The following is a description of the processes at the Union Bridge facility.

Union Bridge Quarry

The principal raw materials used to manufacture cement at the Union Bridge plant are limestone, sand, mill scale, shale, and power plant fly ash/bottom ash. Sand, mill scale, and fly ash/bottom ash are purchased from outside sources and brought to the plant by trucks for use in the kiln. Limestone is mined from the Union Bridge Quarry site near the crushing plant. Limestone is periodically mined from the Union Bridge Quarry, this quarry serves as backup for the New Windsor Quarry and provides infrastructure stone and masonry stone to the plant.

New Windsor Quarry

The New Windsor Quarry began operations on June 1, 2018. A five (5) mile long conveyor system is used to transfer limestone and shale mined from the New Windsor Quarry to the Union Bridge plant, where these raw materials are used to manufacture cement. The New Windsor Quarry has a crushing plant to process limestone.

Rock Crushing

Each quarry has its own crushing plant. The crushing plant at the Union Bridge Quarry is periodically operated. At the New Windsor Quarry, trucks dump the rock into the hopper of an apron feeder, which feeds an impact crusher where the limestone it is broken down into fragments less than six inches in size. After the limestone passes through the impact crusher, the material drops onto the long belt conveyor. Particulate emissions at the New Windsor crushing system and the transfer points are controlled by dust collectors.

Rock Storage

Rock travels to the plant from the New Windsor Quarry crusher along the 5-mile belt to the Union Bridge dome storage. The dome is 400 feet in diameter and 126 feet high and has a storage capacity of 50,000 metric tons of rock.

Raw Material Storage and Handling
Iron and silica-based raw materials are stored in an open area, uncovered. These raw materials are conveyed to a partially enclosed raw material storage barn building. Solid fossil fuels (coal) are located in outdoor storage piles. Alumina-bearing ash (fly ash) raw materials are pneumatically conveyed to a storage silo. There are two (2) covered structures near the kiln for storing Alumina-bearing ash (bottom ash) raw materials. Raw material transfer throughout the plant is done by covered conveyor systems and transfer towers, which have dust collectors venting all transfers.

Vertical Roller Mill (Raw Mill)
The Heidelberg plant includes an in-line Loesche vertical raw mill system. The in-line raw mill utilizes recycled heated gases from the kiln exhaust to dry the raw material ground into raw meal. The dry raw meal is stored in a blending silo (the Raw Mill Silo). Next, the raw meal is conveyed from the blending silo to the preheater/precalciner and then to the rotary kiln. . An additional benefit of a pre-heater tower is that the limestone acts as a scrubber to remove some of the sulfur compounds from the precalciner exhaust gases. The exhaust gases from the raw mill are vented through a main kiln dust collector to the main kiln stack.

Blending Silo
In this operation, all the raw materials are blended to the proper proportions for introduction into the preheater tower/kiln system. Particulate emissions from the silos and raw material handling systems are controlled with baghouses.

Coal Storage
Coal is one of the primary fuels and is stockpiled outside on the ground near the preheater tower/kiln system. Coal is ground through a vertical coal mill and stored in two silos. Coal is brought in by truck.

Coal Mill
Heidelberg primarily fires coal and other approved solid fuels in both the kiln and the preheater/precalciner tower. Coal from the stockpiles is ground for use in the preheater tower/kiln system. The coal mill utilizes heated gases from the kiln exhaust to dry and separate the coal. Milled coal is blown into the firing end of the kiln and the preheater/precalciner. Exhaust gases from the coal mill are vented through a coal mill only dust collector and then are exhausted out of the main kiln stack.

Pyro-Processing / Kiln, Raw Meal Feed, and Coal Mill Feed Systems
Pyro-processing is a process in which materials are subjected to high temperatures (typically over 800°C) in order to bring about a chemical or physical change. The Union Bridge plant's pyroprocessing system consists of a 5-stage pre-heater tower and rotary kiln. The preheater tower contains secondary firing and a rotary kiln. Fuel used in the system may consist of coal, dried biosolids and fuel oil. Energy, in the form of fan-power, is required to draw the kiln combustion gases through the string of cyclones. It is also normal to use the warm exhaust gas to dry the raw materials in the raw-mill and operate the coal mill. The air volume will eventually pass through a dust collector vented to the atmosphere.

Environmental controls installed in the pyro-processing line are SNCR for nitrous oxide reduction, Activated Carbon injection for mercury reduction and a fabric filter dust collector for particulate control.

Heidelberg monitors the emissions of NOx, SO2, CO, THC, CO2, and mercury (Hg), and hydrogen chloride (HCl) with continuous emissions monitors that are installed on the main kiln stack. There are also exhaust gas flow and PM continuous parametric monitoring systems (CPMS) installed in the stack. Particulate matter emissions are controlled by a baghouse, NOx emissions are controlled by urea injection, mercury emissions are controlled by carbon injection with baghouses to control dust at the finish mills, and SO2 emissions are controlled by limestone raw material in the pre-heater tower.

Clinker Cooler
As clinker from the kiln drops into reciprocating grate coolers, cooling air blows up through the clinker. The clinker is then transported to the clinker storage silo. A portion of the cooling ambient air after passing through the cooler grates is used for secondary combustion air for the kiln burner. The cooled clinker is loaded into the clinker silo and then conveyed to the crane hall. Emissions are controlled by a baghouse. There is a PM continuous parametric monitoring system (CPMS) installed in the stack from the cooler.

Roll Press/ Semi-Finishing Grinding Mill
The roll press is used to pre-grind the clinker for feeding to the finish ball mills. The product from the press is pre-ground cement. The finished product from the roll press is conveyed to the finish mills for final grinding. The system is controlled by baghouses.

Finish Mill System
This is the final grinding operation for the cement. Just before the finish grinding, gypsum, grinding aids, and/or limestone are mixed with the cement to control the rate at which the cement will set after it is mixed into concrete. Cement kiln baghouse dust is also mixed in to remove mercury from the kiln system. The finished cement is pneumatically conveyed to the storage silo. The finish mill system includes a semi finishing grinding system, finish mills #1, #4, #5, #6, and #7, in addition to the conversion of the old raw mill system to #8 finish mill. The semi finishing grinding system and the finish mills are controlled by baghouses.

Cement Loadout
There are two (2) cement loadout areas at the plant, the 32-silos area and the Day Silo. A total of 32 product silos are used at the plant. There is also a cement bagging operation on-site also. Cement is shipped offsite by trucks and rail. Both packaged and bulk products are shipped.

2. FACILITY INVENTORY LIST

Emission Unit Table 1-1: Area A-1 – Union Bridge Quarry Operations
(SCC 3-05-006-09)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT and NSPS Requirements			
HR1	6-0027	Quarry haul roads	Modified – 2002
SP1	6-0027	Limestone Storage Pile	Modified – 2002
TLU1	6-0027	Limestone Truck Loading	1970
TLU2	6-0027	Limestone Truck Loading/Unloading	2002
SP8	6-0327	Iron B02-001 Surge Storage Pile	2002
SP9	6-0327	Silica B02-001 Surge Pile	2002
SP11	6-0027	Overburden Storage Pile	1911 & 1957
A01-009	6-0027	Gyratory Crusher – Primary crushing – Baghouse A01-012	1957
B01-017	6-0327	Belt Conveyor #8 - Baghouse A02-025	1970, moved from Area B
A01-018	6-0027	Belt Conveyor #1 – Baghouse A01-012	1957
A01-021	6-0027	Surge Bin/#8 Belt - Baghouse A01-025	1955
A02-005	6-0027	Belt Conveyor #2 - Baghouse A02-008, A02-003	1970
A02-006	6-0027	Secondary Crusher – Baghouse A02-008	1970
A02-010	6-0027	Belt Conveyor #3 – Baghouse A02-008	1970
A02-017	6-0027	Belt Conveyor #6 – Baghouse A02-008	1970
A02-018	6-0027	Belt Conveyor #5 – Baghouse A02-008	1970
A02-019	6-0027	Tertiary Crusher – Baghouse A02-008	1970
A02-021	6-0027	Belt Conveyor #4 – Baghouse A02-008	1970
A02-011	6-0027	Vibrating Screen and Transfer System – Baghouses A02-012, A01-015, A02-025	1970
A02-022	6-0027	Vibrating Screen and Transfer System - Baghouses A02-012. A01-015, A02-025	1970
A02-023	6-0027	Vibrating Screen and Transfer System - Baghouses A02-012, A02-015 and A02-025	1970
A02-024	6-0027	Belt Conveyor #7 – Baghouses A02-012, A02-015	1970
A03-022	6-0352	Masonry Hauling at Union Bridge (paved)	2014, Modified 2020
SP13	6-0327	Bottom Ash Storage Pile	2011
A02-026	6-0327	Screen for processing wet bottom ash	2011
Sources Subject to NSPS 40 CFR 60, Subpart OOO Requirements			
C01-001	6-0327	Bottom Ash Screener – one (1) MGL EX1 Scalper Screener, powered by an electric Cummins 74 HP engine	2022

Emission Unit Table 1-2: Area A-2 – New Windsor Quarry Operations
(SCC 3-05-006-09)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to NSPS Requirements			
A03-001A	6-0352	Waste Rock Hauling (Segment A)	2014
A03-001B	6-0352	Waste Rock Hauling (Segment B)	2014
A03-001C	6-0352	Waste Rock Hauling (Segment C)	2014
A03-002A	6-0352	Limestone Hauling (Segment A)	2014
A03-002C	6-0352	Limestone Hauling (Crusher Segment)	2014
A03-003	6-0352	Front End Loader to Limestone Truck	2014
A03-004	6-0352	Truck to Primary Hopper	2014
Sources Subject to NSPS 40 CFR 60, Subpart OOO Requirements			
A03-005	6-0352	Primary Crusher for calcium, silica, alumina, and iron bearing raw materials – Baghouse A03-007	2014
A03-006	6-0352	Primary Crusher for to Belt #1 – Baghouse A03-007	2014
A03-008	6-0352	Belt #1 to Belt #2 Transfer – Baghouse A03-009	2014, Modified 2020
A03-010	6-0352	Transfer from Belt #2 to Belt #3 or to Masonry Pile – Baghouse A03-011	2014
SP10	6-0352	New Windsor Storage Pile	2014
SP12	6-0352	Masonry Storage Pile	2014
A03-012	6-0352	Belt #2 to Limestone Overland Conveyor (Belt #4) – Baghouse A03-013	2014, Modified 2020
A03-014	6-0352	Overland Conveyor (Belt #4) Transfer to Belt #5 to New Transfer Tower – Baghouse A03-015	2014
A03-016	6-0352	New Transfer Tower – Baghouse A03-017	2014
A03-018	6-0352	Masonry Transfer to Crusher	2014, Modified 2020
A03-019	6-0352	Masonry Portable Crusher	2014, Modified 2020
A03-020	6-0352	Transfer from Masonry Crusher to Truck	2014, Modified 2020
A03-021	6-0352	Masonry Hauling at New Windsor (unpaved)	2014, Modified 2020

Emission Unit Table 2: Area B – Raw Material Transport and Storage
(SCC 3-05-006-12)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT Requirements			
TU1	6-0327	Iron and Silica Truck Unloading	2002
SP4	6-0327	Silica Storage Pile	2002
SP5	6-0327	Iron Storage Pile	2002
B03-031	6-0256	Activated Carbon Injection (ACI) system tank controlled by a bin vent	2011
Sources Subject to MACT Requirements			
B01-011	6-0327	Enclosed Limestone Dome	2001
B02-007	6-0327	Belt Conveyor – Baghouse B02-008	2001
B02-011	6-0327	Silica Bearing Material Bin – Baghouse B02-008	2001
B02-012	6-0327	Iron Bearing Material Bin – Baghouse B02-008	2001
B02-017	6-0327	Reversible Belt Conveyor – Baghouse B02-008	2001
B03-004	6-0327	Fly Ash Blending Silo System - Baghouse B03-008	2002
B04-019	6-0327	Limestone Bin - Baghouse B04-016	2002
TT3	6-0327	Transfer Tower #3 – Baghouses B04-011, B04-016	2002
TT4	6-0327	Transfer Tower #4 - Baghouse B02-019)	2002

Emission Unit Table 3: Area C – Raw Grinding
(SCC 3-05-006-13)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
C01-002	6-0328	Limestone Weighfeeder- Baghouse C01-007	2001
C01-004	6-0328	Iron Weighfeeder - Baghouse C01-007	2001
C01-006	6-0328	Silica Weighfeeder - Baghouse C01-007	2001
C01-011	6-0328	Belt Conveyor – Baghouse C01-007, C02-021	2001
C01-015	6-0328	Fly Ash Weigh Bin – Baghouse C01-019	2001
C02-001	6-0328	Bucket Elevator – Baghouse C02-011, C02-021	2001
C02-006	6-0328	100 Ton Bin – Baghouse C02-011	2001
C04-068	6-0328	Airslide – Baghouse C04-050, C04-075	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
C04-070	6-0328	Airslide – Baghouse C04-075	2002
C04-072	6-0328	Airslide – Baghouse C04-075	2002
C04-074	6-0328	Airslide – Baghouse C04-075	2002
C04-037	6-0328	Bucket Elevator – Baghouses C04-050, C04-075	2002
C04-038	6-0328	600 Ton Bin – Baghouse C04-075, C04-050	2002
C02-038	6-0328	Rejects Belt Conveyor - Baghouse C02-021	2001
C02-060	6-0328	Reversible Belt Conveyor (to Raw Mill) - Baghouse C02-011	2001
C03-034	6-0328	Airslide – Baghouse C03-001	2002
C03-035	6-0328	Airslide – Baghouse C03-001	2002
C03-040	6-0328	Airslide – Baghouse C03-001	2002
C03-042	6-0328	Airslide – Baghouse C03-001	2002
C03-045	6-0328	Airslide – Baghouses C03-047, C03-050	2002
C03-008	6-0328	Airslide – Baghouse C03-050	2002
C03-054	6-0328	Airslide – Baghouse C03-050	2002
C03-046	6-0328	Bucket Elevator – Baghouse C03-030, D01-037	2002
C03-017	6-0328	Airslide – D01-037	2002
C03-010	6-0328	Airslide – Baghouse C03-030	2002
C03-013	6-0328	Airslide – Baghouse C03-030	2002
C02-025	6-0328	Raw Mill – Baghouse C04-014	2001
C04-066	6-0328	Airslide – C03-050	2002

Emission Unit Table 4: Area D – Raw Meal – Kiln Feed
(SCC 3-05-006-23)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
D01-001	6-0329	Blending Silo – Baghouse D01-037	2002
D01-002	6-0329	Recirculation Airslide – Baghouse D01-037	2002
D01-003	6-0329	Recirculation Airslide – Baghouse D01-037	2002
D01-020	6-0329	185 Metric Ton Feed Bin – Baghouse D01-034	2002
D02-004	6-0329	Airslide – Baghouse D01-034	2002
D02-006	6-0329	Flow Meter – Baghouse D01-034	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
D02-017	6-0329	Airslide – Baghouse D01-034	2002
D02-019	6-0329	Flow Meter – Baghouse D01-034	2002
D01-023	6-0329	Airslide – Baghouse D01-040	2002
D01-026	6-0329	Airslide – Baghouse D01-040	2002
D02-007	6-0329	Airslide – Baghouse D01-040	2002
D02-020	6-0329	Airslide – Baghouse D01-040	2002
D02-010	6-0329	Airslide – Baghouse D02-041	2002
D02-023	6-0329	Airslide – Baghouse D02-041	2002
D02-049	6-0329	Airslide – Baghouse D02-041	2002
D02-025	6-0329	Bucket Elevator – Baghouse D02-041, D02-027	2002
D02-026	6-0329	Bucket Elevator – Baghouse D02-041, D02-027	2002
D02-033	6-0329	Airslide – Baghouse D02-027	2002
D02-045	6-0329	Airslide – Baghouse D02-027	2002
D02-047	6-0329	Airslide – Baghouse D02-027	2002

Emission Unit Table 5: Area E – Kiln and Clinker Cooler
(SCC 3-05-006-23)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
E01-001	6-0256	Kiln – Baghouse C04-014	2001
E02-001	6-0256	Preheater / Precalciner – baghouse C04-014	2001, modified 2023
E03-001	6-0256	Clinker Cooler – Baghouse E04-016	2001

Emission Unit Table 6: Area F – Coal Grinding Mill for Kiln
(SCC 3-05-006-21)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT Requirements			
F01-034	6-0330	Belt Conveyor #11/14	1970
F01-037	6-0330	Belt Conveyor #11/14	1970
SP2	6-0330	Coal Storage Pile	2002
SP3	6-0330	Coal Storage Pile	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
TT2	6-0330	Transfer Tower #2	2002
TU2	6-0330	Truck Unloading	2002
F02-006	6-0330	Reclaim Elevator	2002
F02-018	6-0330	Belt Conveyor	2002
F03-001	6-0330	Belt Conveyor	2002
F03-002	6-0330	Coal Bin Weighfeeder	2002
F03-003	6-0330	Coke Bin Weighfeeder	2002
Sources Subject to MACT Requirements			
F02-007	6-0330	Belt Conveyor	2002
F03-016	6-0330	Coal Mill System – Baghouses F03-028,F03-032, F03-036, F03-040, F03-044, F03-048 (Associated with kiln)	2001
F04-009	6-0330	Pneumatic Pump for Fine Coal Dust Bin – Baghouse F04-010	2002
F04-018	6-0330	Kiln Fuel Bin Pressure Relief - Baghouse C04-014	2002
F04-026	6-0330	Calciner Fuel Bin Pressure Relief - Baghouse C04-014	2002
TT5	6-0330	Transfer Tower #5 – baghouse F02-027	2002

Emission Unit Table 7: Area G – Clinker Transport & Storage – Craneway Building ***(SCC 3-05-006-16)***

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
TT8/9	6-0125	Transfer Tower #8/9 – Baghouse G02-041, Baghouse B01-018	2004
TT6	6-0125	Transfer Tower #6 – Baghouse G02-025	2004
G01-001	6-0125	Main Pan Conveyor – Baghouse E04-016	2001
G03-010	6-0125	Clinker into Craneway – Baghouse G03-011	2001
CWAY	6-0125	Craneway	1970
SP6	6-0125	Gypsum Stockpile	2015
TU3	6-0125	Gypsum Truck Unloading	2004
G04-014	6-0125	450 Metric Ton Clinker Bin – Baghouse G04-011	2001
G04-020	6-0125	Belt Conveyor - Baghouse G04-011	2001
G04-010	6-0125	Bucket Elevator - Baghouse G04-011	2001

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
G04-009	6-0125	Belt Conveyor - Baghouse G04-034	2002
G04-016	6-0125	Belt Feeder – Baghouse G04-034	2002
G04-056	6-0125	Belt Feeder – Baghouse G04-034	2002
G04-058	6-0125	Clinker Bin, H01-006 Belt - Baghouse H01-210	2002
G04-059	6-0125	H01-015 Clinker Feeder, G04-018 Belt – Baghouse H01-210	2002
G01-012	6-0125	Clinker Storage Silo – Baghouse G01-009	2002
G02-002	6-0125	Transfer Tower #11, #12, #13 Belt Conveyors – Baghouse G02-047, G02-044, G02-021	2002
G04-018	6-0125	Belt Conveyor – Baghouse G04-037	2004
G04-019	6-0125	CE2 Bucket Elevator – Baghouse G04-037	1970
G04-031	6-0125	Drag Conveyor B3 – Baghouse H09-073	1970
G05	6-0125	Off Loading Trucks Preheater Dust Silo	2004
TL1	6-0125	Clinker Truck/Rail Loadout – Baghouse G02-053	2004
TT7	6-0125	Transfer Tower #7 – Baghouse G03-004	2004
TT9/10	6-0125	Transfer Tower #9/10 – Baghouse G03-011	2004

Emission Unit Table 8: Area H – Clinker Finish Mills
(SCC 3-05-006-17)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
H04-001	6-0331	Gypsum Bin 409	2002
H04-003	6-0331	Limestone Tank 416	2002
H05-001	6-0331	Gypsum Bin 509	2002
H06-001	6-0331	Gypsum Bin 609	2002
H07-001	6-0331	Gypsum Bin	2002
H08-001	6-0331	Gypsum Bin	2002
H04-004	6-0331	Clinker Bin 403	1970
H05-004	6-0331	Gypsum Bin 503	1970
H06-004	6-0331	Clinker Bin 603	1970
H07-004	6-0331	Gypsum Bin	2004

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
H01-040	6-0331	Finish Mill #1 – Baghouse H01-070	2002
H01-061	6-0331	Cyclone and Belts – Baghouse H01-070	2002
H01-063	6-0331	Cyclone and Belts – Baghouse H01-070	2002
H01-080	6-0331	Elevator and Tipping Valves – Baghouse H01-230	2002
H01-090	6-0331	Finish Mill #1 Burner – Baghouse H01-070	2002
H01-105	6-0331	Belt Conveyor and Tipping Valves – Baghouse H01-210	2002
H01-110	6-0331	Bin – Baghouse H01-210	2002
H01-112	6-0331	Belt Conveyor and Tipping Valves – Baghouse H01-210	2002
H07-015	6-0331	Cement to Cement Cooler – Finish Mill #7 – Baghouse H01-240	2002
H07-016	6-0331	Airslide – Baghouse H01-240	2002
H04-006	6-0331	Belt Conveyor – Finish Mill #4 System – Baghouse H04-044	1970
H04-014	6-0331	Finish Mill #4 System – Baghouse H04-044	1970
H05-014	6-0331	Finish Mill #5 System – Baghouse H05-044	1970
H06-014	6-0331	Finish Mill #6 System – Baghouse H06-044	1970
H06-017	6-0331	Cyclone 642 – Finish Mill #6 System - Baghouse H06-044	1970
H06-037	6-0331	Separator 627 – Finish Mill #6 System - Baghouse H06-044	1970
H07-014	6-0331	Finish Mill #7 System – Baghouses H07-056, H07-057	2002
H07-018	6-0331	Finished Cement Transfer System – Baghouses H07-056, H07-057	2001
H07-068	6-0331	Finished Cement Transfer System – Baghouses H07-056, H07-057	2001
H07-040	6-0331	Cement Cooler – Baghouse H10-113	2002
H07-070	6-0331	Airslide – Baghouses H07-056, H07-057	2001
H07-071	6-0331	Airslide – Baghouse H10-113	2002
H08-014	6-0331	Finish Mill #8 System – Baghouse H08-056	2002
H08-017	6-0331	Separator – Finish Mill #8 System – Baghouse H08-056	2002
H08-037	6-0331	Cyclone – Finish Mill #8 System – Baghouse H08-056	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
H08-038	6-0331	Cyclone – Finish Mill #8 System – Baghouse H08-056	2002
H08-040	6-0331	Cement Cooler – Baghouse H10-113	2002
H08-064	6-0331	Airslide – Baghouse H10-113	2002
H09-000	6-0331	Semi Finishing Grinding System – Baghouse H09-059	2001
H09-019	6-0331	Weighfeeder (from 750 ton Clinker Bin) – Baghouse H09-025	2001
H09-020	6-0331	100 Metric Ton Slag/Clinker Bin Weighfeeder – Baghouse H09-082	2002
H09-021	6-0331	100 Metric Ton Clinker Bin Weighfeeder – Baghouse H09-082	2002
H09-023	6-0331	100 Metric Ton Gypsum Bin Weighfeeder – Baghouse H09-025	2001
H09-024	6-0331	Belt Conveyor (from weigh feeders) – Baghouse H09-025	2001
H09-028	6-0331	Bucket Elevator – Baghouse H09-051	2000
H09-031	6-0331	Belt Conveyor – Baghouses H09-051, H09-033	2000
H09-036	6-0331	Bin – Baghouses H09-059, H09-033	2004
H09-041	6-0331	Roll Press – Baghouse H09-033	2004
H09-046	6-0331	Belt Conveyor – Baghouse H09-033	2002
H09-047	6-0331	Bucket Elevator – Baghouse H09-059	2000
H09-058	6-0331	Belt Conveyor to 90 Metric Ton Bin - Baghouse H09-073, H09-059	2000
H09-062	6-0331	Reversible Belt Conveyor – Baghouse H09-051, H09-082	2000
H09-066	6-0331	Belt Conveyor – Baghouse H09-082	2002
H09-075	6-0331	90 Ton Bin – Baghouse H09-073	2000
H09-091	6-0331	Clinker Belt – Baghouse H09-094	2000
H10-001	6-0331	Airslide – Baghouse H10-113	2002
H10-006	6-0331	Bucket Elevator – Baghouse H10-113	2002
H10-007	6-0331	Airslide – Baghouse H10-119	2001
H10-010	6-0331	Bucket Elevator – Baghouse H10-119	2001
H10-124	6-0331	Airslide – Baghouse H10-119	2001
H10-125	6-0331	Airslide – Baghouse H10-119	2001
H10-167	6-0331	Airslide – Baghouse H10-181	2002
H10-176	6-0331	Bucket Elevator – Baghouse H10-181	2002
H10-177	6-0331	Airslide – Baghouse H10-179	2002

Emission Unit Table 9: Area I – Cement Storage and Shipping with Bag Packing ***(SCC 3-05-006-18)***

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
I01-033	6-0039	Day Tank – Baghouse H10-179	2002
I02-289	6-0039	Feed Bin – Baghouse I02-290	2002
I03/I04	6-0039	Packaging and Palletizing – Pack house Collector	1970
TL2	6-0039	Truck Day Tank Loadout – Baghouse I02-290	2002
I02-001 to I02-032	6-0039	Product Silos – Baghouses H10-224, H10-252, H10-254, H10-221,	1970 and 2003
TL4 (F6/F5/H7/J6/ J3/J4/E7/H3)	6-0039	Bulk Loadout System – Baghouses I11-180, I11-190, I12-180, I12-190, I13-180, I13-190, I14-180, I14-190	1970 and 2003

Emission Unit Table 10: Dried BioSolids (DBS) Related Processes

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT Requirements			
F04-058	6-0330	DBS Storage Tank (Fluidized Coke Storage Tank) – Baghouses F04-062 & F04-064	2007
F05-049	6-0330	Rotary Air Lock for Feeding DBS from Silo – Baghouses F04-062, F04-064	2007
F05-050	6-0330	Scale, Pfister Dosing System – Baghouses F04-062, F04-064	2007
F05-051	6-0337	Mobile DBS Conveyor	2007
F05-055	6-0330	Diverter Valve to Calciner – Baghouses F04-062, F04-064	2007
F05-056	6-0330	Diverter Valve to Main Kiln Burner – Baghouses F04-062, F04-064	2007
G05-001	6-0331	Pneumatic baghouse dust (BD) transfer system – Baghouse G05-003	2009

Emission Unit Table 11: Emergency Generator

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
J08-532	9-0186	Caterpillar 2520 horsepower emergency generator	2001

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

ARA	Air and Radiation Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration
PTC	Permit to construct
PTO	Permit to operate (State)
SIC	Standard Industrial Classification
SO_2	Sulfur Dioxide

TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a completed application was submitted, but prior to the release of a draft permit. This information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emissions unit within the source. Air pollution control equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal, including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable

terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to

the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the

Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit.

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of the Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required by (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the

Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

[COMAR 26.11.03.03B(23)] and [40 CFR 68]

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date specified in 40 CFR 68.150 and shall certify compliance with the requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and
(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons

who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.155.

e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

Not applicable

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. [Authority: COMAR 26.11.03.06C(5)(g)]

Table IV – 1
Quarry - Fugitive Sources (Area A)

1.0	**Emissions Unit Number(s)** a. *The Union Bridge quarry located in Frederick County* HR1- Quarry Haul Roads SP1- Limestone Storage Pile TLU1- Limestone truck loading/unloading TLU2- Truck loading/unloading SP8 – Iron B01-001 Surge Storage Pile SP9 – Silica B02-001 Storage Pile SP11 – Overburden Storage Pile A03-022 Masonry Hauling at Union Bridge (paved) b. *The New Windsor quarry located in Carroll County* A03-001A - Waste Rock Hauling A03-001B - Waste Rock Hauling A03-001C - Waste Rock Hauling A03-002A - Limestone Hauling A03-002C - Limestone Hauling A03-003 - Front End Loader to Limestone Truck A03-004 - Truck to Primary Hopper

Table IV – 1 Quarry - Fugitive Sources (Area A)	
	SP10 – New Windsor Storage Pile SP12 - Masonry Storage Pile A03-018- Masonry Transfer to Crusher A03-019- Masonry Portable Crusher A03-020- Transfer from Masonry Crusher to Truck A03-021- Masonry Hauling at New Windsor (unpaved)
1.1	**Applicable Standards/Limits:** A. & B. Control of Visible Emissions and Particulate Matters (1) **COMAR 26.11.06.03D**- Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. (2) **COMAR 26.11.06.12**, which states that a person may not construct modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source in a manner which results or will result in violation of the provisions of 40 CFR, Part 60. (3) **New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO** (New Windsor Quarry Only): a. The fugitive emissions from crushers at which a capture system is not used shall not exceed 12% opacity; **[Reference 40 CFR §60.672(b) & (e)(2)]** b. The fugitive emissions from each vent or each transfer point on a belt conveyor shall not exceed 7% opacity; and **[Reference 40 CFR §60.672(b) & (e)(2)]** c. Fugitive emissions from the building openings (except for vents as defined in 40 CFR §60.671) shall not exceed 7% opacity. **[Reference 40 CFR §60.672(e)(1)]** (4) Permit to Construct Conditions, **PTC No. 013-0012-6-0352 (New Windsor Quarry Only)** – a. Wet suppression systems shall be used whenever they are needed to comply with all applicable visible emissions and opacity limits. **[Reference Permit to Construct No. 013-0012-6-0352 Issued January 11, 2021]** b. The Permittee shall control fugitive dust from plant roads and stockpiles by using water, chemical dust suppressants, or a combination of both, as needed. **[Reference Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

Table IV – 1 Quarry - Fugitive Sources (Area A)	
1.2	**Testing Requirements:** A. & B. New Windsor Quarry Only: (1) For each fugitive emissions unit with an applicable opacity limit, the Permittee must conduct opacity observations to demonstrate compliance with applicable opacity limits within 60 days after achieving the maximum hourly production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR §60.11. **[Reference 40 CFR §60.672(b)]** (2) For opacity observations, the Permittee shall use Method 9 of Appendix A-4 of 40 CFR, Part 60 and the procedures in 40 CFR §60.11, with the following additions: (a) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet). (b) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.,* road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of 40 CFR Part 60, Section 2.1) must be followed. (c) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible. (d) The duration of the Method 9 observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of 40 CFR, Part 60, Subpart OOO must be based on the average of the five 6-minute averages. (e) Method 9 observations for buildings shall be conducted while all affected facilities inside the building are operating. **[Reference 40 CFR § 60.675(c)(1) and (d)]**
1.3	**Monitoring Requirements:** A. Control of Particulate Matters (1) The Permittee shall prepare and update as needed the best management plan that describes the procedures and methods that will be used to take reasonable precautions. The management plan may be included in the written operation and maintenance plan required under the Portland Cement MACT. **[Reference: COMAR 26.11.03.06C]**

Table IV – 1
Quarry - Fugitive Sources (Area A)

(2) The Permittee shall perform a visual inspection for a minimum of one minute once a month or when weather conditions are favorable to create airborne particulate matter to verify that best management practices are being implemented. **[Reference: COMAR 26.11.03.06C]**

(3) The Permittee shall control fugitive dust from plant roads and stockpiles by using water, chemical dust suppressants, or a combination of both, as needed.

(4) For each wet suppression system, the Permittee must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The Permittee must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the Permittee finds that water is not flowing properly during an inspection of the water spray nozzles. The Permittee must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under 40 CFR § 60.676(b). **[Reference: 40 CFR § 60.674(b)]**

(5) If the Permittee relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of 40 CFR, Part 60, Subpart OOO provided that the affected facility meets the following criteria in paragraphs 40 CFR §60.674(b)(1)(i) and (ii):

(a) The Permittee conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to 40 CFR §60.674(b) and 40 CFR §60.676(b); and

(b) The Permittee designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under 40 CFR §60.11 and 40 CFR §60.675.
[Reference: 40 CFR §60.674(b)(1)]

(6) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under § 60.676(b) must specify the control mechanism being used instead of the water sprays.
[Reference: 40 CFR §60.674(b)(2)]

Note: (3), (4), (5) and (6) are applicable to the equipment located at the New Windsor Quarry only.

Table IV – 1 Quarry - Fugitive Sources (Area A)	
1.4	**Record Keeping Requirements:** A. & B. Control of Visible Emissions and Particulate Matters The Permittee shall maintain the best management plan and records of the dates and inspection results for at least five (5) years and make them available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**
1.5	**Reporting Requirements:** A. & B. Please see the record keeping requirements.

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 2 Union Bridge Quarry - Point Sources (Area A-1) (Note: The Union Bridge quarry is located in Frederick County)		
2.0	**Emissions Unit Number(s)**	
	Baghouse	Emission Unit
	A01-012	A01-009- Gyratory Crusher
		A01-018- Belt Conveyor #1
	A01-025	A01-021- Surge Bin
	A02-008	A02-005- Belt Conveyor #2
		A02-006- Secondary Crusher
		A02-010- Belt Conveyor #3
		A02-017-Belt Conveyor #6
		A02-018- Belt Conveyor #5
		A02-019- Tertiary Crusher
		A02-021- Belt Conveyor #4
	A02-012	A02-011- Vibrating Screens and Transfer System
		A02-022- Vibrating Screens and Transfer System
		A02-023- Vibrating Screens and Transfer System
		A02-024- Belt Conveyor #7
	A02-015	A02-011- Vibrating Screens and Transfer System
		A02-022- Vibrating Screens and Transfer System
		A02-023- Vibrating Screens and Transfer System
		A02-024- Belt Conveyor #7
	A02-025	A02-011- Vibrating Screens and Transfer System
		A02-022- Vibrating Screens and Transfer System
		A02-023- Vibrating Screens and Transfer System
		B01-017- Belt Conveyor #8

Table IV – 2 Union Bridge Quarry - Point Sources (Area A-1) (Note: The Union Bridge quarry is located in Frederick County)	
	The Union Bridge quarry, which did not commence construction, modification, or reconstruction after August 31, 1983, is not subject to New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO.
2.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations COMAR 26.11.30.05(B)(1), which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity. B. Control of Particulate Matter (1) COMAR 26.11.30.04(B)(1), which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.05 grains per standard cubic foot dry. (2) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** - The following equipment shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm): (a) A01-021 – Surge Bin; (b) A02-024 & B01-017 – Belt Conveyors #7 & #8; and (c) A02-011, A02-023, and A02-022 - Vibrating Screens and Transfer System. (3) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** - The following equipment shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.015 gr/SCFD (34.3 mg/dscm): (a) A01-009- Gyratory Crusher; (b) A01-018- Belt Conveyor #1; (c) A02-005- Belt Conveyor #2; (d) A02-006- Secondary Crusher; (e) A02-010- Belt Conveyor #3; (f) A02-017- Belt Conveyor #6; (g) A02-018- Belt Conveyor #5; (h) A02-019- Tertiary Crusher; and (i) A02-021- Belt Conveyor #4.
2.2	**Testing Requirements:** A & B. Please see the monitoring requirements.
2.3	**Monitoring Requirements:** A. Visible Emissions Limitations

Table IV – 2
Union Bridge Quarry - Point Sources (Area A-1)
(Note: The Union Bridge quarry is located in Frederick County)

The Permittee shall conduct a monthly 1-minute visible emissions test of the exhaust stack of each emission unit in accordance with Method 22 of Appendix A to part 60. The test must be conducted while the emission unit is in operation. If no visible emissions are observed in six consecutive monthly tests for the exhaust stack of any emission unit, the Permittee may decrease the frequency of testing from monthly to semi-annually for the exhaust stack of that emission unit. If visible emissions are observed during any semi-annual test, the Permittee must resume testing of the exhaust stack of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. If no visible emissions are observed during the semi-annual test for the exhaust stack of any emission unit, the Permittee may decrease the frequency of testing from semi-annually to annually for the exhaust stack of that emission unit. If visible emissions are observed during any annual test, the Permittee must resume testing of the exhaust stack of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

If visible emissions are observed on any stack during any Method 22 test, the Permittee shall initiate, within one hour, the corrective actions specified in the preventive maintenance plan or the best management plan. Within 24 hours at the end of the Method 22 test, the Permittee shall conduct a follow-up Method 22 test of any stack from which visible emissions were observed during the previous Method 22 test. If visible emissions are still observed, conduct a visual opacity test in accordance with Method 9 of Appendix A of 40 CFR Part 60. The Method 9 test shall be conducted within one-hour of the end of the follow-up Method 22 test and the duration of the Method 9 test shall be at least six minutes. **[Reference: COMAR 26.11.03.06C]**

A & B.

(1) The exhaust gas from each emissions unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]**

(2) The Permittee shall comply with and update, as needed, the preventative maintenance plan for each baghouse that describes the maintenance activity and time schedule for completing each activity. **[Reference: COMAR 26.11.03.06C]**

2.4 **Record Keeping Requirements:**

A. Visible Emissions Limitations
The Permittee shall maintain records of the results of the monthly inspections for at least five (5) years and make them available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**

Table IV – 2 Union Bridge Quarry - Point Sources (Area A-1) (Note: The Union Bridge quarry is located in Frederick County)	
	A & B The Permittee shall maintain the log of inspection and maintenance records for at least five (5) years and make it available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**
2.5	**Reporting Requirements:** A & B. Please see the record keeping requirements.

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 3 New Windsor Quarry - Point Sources (Area A-2) (Note: The New Windsor quarry is located in Carroll County)	
3.0	**Emissions Unit Number(s)** Baghouse — Emission Unit A03-007 — A03-005- Primary Crusher for Ca, silica, alumina, and Fe bearing raw materials A03-006- Primary Crusher for to Belt #1 A03-009 — A03-008- Belt #1 to Belt #2 Transfer A03-011 — A03-010- Transfer from Belt #2 to Belt #3 or to Masonry Pile A03-013 — A03-012- Belt #2 to Limestone Overland Conveyor (Belt #4) A03-015 — A03-014- Overland Conveyor (Belt #4) Transfer to Belt #5 to New Transfer Tower A03-017 — A03-016- New Transfer Tower The New Windsor quarry, which commenced construction, modification, or reconstruction after August 31, 1983, is subject to New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO.
3.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations (1) **COMAR 26.11.30.05(B)(2),** which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers. (2) **COMAR 26.11.06.02C(2)**, which prohibits visible emissions other than uncombined water from any installation or building. Exceptions. The visible emissions standard in COMAR 26.11.06.02C(2) does not apply to emissions during start-up and process modifications or adjustments, or occasional cleaning of

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

control equipment, if: (i) the visible emissions are not greater than 40 percent opacity; and (ii) the visible emissions do not occur for more than 6 consecutive minutes in any 60 minute period.

B. Control of Particulate Matter

(1) **COMAR 26.11.30.04(B)(2),** which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot of dry exhaust gas.

(2) **COMAR 26.11.06.03D**, which requires that the Permittee take reasonable precautions to prevent particulate matter from materials handling and construction operations from becoming airborne.

(3) **COMAR 26.11.06.12**, which states that a person may not construct modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source in a manner which results or will result in violation of the provisions of 40 CFR, Part 60.

(4) Particulate matter emissions from each baghouse shall not exceed 0.014 grains per standard cubic foot of dry air (0.014 gr/dscf). **[Reference: 40 CFR §60.672(a)]**

(5) The fugitive emissions from crushers at which a capture system is not used shall not exceed 12% opacity. **[Reference: 40 CFR §60.672(b) & (e)(2)]**

(6) The fugitive emissions from each vent or each transfer point on a belt conveyor shall not exceed 7% opacity. **[Reference: 40 CFR §60.672(b) & (e)(2)]**

(7) Fugitive emissions from the building openings (except for vents as defined in 40 CFR §60.671) shall not exceed 7% opacity. **[Reference: 40 CFR §60.672(e)(1)]**

(8) Except as otherwise provided in this part, the New Windsor Quarry, including the modification of the Masonry limestone operation to increase the masonry limestone crushing throughput limit to 160,000 short tons per year, shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(9) The masonry portable crusher A03-019 shall not crush more than 160,000 short tons of limestone in any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

(10) Particulate matter emissions from each bag filter shall not exceed 0.010 grains per standard cubic foot of dry air (0.010 gr/dscf). **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(11) The limestone mined from both the Union Bridge Quarry and the New Windsor Quarry shall be used only to support the Union Bridge Portland Cement Plant. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(12) The limestone crushing throughput from the New Windsor Quarry is limited to 3.65 million short tons for any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(13) The combined limestone crushing throughput from the Union Bridge Quarry and the New Windsor Quarry is limited to 3.70 million short tons for any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(14) The Union Bridge Quarry crushing system and the New Windsor Quarry crushing system shall not operate at the same time. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(15) A combined annual hours of operation, on a calendar year basis, for Union Bridge Quarry crushing system and the New Windsor Quarry crushing system is limited to 3,952 hours. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(16) The limestone withdrawal rate from the Union Bridge Limestone Storage Dome is limited to 3.53 million short tons for any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(17) Beginning with the calendar month in which the New Windsor Quarry crushing system produces 811,100 annual short tons of limestone, when rolled monthly, the Union Bridge Quarry crushing system shall be limited to 2,615,942 short tons for any rolling 12-month period. The production of limestone from the Union Bridge Quarry crushing system shall be permanently reduced from the 2,615,942 short ton limit by at least 0.9 short tons for every short ton produced by the New Windsor Quarry crushing system above 811,100 annual short tons, rolled monthly. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(18) The exhaust gases from the following operations shall vent through a bag filter prior to discharging to the atmosphere to meet all applicable

Table IV – 3 New Windsor Quarry - Point Sources (Area A-2) (Note: The New Windsor quarry is located in Carroll County)	
	particulate matter emissions limits: **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]** (a) Primary Crusher operations to Belt Conveyor #1, and limestone transport operations from Belt Conveyor #1 to Belt Conveyor #2; (b) limestone transport operations from Belt Conveyor #2 to the New Windsor Transfer Tower and from the New Windsor Transfer Tower to Belt Conveyor #3; (c) limestone transport operations from the New Windsor Transfer Tower to Belt Conveyor #4 (the Overland Conveyor); (d) limestone transport operations from Belt Conveyor #4 (the Overland Conveyor) to Belt Conveyor #5 at the Union Bridge Portland Cement Plant; and (e) limestone transport operations from Belt Conveyor #5 to the Union Bridge Transfer Tower and from the Union Bridge Transfer Tower to the modified Belt Conveyor B01-002.
3.2	**Testing Requirements:** A & B. (1) The Permittee shall demonstrate compliance with all applicable particulate matter and opacity emissions limits within 60 days after achieving the maximum hourly production rate at which the masonry limestone crusher and associated equipment are allowed to increase the throughput, but not later than 180 days after initial start-up. **[Reference: 40 CFR § 60.672(a)]** (2) During each stack emissions test or opacity observation, the affected equipment shall be operated at 90% or higher of its rated capacity. (3) Each stack emissions test shall be conducted in accordance with Method 5 of Appendix A-3 of 40 CFR, Part 60 or Method 17 of Appendix A-6 of 40 CFR, Part 60 to determine the particulate matter concentration. The sample volume shall be at least 1.70 DSCM (60 DSCF). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter. **[Reference: 40 CFR §60.675(b)(1)]**

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

(4) The Permittee shall submit a stack emissions testing protocol to the Department for review and approval at least 30 days prior to each stack emissions test.

(5) For each fugitive emissions unit with an applicable opacity limit, the Permittee must conduct opacity observations to demonstrate compliance with applicable opacity limits within 60 days after achieving the maximum hourly production rate at which the affected facility will be operated, but not later than 180 days after initial start-up as required under 40 CFR §60.11. **[Reference: 40 CFR §60.672(b)]**

(6) For opacity observations, the Permittee shall use Method 9 of Appendix A-4 of 40 CFR, Part 60 and the procedures in 40 CFR §60.11, with the following additions:

(7) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(8) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.,* road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of 40 CFR Part 60, Section 2.1) must be followed.

(9) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(10) The duration of the Method 9 observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of 40 CFR, Part 60, Subpart OOO must be based on the average of the five 6-minute averages.

(11) Method 9 observations for buildings shall be conducted while all affected facilities inside the building are operating.
[Reference: 40 CFR § 60.675(c)(1) and (d)]

(12) Within 45 days after the last day of any required stack emissions test or opacity observation, the Permittee shall submit the results to the Department.

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

3.3 Monitoring Requirements:

A & B.

(1) For each wet suppression system, the Permittee must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The Permittee must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the Permittee finds that water is not flowing properly during an inspection of the water spray nozzles.

The Permittee must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under 40 CFR § 60.674(b). **[Reference: 40 CFR § 60.676(b)]**

(2) If the Permittee relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of 40 CFR, Part 60, Subpart OOO provided that the affected facility meets the following criteria in paragraphs 40 CFR §60.674(b)(1)(i) and (ii):

(a) The Permittee conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to 40 CFR §60.676(b) and 40 CFR §60.676(b); and (b) The Permittee designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under 40 CFR §60.11 and 40 CFR §60.675. **[Reference: 40 CFR §60.674(b)(1)]**

(3) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under § 60.676(b) must specify the control mechanism being used instead of the water sprays. **[Reference: 40 CFR §60.674(b)(2)]**

(4) Except as specified in 40 CFR §60.674(d), any affected facility that uses a bag filter to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR, Part 60, Appendix A-7). The Method 22 (40 CFR, Part 60, Appendix A-7) test shall be conducted while the bag filter is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the Permittee must initiate corrective action within 24 hours to return the bag filter to normal operation. The Permittee must record each Method 22 test,

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

including the date and any corrective actions taken, in the logbook required under 40 CFR §60.676(b).

The Permittee may establish a different bag filter-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to 40 CFR §60.675(b) simultaneously with Method 22 to determine what constitutes normal visible emissions from that affected facility's bag filter when it is in compliance with the applicable PM concentration limit in Table 2 of 40 CFR 60, Subpart OOO. The revised visible emissions success level must be incorporated into the permit for the affected facility. **[Reference: 40 CFR §60.674(c)]**

(5) As an alternative to the periodic Method 22 visible emissions inspections specified in 40 CFR §60.674(c), any affected facility that uses a bag filter to control emissions may use a bag leak detection system. **[Reference: 40 CFR § 60.674(d)]**

(6) Each bag leak detection system must meet the following specifications and requirements:

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide the output of relative PM loadings. The Permittee shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.*, using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to 40 CFR §60.674(d)(1)(iv), and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the Permittee must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the Permittee shall not adjust the averaging period, alarm setpoint, or alarm delay time without approval from the Administrator or delegated authority except as

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

provided in 40 CFR §60.674 (d)(1)(vi).

(vi) Once per quarter, the Permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by 40 CFR §60.674 (d)(2).

(vii) The Permittee must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. **[Reference: 40 CFR §60.674(d)(1)]**

(7) The Permittee shall update the site-specific monitoring plan to reflect the modification of the Masonry limestone operation to increase the masonry limestone crushing throughput limit to 160,000 short tons per year. The Permittee must operate and maintain the bag leak detection system according to the site specific monitoring plan at all times. Each monitoring plan must describe the following items: **[Reference: 40 CFR §60.674(d)(2)]**

(a) Installation of the bag leak detection system;

(b) Initial and periodic adjustment of the bag leak detection system, including how the alarm setpoint will be established;

(c) Operation of the bag leak detection system, including quality assurance procedures;

(d) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(e) How the bag leak detection system output will be recorded and stored; and

(f) Corrective action procedures as specified in 40 CFR §60.674(d)(3) of §60.674. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the Permittee identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

	alarm occurs and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable. (8) For each bag leak detection system, the Permittee must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in §60.674(d)(2)(vi), the Permittee must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following: (a) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions; (b) Sealing off defective bags or filter media; (c) Replacing defective bags or filter media or otherwise repairing the control device; (d) Sealing off a defective fabric filter compartment; (e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or (f) Shutting down the process producing the PM emissions. **[Reference 40 CFR § 60.674(d)(3)]**
3.4	Record Keeping Requirements: A. Visible Emissions Limitations The Permittee shall maintain records of the results of the monthly inspections for at least five (5) years and make them available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]** A & B. (1) The Permittee shall maintain the log of inspection and maintenance records for at least five (5) years and make it available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]** (2) The Permittee shall update the following if applicable to reflect the modification of the masonry limestone operation to increase the masonry limestone crushing throughput limit to 160,000 short tons per year:

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]

(a) The operation and maintenance plan for the Union Bridge Portland Cement Plant including the New Windsor Quarry;

(b) The preventative maintenance plan for the Union Bridge Portland Cement Plant including each bag filter for the New Windsor Quarry; And

(c) The best management plan for fugitive emissions for the Union Bridge Portland Cement Plant including fugitive sources from the New Windsor Quarry.

(3) The Permittee shall comply with the federal recordkeeping requirements under 40 CFR §60.7, §60.19 and §60.676, which include the following and the records shall be kept on-site for at least five years and shall be made available to the EPA Region III and the Department upon request:

(a) Records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility and any malfunction of the air pollution control equipment. [Reference: 40 CFR §60.7 and §60.676]

(b) Records of each periodic inspection required under §60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). [Reference: 40 CFR § 60.676(b)(1)]

(c) The following records for each bag leak detection system installed and operated according to §60.674(d):

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm. **[Reference: 40 CFR §60.676(b)(2)]**

Table IV – 3 New Windsor Quarry - Point Sources (Area A-2) (Note: The New Windsor quarry is located in Carroll County)	
	(4) Records of the following operating data shall be kept at the site for at least five (5) years and shall be made available to the Department upon request: **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]** (a) The amount of limestone processed in the New Windsor Quarry crushing system each month and for any 12-month period rolling monthly; (b) The amount of limestone processed in the Union Bridge Quarry crushing system each month and for any 12-month period rolling monthly; (c) Records to demonstrate compliance with Part D(2)(j) of this permit; (d) The exact times when the New Windsor Quarry crushing system was operated and the total annual operating hours on a calendar year basis; (e) The exact times when the Union Bridge Quarry crushing system was operated and the total annual operating hours on a calendar year basis; (f) The total annual operating hours, on a calendar year basis, for the New Windsor Quarry crushing system and the Union Bridge Quarry crushing system, combined. (g) The amount of limestone withdrawn from the Union Bridge Limestone Storage Dome each month and for any 12-month period rolling monthly; and (h) The amount of masonry limestone processed by the portable crusher A03-019 in the New Windsor Quarry each month and for any 12-month period rolling monthly.
3.5	**<u>Reporting Requirements</u>:** A & B. (1) The Permittee shall comply with the federally reporting requirements under 40 CFR §60.7, §60.19 and §60.676, which include the following: (a) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

Table IV – 3
New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

(b) The Permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR §60.672, including reports of opacity observations made using Method 9 (40 CFR, Part 60, Appendix A-4) to demonstrate compliance with 40 CFR §60.672(b) and (e).

(c) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Department may request additional relevant information subsequent to this notice.

(d) A notification of the anticipated date for conducting the opacity observations required by 40 CFR §60.11(e)(1). The notification shall also include, if appropriate, a request for the Department to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

(2) At least 30 days prior to initial operation of the New Windsor Quarry expansion project, the Permittee shall submit to the Department the following for review and approval:

(a) The operation and maintenance plan for the Union Bridge Portland Cement Plant revised to include the New Windsor Quarry expansion project;

(b) The preventative maintenance plan for the Union Bridge Portland Cement Plant revised to include each bag filter for the New Windsor Quarry expansion project; and

(c) The best management plan for fugitive emissions for the Union Bridge Portland Cement Plant revised to include fugitive sources from the New Windsor Quarry expansion project.

(3) All notifications required under 40 CFR 60, Subparts A and Subpart OOO shall be submitted to both of the following:

The Administrator
Compliance Program
Maryland Department of the Environment

Table IV – 3 New Windsor Quarry - Point Sources (Area A-2) (Note: The New Windsor quarry is located in Carroll County)	
	Air and Radiation Management Administration 1800 Washington Boulevard, STE 715 Baltimore MD 21230 and United States Environmental Protection Agency Region III, Enforcement & Compliance Assurance Division Air, RCRA and Toxics Branch (3ED21) Four Penn Center 1600 John F. Kennedy Boulevard Philadelphia, PA 19103-2852

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 4 Material Handling - Fugitive Sources - Not subject to MACT Requirements	
4.0	**Emissions Unit Numbers** **Area A – Union Bridge Quarry Operations** SP13 – Bottom Ash Storage Pile A02-026 – Screen **Area B – Raw Material Transport and Storage** TU1- Iron and silica truck unloading SP4- Silica Storage Pile SP5- Iron Ore Storage Pile **Area F – Coal Grinding Mill for Kiln** F01-034 - Belt Conveyor #11 F01-037 – Belt Conveyor #14 SP2 – Coal Storage Pile SP3 – Coal Storage Pile TT2 – Transfer Tower #2 TU2 – Truck Unloading F02-018 - Belt Conveyor F03-001 - Belt Conveyor F03-002 – Coal Weigh feeder F03-003 – Coke Weigh feeder

Table IV – 4 Material Handling - Fugitive Sources - Not subject to MACT Requirements	
4.1	**Applicable Standards/Limits:** Control of Particulate Matters **COMAR 26.11.06.03D** - Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.
4.2	**Testing Requirements:** Please see the monitoring requirements.
4.3	**Monitoring Requirements:** Control of Particulate Matters (1) The Permittee shall comply with and update as needed the best management plan that describes the procedures and methods that will be used to take reasonable precautions. The management plan may be included in the written operation and maintenance plan required under the Portland Cement MACT. **[Reference: COMAR 26.11.03.06C]** (2) The Permittee shall perform an inspection at a minimum of one minute once a month or when weather conditions are favorable to create particulate matter becoming airborne to verify that best management practices are being implemented. **[Reference: COMAR 26.11.03.06C]**
4.4	**Record Keeping Requirements:** Control of Particulate Matters The Permittee shall maintain the best management plan and records of the dates and inspection results for at least five (5) years and make them available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**
4.5	**Reporting Requirements:** Please see the record keeping requirements.

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 5
Material Handling - Fugitive Sources - Subject to MACT Requirements

5.0 **Emissions Unit Numbers**

Area B – Raw Material Transport and Storage

B01-011 – Enclosed Limestone Dome

Area F – Coal Grinding Mill for Kiln

F02-007 – Belt Conveyor

Area G – Clinker Transport & Storage – Craneway Building

CWAY – Craneway
TU3 – Gypsum Truck Unloading

Area H – Clinker Finish Mill

H04-001 – Gypsum Bin 409
H04-003 – Limestone Tank 416
H04-004 – Clinker Bin 403
H05-001 – Gypsum Bin 509
H05-004 – Clinker Bin 503
H06-001 – Gypsum Bin 609
H06-004 – Clinker Bin 603
H07-001 – Gypsum Bin
H07-004 – Clinker Bin
H08-001 – Gypsum Bin

5.1 **Applicable Standards/Limits:**

A. Visible Emissions Limitations

Portland Cement MACT- Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]**

B. Control of Particulate Matter

COMAR 26.11.06.03D - Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

Table IV – 5 Material Handling - Fugitive Sources - Subject to MACT Requirements	
5.2	**Testing Requirements:** A & B. (1) *Opacity performance testing requirements.* You must document performance test results in complete test reports that contain the information required by paragraphs (a)(1) through (10) of this section, as well as all other relevant information. As described in § 63.7(c)(2)(i), you must make available to the Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing. (i) A brief description of the process and the air pollution control system; (ii) Sampling location description(s); (iii) A description of sampling and analytical procedures and any modifications to standard procedures; (iv) Test results; (v) Quality assurance procedures and results; (vi) Records of operating conditions during the performance test, preparation of standards, and calibration procedures; (vii) Raw data sheets for field sampling and field and laboratory analyses; (viii) Documentation of calculations; (ix) All data recorded and used to establish parameters for monitoring; and (x) Any other information required by the performance test method. **[Reference: 40 CFR §1349(a)]** (2) *Opacity tests.* If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) and (ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating. (i) There are no individual readings greater than 10 percent opacity; (ii) There are no more than three readings of 10 percent for the first 1-hour period. **[Reference: 40 CFR §1349(b)(2)]**
5.3	**Monitoring Requirements:** A. Visible Emissions Limitations (1) *Opacity monitoring requirements.* If you are subject to a limitation on opacity under 40 CFR §63.1345, you must conduct required opacity monitoring in accordance with the provisions of paragraphs (f)(1)(i) through (vii) of 40 CFR §63.1350(f) and in accordance with your monitoring plan developed under 40 CFR

Table IV – 5 Material Handling - Fugitive Sources - Subject to MACT Requirements	
	§63.1350(p). You must also develop an opacity monitoring plan in accordance with paragraphs (p)(1) through (4) and paragraph (o)(5), if applicable, of this section. **[Reference: 40 CFR §63.1350(f)]** A & B. The Permittee shall comply with and update as needed the written operations and maintenance plan [40 CFR §63.1347] which includes the following information: (1) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §63.1345; and (2) Procedures to be used to periodically monitor affected sources. **[Reference: COMAR 26.11.03.06C]**
5.4	**Record Keeping Requirements:** A & B. The Permittee shall maintain the written operations and maintenance plan and all records for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: 40 CFR §63.1355]**
5.5	**Reporting Requirements:** A & B. The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1347(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 6 Material Handling - Point Sources - Subject to MACT requirements	
6.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations (1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

Table IV – 6 Material Handling - Point Sources - Subject to MACT requirements	
	(2) **40 CFR Part 60, Subpart F, §60.62(c)** - Which limits the opacity of any gas from raw material storage to 10 percent for facility that commences construction or modification after August 17, 1971. Note: This condition is equivalent to the requirements of **§63.1345** for the same affected facilities, therefore as long as the Company complies with **§63.1345,** it meets this requirement. (3) **40 CFR Part 60, Subpart Y, §60.254(a)** - which limits coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008 to 20 percent opacity. (4) **Portland Cement MACT-** Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]** B. Control of Particulate Matters (1) **COMAR 26.11.30.04(B)(2),** which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry. (2) **Permit to Construct #06-6-0256N** dated April 8, 1999 and revised June 7, 2000 - Each emissions unit shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm).
6.2	**Testing Requirements:** A & B. (1) *Opacity performance testing requirements.* You must document performance test results in complete test reports that contain the information required by paragraphs (a)(1) through (10) of this section, as well as all other relevant information. As described in § 63.7(c)(2)(i), you must make available to the Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing. (i) A brief description of the process and the air pollution control system; (ii) Sampling location description(s);

Table IV – 6
Material Handling - Point Sources - Subject to MACT requirements

(iii) A description of sampling and analytical procedures and any modifications to standard procedures;
(iv) Test results;
(v) Quality assurance procedures and results;
(vi) Records of operating conditions during the performance test, preparation of standards, and calibration procedures;
(vii) Raw data sheets for field sampling and field and laboratory analyses;
(viii) Documentation of calculations;
(ix) All data recorded and used to establish parameters for monitoring; and
(x) Any other information required by the performance test method.

[Reference: 40 CFR §1349(a)]

(2) *Opacity tests.* If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) and (ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating.

(i) There are no individual readings greater than 10 percent opacity;

(ii) There are no more than three readings of 10 percent for the first 1-hour period.

[Reference: 40 CFR §1349(b)(2)]

(3) The Permittee must determine compliance with the applicable opacity standard as specified in 40 CFR Part 60, Subpart Y, §60.254 as follows:

(a) Method 9 of appendix A-4 of this part and the procedures in § 60.11 must be used to determine opacity, with the exceptions specified in paragraphs (a)(1)(i) and (ii).

(i) The duration of the Method 9 of appendix A-4 of this part performance test shall be 1 hour (ten 6-minute averages).

(ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A-4 of this part performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

(b) To determine opacity for fugitive coal dust emissions sources, these additional requirements must be used:

Table IV – 6
Material Handling - Point Sources - Subject to MACT requirements

(i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back;

(ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction; and

(iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

(c) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emissions points may be read concurrently;

(ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points; and

(iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point.

[Reference: 40 CFR §60.257]

6.3 **Monitoring Requirements:**

A. Visible Emissions Limitations

(1) *Opacity monitoring requirements.* If you are subject to a limitation on opacity under 40 CFR §63.1345, you must conduct required opacity monitoring in accordance with the provisions of paragraphs (f)(1)(i) through (vii) of 40 CFR §63.1350(f) and in accordance with your monitoring plan developed under 40 CFR §63.1350(p). You must also develop an opacity monitoring plan in accordance with paragraphs (p)(1) through (4) and paragraph (o)(5), if applicable, of this section.

[Reference: 40 CFR §63.1350(f)]

(2) The Permittee shall submit an opacity monitoring plan to the Department for review and approval, to demonstrate continuous compliance with all

Table IV – 6
Material Handling - Point Sources - Subject to MACT requirements

applicable opacity requirements under 40 CFR Part 60, Subpart Y. **[Reference: COMAR 26.11.03.06C]**

A. & B.

(1) The Permittee shall comply with and update as needed the written operations and maintenance plan which includes the following information: **[Reference: 40 CFR §63.1347(a) and (b)]**

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§63.1345; and

(b) Procedures to be used to periodically monitor affected sources.

(2) The exhaust gas from each emissions unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Reference: Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]**

(3) Each railcar shall be inspected upon completion of filling to determine spillage or dust on top of the railcar. **[COMAR 26.11.03.06C]**

(4) The Permittee shall monitor the amount of fly ash in the fly ash silo and shall use an alarm to warn the Central Control Operators when the level of the fly ash in the silo reaches a height of 25 meters (90% full) and 26 meters (93% full). When the 26 meter alarm sounds the Process Control Supervisor shall lock the unloading valves out until the level reaches 25 meters. **[Reference: COMAR 26.11.03.06C]**

6.4 **Record Keeping Requirements:**

A. & B.

(1) The Permittee shall maintain the written operations and maintenance plan, the opacity monitoring plan, and all records for at least five years following the date of each inspection, occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C & 40 CFR §63.1355]**

(2) If spillage or dust is observed on top of a railcar, the Permittee shall log the incident into the Railcar Vacuuming Logbook by recording the car number, the time of the spill, the operator's name, and that the spill has been cleaned up. The records in the Railcar Vacuuming Logbook and records of the weekly inspections of the railcar vacuuming system shall be kept on site for at least five years and

Table IV – 6 Material Handling - Point Sources - Subject to MACT requirements	
	shall be made available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**
6.5	**Reporting Requirements:** A. & B. (1) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the Operation and Maintenance Plan developed in accordance with §63.1347(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]** (2) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the opacity monitoring plan. **[Reference: COMAR 26.11.03.06C]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 7 Union Bridge Quarry - Point Sources (Area A-1) Subject to NSPS Requirements (Note: The Union Bridge quarry is located in Frederick County)	
7.0	**Emissions Unit Number(s)** Registration No. 6-0327 – Bottom Ash Screener consisting of one (1) MGL EX1 Scalper Screener, powered by an electric Cummins 74 HP engine, Emissions Unit Number C01-001. This bottom ash screener, which commenced construction, modification, or reconstruction after August 31, 1983, is subject to New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO.
7.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations **40 CFR Part 60 Subpart OOO**, which states that the Permittee shall comply with a standard of no more than 7 percent opacity from this screener. B. Control of Particulate Matter **COMAR 26.11.06.03C and D**, which states that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources and materials handling and construction operations from becoming airborne.

Table IV – 7 Union Bridge Quarry - Point Sources (Area A-1) Subject to NSPS Requirements (Note: The Union Bridge quarry is located in Frederick County)	
7.2	**Testing Requirements:** A & B. Please see the monitoring requirements.
7.3	**Monitoring Requirements:** A. Visible Emissions Limitations (1) Within 180 days after initial startup of the screener, visible emissions observations shall be conducted to demonstrate compliance with the opacity standard specified in 40 CFR Part 60 Subpart OOO. **[Reference: Table 3 to 40 CFR Part 60 Subpart OOO, as a modification that has occurred after April 22, 2008]** (2) After the initial visible emissions observation is performed, repeat observations shall be performed within every 5 years from the previous observation. **[Reference: Table 3 to 40 CFR Part 60 Subpart OOO, as a modification that has occurred after April 22, 2008]** (3) The screener shall be operated at 90% or higher of its rated capacity during visible emissions observations. (4) In determining compliance with the opacity standard under 40 CFR Part 60 Subpart OOO, the Permittee shall use Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in 40 CFR §60.11 with the following additions: (a) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet). (b) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of 40 CFR Part 60 Section 2.1) must be followed. (c) The duration of the Method 9 observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limit in Table 3 of 40 CFR Part 60 Subpart OOO must be based on the average of the five 6-minute averages.
7.4	**Record Keeping Requirements:** A. Visible Emissions Limitations The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:

Table IV – 7
Union Bridge Quarry - Point Sources (Area A-1) Subject to NSPS Requirements
(Note: The Union Bridge quarry is located in Frederick County)

(1) Records of all visible emissions observations conducted on the screener. **[Reference: Table 3 to 40 CFR Part 60 Subpart OOO, as a modification that has occurred after April 22, 2008]**

(2) The total surface area of the screen. **[Reference: 40 CFR Part 60 Subpart OOO(a)(2)]**

(3) Records of the occurrence and duration of any startup, shutdown, or malfunction of the operation of the screener. **[Reference: 40 CFR §60.7b]**

(4) Records of the amount of material processed in the screener each month

7.5 **Reporting Requirements:**

A. Visible Emissions Limitations
The Permittee shall submit written reports of the results of all visible emissions observations conducted to demonstrate compliance with the opacity standard set forth in 40 CFR Part 60 Subpart OOO within 45 days after the visible emission observation was performed

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

8.0 **Emissions Unit Numbers**

Area C – Raw Grinding

Baghouse	Emission Unit
C04-014	C02-025- Raw Mill

Area E – Clinker Burning and Cooling with Preheater Kiln

Baghouse	Emission Unit
C04-014	E01-001/E02-001- Preheater-Precalciner/Kiln System

Area F – Coal Grinding Mill for Kiln

Baghouse	Emission Unit
F03-028	F03-016- Coal Mill
F03-032	F03-016- Coal Mill
F03-036	F03-016- Coal Mill
F03-040	F03-016- Coal Mill
F03-044	F03-016- Coal Mill
F03-048	F03-016- Coal Mill
F04-010	F04-009-Pneumatic Pump for Fine Coal Dust Bin

Table IV – 8 Kiln, Raw and Coal Mills - (Subject to MACT requirements)	
	C04-014 F04-018-Kiln Fuel Pressure Relief C04-014 F04-026-Calciner Fuel Bin Pressure Relief **Note: These emission units discharge through a common stack.** Lime injection has inherent acid gas scrubbing properties. Selective Non-Catalytic Reduction (SNCR) system (6-0256) was installed 2010 and modified 2013. Powered Activated Carbon (PAC) system was installed 2011, modified 2013.
8.1	**Applicable Standards/Limits:** A. & B. Visible and Particulate Matter Emissions (1) COMAR 26.11.30.05(B)(2), which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers. (2) Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]** (3) The Permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater. **[Reference: 40 CFR §60.254(a)]** (4) **COMAR 26.11.30.04B(2)** - A person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 gr/SCFD (68.7 mg/dscm). (5) The Permittee may not discharge particulate matter (PM) into the atmosphere from the kiln in excess of 0.07 pound per ton of clinker. **[Reference: 40 CFR §60.62(a)(1)(iii)] and Table 1-1 of 40 CFR §63.1343(b)(1)]** (6) If the Permittee has an affected source subject to 40 CFR 60, Subpart F with a different emissions limit or requirement for the same pollutant under another regulation in Title 40, the Permittee must comply with the most stringent

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

emissions limit or requirement and is not subject to the less stringent requirement. **[Reference: 40 CFR §60.62(d)]**

(7) Existing kilns that combine the clinker cooler exhaust and/or coal mill exhaust with the kiln exhaust and send the combined exhaust to the PM control device as a single stream may meet an alternative PM emissions limit. This limit is calculated using the following equation:

$$PM_{alt} = (0.0060 \times 1.65) \times (Q_k + Q_c + Q_{ab} + Q_{cm})/7000$$

Where:
PM_{alt} = Alternative PM emission limit for commingled sources.
0.006 = The PM exhaust concentration (gr/dscf) equivalent to 0.070 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.
1.65 = The conversion factor of ton feed per ton clinker.
Q_k = The exhaust flow of the kiln (dscf/ton feed).
Q_c = The exhaust flow of the clinker cooler (dscf/ton feed).
Q_{ab} = The exhaust flow of the alkali bypass (dscf/ton feed).
Q_{cm} = The exhaust flow of the coal mill (dscf/ton feed).
7000 = The conversion factor for grains (gr) per lb.

(8) **Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000**, which limits particulate matter emissions from the main exhaust stack to 0.0158 gr/scfd (36.2 mg/dscm).

C. Dioxins/Furans (D/F)

(1) Dioxins and furans (D/F) emissions limits of 0.2 nanograms per dry standard cubic meter (ng/dscm) (TEQ) corrected to 7% O_2. If the average temperature at the inlet to the first PM control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less, this limit is changed to 0.40 ng/dscm (TEQ). TEQ means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989. **[Reference: Table 1-1. of 40 CFR §63.1343(b)(1)]**

(2) The Permittee, subject to a D/F emissions limitation under §63.1343, must operate the kiln such that the temperature of the gas at the inlet to the kiln PM Control Device (PMCD) does not exceed the applicable temperature limit specified in paragraph (b) of §63.1346. The Permittee must operate the in-line kiln/raw mill, such that: **[Reference: 40 CFR §63.1346(a)]**

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

(a) When the raw mill of the in-line kiln/raw mill is operating, the applicable temperature limit for the main in-line kiln/raw mill exhaust, specified in paragraph (b) of §63.1346 and established during the performance test when the raw mill was operating, is not exceeded, except during periods of startup and shutdown when the temperature limit may be exceeded by no more than 10 percent. **[Reference: 40 CFR §63.1346(a)(1)]**

(b) When the raw mill of the in-line kiln/raw mill is not operating, the applicable temperature limit for the main in-line kiln/raw mill exhaust, specified in paragraph (b) of §63.1346 and established during the performance test when the raw mill was not operating, is not exceeded, except during periods of startup/shutdown when the temperature limit may be exceeded by no more than 10 percent. **[Reference: 40 CFR §63.1346(a)(2)]**

(c) The temperature limit for affected sources meeting the limits of paragraph (a) of §63.1346 or paragraphs (a)(1) through (a)(3) of §63.1346 is determined in accordance with §63.1349(b)(3)(iv). **[Reference: 40 CFR §63.1346(b)]**

D. Control of Nitrogen Oxides

(1) **Permit to Construct #06-6-0256, 0331, and 0337 September 21,** 2009 - NOx emission limits shall not exceed 3.85 pounds per tons of clinker on a monthly average only if the number of hours of the Pyroprocessing Portland cement plant burning DBS is greater than 25% of the kiln operating hours during the month.

(2) The Permittee shall operate the Selective Non-catalytic Reduction System (SNCR) to reduce NOx emissions in order to comply with a NOx emission limit of 2.4 pounds per ton of clinker produced on a 30-day rolling average in accordance with COMAR 26.11.30.07C(2) & 26.11.30.07D.

Note: The Permittee shall comply with 2.1 pounds of NOx per ton of clinker per Table 8a.1 condition (3)(b) in this permit.

E. SO_x Emissions

(1) **COMAR 26.11.30.06A(1)** and **26.11.30.06C**, which limit the sulfur dioxide concentration in the exhaust gases not to exceed 500 parts per million by volume corrected to 7 percent oxygen.

(2) **COMAR 26.11.30.06B(1)** and **26.11.30.06C**, which limits the content of sulfuric acid, sulfur trioxide, or any combination not to exceed 35 milligrams reported as sulfuric acid per cubic meter of gas corrected to 7 percent oxygen.

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

F. CO Emissions
Prevention of Significant Deterioration (PSD) Approval #PSD-97-01R dated April 8, 1999 and revised on June 7, 2000 which states that the premises-wide carbon monoxide (CO) emissions from the Pyroprocessing Portland cement plant and the existing Portland cement plant shall not exceed 3,328 tons for any 12-month period, rolling monthly.

G. VOC Emissions (THC)
The emissions limits of total hydrocarbons (THC) is 24 parts per million by volume dry (ppmvd) measured as propane and corrected to 7% O_2. Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 12 ppmvd for total organic hazardous air pollutants (HAP). Standards for THC are based on a rolling 30-day average. **[Reference: 40 CFR §63.1343(a) &Table 1-1. of 40 CFR §63.1343(b)(1)]**

H. Lead Emissions
Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000 which states that the emissions from the entire premises, including the existing Portland cement plant and the Pyroprocessing Portland cement plant, shall not exceed 0.6 tons of lead for any 12-month period, rolling monthly.

I. Fluoride Emissions
(1) **COMAR 26.11.06.07B(1)(a),** which states that a person may not cause or permit the discharge of fluorides into the atmosphere that causes a violation of any applicable air quality standards for fluorides set forth in COMAR 26.11.04.

(2) **COMAR 26.11.06.07B(1)(b)**, which states that the Department, after written notice to a person discharging fluorides to the atmosphere, may require the person to conduct a surveillance to determine whether ambient air quality standards for fluorides are violated. The manner, scope, and duration of the surveillance program will be determined by the Department.

(3) **COMAR 26.11.06.07B(1)(c)**, which states that the procedures for measuring total fluorides shall be Method 1010 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources," which is incorporated by reference in COMAR 26.11.01.04C.

J. Mercury
The Permittee shall operate the PAC injection system to reduce mercury emissions in order to comply with the following mercury emission limits in accordance with §63.1343(b):

Table IV – 8 Kiln, Raw and Coal Mills - (Subject to MACT requirements)	
	(1) During normal operation, the mercury emission limit is 55 lbs per million tons of clinker based on a 30-day rolling average. The 30-day period means 30 consecutive kiln operating days excluding periods of startup and shutdown; and (2) During periods of startup and shutdown, the Permittee shall comply with the work practice requirements in accordance with §63.1346(g). Startup and shutdown work practices - 40 CFR 63.1346(g) or see Table IV-15 Facility wide 15.1 Applicable standards /Limits and operating conditions. **[Reference: Permit to Construct No. 013-0012-6-0256, 0331, and 0337 issued March 1, 2013]** K. Hydrogen Chloride (HCl) HCl emissions of 3 parts per million by volume dry (ppmvd) corrected to 7% O_2 for any major source. **[Reference: Table 1-2. of 40 CFR §63.1343(b)(1)]** L. Greenhouse Gas (GHG) Emissions – There is no GHG emission limit specified in 40 CFR 98 Subpart H (Cement Production).
8.2	**Testing Requirements:** A. & B. Visible Emissions and Particulate Matter Emissions (1) If the source subject to the opacity limits under 40 CFR 63, Subpart LLL, the Permittee must conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the following conditions apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating. **[Reference: 40 CFR §63.1349(b)(2)]** (a) There are no individual readings greater than 10 percent opacity. (b) There are no more than three readings of 10 percent for the first 1-hour period. (2) The Permittee shall conduct stack emissions tests on the main kiln stack. The stack emissions tests shall be conducted as follows: (a) For compliance with the limitations on PM emissions under §63.1343(b), the Permittee shall demonstrate initial compliance by conducting a performance test using Method 5 or Method 5I at appendix A-3 to part 60 of this chapter. Permittee must also monitor continuous performance through use of a PM

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

continuous parametric monitoring system (PM CPMS) **[Reference: 40 CFR §60.63(c)(1) and 40 CFR §63.1349(b)(1)]**

(b) For the PM CPMS, the Permittee will establish a site-specific operating limit in accordance with §60.63(c)(2) through (5) and §63.1349(b)(1)(i) through (iv). **[Reference: 40 CFR §60.63(c)(2) and 40 CFR §63.1349(b)(1)]**

(c) To determine continuous operating compliance, the Permittee must record the PM CPMS output data for all periods when the process is operating, and use all the PM CPMS data for calculations when the source is not out-of-control. The Permittee must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps or the digit equivalent) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 7 of §63.1349(b)(1)(v) to determine the 30 kiln operating day average. **[Reference: 40 CFR §60.63(c)(6) and 40 CFR §63.1349(b)(1)(v)]**

(d) For each performance test, the Permittee must conduct at least three separate test runs each while the mill is on and the mill is off, under the conditions that exist when the affected source is operating at the level reasonably expected to occur. Conduct each test run to collect a minimum sample volume of 2 dscm for determining compliance with a new source limit and 1 dscm for determining compliance with an existing source limit. Calculate the time weighted average of the results from three consecutive runs, including applicable sources as required by §63.1349(b)(1)(viii), to determine compliance. The Permittee needs not determine the particulate matter collected in the impingers ("back half") of the Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes. **[Reference: 40 CFR §60.63(c)(7) and 40 CFR §63.1349(b)(1)(vi)]**

(e) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value or digit equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp or digit equivalent signals corresponding to each PM compliance test run. **[Reference: 40 CFR §60.63(c)(8) and 40 CFR §63.1349(b)(1)(vii)]**

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

(f) The Permittee shall demonstrate initial compliance by conducting separate performance tests while the raw mill is under normal operating conditions and while the raw mill is not operating, and calculate the time weighted average emissions. The operating limit will then be determined using §63.1349(b)(1)(i) of this section. **[Reference: 40 CFR §63.1349(b)(1)(ix)]**

C. D/F Emissions

(1) The Permittee must conduct a performance test using Method 23 of appendix A-7 to 40 CFR, Part 60. **[Reference: 40 CFR §63.1349(b)(3)]**

(2) Each performance test must consist of three separate runs conducted under representative conditions. The duration of each run must be at least 3 hours, and the sample volume for each run must be at least 2.5 dscm (90 dscf). **[Reference: 40 CFR §63.1349(b)(3)(i)]**

(3) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report. **[Reference: 40 CFR §63.1349(b)(3)(ii)]**

(4) Average temperatures must be calculated for each run of the performance test. **[Reference: 40 CFR §63.1349(b)(3)(iii)]**

(5) The run average temperature must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with §63.1346(b). **[Reference: 40 CFR §63.1349(b)(3)(iv)]**

G. VOC/THC Emissions

(1) The Permittee must operate a CEMs in accordance with the requirements in §63.1350(i). For the purposes of conducting the accuracy and quality assurance evaluations for CEMs, the THC span value (as propane) is 50 ppmvw and the reference method (RM) is Method 25A of appendix A to 40 CFR, Part 60. **[Reference: 40 CFR §63.1349(b)(4)(i)]**

(2) The Permittee must use the THC CEMs to conduct the initial compliance test for the first 30 kiln operating days of kiln operation after the compliance date of the rule. See §63.1348(a). **[Reference: 40 CFR §63.1349(b)(4)(ii)]**

(3) THC must be measured either upstream of the coal mill or the coal mill stack. **[Reference: 40 CFR §63.1349(b)(4)(iv)]**

(4) Instead of conducting the performance test specified in paragraph (b)(4) of §63.1349, the Permittee may conduct a performance test to determine emissions

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

of total organic HAP by following the procedures of §63.1349(b)(7). **[Reference: 40 CFR §63.1349(b)(4)(v)]**

I. Fluoride Emissions
COMAR 26.11.06.07B(1)(c), which states that the procedures for measuring total fluorides shall be Method 1010 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources," which is incorporated by reference in COMAR 26.11.01.04C.

J. Mercury
(1) The Permittee must operate a mercury CEMs or a sorbent trap monitoring system in accordance with the requirements of §63.1350(k). **[Reference: 40 CFR §63.1349(b)(5)]**

(2) The Permittee must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in §63.1350(k)(5). **[Reference: 40 CFR §63.1349(b)(5)(i)]**

(3) The Permittee must calculate the mercury emission rate using Equation 10 of §63.1349(b)(5)(ii). **[Reference: 40 CFR §63.1349(b)(5)(ii)]**

K. Hydrogen Chloride (HCl)
(1) The Permittee must conduct performance testing using Method 321 of appendix A to Part 63 unless the Permittee have installed a CEMs that meets the requirements §63.1350(l)(1). For kilns with inline raw mills, testing should be conducted for the raw mill on and raw mill off conditions. **[Reference: 40 CFR §63.1349(b)(6)(i)(A)]**

(2) The initial compliance test must be based on the 30 kiln operating days that occur after the compliance date of this rule in which the affected source operates using a HCl CEMs. Hourly HCl concentration data must be obtained according to §63.1350(l). **[Reference: 40 CFR §63.1349(b)(6)(ii)(B)]**

(3) If kiln gases are diverted to a coal mill and exhausted through a separate stack, the Permittee must calculate a kiln-specific HCl limit using Equation 11of §63.1349(b)(6)(iv).

A., B., C., G., I., J., and K.

Performance Testing Requirements. You must document performance test results in complete test reports that contain the information required in (1) though through (10) below, as well as all other relevant information. You must make available to the

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

	Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing. (1) A brief description of the process and the air pollution control system; (2) Sampling location description(s); (3) A description of sampling and analytical procedures and any modifications to standard procedures; (4) Test results; (5) Quality assurance procedures and results; (6) Records of operating conditions during the performance test, preparation of standards, and calibration procedures; (7) Raw data sheets for field sampling and field and laboratory analyses; (8) Documentation of calculations; (9) All data recorded and used to establish parameters for monitoring; and (10) Any other information required by the performance test method. **[Reference: 40 CFR §63.1349(a) & 40 CFR §63.7(c)(2)(i)]** D. through F. Please see the monitoring requirements.
8.3	**Monitoring Requirements:** A. Visible Emissions Limitations (1) **COMAR 26.11.30.05(B)(3)**, which states that compliance with the visibility standards of COMAR 26.11.30.05(B)(2) shall be demonstrated by a visible emission observation using Method 9 of 40 CFR Part 60. (2) **COMAR 26.11.30.05(C)**, which states that the owner or operator of a cement kiln at a Portland cement manufacturing plant shall either: (a) Use a COM in accordance with the requirements of COMAR 26.11.01.10; or (b) Use a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit for continuous visible emission compliance determinations in accordance with Regulation .04C of this chapter. (3) For affected sources subject to opacity requirements under §63.1345, the Permittee must develop an opacity monitoring plan in accordance with §63.1350(p)(1) through (4) and (o)(5), if applicable, and conduct required opacity monitoring in accordance with the plan and the following requirements **[Reference: 40 CFR §63.1350(f)]**: (a) The Permittee must conduct a monthly 10-minute visible emissions test of each affected source subject to opacity requirements under §63.1345 in accordance with Method 22 of appendix A-7 to part 60 of CFR 40. The

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

performance test must be conducted while the affected source is in operation. **[Reference: 40 CFR §63.1350(f)(1)(i)]**

(b) If no visible emissions are observed in six consecutive monthly tests for any affected source, the Permittee may decrease the frequency of performance testing from monthly to semi-annually for that affected source. If visible emissions are observed during any semi-annual test, the Permittee must resume performance testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. **[Reference: 40 CFR §63.1350(f)(1)(ii)]**

(c) If no visible emissions are observed during the semi-annual test for any affected source, the Permittee may decrease the frequency of performance testing from semi-annually to annually for that affected source. If visible emissions are observed during any annual performance test, the Permittee must resume performance testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. **[Reference: 40 CFR §63.1350(f)(1)(iii)]**

(d) If visible emissions are observed during any Method 22 performance test, of appendix A-7 to part 60 of CFR 40, the Permittee must conduct 30 minutes of opacity observations, recorded at 15-second intervals, in accordance with Method 9 of appendix A-4 to part 60 of CFR 40. The Method 9 performance test, of appendix A-4 to part 60 of this chapter, must begin within 1 hour of any observation of visible emissions. **[Reference: 40 CFR §63.1350(f)(1)(iv)]**

(e) Any totally enclosed conveying system transfer point, regardless of the location of the transfer point, is not required to conduct Method 22 visible emissions monitoring. The enclosures for these transfer points must be operated and maintained as total enclosures on a continuing basis in accordance with the facility operations and maintenance plan. **[Reference: 40 CFR §63.1350(f)(1)(v)]**

(f) If any partially enclosed or unenclosed conveying system transfer point is located in a building, the Permittee must conduct a Method 22 performance test, of appendix A-7 to Part 60, according to the requirements of (f)(1)(i) through (iv) of **§63.1350** for each such conveying system transfer point located within the building, or for the building itself, according to (f)(1)(vii) of **§63.1350**. **[Reference: 40 CFR §63.1350(f)(1)(vi)]**

(g) If visible emissions from a building are monitored, the requirements of (f)(1)(i) through (f)(1)(iv) of **§63.1350** apply to the monitoring of the building, and the

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

Permittee must also test visible emissions from each side, roof, and vent of the building for at least 10 minutes. **[Reference: 40 CFR §63.1350(f)(1)(vii)]**

(4) For a raw mill or finish mill, the Permittee must monitor opacity in accordance with the following unless it is equipped with a continuous opacity monitoring system (COMS) or a bag leak detection system (BLDS): **[Reference: 40 CFR §63.1350(f)(2) & (4)]**

(a) Conduct daily visible emissions observations of the mill sweep and air separator PM control devices (PMCD) of these affected sources in accordance with the procedures of Method 22 of appendix A-7 to part 60 of CFR 40. The duration of the Method 22 performance test must be 6 minutes. **[Reference: 40 CFR §63.1350(f)(2)(i)]**

(b) Within 24 hours of the end of the Method 22 performance test in which visible emissions were observed, the owner or operator must conduct a follow up Method 22 performance test of each stack from which visible emissions were observed during the previous Method 22 performance test. **[Reference: 40 CFR §63.1350(f)(2)(ii)]**

(c) If visible emissions are observed during the follow-up Method 22 performance test required by (f)(2)(ii) of **§63.1350** from any stack from which visible emissions were observed during the previous Method 22 performance test required by (f)(2)(i) of **§63.1350**, the Permittee must then conduct an opacity test of each stack from which emissions were observed during the follow up Method 22 performance test in accordance with Method 9 of appendix A-4 to Part 60. The duration of the Method 9 test must be 30 minutes. **[Reference: 40 CFR §63.1350(f)(2)(iii)]**

(5) If visible emissions are **observed** during any Method 22 visible emissions test conducted under (f)(1) or (2) of §63.1350, the Permittee must initiate, within one-hour, the corrective actions specified in the operation and maintenance plan as required in §63.1347. **[Reference: 40 CFR §63.1350(f)(3)]**

(6) If the Permittee chooses to install a COMS in lieu of **conducting** the daily visible emissions testing required under (f)(2) of §63.1350, then the COMS must be installed at the outlet of the PM control device of the raw mill or finish mill and the COMS must be installed, maintained, calibrated, and operated as required by the general provisions in subpart A of Part 60 and according to PS-1 of appendix B to Part 60. **[Reference: 40 CFR §63.1350(f)(4)(i)]**

(7) If the Permittee choose to install a **BLDS** in lieu of conducting the daily visible emissions testing required under (f)(2) of §63.1350, the requirements in (m)(1)

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

through (m)(4), (m)(10) and (m)(11) of §63.1350 apply. **[Reference: 40 CFR §63.1350(f)(4)(ii)]**

B. Control of Particulate Matters

(1) The exhaust gas from each emission unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Reference: COMAR 26.11.03.06C]**

(2) COMAR 26.11.30.04(B)(3), which states that compliance with the particulate matter standards of COMAR 26.11.30.04(B)(1) shall be demonstrated by a 3-run stack test using Method 5 or Method 5I of 40 CFR Part 60.

(3) COMAR 26.11.30.04(C) - which states that by September 1, 2016, the owner or operator of a cement kiln or clinker cooler at a Portland cement manufacturing plant shall:

(i) use a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit corresponding to the results of the performance test as required in COMAR 26.11.30.04(B)(3) demonstrating compliance with the PM limits in COMAR 26.11.30.04(B)(1)**; [Reference: COMAR 26.11.30.04(C)(1)]**

(ii) conduct the performance test as required in COMAR 26.11.30.04(B)(3) using Method 5 or Method 5I of 40 CFR part 60; **[Reference: COMAR 26.11.30.04(C)(2)]**

(iii) use the PM CPMS to demonstrate continuous compliance with the site-specific operating parameter limit established in COMAR 26.11.30.04(C)(1); **[Reference: COMAR 26.11.30.04(C)(3)]**

(iv) repeat the performance test as required in COMAR 26.11.30.04(B)(3) annually and reassess and adjust the site-specific operating parameter limit of COMAR 26.11.30.04(C)(1) in accordance with the results of the performance test using the procedures in 40 CFR §63.1349(b)(1)(i)—(ix); **[Reference: COMAR 26.11.30.04(C)(4)]** and

(v) follow the procedures in 40 CFR §63.1350(b)(iii) and (iv) for any exceedance of the established operating parameter limit of COMAR 26.11.30.04(C)(1) on a 30 process operating day basis. **[Reference: COMAR 26.11.30.04(C)(5)]**

(4) If the Permittee will use the PM CPMS to demonstrate continuous compliance with this operating limit, the Permittee must repeat the performance test annually

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

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) of this subpart. the Permittee must also repeat the test if the Permittee changes the analytical range of the instrument, or if the Permittee replaces the instrument itself or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration. **[Reference: 40 CFR §63.1350(b)(1)(i)]**

(5) To determine continuous compliance, the Permittee must use the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The Permittee must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. **[Reference: 40 CFR §63.1350(b)(1)(ii)]**

(6) For any exceedance of the 30 process operating day PM CPMS average value from the established operating parameter limit, the Permittee must: **[Reference: 40 CFR §63.1350(b)(1)(iii)]**

(a) Within 48 hours of the exceedance, visually inspect the Air Pollution Control Device (APCD);

(b) If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(c) Within 30 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the PM CPMS operating limit within 45 days. The Permittee is not required to conduct additional testing for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph. For an annual re-test, the first valid 30-day average will be 30 kiln operating days after the PM performance test.

(7) PM CPMS exceedances leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a presumptive violation of this subpart. **[Reference: 40 CFR §63.1350(b)(1)(iv)]**

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

C. D/F Emissions

(1) If the Permittee is subject to an emissions limitation on D/F emissions, the Permittee must comply with the monitoring requirements of (g)(1) through (g)(6) and (m)(1) through (m)(4) of this §63.1350 to demonstrate continuous compliance with the D/F emissions standard. The Permittee must also develop an emissions monitoring plan in accordance with (p)(1) through (p)(4) of §63.1350. **[Reference: 40 CFR §63.1350(g)]**

(2) The Permittee must install, calibrate, maintain, and continuously operate a continuous monitoring system (CMS) to record the temperature of the exhaust gases from the kiln at the inlet to, or upstream of, the kiln PMCDs. **[Reference: 40 CFR §63.1350(g)(1)]**

(3) The temperature recorder response range must include zero and 1.5 times the average temperature established according to the requirements in §63.1349(b)(3)(iv). **[Reference: 40 CFR §63.1350(g)(1)(i)]**

(4) The calibration reference for the temperature measurement must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Department. The calibration of all thermocouples and other temperature sensors must be verified at least once every three months. **[Reference: 40 CFR §63.1350(g)(1)(ii) & (iii)]**

(5) The Permittee must monitor and continuously record the temperature of the exhaust gases from the kiln at the inlet to the kiln PMCD. The required minimum data collection frequency must be one minute. **[Reference: 40 CFR §63.1350(g)(2) & (3)]**

(6) The Permittee shall, every hour, calculate the rolling three-hour average temperature using the average of 180 successive one-minute average temperatures. See §63.1349(b)(3). **[Reference: 40 CFR §63.1350(g)(4)]**

(7) When the operating status of the raw mill of the in-line kiln/raw mill is changed from off to on or from on to off, the calculation of the three-hour rolling average temperature must begin anew, without considering previous recordings. **[Reference: 40 CFR §63.1350(g)(5)]**

D & E NO_x & Sulfur Oxide Emissions

(1) The Permittee must install, operate, calibrate, and maintain a CEMs continuously monitoring and recording the concentration by volume of NO_x emissions into the atmosphere for the kiln.

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

(2) The Permittee must install, operate, calibrate, and maintain a CEMs for continuously monitoring and recording the concentration by volume of SO_2 emissions into the atmosphere for the kiln.

(3) The NO_X and SO_2 CEMs must be installed, operated and maintained according to Performance Specification 2 of Appendix B of 40 CFR, Part 60.

(4) The Permittee shall install, operate, maintain, and calibrate the continuous emission rate monitoring system (CERMS) in accordance with Performance Specification 6 under 40 CFR Part 60, Appendix B.

(5) The Permittee shall use a continuous emissions monitoring system, (CEM) to monitor NOx emissions from the main exhaust stack. The Permittee shall install, operate, maintain, and calibrate the CEM in accordance with Performance Specification 2 under 40 CFR Part 60, Appendix B and the Quality Assurance Procedures under 40 CFR Part 60, Appendix F.
[Reference: Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000]

(6) The Permittee shall monitor NOx emissions, pounds per ton of clinker, on a monthly average, the total operating hours of the kiln, and the total operating hour of the Pyroprocessing Portland cement plant burning DBS for each month.
[Reference: Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000, August 7, 2009, and September 21, 2009]

(7) The Permittee shall continuously monitor NOx emissions with a continuous emissions monitor ("CEM") certified in accordance with COMAR 26.11.01.11B(1) and (4) and C or use an alternative method approved by the Department and the EPA for compliance determination. **[Reference: COMAR 26.11.30.08A & B]**

(8) The Permittee shall use a continuous emissions monitoring system, (CEM) to monitor SO_2 emissions from the main exhaust stack. The Permittee shall install, operate, maintain, and calibrate the CEM in accordance with the Performance Specifications under 40 CFR Part 60, Appendix B and the Quality Assurance Procedures under 40 CFR Part 60, Appendix F.
[Reference: Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000] and [COMAR 26.11.01.11C]

(9) The daily amount of reagent used in the SNCR system is required to be monitored.
[Reference: Permit to Construct #013-0012-6-026, 0331, and 0037, Section E.1(l) issued August 31, 2010]

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

F. Carbon Monoxide Emissions
The Permittee shall use a CEM to monitor CO emissions from the main exhaust stack. The Permittee shall install, operate, maintain, and calibrate the CEM in accordance with the Performance Specifications under 40 CFR Part 60, Appendix B and the Quality Assurance Procedures under 40 CFR Part 60, Appendix F.
[Reference: Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000 and COMAR 26.11.01.11C]

G. VOC /THC Emissions

(1) The Permittee must comply with the monitoring requirements of (i)(1) and (m)(1) through (m)(4) of **§63.1350**. The Permittee must also develop an emissions monitoring plan in accordance with (p)(1) through (p)(4) of §63.1350.
[Reference: 40 CFR §63.1350(i)]

(2) The Permittee must install, operate, and maintain a **T**HC continuous emission monitoring system in accordance with Performance Specification 8 or Performance Specification 8A of appendix B to Part 60 and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of Part 60. The Permittee must operate and maintain each CEMs according to the quality assurance requirements in Procedure 1 of appendix F in Part 60. For THC continuous emission monitoring system certified under Performance Specification 8A, conduct the relative accuracy test audit required under Procedure 1 in accordance with Performance Specification 8, Section 8 and 11 using Method 25A in appendix A to 40 CFR part 60 as the reference method; the relative accuracy must meet the criteria of Performance Specification 8, Section 13.2.**[Reference: 40 CFR §63.1350(i)(1)]**

(3) The Permittee shall use continuous emission monitoring system (CEM) to monitor total hydrocarbon (THC) emissions from the main exhaust stack. The Permittee shall install, operate, maintain, and calibrate the CEM in accordance with the Performance Specifications 8A of Appendix B to Part 60 and comply with all of the requirements from CEM found in the general provisions, subpart A of this part. **[Reference: New Source Review Approval #NSR-97-02 issued April 8, 1999 and COMAR 26.11.01.11C]**

D. through G.
For each CEM used to monitor a gas concentration, the Permittee shall equip the CEM to record not less than four equally spaced data points per hour and to automatically reduce data in terms of averaging times consistent with applicable emission standard.
[Reference: COMAR 26.11.01.11D(3)]

H. Lead
The Permittee shall follow the particulate matters emission monitoring requirements.

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

I. Mercury

(1) The Permittee shall monitor the following operating data: **[Reference: Permit to Construct No. 013-0012-6-0256, 0331, and 0337 issued March 1, 2013]**

(a) Mercury emissions in pounds per million tons of clinker produced based on a 30-day rolling average during normal operation by using the mercury CEMs; and

(b) Work Practices required under §63.1346(g) during periods of startup and shutdown.

(2) The Permittee 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 or an integrated sorbent trap monitoring system in accordance with Performance Specification 12B (PS 12B) of appendix B to Part 60. The Permittee must monitor mercury continuously according to (k)(1) through (5) of **§63.1350**. The Permittee must also develop an emissions monitoring plan in accordance with (p)(1) through (4) of **§63.1350**. **[Reference: 40 CFR §63.1350(k)]**

(a) You must use a span value for any Hg CEMS that represents the mercury concentration corresponding to approximately two times the emissions standard and may be rounded up to the nearest multiple of 5 µg/m3 of total mercury or higher level if necessary to include Hg concentrations which may occur (excluding concentrations during in-line raw "mill off" operation). As specified in PS 12A, Section 6.1.1, the data recorder output range must include the full range of expected Hg concentration values which would include those expected during "mill off" conditions. Engineering judgments made and calculations used to determine the corresponding span concentration from the emission standard shall be documented in the site-specific monitoring plan and associated records.

(b) In order to quality assure data measured above the span value, you must use one of the four options in paragraphs (k)(2)(i) through (iv) of this section.

(i) Include a second span that encompasses the Hg emission concentrations expected to be encountered during "mill off" conditions. This second span may be rounded to a multiple of 5 µg/m^3 of total mercury. The requirements of PS 12A, shall be followed for this second span with the exception that a RATA with the mill off is not required.

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

(ii) Quality assure any data above the span value by proving instrument linearity beyond the span value established in paragraph (k)(1) of this section using the following procedure. Conduct a weekly "above span linearity" calibration challenge of the monitoring system using a reference gas with a certified value greater than your highest expected hourly concentration or greater than 75 percent of the highest measured hourly concentration. The "above span" reference gas must meet the requirements of PS 12A, Section 7.1 and must be introduced to the measurement system at the probe. Record and report the results of this procedure as you would for a daily calibration. The "above span linearity" challenge is successful if the value measured by the Hg CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the Hg CEMS during the above span linearity challenge exceeds ±10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new "above span linearity" challenge met before returning the Hg CEMS to service, or data above span from the Hg CEMS must be subject to the quality assurance procedures established in paragraph (k)(2)(iii) of this section. In this manner all hourly average values exceeding the span value measured by the Hg CEMS during the week following the above span linearity challenge when the CEMS response exceeds ±20 percent of the certified value of the reference gas must be normalized using Equation 22.

$$\frac{Certified\ reference\ gas\ value}{Measured\ value\ of\ reference\ gas}\ x\ Measured\ stack\ gas\ result = Normalized\ stack\ gas\ result \quad \text{(Eq. 22)}$$

(iii) Quality assure any data above the span value established in paragraph (k)(1) of this section using the following procedure. Any time two consecutive 1-hour average measured concentrations of Hg exceeds the span value you must, within 24 hours before or after, introduce a higher, "above span" Hg reference gas standard to the Hg CEMS. The "above span" reference gas must meet the requirements of PS 12A, Section 7.1, must target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include "above span" calibrations done before or after the above span measurement period. Record and report the results of this procedure as you would for a daily calibration. The "above span" calibration is successful if the value measured by the Hg CEMS is within 20 percent of the certified value of the reference gas. If the value

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

measured by the Hg CEMS exceeds 20 percent of the certified value of the reference gas, then you must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the "above span" calibration for reporting based on the Hg CEMS response to the reference gas as shown in Equation 22. Only one "above span" calibration is needed per 24-hour period.

(3) The Permittee must operate and maintain each Hg CEMs or an integrated sorbent trap monitoring system according to the quality assurance requirements in Procedure 5 of appendix F to Part 60. During the RATA of integrated sorbent trap monitoring systems required under Procedure 5, the Permittee may apply the following appropriate exception for sorbent trap section 2 breakthrough in accordance with (k)(3)(i) through (iv) of **§63.1350**: **[Reference: 40 CFR §63.1350(k)(3)]**

(a) For stack Hg concentrations >1 µg/dscm, ≤10% of section 1 mass;

(b) For stack Hg concentrations ≤1 µg/dscm and >0.5 µg/dscm, ≤20% of section 1 mass;

(c) For stack Hg concentrations ≤0.5 µg/dscm and >0.1 µg/dscm, ≤50% of section 1 mass; and

(d) For stack Hg concentrations ≤0.1 µg/dscm, no breakthrough criterion assuming all other QA/QC specifications are met.

(4) Relative accuracy testing of mercury monitoring systems under PS 12A, PS 12B, or Procedure 5 must be conducted at normal operating conditions. If a facility has an inline raw mill, the testing must occur with the raw mill on. **[Reference: 40 CFR §63.1350(k)(4)]**

(5) If the Permittee use a Hg CEMs or an integrated sorbent trap monitoring system, the Permittee must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in (n)(1) through (10) of §63.1350.

If kiln gases are diverted to a coal mill and exhausted through separate stacks, the Permittee must account for the mercury emitted from those stacks by complying with the following procedures in accordance with (k)(5)(i) through (iv) of §63.1350: **[Reference: 40 CFR §63.1350(k)(5)]**

(a) Develop a mercury hourly mass emissions rate by conducting annual, within 11 to 13 calendar months after the previous performance test, performance

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

tests using Method 29, or Method 30B, to measure the concentration of mercury in the gases exhausted from the coal mill.

(b) On a continuous basis, determine the mass emissions of mercury in lb/hr from the coal mill exhausts by using the mercury hourly emissions rate, the exhaust gas flow rate and hourly mercury emission rate to calculate hourly mercury emissions in lb/hr.

(c) Sum the hourly mercury emissions from the kiln and coal mill to determine total mercury emissions. Using hourly clinker production, calculate the hourly emissions rate in pounds per ton of clinker to determine the 30 day rolling average.

(d) If mercury emissions from the coal mill are below the method detection limit for two consecutive annual performance tests, the Permittee may reduce the frequency of the performance tests of coal mills to once every 30 months. If the measured mercury concentration exceeds the method detection limit, the Permittee must revert to testing annually until two consecutive annual tests are below the method detection limit.

(6) If the Permittee operate an integrated sorbent trap monitoring system conforming to PS 12B, the Permittee may use a monitoring period at least 24 hours but no longer than 168 hours in length. The Permittee should use a monitoring period that is a multiple of 24 hours (except during relative accuracy testing as allowed in PS 12B). **[Reference: 40 CFR §63.1350(k)(6)]**

K. Hydrogen Chloride (HCl)

(1) The Permittee must monitor HCl emissions continuously according to (l)(1) or (2) and (m)(1) through (4) of §63.1350. **[Reference: 40 CFR §63.1350(l)]**

(2) If the Permittee monitors compliance with the HCl emissions limit by operating an HCl CEMs, the Permittee must do so in accordance with Performance Specification 15 (PS 15) of appendix B to Part 60, or, upon promulgation, in accordance with any other performance specification for HCl CEMs in appendix B to Part 60. The Permittee must operate, maintain, and quality assure a HCl CEMs installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to Part 60 except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. When promulgated, if the Permittee chooses to install and operate an HCl CEMs in accordance with PS 18 of appendix B to part 60 of this chapter, the Permittee must operate, maintain and quality assure the HCL CEMS using the associated Procedure 6 of appendix F to part 60 of this chapter. For any performance specification that the Permittee uses, the Permittee must use Method 321 of

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

appendix A to part 63 of this chapter as the reference test method for conducting relative accuracy testing. The span value and calibration requirements in paragraph (l)(1)(i) and (ii) of this section apply to HCL CEMS other than those installed and certified under PS 15. **[Reference: 40 CFR §63.1350(l)(1)]**

(3) If the Permittee chooses to monitor SO_2 emissions, monitor SO_2 emissions continuously according to the requirements of §60.63(e) through (f) of Part 60 Subpart F. If SO_2 levels increase above the 30-day rolling average SO_2 operating limit established during the performance test, the Permittee must: **[Reference: 40 CFR §63.1350(l)(3)]**

(a) As soon as possible but no later than 48 hours after the Permittee exceed the established SO_2 value conduct an inspection and take corrective action to return the SO_2 emissions to within the operating limit; and

(b) Within 60 days of the exceedance or at the time of the next compliance test, whichever comes first, conduct an HCl emissions compliance test to determine compliance with the HCl emissions limit and to verify or re-establish the SO_2 CEMs operating limit.

L. GHG Emissions

(1) For each cement kiln that meets the conditions specified in §98.33(b)(4)(ii) or (b)(4)(iii), you must calculate and report under this subpart the combined process and combustion CO2 emissions by operating and maintaining a CEMS to measure CO2 emissions according to the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources). **[Reference: 40 CFR 98.83]**

(2) A complete record of all measured parameters used in the GHG emissions calculations in §98.83 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations. The owner or operator must document and keep records of the procedures used for all such estimates.

(a) If the CEMS approach is used to determine combined process and combustion CO2 emissions, the missing data procedures in §98.35 apply.

(b) For CO2 process emissions from cement manufacturing facilities calculated according to §98.83(d), if data on the carbonate content (of clinker or CKD), noncalcined content (of clinker or CKD) or the annual organic carbon content of raw materials are missing, facilities must undertake a new analysis.

Table IV – 8 Kiln, Raw and Coal Mills - (Subject to MACT requirements)	
	(c) For each missing value of monthly clinker production the substitute data value must be the best available estimate of the monthly clinker production based on information used for accounting purposes, or use the maximum tons per day capacity of the system and the number of days per month. (d) For each missing value of monthly raw material consumption the substitute data value must be the best available estimate of the monthly raw material consumption based on information used for accounting purposes (such as purchase records), or use the maximum tons per day raw material throughput of the kiln and the number of days per month.**[Reference: 40 CFR 98.85]**
8.4	**Record Keeping Requirements:** A, B, and C. The Permittee shall maintain all records for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: 40 CFR §63.1355]** D & E. The Permittee shall maintain all records for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C, 40 CFR §63.1355]** F. & G. The following records with supporting documentation shall be maintained for at least 5 years and made available to the Department upon request: (1) Emissions for each calendar month and each rolling 12-month period; (2) Monthly usage of each raw material and each type of fuel used in the pyroprocessing plant; (3) All required stack emission test reports; (4) All processed CEM emission monitoring data; (5) All CEM certification and calibration results; and (6) Records of any repairs made to equipment affecting CO or THC emissions and to CEM for CO or THC. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: New Source Review Approval #NSR-97-02 issued April 8, 1999 and Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000]**

Table IV – 8 Kiln, Raw and Coal Mills - (Subject to MACT requirements)	
	H. & I. The Permittee shall maintain the records for at least 5 years to support compliance with the emission limits and shall make them available to the Department upon request. L. GHG- Records that must be retained: (1) If a CEMS is used to measure CO2 emissions, then in addition to the records required by §98.3(g), you must retain under this subpart the records required for the Tier 4 Calculation Methodology in §98.37. (2) If a CEMS is not used to measure CO2 emissions, then in addition to the records required by §98.3(g), you must retain the records specified in this paragraph (b) for each Portland cement manufacturing facility. (a) Documentation of monthly calculated kiln-specific clinker CO2 emission factor. (b) Documentation of quarterly calculated kiln-specific CKD CO2 emission factor. (c) Measurements, records and calculations used to determine reported parameters. (3) Verification software records. You must keep a record of the file generated by the verification software specified in §98.5(b) for the applicable data specified in paragraphs (c)(1) through (17) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (17) of this section.
8.5	**Reporting Requirements:** A. Visible Emissions Limitations If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the total operating time for the reporting period, the Permittee shall submit an excess emissions and continuous monitoring system performance report along with the summary report. **[Reference: 40 CFR §63.1354(b)(10)]** A & C. The Company shall submit to the Department semiannually a Summary Report - *Gaseous and Opacity Excess Emissions and Continuous Monitoring System (CMS)*

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

Performance on January 31st and July 31st of each year. The Summary Report shall include the following items:

(1) Company name and address;
(2) "Regulated Portland Cement MACT/NESHAP" pollutants;
(3) A brief description of the process;
(4) The emissions limit;
(5) Name, title and signature of responsible party;
(6) Date of report;
(7) All exceedances of the three hour average inlet temperature limit to the Particulate matter control device;
(8) All failures to calibrate thermocouples;
(9) Per Portland Cement MACT annual combustion system inspection performed;
(10) All failures to comply with the operations and maintenance plan;
(11) The date of the latest CMS certification or audit;
(12) The total operating time of the affected source during the reporting period; and
(13) In response to each violation of an emissions standard or established operating parameter limit, the date, duration, and description of each violation and the specific actions taken for each violation including inspections, corrective actions, and repeat performance teats and the results of those actions.
(14) A CMS performance summary, including:
  (a) the total CMS downtime during the operating period (in minutes);
  (b) the total CMS downtime expressed as a percent of the total operating time; and
  (c) a breakdown of total CMS downtime into periods due to:
    i. Monitoring equipment malfunctions,
    ii. Non monitoring equipment malfunctions,
    iii. Quality assurance/quality control calibrations,
    iv. Other known causes, and
    v. Other unknown causes.

[Reference: 40 CFR §63.1354b(9) and §63.10(e)(3)(vi)]

D thru G.

(1) CEM System Downtime Reporting Requirements.

(a) All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown.
(b) The system breakdown report required by §E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing data that has met performance specifications for

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

accuracy, reliability, and durability of acceptable monitoring systems, as provided in COMAR 26.11.31, and is producing data.

(2) CEM Data Reporting Requirements.

(a) All test results shall be reported in a format approved by the Department.
(b) Certification testing shall be repeated when the Department determines that the CEM data may not meet performance specifications because of component replacement or other conditions that affect the quality of generated data.
(c) A quarterly summary report shall be submitted to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:

i. The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards;
ii. The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned;
iii. The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the ability of the CEM to meet performance specifications of emission data;
iv. Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter;
v. Quarterly quality assurance activities;
vi. Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; [Note: This information shall be maintained on-site and submitted to the Department upon request. The Permittee shall submit a daily calibration report for each day of the calendar quarter in the quarterly summary report.]

and

vii. Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation.

(d) All information required by this regulation to be reported to the Department shall be retained and made available for review by the Department for a minimum of 2 years from the time the report is submitted. **[Reference: COMAR 26.11.01.11E(2)]**

Table IV – 8
Kiln, Raw and Coal Mills - (Subject to MACT requirements)

B & C.

(1) The Permittee shall submit the results of performance tests before the close of business on the 60th day following the completion of the performance test. **[Reference: 40 CFR §63.1354(b)(1) & 40 CFR §63.10(d)(2)]**

(2) At least 30 days prior to each stack emissions testing, the Permittee shall submit to the Department a stack test protocol for review and approval. **[Reference: Part D(7) of Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000]**

(3) The Permittee shall submit particulate matter stack test result to the Department within 45 days following the date of the stack test. **[Reference: Consent Decree, August 24, 2009 & COMAR 26.11.03.06]**

D. NOx Emissions

(1) The Permittee shall submit the NOx emissions data to the Department for each control period by November 30 beginning with the 2002 control period. **[Reference: COMAR 26.11.29.04A(3)]**

(2) The Permittee shall include the following information in the quarterly emissions report submitted to the Department for the Union Bridge Plant: **[Reference: Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000, August 7, 2009, and September 21, 2009]**

(a) the NOx emissions, pounds/ton of clinker, on a monthly average;
(b) the total kiln's operating hours during the month; and
(c) Daily NOx and Hg 30-day rolling averages are routinely reported in the quarterly CEM report and the PC MACT semi-annual reports.

D. & E.

The Permittee shall submit to the Department, a report no later than 30 days after the end of each calendar quarter, which shall include a summary of the following information:

(1) Emissions for each calendar month and each rolling 12-month period;
(2) All required stack emission test reports;
(3) All processed CEM emission monitoring data; and
(4) All CEM certification and calibration results.

[Reference: COMAR 26.11.03.06C]

F. & G.

The Permittee shall submit to the Department, a report no later than 30 days after the end of each calendar quarter, which shall include a summary of the following information:

(1) Emissions for each calendar month and each rolling 12-month period;
(2) All required stack emission test reports;
(3) All processed CEM emission monitoring data; and

Table IV – 8 Kiln, Raw and Coal Mills - (Subject to MACT requirements)	
	(4) All CEM certification and calibration results. **[Reference: New Source Review Approval #NSR-97-02 issued April 8, 1999 and Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000]** H. & I. The Permittee shall include the following records in the quarterly emissions report submitted to the Department: Mercury emissions in pounds of mercury per million tons of clinker produced based on a 30-day rolling average during normal operation. L. GHG The Permittee shall quantify facility wide GHGs emissions and report them in accordance with 40 CFR 98.86.

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 8a Kiln (Subject to Federal Consent Decree 5:19-cv-05688)	
8a.0	**Emissions Unit Numbers** **Area E – Clinker Burning and Cooling with Preheater Kiln** Baghouse — Emission Unit C04-014 — E01-001/E02-001- Preheater-Precalciner/Kiln System This facility became subject to Federal Consent Decree 5:19-cv-05688 effective November 18, 2020. Emission Units E01-001 and E02-001 Preheater-Precalciner/Kiln System (ARA registration number 6-0256) are subject to the Decree. **[Reference: PTC 013-0012-6-0256 Issued March 8, 2022]**
8a.1	**Applicable Limits and Operating Conditions:** (1) The Union Bridge facility owned and operated by the Permittee became subject to Federal Consent Decree 5:19-cv-05688 ("Decree") effective November 18, 2020. (2) Emission Units E01-001 and E02-001 Preheater-Precalciner/Kiln System [ARA Registration No. 013-0012-6-0256] are subject to the Decree. (3) Beginning on June 16, 2021 the Permittee shall comply with the following:

Table IV – 8a Kiln (Subject to Federal Consent Decree 5:19-cv-05688)	
	(a) The Union Bridge Kiln shall continuously operate the SNCR NOx control technology at all times of Kiln operation. (b) The Union Bridge Kiln shall comply with a 30-day rolling average emission limit of 2.1 lbs NOx / Ton of Clinker. (4) Beginning on February 10, 2021 the Permittee shall comply with the following; (a) The Union Bridge Kiln shall continuously operate its SO2 emission control technology at all times of Kiln operation. The Kiln may rely on inherent SO2 scrubbing properties and/or lime injection to control SO2 emissions. (b) The Union Bridge Kiln shall comply with a 30-day rolling average emission limit of 0.4 lbs SO2 / Ton of Clinker. **[Reference: PTC 013-0012-6-0256 Issued March 8, 2022]**
8a.2	**Prohibited Activities:** (1) The Permittee is prohibited from generating or using any emission reductions due to compliance with the Decree as netting reductions, emission offsets, or to apply for, obtain, trade, or sell any emission reduction credits. (2) Baseline actual emissions for the Kiln during any 24-month period selected by the Permittee shall be adjusted downward to exclude any portion of the baseline emissions that would have been eliminated had the Permittee been complying with the Decree during that 24-month period. (3) Any plant-wide applicability limits ("PALs") or PAL-like limits that apply to the Kiln must be adjusted downward to exclude any portion of the baseline emissions used in establishing such limit(s) that would have been eliminated had the Permittee been complying with the Decree during such baseline period. **[Reference: PTC 013-0012-6-0256 Issued March 8, 2022]**
8a.3	**Monitoring Requirements:** (1) In order to demonstrate compliance with the NOx and SO2 limits defined in the Federal Consent Decree, the Permittee is required to install CEMS in accordance with the requirements of 40 CFR Part 60 on the Kiln stack. The CEMS are required to be in operation during all times that the Kiln is in operation. The CEMS must monitor and record NOx and SO2 emissions in units of parts per million (ppm), lbs of pollutant per hour, and lbs of pollutant per ton of clinker produced. During any time when the CEMS is inoperable or otherwise not measuring emissions from the Kiln, the Permittee shall apply the missing data substitution procedures defined in 40 CFR Part 75, Subpart D.

Table IV – 8a
Kiln (Subject to Federal Consent Decree 5:19-cv-05688)

(2) For the purposes of this section of the operating permit, an Operating Day shall mean any calendar day on which Kiln operation has occurred.

(3) A "30-Day Rolling Average Emission Limit" shall mean, with respect to the Kiln complying with an emission limit in this section of the operating permit, the maximum allowable rate of emission of a specified air pollutant from the Kiln, and shall be expressed as pounds (lbs) of such air pollutant emitted per ton of clinker produced. Compliance with the 30-Day Rolling Average Emission Limit shall be determined by calculating the 30-Day Rolling Average Emission Limit.

(4) The "30-Day Rolling Average Emission Rate" shall mean, with respect to the Kiln, the rate of emission of NOx or SO2, respectively, expressed as pounds (lbs) per ton of clinker produced by the Kiln and calculated in accordance with the following procedure: first, sum the total pounds of the pollutant in question emitted from the Kiln during an Operating Day and the previous twenty-nine (29) Operating Days, as measured; second, sum the total tons of clinker produced by the Kiln during the same Operating Day and previous twenty-nine (29) Operating Days; and third, divide the total number of pounds of that pollutant emitted from the Kiln during the thirty (30) Operating Days referred to in this paragraph by the total tons of clinker produced at the Kiln during the dame thirty (30) Operating Days. A new 30-Day Rolling Average Emission Rate shall be calculated for each new Operating Day. Only emission data determined to be valid under 40 CFR § 60.13 or during any time when the CEMS is inoperable or otherwise not measuring emissions from the Kiln, the Permittee shall apply the missing data substitution procedures defined in 40 CFR Part 75, Subpart D. In calculating each 30-Day Rolling Average Emission Rate, the total pounds of that pollutant emitted from the Kiln during a specified period (Operating Day or 30-Day Period) shall include all emission s of that pollutant from the Kiln that occur during the specified period, including emissions during each malfunction.

(5) The Permittee shall determine and record the daily clinker production rates by installing, calibrating, maintaining, and operating a permanent weigh scale system to measure and record weight rates of the amount of clinker produced in ton of mass per hour. The system of measuring hourly clinker production must be maintained within $\pm$ 5 percent accuracy; or install, calibrate, maintain and operate a permanent weigh scale system to measure and record weigh rates of the amount of feed to the Kiln in tons of mass per hour, the system of measuring feed must be maintained withing $\pm$ 5 percent accuracy. If the Permittee chooses to measure and record the production rates at the Kiln, then the Permittee shall calculate the hourly clinker production rate using a kiln-specific feed-to-clinker ration based on the reconciled clinker production determined for accounting purposes and recorded feed rates, this ratio should be updated no less frequently than once per month; if this ratio changes at clinker reconciliation, the new ratio

Table IV – 8a
Kiln (Subject to Federal Consent Decree 5:19-cv-05688)

	must be used going forward, but shall not be applied retroactively to change clinker production rates previously explained. **[Reference: PTC 013-0012-6-0256 Issued March 8, 2022]**
8a.4	**Record Keeping and Reporting Requirements:** (1) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, all records used to demonstrate compliance with the conditions in Part C of this permit; and other information as deemed relevant by the Department. (2) Until the Decree is terminated, the Permittee shall submit to the Department, within 30 days after the end of each half calendar year, a semi-annual compliance report for the immediately preceding half calendar year. (3) Upon termination of the Decree, the Permittee shall submit to the Department, within 30 days after the end of each calendar quarter, a quarterly compliance report for the immediately preceding quarter. (4) Compliance reports shall: (a) Demonstrate compliance with the conditions in Part C of this permit. (b) Describe any non-compliance with this permit and an explanation of the likely cause, corrective, and preventative actions taken to address the non-compliance. (c) Each report submitted shall be signed by a company official and include the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (d) All compliance reports shall be submitted to the following: The Administrator Compliance Program

Table IV – 8a Kiln (Subject to Federal Consent Decree 5:19-cv-05688)	
	Maryland Department of the Environment Air and Radiation Administration 1800 Washington Boulevard, STE 715 Baltimore MD 21230 OR as otherwise designated by the Department. (5) The Permittee shall report, in accordance with requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Administration. **[Reference: PTC 013-0012-6-0256 Issued March 8, 2022]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 9 Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)	
9.0	**Emissions Unit Numbers** **Area E – Clinker Burning and Cooling with Preheater Kiln** Baghouse — Emission Unit E04-016 — E03-001 – Clinker Cooler **Area G – Clinker Transport & Storage – Craneway Building** Baghouse — Emission Unit E04-016 — G01-001 - Main Pan Conveyor The clinker cooler is used to cool the kiln product and exhaust from the clinker cooler is passed through the clinker cooler baghouse then to the cooler exhaust stack.
9.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations (1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers. (2) On and after the date on which the performance test required to be conducted by §60.8 is completed, the Permittee may not discharge gases which exhibit 10 percent opacity or greater for clinker coolers constructed, reconstructed, or

Table IV – 9 Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)	
	modified after August 17, 1971, but on or before June 16, 2008, except that this opacity limit does not apply to any clinker cooler subject to a PM limit in paragraph (b)(1) of this section that uses a PM continuous parametric monitoring system (CPMS).. **[Reference: 40 CFR §60.62(b)(1)(iv)]** B. Control of Particulate Matter (1) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry. (2) On and after the date on which the performance test required to be conducted by §60.8 is completed, the Permittee may not discharge PM into the atmosphere from the clinker cooler, which undergone a modification, in excess of 0.07 pound per ton of clinker. **[Reference: 40 CFR §60.62(b)(1)(ii)]** (3) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000,** which limits particulate matter from the clinker cooler exhaust stack to 0.0129 gr/scfd (29.5 mg/dscm). (4) The particulate matter emissions from the clinker cooler that has been constructed or reconstructed on or before May 6, 2009 during normal operation shall not exceed 0.07 pounds per tons of clinker. **[Reference: Table 1-7. of §63.1343(b)(1)]**
9.2	**Testing Requirements:** A. Please see the monitoring requirements B. Control of Particulate Matters The Permittee shall conduct particulate matter emissions stack tests using Method 5 of 40 CFR Part 60, Appendix A, for particulate matter on the clinker cooler once per calendar year, allowing at least 180 days between each particulate matter stack test **[Consent Decree, August 24, 2009].** Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating under representative performance conditions in accordance with 40 CFR Part 63, Subpart LLL. Each run shall be conducted for at least one hour, and the minimum sample volume shall be 1.0 dscm. The average of the three runs shall be used to determine compliance. **[Reference: 40 CFR §63.1349(b) and (c)]** B. Performance testing requirements **[Reference: 40 CFR §63.1349(a)]** The Permittee must document performance test results in complete test reports that contain the information required by paragraphs (a)(1) through (10) of this section, as well as all other relevant information. As described in §63.7(c)(2)(i), the Permittee

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

must make available to the Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing. A brief description of the process and the air pollution control system;

(1) Sampling location description(s);
(2) A description of sampling and analytical procedures and any modifications to standard procedures;
(3) Test results;
(4) Quality assurance procedures and results;
(5) Records of operating conditions during the performance test, preparation of standards, and calibration procedures;
(6) Raw data sheets for field sampling and field and laboratory analyses;
(7) Documentation of calculations;
(8) All data recorded and used to establish parameters for monitoring; and
(9) Any other information required by the performance test method.

PM emissions tests. The owner or operator of a kiln subject to limitations on PM emissions shall demonstrate initial compliance by conducting a performance test using Method 5 or Method 5I at appendix A-3 to part 60 of this chapter. You must also monitor continuous performance through use of a PM continuous parametric monitoring system (PM CPMS). **[40 CFR §63.1349(b)(1)]**

(i) For your PM CPMS, you will establish a site-specific operating limit. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You will use the PM CPMS to demonstrate continuous compliance with your operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(A) Your PM CPMS must provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.

(B) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to three times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

concentration from zero to a level equivalent to three times your allowable emission limit.

(C) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(ii) Determine your operating limit as specified in paragraphs (b)(1)(iii) through (iv) of this section. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test at least annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(iii) If the average of your three Method 5 or 5I compliance test runs is below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or 5I compliance test with the procedures in (a)(1)(iii)(A) through (D) of this section.

(A) Determine your PM CPMS instrument zero output with one of the following procedures.

(*1*) Zero point data for in-situ instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(*2*) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(*3*) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when your process is not operating, but the fans are

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(*4*) If none of the steps in paragraphs (a)(1)(iii)(A)(*1*) through (*3*) of this section are possible, you must use a zero output value provided by the manufacturer.

(B) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 3.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 , \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 3)}$$

Where:

X_1 = The PM CPMS data points for the three runs constituting the performance test.

Y_1 = The PM concentration value for the three runs constituting the performance test.

n = The number of data points.

(C) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run PM compliance test average, determine a relationship of lb/ton-clinker per milliamp with Equation 4.

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 4)}$$

Where:

R = The relative lb/ton-clinker per milliamp for your PM CPMS.

Y_1 = The three run average lb/ton-clinker PM concentration.

X_1 = The three run average milliamp output from you PM CPMS.

z = The milliamp equivalent of your instrument zero determined from (b)(1)(iii)(A).

(D) Determine your source specific 30-day rolling average operating limit using the lb/ton-clinker per milliamp value from Equation 4 in Equation 5, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.

$$O_L = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 5)}$$

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

Where:

O_l = The operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

L = Your source emission limit expressed in lb/ton clinker.

z = Your instrument zero in milliamps, determined from (1)(i).

R = The relative lb/ton-clinker per milliamp for your PM CPMS, from Equation 4.

(iv) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using Equation 6.

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 6)}$$

Where:

X_1 = The PM CPMS data points for all runs i.

n = The number of data points.

O_h = Your site specific operating limit, in milliamps.

(v) To determine continuous operating compliance, you must record the PM CPMS output data for all periods when the process is operating, and use all the PM CPMS data for calculations when the source is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 7 to determine the 30 kiln operating day average.

$$30\text{kiln operating day} = \frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 7)}$$

Where:

Hpvi = The hourly parameter value for hour i.

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

	n = The number of valid hourly parameter values collected over 30 kiln operating days. (vi) For each performance test, conduct at least three separate test runs under the conditions that exist when the affected source is operating at the highest load or capacity level reasonably expected to occur. Conduct each test run to collect a minimum sample volume of 2 dscm for determining compliance with a new source limit and 1 dscm for determining compliance with an existing source limit. Calculate the average of the results from three consecutive runs, including applicable sources as required by (D)(viii), to determine compliance. You need not determine the particulate matter collected in the impingers ("back half") of the Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes. (vii) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. (viii) The owner or operator of a kiln with an in-line raw mill and subject to limitations on PM emissions shall demonstrate initial compliance by conducting separate performance tests while the raw mill is under normal operating conditions and while the raw mill is not operating. **(c) *Performance Test Frequency*.** Tests for PM are repeated every 12 months. **(e) *Conditions of performance tests*.** Conduct performance tests under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.
9.3	Monitoring Requirements: A. Visible Emissions Limitations (1) **COMAR 26.11.30.05(D)**, which states that the owner or operator of a clinker cooler at a Portland cement manufacturing plant shall either: (a) Use a COM in accordance with the requirements of COMAR 26.11.01.10; or

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

(b) Use a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit for continuous visible emission compliance determinations in accordance with Regulation COMAR 26.11.30.04C;

(2) The Permittee shall comply with and update as needed the written operations and maintenance plan, which includes the following information:
(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §63.1345;

(b) Corrective actions to be taken when required by §63.1350(f)(3); and

(c) Procedures to be used to periodically monitor affected sources subject to opacity standards under§63.1345.
[Reference: 40 CFR §63.1347]

B. Control of Particulate Matters
(1) The exhaust gases from E-03-001-Clinker Cooler and G01-001- Main Pan Conveyor shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Reference: COMAR 26.11.03.06C]**

(2) On or after September 1, 2016, the owner or operator of a cement kiln or clinker cooler at a Portland cement manufacturing plant shall:

(a) Use a PM continuous parametric monitoring system (CPMS) to establish a site specific operating parameter limit corresponding to the results of the performance test as required in §B(3) of this regulation demonstrating compliance with the PM limits in §B(1) and (2) of this regulation;

(b) Conduct the performance test as required in §B(3) of this regulation using Method 5 or Method 5I of 40 CFR part 60;

(c) Use the PM CPMS to demonstrate continuous compliance with the site-specific operating parameter limit established in §C(1) of this regulation;

(d) Repeat the performance test as required in §B(3) of this regulation annually and reassess and adjust the site-specific operating parameter limit of §C(1) of this regulation in accordance with the results of the performance test using the procedures in 40 CFR §63.1349(b)(1)(i)—(ix); and

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

(e) Follow the procedures in 40 CFR §63.1350(b)(iii) and (iv) for any exceedance of the established operating parameter limit of §C(1) of this regulation on a 30 process operating day basis
[Reference: COMAR 26.11.30.04(C)]

(3) For the PM CPMS, the Permittee will establish a site-specific operating limit in accordance with §63.1349(b)(1)(i) through (iv). The Permittee shall conduct annual performance tests to reassess and adjust the site-specific operating limit as necessary. The Permittee shall follow the procedures in 40 CFR §63.1350(b)(iii) and (iv) for any exceedance of the established operating parameter limit of COMAR 26.11.30.04(C)(1) on a 30 process operating day basis. **[Reference: COMAR 26.11.30.04(C)(5), COMAR 26.11.30.04B(3), §60.63(c)(2) and §63.1349(b)(1)]**

(4) The Permittee shall comply with and update as needed the written operations and maintenance plan, which includes the following information:
(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §63.1345;

(b) Corrective actions to be taken when required by §63.1350(e); and

(c) Procedures to be used to periodically monitor affected sources subject to opacity standards under§63.1345.
[Reference: 40 CFR §63.1347]

Clinker Production Monitoring Requirements

(1) The Permittee shall determine hourly clinker production by one of two methods:
[Reference: §60.63(b)(1) and §63.1350(d)(1)]

(i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production must be maintained within ±5 percent accuracy; **[Reference: §60.63(b)(1)(i) and §63.1350(d)(1)(i)]** or

(ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of feed to the kiln. The system of measuring feed must be maintained within ±5 percent accuracy. Calculate the Permittee's hourly clinker production rate using a kiln-specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. Update this ratio monthly. Note that if this ratio changes at clinker reconciliation, the Permittee must

Table IV – 9 Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)	
	use the new ratio going forward, but the Permittee does not have to retroactively change clinker production rates previously estimated. **[Reference: 40 CFR §60.63(b)(1)(ii) and 40 CFR §63.1350(d)(1)(ii)]** (iii) For each kiln operating hour for which you do not have data on clinker production or the amount of feed to the kiln, use the value from the most recent previous hour for which valid data are available. **[Reference: 40 CFR §60.63(b)(1)(iii)]** (2) The Permittee shall determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable) before initial use (for new sources) or by the effective compliance date of this rule (for existing sources). During each quarter of source operation, the Permittee must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow). **[Reference: §60.63(b)(2) and §63.1350(d)(2)]** (3) If the Permittee measure clinker production directly, record the daily clinker production rates; if the Permittee measure the kiln feed rates and calculate clinker production, record the hourly kiln feed and clinker production rates. **[Reference: §60.63(b)(3) and §63.1350(d)(3)]** (4) The Permittee shall develop an emissions monitoring plan in accordance with (p)(1) through (p)(4) of §63.1350(p). **[Reference: §63.1350(d)(4)]**
9.4	**Record Keeping Requirements:** A & B. (1) The owner or operator shall maintain files of all information (including all reports and notifications) required by this section recorded in a form suitable and readily available for inspection and review as required by § 63.10(b)(1). The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. (2) The owner or operator shall maintain records for each affected source as required by § 63.10(b)(2) and (b)(3) of this part; and (a) All documentation supporting initial notifications and notifications of compliance status under § 63.9;

Table IV – 9 Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)	
	(b) All records of applicability determination, including supporting analyses; and (c) If the owner or operator has been granted a waiver under § 63.8(f)(6), any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements. (3) In addition to the recordkeeping requirements in paragraph (b) of this section, the owner or operator of an affected source equipped with a continuous monitoring system shall maintain all records required by § 63.10(c). (4) You must keep records of the daily clinker production rates according to the clinker production monitoring requirements in § 63.1350(d). (5) You must keep records of the date, time and duration of each startup or shutdown period for any affected source that is subject to a standard during startup or shutdown that differs from the standard applicable at other times, and the quantity of feed and fuel used during the startup or shutdown period. (6) (a) You must keep records of the date, time and duration of each malfunction that causes an affected source to fail to meet an applicable standard; if there was also a monitoring malfunction, the date, time and duration of the monitoring malfunction; the record must list the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet a standard, and a description of the method used to estimate the emissions. (b) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.1348(d) including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (7) For each exceedance from an emissions standard or established operating parameter limit, you must keep records of the date, duration and description of each exceedance and the specific actions taken for each exceedance including inspections, corrective actions and repeat performance tests and the results of those actions. **[Reference: 40 CFR §63.1355]**
9.5	**Reporting Requirements:** A. Visible Emissions Limitations

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

(1) If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the total operating time for the reporting period, the owner or operator shall submit an excess emissions and continuous monitoring system performance report along with the summary report. **[Reference: 40 CFR §63.1354(b)(10)]**

(2) The Permittee shall submit to the Department, a report no later than 30 days after the end of each calendar quarter, which shall include a summary of the following information:
(a) Emissions for each calendar month and each rolling 12-month period;
(b) All required stack emission test reports;
(c) All processed CEM emission monitoring data;
(d) All CEM certification and calibration results. **[Reference: COMAR 26.11.03.06]**

(3) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

B. Control of Particulate Matters

(1) The Permittee shall submit the results of performance tests in accordance with the following:

(a) before the close of business on the 60th day following the completion of the performance test. **[Reference: 40 CFR §63.1354(b)(1)] & [40 CFR §63.10(d)(2)]**

(b) within 45 days following the date of the stack test. **[Reference: Consent Decree, August 24, 2009 & COMAR 26.11.03.06C]**

(2) At least 30 days prior to each stack emissions testing, the Permittee shall submit to the Department a stack test protocol for review and approval. **[Reference: Part D(7) of Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000]**

(3) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a). [Reference: 40 CFR §63.1354(b)(9)(v)]

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

A. & B.

(1) *Performance Test Reporting Requirements.* (1) You must submit the information specified in paragraphs (i) and (ii) below no later than 60 days following the initial performance test. All reports must be signed by a responsible official.

(i) The initial performance test data as recorded under 40 CFR §63.1349(a) of this section.

(ii) The values for the site-specific operating limits or parameters established pursuant to paragraphs (b)(1), (3), (6), and (7) of 40 CFR §63.1349, as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test.

[Reference: 40 CFR §63.1354]

(2) The owner or operator shall submit a summary report semiannually within 60 days of the reporting period to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the extensible markup language (XML) schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. The excess emissions and summary reports must be submitted no later than 60 days after the end of the reporting period, regardless of the method in which the reports are submitted. The report must contain the information specified in § 63.10(e)(3)(vi). In addition, the summary report shall include:

(i) All exceedances of maximum control device inlet gas temperature limits specified in § 63.1346(a) and (b);

(ii) Notification of any failure to calibrate thermocouples and other temperature sensors as required under § 63.1350(g)(1)(iii) of this subpart; and

Table IV – 9
Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

(iii) Notification of any failure to maintain the activated carbon injection rate, and the activated carbon injection carrier gas flow rate or pressure drop, as applicable, as required under § 63.1346(c)(2).

(iv) Notification of failure to conduct any combustion system component inspections conducted within the reporting period as required under § 63.1347(a)(3).

(v) Any and all failures to comply with any provision of the operation and maintenance plan developed in accordance with § 63.1347(a).

(vi) For each PM CPMS, HCl, Hg, and THC CEMS, SO_2 CEMS, or Hg sorbent trap monitoring system, within 60 days after the reporting periods, you must report all of the calculated 30-operating day rolling average values derived from the CPMS, CEMS, CMS, or Hg sorbent trap monitoring systems.

(vii) In response to each violation of an emissions standard or established operating parameter limit, the date, duration and description of each violation and the specific actions taken for each violation including inspections, corrective actions and repeat performance tests and the results of those actions.

[Reference: 40 CFR §63.1354(b)(9)]

(3) If the total continuous monitoring system downtime for any CEM or any CMS for the reporting period is 10 percent or greater of the total operating time for the reporting period, the owner or operator shall submit an excess emissions and continuous monitoring system performance report along with the summary report. **[Reference: 40 CFR §63.1354(b)(10)]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 10
Clinker Handling and Craneway - Point Sources - (Subject to MACT requirements)

10.0 Emissions Unit Numbers

Area G – Clinker Transport & Storage

Baghouse	Emission Unit
G01-009	G01-012- Clinker Storage Silo
G02-047	G02-002-Transfer Tower #13 Belt Conveyor
G02-044	G02-002- Transfer Tower #12 Belt Conveyor
G02-021	G02-002-Transfer Tower #11 Belt Conveyor
G02-053	TL1- Clinker Truck/Rail Loadout
G03-011	TT9/10- Transfer Tower #9/10 G03-010- Clinker into Craneway
G03-004	TT7- Transfer Tower #7
G04-011	G04-010- Bucket Elevator G04-014- 450 MT Clinker Bin G04-020- Belt Conveyor
G04-034	G04-009 & G04-016 - Belt Conveyor G04-010- Bucket Elevator G04-016- Belt Feeder G04-056- 100 MT Clinker Bin Weighfeeder
H01-220 (G04-034)	G04-058- Clinker Bin, H01-006 Belt G04-059- H01-015 Clinker Feeder, G04-018 Belt

Area H – Clinker Finish Mill

Baghouse	Emission Unit
H09-051	H09-028- Bucket Elevator H09-062- Reversible Belt Conveyor H09-031- Belt Conveyor
H09-059	H09-047- Bucket Elevator H09-058- Belt Conveyor to 90 metric ton bin H09-000- Semifinish Grinding System
H09-025	H09-019- Weighfeeder H09-023- 100 MT Gypsum Bin Weighfeeder H09-024- Belt Conveyor (from Weighfeeder)
H09-073	H09-075- 90 Ton Bin
H09-082	H09-021- 100 MT Clinker Bin Weighfeeder H09-066- Belt Conveyor H09-020- 100 MT Slag/Clinker Bin Weighfeeder
H09-033	H09-031 & H09-046 - Belt Conveyor H09-036 & H09-041 - Bin & Roll Press
H09-094	H09-091- Metal Reclamation System Belt Conveyor

Table IV – 10
Clinker Handling and Craneway - Point Sources - (Subject to MACT requirements)

10.1 **Applicable Standards/Limits:**

A. Visible Emissions Limitations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) **Portland Cement MACT- 40 CFR §63.1345** which limits opacity to 10% or less for each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system.

B. Control of Particulate Matters

(1) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(2) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** – All emission units shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm) except TT9/10 - Transfer Tower #9/10 which is required to meet 0.0108 gr/SCFD (24.7 mg/dscm).

10.2 **Testing Requirements:**

A & B.

(1) *Opacity performance testing requirements.* You must document performance test results in complete test reports that contain the information required by paragraphs (a)(1) through (10) of this section, as well as all other relevant information. As described in § 63.7(c)(2)(i), you must make available to the Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing.

(i) A brief description of the process and the air pollution control system;
(ii) Sampling location description(s);
(iii) A description of sampling and analytical procedures and any modifications to standard procedures;
(iv) Test results;
(v) Quality assurance procedures and results;
(vi) Records of operating conditions during the performance test, preparation of standards, and calibration procedures;
(vii) Raw data sheets for field sampling and field and laboratory analyses;
(viii) Documentation of calculations;

Table IV – 10
Clinker Handling and Craneway - Point Sources - (Subject to MACT requirements)

	(ix) All data recorded and used to establish parameters for monitoring; and (x) Any other information required by the performance test method. **[Reference: 40 CFR §1349(a)]** (2) *Opacity tests.* If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) and (ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating. (i) There are no individual readings greater than 10 percent opacity; (ii) There are no more than three readings of 10 percent for the first 1-hour period. **[Reference: 40 CFR §1349(b)(2)]**
10.3	**Monitoring Requirements:** A. Visible Emissions Limitations (1) The Permittee shall conduct ten (10) monthly 6-minute visible emissions tests, recorded at 15-second intervals, of the exhaust stack of each emission unit in accordance with Method 22 of Appendix A to part 60. The test must be conducted while the emission unit is in operation. If no visible emissions are observed in six consecutive monthly tests for the exhaust stack of any emission unit, the Permittee may decrease the frequency of testing from monthly to semi-annually for that emission unit. If visible emissions are observed during any semi-annual test, the Permittee must resume testing of the exhaust stack of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. If no visible emissions are observed during the semi-annual test for the exhaust stack of any emission unit, the Permittee may decrease the frequency of testing from semi-annually to annually for the exhaust stack of that emission unit. If visible emissions are observed during any annual test, the Permittee must resume testing of the exhaust stack of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. (2) If visible emissions are observed during any Method 22 test, the owner or operator must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter. The Method 9 test must begin within one hour of any observation of visible emissions. **[Reference: 40 CFR §63.1350(f)(1)]**

Table IV – 10 Clinker Handling and Craneway - Point Sources - (Subject to MACT requirements)	
	(3) If visible emissions are observed during any Method 22 visible emissions test conducted under paragraphs (f)(1) or (2) of this section, you must initiate, within one-hour, the corrective actions specified in your operation and maintenance plan as required in § 63.1347. **[Reference: 40 CFR §63.1350(f)(3)]** (4) The Permittee shall comply with and update as needed the written operations and maintenance plan which includes the following information: (a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§63.1348; and (b) Procedures to be used to periodically monitor affected sources. **[Reference: 40 CFR §63.1347]** B. Control of Particulate Matters The exhaust gas from each emissions unit shall vent a dust collector designed to reduce particulate matter emissions limits before discharging into the atmosphere. **[Reference: COMAR 26.11.03.06C]**
10.4	**Record Keeping Requirements:** A & B. The Permittee shall maintain needed the written operations and maintenance plan and all records for at least five years following the date of each inspection, occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained offsite. **[Reference: 40 CFR §63.1355]**
10.5	**Reporting Requirements:** A & B. The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1347(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 11
Finish Mill Systems - (Subject to MACT requirements)

11.0 **Emissions Unit Numbers**

Area H – Clinker Finish Mill

Baghouse	Emission Unit
H01-070	H01-040 – Finish Mill #1
	H01-061 – Cyclones and Belts
	H01-063 – Cyclone and Belts
	H01-090 – Finish Mill #1 Burner
H01-210	H01-105 – Belt Conveyor and Tipping Valves
	H01-110 – Bin
	H01-112 – Belt Conveyor and Tipping Valves
H01-230	H01-080 – Elevator and Tipping Valves
H01-240	H07-015 – Cement to Cement Cooler
	H07-016 - Airslide
H04-044	H04-006- Belt Conveyor
	H04-014- Finish Mill #4 System
H05-044	H05-014- Finish Mill #5 System
H06-044	H06-014- Finish Mill #6 System
	H06-017- Cyclone 642 (FM#6 System)
	H06-037- Separator 627 (FM#6 System)
H07-056	H07-014- Finish Mill #7 System, H07-018, H07-068, H07-070 – Finished Cement Transfer System
H07-057	H07-018, H07-068, & H07-070 – Finished Cement Transfer System
H08-056	H08-014- Finish Mill #8 System
	H08-017- Separator (FM#8 System)
	H08-037- Cyclone (FM#8 System)
	H08-038 – Cyclone (FM#8 System)

11.1 **Applicable Standards/Limits:**

A. Visible Emissions Limitations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) Opacity for each finish mill, located at a major source, during all operating mode shall not exceed 10%. **[Reference: Table 1-13. of 40 CFR §63.1343(b)(1)]**

(3) Each new **or** existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]**

Table IV – 11 Finish Mill Systems - (Subject to MACT requirements)	
	B. Control of Particulate Matters (1) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry. (2) Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000, which limits particulate matter from each exhaust stack of H04-006 Belt Conveyor, H04-014 Finish Mill #4, H05-014 Finish Mill #5, H06-014 Finish Mill #6, H06-017 Cyclone 642, and H06-037 Separator 627 to 0.0132 gr/scfd (30.2 mg/dscm). (3) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000,** which limits particulate matter from each exhaust stack of H07-014 Finish Mill #7, H08-014 Finish Mill #8, and H07-018, & H07-070 – Finished Cement Transfer System to 0.01 gr/scfd (22.9 mg/dscm). (4) **Permit to Construct #013-6-0256M dated February 23, 2005,** which limits particulate matter to 0.0132 gr/scfd (30.2 mg/dscm). C. Greenhouse Gas (GHG) Emissions – There is no GHG emission limit specified in 40 CFR 98 Subpart H (Cement Production).
11.2	**Testing Requirements:** A. & B. (1) *Opacity performance testing requirements.* You must document performance test results in complete test reports that contain the information required by paragraphs (a)(1) through (10) of this section, as well as all other relevant information. As described in § 63.7(c)(2)(i), you must make available to the Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing. (i) A brief description of the process and the air pollution control system; (ii) Sampling location description(s); (iii) A description of sampling and analytical procedures and any modifications to standard procedures; (iv) Test results; (v) Quality assurance procedures and results; (vi) Records of operating conditions during the performance test, preparation of standards, and calibration procedures; (vii) Raw data sheets for field sampling and field and laboratory analyses; (viii) Documentation of calculations;

Table IV – 11 Finish Mill Systems - (Subject to MACT requirements)	
	(ix) All data recorded and used to establish parameters for monitoring; and (x) Any other information required by the performance test method. **[Reference: 40 CFR §1349(a)]** (2) *Opacity tests.* If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) and (ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating. (i) There are no individual readings greater than 10 percent opacity; (ii) There are no more than three readings of 10 percent for the first 1-hour period. **[Reference: 40 CFR §1349(b)(2)]** B. Control of Particulate Matters The Permittee shall conduct a particulate matter emissions test for each mill at least once every 5-year period in accordance with AMA Technical Memorandum 91-01 or using Method 5 of 40 CFR Part 60, Appendix A. Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating under representative performance condition s in accordance with 40 CFR Part 63, Subpart LLL. Each run shall be conducted for at least one hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of the three runs shall be used to determine compliance. **[Reference: Part D(6) of Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]**
11.3	**Monitoring Requirements:** A. Visible Emissions Limitations (1) The Permittee shall conduct daily visual emissions observations of each mill sweep and air separator PMCDs of each affected source in accordance with Method 22 of Appendix A to part 60. The Method 22 test shall be conducted while the affected source is operating under representative performance condition s in accordance with 40 CFR 63.7(e). The duration of the Method 22 test shall be six minutes. If visible emissions are observed during any Method 22 test, the Permittee shall: (a) Initiate, within one-hour, the corrective actions specified in the site specific written operations and a maintenance plan required under 40 CFR §63.1347;

Table IV – 11 Finish Mill Systems - (Subject to MACT requirements)	
	(b) Within 24 hours of the end of the Method 22 test in which visible emissions were observed, conduct a follow-up Method 22 test of any stack from which visible emissions were observed during the previous Method 22 test; and (c) If visible emissions are observed during the follow-up Method 22 test, conduct a visual opacity test of any stack from which visible emissions were observed in accordance with Method 9 of appendix A of 40 CFR Part 60. The Method 9 test shall be conducted within one-hour of the end of the follow-up Method 22 test and the duration of the Method 9 test shall be at least thirty minutes. **[Reference: 40 CFR §63.1350(f)]** (2) The Permittee shall comply with and update as needed the written operations and maintenance plan. The plan shall include the following information: (a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §63.1347; and (b) Procedures to be used to periodically monitor affected sources. **[Reference: 40 CFR §63.1347(a)]** B. Control of Particulate Matters (1) The exhaust gases from each emission unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging to the atmosphere. **[Reference: COMAR 26.11.03.06C]** (2) The Permittee shall implement and comply with the requirements of the CAM plan submitted with the permit application. The compliance requirements are summarized in **Table IV-11a Finish Mill Systems CAM Plan. [Reference: 40 CFR §64.7]** C. Greenhouse Gases GHG monitoring requirements specified in 40 CFR 98.34 and 98.35 for the Finish Mill No. 1 Air Heater are applicable.
11.4	**Record Keeping Requirements:** A. Visible Emissions Limitations The Permittee shall maintain all records for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the

Table IV – 11 Finish Mill Systems - (Subject to MACT requirements)	
	remaining three years of data may be retained offsite. **[Reference: 40 CFR §63.1355]** B. Control of Particulate Matters The Permittee shall maintain all the records of particulate matter emissions test results for at least five years and make them available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]** C. Greenhouse Gases GHG recordkeeping requirements specified in 40 CFR 98.37 for the Finish Mill No. 1 Air Heater are applicable.
11.5	**Reporting Requirements:** A. Visible Emissions Limit **(1)** The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1347(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]** **(2)** As required by § 63.10(d)(4), the owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports by the dates specified in the written extension of compliance. **[Reference: 40 CFR §63.1354(b)(3)]** B. Control of Particulate Matters (1) At least 30 days prior to each stack emissions testing, the Permittee shall submit to the Department a stack test protocol for review and approval. (2) Within 60 days after each stack emissions testing, the Permittee shall submit to the Department the stack emissions test reports and compliance demonstration with emissions limits. **[Reference: Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]** C. Greenhouse Gases GHG reporting requirements specified in 40 CFR 98.36 for the Finish Mill No. 1 Air Heater are applicable.

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV-11a Finish Mill Systems CAM Plan	
11a.0 - Emission Units: **H01-040 Finish Mill #1 System** **H04-014 Finish Mill #4 System** **H05-014 Finish Mill #5 System** **H06-014 Finish Mill #6 System** **H07-014 Finish Mill #7 System** **H08-014 Finish Mill #8 System**	
11a.1 – Monitoring Approach	
11a.1-A – Indicator #1	Stack performance test
11a.1-B – Measurement Approach	PM emissions from the baghouses' exhaust will be tested in accordance with AMA Technical Memorandum 91-01 or using Method 5 of 40 CFR Part 60, Appendix A.
11a.1-C – Indicator Range	An excursion is defined as the test result is greater than the PM standard for individual stack specified in Table IV-10 10.1. Excursions trigger an inspection of the baghouse, corrective action, and a reporting requirement
11a.1-D – Performance Criteria **Data Representativeness:** **QA/QC Practices and Criteria:** **Monitoring Frequency and Data Collection Procedure:**	 Measurements are made at the baghouse exhaust while the finish mills are operating. Stack test proposal will be sent to the Department for approval before test. Each mill at least once every 5-year period. Test results will be documented and reports submitted to the Department.
11a.2-A – Indicator #2	Visible emissions
11a.2-B – Measurement Approach	Visible emissions from the baghouses' exhaust will be monitored daily using and EPA Reference Method 22 procedures.
11a.2-C – Indicator Range	An excursion is defined as the presence of visible emissions. Excursions trigger an inspection of the baghouse, corrective action, and a reporting requirement
11a.2-D – Performance Criteria **Data Representativeness:** **QA/QC Practices and Criteria:**	 Measurements are made at the baghouse exhaust while the finish mills are operating. The observer will be familiar with Reference Method 22 and will follow Method 22 procedures.

Table IV-11a Finish Mill Systems CAM Plan	
Monitoring Frequency and Data **Collection Procedure:**	A 6-minute Method 22 observation is performed daily. A follow-up six minutes Method 22 test will be performed within 24 hours of the end of the six-minute test in which the visible emission was observed. If visible emissions are observed during the follow-up Method 22 test, a 30-minute Method 9 test must be performed. The VE observation is documented by the observer.
11a.3-A – Indicator #3	Inspection/Maintenance
11a.3-B – Measurement Approach	Daily inspection according to checklist and maintenance performed in accordance with manufacturer's recommendations or as needed.
11a.3-C – Indicator Range	N/A
11a.3-D – Performance Criteria **Data Representativeness:** **QA/QC Practices and Criteria:** **Monitoring Frequency and Data Collection Procedure:**	 Inspections are performed on the baghouses: H01-070, H04-044, H05-044, H06-044, H07-056 & 057, and H08-014. Qualified personnel perform inspections and maintenance. Daily Records are maintained to document daily inspections and dates of the completion of any required maintenance.

Table IV – 12
Miscellaneous Sources Venting Inside Building – Subject to MACT requirements

12.0 Emissions Unit Numbers

Area G – Clinker Transport & Storage – Craneway Building

Baghouse	Emission Unit
G04-037	G04-018-Belt Conveyor (Venting Inside Building)
	G04-019-CE2 Bucket Elevator (Venting Inside Building)
H09-073	G04-031-Drag Conveyor B3 (Venting Inside Building)

Area H – Clinker Finish Mill

Baghouse	Emission Unit
H09-059	H09-058-Belt Conveyor (Venting Inside Building)
H09-073	H09-058-Belt Conveyor and H09-075-90T Bin (Venting Inside Building)

12.1 Applicable Standards/Limits:

A. Visible Emissions Limitations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) **Portland Cement MACT- 40 CFR §63.1345** which limits opacity to 10% or less for each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system.

B. Control of Particulate Matters

(1) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(2) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000-** Each emissions unit shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm).

12.2 Testing Requirements:

A & B. Please see the monitoring requirements.

12.3 Monitoring Requirements:

A. Visible Emissions Limitations

(1) The Permittee shall conduct a monthly 1-minute visible emissions test of the exhaust stack of each emission unit in accordance with Method 22 of Appendix A to part 60. The test must be conducted while the emission unit is in operation. If no visible emissions are observed in six consecutive monthly tests for the exhaust stack of any emission unit, the Permittee may decrease the frequency

Table IV – 12
Miscellaneous Sources Venting Inside Building – Subject to MACT requirements

of testing from monthly to semi-annually for the exhaust stack of that emission unit. If visible emissions are observed during any semi-annual test, the Permittee must resume testing of the exhaust stack of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. If no visible emissions are observed during the semi-annual test for the exhaust stack of any emission unit, the Permittee may decrease the frequency of testing from semi-annually to annually for the exhaust stack of that emission unit. If visible emissions are observed during any annual test, the Permittee must resume testing of the exhaust stack of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

If visible emissions are observed during any Method 22 test, the owner or operator must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter. The Method 9 test must begin within one hour of any observation of visible emissions. **[Reference: 40 CFR §63.1350(a)(4)(i)-(iv)]**

The Permittee have the option to conduct a Method 22 visible emissions test according to the requirements of 40 CFR §63.1350(a)(4)(i)-(iv) for each emissions unit located within the building, or for the building itself. If visible emissions from the building are monitored, the requirements of 40 CFR §63.1350(a)(4)(i)-(iii) and (l) apply to monitoring the building, and the Permittee must also test visible emissions from each side, roof, and vent of the building for at least 1 minute. The test must be conducted under normal operating conditions. **[Reference: 40 CFR §63.1350(a)(4)(vi)-(vii)]**

(2) The Permittee shall comply with and update as needed the written operations and maintenance plan which includes the following information:

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§63.1348; and

(b) Procedures to be used to periodically monitor affected sources.
[Reference: 40 CFR §63.1350(a) and (b)]

B. Control of Particulate Matters
The exhaust gas from each emissions unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere.
[Reference: COMAR 26.11.03.06C]

Table IV – 12 Miscellaneous Sources Venting Inside Building – Subject to MACT requirements	
12.4	**Record Keeping Requirements:** A & B. The Permittee shall maintain the written operations and maintenance plan and all records for at least five years following the date of each inspection, occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: 40 CFR §63.1355]**
12.5	**Reporting Requirements:** A & B. The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 13 Dried BioSolids (DBS) Related Operations	
13.0	**Emissions Unit Numbers** Product Collectors — Emission Unit F04-062 — F04-058 - DBS Storage Tank (Fluidized Coke Storage Tank) F04-064 — F04-058 - DBS Storage Tank (Fluidized Coke Storage Tank) F04-062 — F05-055 – Diverter Valve to Calciner F04-064 — F05-055 – Diverter Valve to Calciner F04-062 — F05-056 – Diverter Valve to Main Kiln Burner F04-064 — F05-056 – Diverter Valve to Main Kiln Burner F04-062 — F05-049 – Rotary Air Lock for Feeding DBS from Silo F04-064 — F05-049 – Rotary Air Lock for Feeding DBS from Silo F04-062 — F05-050 – Scale, Pfister Dosing System F04-064 — F05-050 – Scale, Pfister Dosing System G05-003 — G05-001 – Pneumatic baghouse dust (BD) transfer system F05-051 – Mobile DBS Conveyor for Rail Car Unloading Dried BioSolids (DBS) system - installed 2009, updated 2013

Table IV – 13 Dried BioSolids (DBS) Related Operations	
13.1	**Applicable Standards/Limits:** Control of Particulate Matters **COMAR 26.11.06.03D**- Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.
13.2	**Testing Requirements:** Please see the monitoring requirements.
13.3	**Monitoring Requirements:** The Permittee shall prepare and update as needed the best management plan that describes the procedures and methods that will be used to take reasonable precautions. **[Reference: COMAR 26.11.03.06C]**
13.4	**Record Keeping Requirements:** The Permittee shall maintain the best management plan and all supporting documentation of procedures and methods required in the plan for at least five (5) years and make them available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**
13.5	**Reporting Requirements:** Please see Record Keeping Requirements.

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 14 Facility Wide Requirements	
14.0	**Emissions Units** Facility Wide
14.1	**Applicable Standards/Limits:** A. NOx Emissions **Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000** which states that NOx emissions from the entire premises shall not exceed 4,871 tons for any 12-month period, rolling monthly.

Table IV – 14
Facility Wide Requirements

B. Particulate Matter Emissions
Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000 which states that emissions from the entire premises shall not exceed the following limits for any 12-month period, rolling monthly:
(1) 925 tons of PM;
(2) 716 tons of PM_{10}; and
(3) 586 tons of PM_{10} stack emissions.

C. Sulfur Emissions
Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000 which states that SO_2 emissions from the entire premises shall not exceed 1,041 tons for any 12-month period, rolling monthly.

D. Carbon Monoxide Emissions
Prevention of Significant Deterioration (PSD) Approval #PSD-97-01R dated April 8, 1999 which states that the premises-wide carbon monoxide (CO) emissions from the Pyroprocessing Portland cement plant and the existing Portland cement plant shall not exceed 3,328 tons for any 12-month period, rolling monthly.

E. VOC Emissions
New Source Review Approval #NSR-97-02 issued April 8, 1999 which states that premises-wide emissions shall not exceed 165 tons of VOC for any 12-month period, rolling monthly. In determining compliance with VOC emission limits, VOC emissions shall be determined by calculating the numerical difference between the measured values of total hydrocarbon (THC) emissions and non-VOC emissions.

F. Lead Emissions
Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000 which states that the emissions from the entire premises, including the existing Portland cement plant and the Pyroprocessing Portland cement plant, shall not exceed 0.6 tons of lead for any 12-month period, rolling monthly.

G. Fluoride Emissions
(1) **Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000** which states that the emissions from the entire premises, including the existing Portland cement plant and the Pyroprocessing Portland cement plant, shall not exceed 3.0 tons of fluoride for any 12-month period, rolling monthly.

(3) **COMAR 26.11.03.06C** which prevents the discharge of fluorides into the atmosphere that causes a violation of any applicable ambient air quality standards for fluorides set forth in COMAR 26.11.04.

Table IV – 14
Facility Wide Requirements

14.2	**Testing Requirements:** General Testing Requirements: (1) The Permittee shall comply with the testing requirements of §60.8, §60.64, §60.255, §60.257, §60.675, and §63.7. (2) In conducting the performance tests and relative accuracy tests required in §60.8, the Permittee must use reference methods and procedures and the test methods in appendix A of this part or other methods and procedures as specified in §60.64, except as provided in §60.8(b). **[Reference: 40 CFR §60.64(a) and §60.675(a)]** (3) The Permittee must demonstrate compliance with the PM standards in §60.62 and applicable PM bag filter emission limits using EPA method 5 or method 5I and use Method 9 and the procedures in §60.11 to determine opacity. For any sources other than kilns (including associated clinker cooler) that are subject to the 10 percent opacity limit must follow the appropriate monitoring procedures in §63.1350(f), (m)(1)through (4), (10) and (11), (o), and (p) of this chapter. **[Reference: 40 CFR §60.64(b)]** (4) Unless being specified in other appropriate requirements, the Permittee must conduct stack emissions tests to demonstrate compliance with all applicable particulate matter emissions limits under 40 CFR 60, Subpart OOO within 60 days after achieving the maximum hourly production rate at which the affected facility will be operated, but not later than 180 days after initial startup. **[Reference: 40 CFR §60.672(a)]** (5) Unless being specified in other appropriate requirements, for each fugitive emissions unit, the Permittee must conduct opacity observations to demonstrate compliance with applicable opacity limits under 40 CFR 60, Subpart OOO within 60 days after achieving the maximum hourly production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR §60.11. **[Reference: 40 CFR §60.672(b)]** (6) Unless being specified in other appropriate requirements, during each stack emissions test or opacity observation, the affected equipment shall be operated at 90% or higher of its rated capacity. A. through G. Please see the monitoring requirements.
14.3	**Monitoring Requirements:** A. through G.

Table IV – 14
Facility Wide Requirements

	(1) The Permittee shall calculate premises-wide emissions for each month and each 12-month period, rolling monthly, to demonstrate compliance with the emissions limits. **[COMAR 26.11.03.06C]** (2) The Permittee shall not use any alternative kiln raw material, fuel, or additive except the following: (a) Quarried stone, sand and shale; (b) Iron-bearing materials, such as pyrites and millscale; (c) Cat fines; (d) Bottom ash and fly ash from coal-fired fuel burning equipment; (e) Natural gas; (f) Coal; (g) Scrap tires; (h) Petroleum coke; (i) Used oil generated on site; (j) Class A Dried BioSolids (DBS); and (k) Other materials which are included in the Permittee's current operating permit or may have been approved by the Department in the past under separate action. Any alternative kiln raw material, fuel, or additive not approved under authority of this permit or under any previous action may not be used unless it is demonstrated to the Department's satisfaction that the use of any substitute raw material, fuel or additive does not violate the Department's air toxics screening levels and does not increase air emissions beyond the allowable limits stated in the permit to construct, the PSD approval, or the NSR approval. **[Reference: Permit to Construct #06-6-0256, 0331, and 0337 dated March 1, 2013, Permit to Construct # 013-0012-6-0256 Issued November 15, 2023]**
14.4	**Record Keeping Requirements:** A. through G. The Permittee shall maintain the following records with supporting documentation for at least five years and make these records available to the Department upon request: (1) Premises-wide emissions for each month and each 12-month period, rolling monthly; and (2) Any violation of any emission limit required for each rolling 12-month period. (3) Alternative kiln raw material, fuel, or additive used. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**

Table IV – 14 Facility Wide Requirements	
14.5	**Reporting Requirements:** A. through G. (1) The Permittee shall include the emissions of NOx, Particulate matter, SO_2, CO, VOC, Lead, and Fluoride for each month and each 12-month period, rolling monthly, in the required quarterly report, the semiannual summary report, and the annual emission certification. (2) The Permittee shall submit to the Department a written report, no later than 30 days after a detection of any violation of any emission limit required for each rolling 12-month period. **[Reference: COMAR 26.11.03.06C]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

Table IV – 15 Emergency Generator	
15.0	**Emissions Unit Number:** J08-532 One (1) Caterpillar diesel fired emergency generator rated at 2520 hp, 1750 kilowatts (ARMA Registration No. 013-0012-9-0186), installed in July 2001.
15.1	**Applicable Standards/Limits:** A. Visible Emissions (1) The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity. **[Reference: COMAR 26.11.09.05E(2)]** (2) The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity. **[Reference: COMAR 26.11.09.05E(3)]** **Exceptions.** COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service: 30 minutes (ii) All other engines: 15 minutes

Table IV – 15 Emergency Generator	
	COMAR 26.11.09.05E(2) and (3) do not apply while maintenance, repair, or testing is being performed by qualified mechanics. B. Control of Sulfur Oxides The Permittee shall not burn any distillate fuel oil with a sulfur content of greater than 0.3% by weight. **[Reference: COMAR 26.11.09.07A(1)(c)]** C. Control of NOx – NOx RACT Requirements (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR, Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 5 years and make these results available to the Department and the EPA upon request; (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. **[Reference: COMAR 26.11.09.08G]** (2) For the purposes of COMAR 26.11.09.08, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. **[Reference: COMAR 26.11.09.08B(5)]** D. Operational Limit The Permittee shall burn only diesel fuel (No. 2 fuel oil) that meets all applicable federal and state requirements in the generator unless the Permittee obtains an approval from the Department to burn alternate fuels. **[Reference: COMAR 26.11.02.09A]**
15.2	**Testing Requirements:** A. Visible Emissions See Monitoring, Record Keeping and Reporting Requirements.

Table IV – 15 Emergency Generator	
	B. Control of Sulfur Oxides See Monitoring, Record Keeping and Reporting Requirements. C. Control of NOx – NOx RACT Requirements The Permittee shall perform combustion analysis and optimize combustion once each year, for each year that the emission unit operates more than 500 hours. **[Reference: COMAR 26.11.09.08G(1)(b)]** D. Operational Limit See Record Keeping and Reporting Requirements.
15.3	**Monitoring Requirements:** A. Visible Emissions The Permittee shall properly operate and maintain the emergency generator to minimize visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]** C. Control of NOx – NOx RACT Requirements Once every three years, each operator of the installation shall attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors. **[Reference: COMAR 26.11.09.08E(4)]** D. Operational Limit See Record Keeping and Reporting Requirements.
15.4	**Record Keeping Requirements:** A. Visible Emissions The Permittee shall maintain records at the premises of maintenance/repairs performed that relate to combustion performance. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain fuel supplier certifications at the premises stating that the fuel is in compliance with this regulation. **[Reference: COMAR 26.11.03.06C]** C. Control of NOx – NOx RACT Requirements The Permittee shall maintain the following records at the premises: (a) Records of the calculated capacity factors; **[Reference: COMAR 26.11.03.06C]** (b) Records of hours of operation; **[Reference: COMAR 26.11.02.19C]**

Table IV – 15 Emergency Generator	
	(c) Records of combustion analysis performed if the hours of operation exceed 500; and **[Reference: COMAR 26.11.09.08G(1)(c)]** (d) Record of training program attendance for each operator. **[Reference: COMAR 26.11.09.08G(1)(e)]** D. Operational Limits The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, annual records of the quantity and type of fuel combusted in the generator. **[Reference: COMAR 26.11.03.06C]**
15.5	**Reporting Requirements:** A. Visible Emissions The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall report fuel supplier certification records to the Department upon request. **[Reference: COMAR 26.11.03.06C]** C. Control of NOx – NOx RACT Requirements The Permittee shall make all records (combustion analyses, emissions unit hours of operation, and training program attendance) to meet the NOx RACT requirements, available to the Department upon request. The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 emissions certification report. **[Reference: COMAR 26.11.09.08G, COMAR 26.11.02.19C, and COMAR 26.11.03.06C]** D. Operational Limits The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. **[Reference: COMAR 26.11.02.19C&D]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

	Table IV – 16 Facility Wide – MACT Sources Only
16.0	**Emissions Unit Number(s)** Facility Wide- MACT Sources Only
16.1	**Applicable Standards/Limits and Operating Conditions:**

Table IV – 16
Facility Wide – MACT Sources Only

(1) The Permittee must prepare a written operations and maintenance plan. The plan must be submitted to the Department, for review and approval, as part of the application for a Title V - Part 70 operating permit and must include the following information: **[Reference: 40 CFR §63.1347(a)]**

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emissions limits and operating limits, including fugitive dust control measures for open clinker piles, of §63.1343 through 63.1348. the Permittee's operations and maintenance plan must address periods of startup and shutdown;

(b) Corrective actions to be taken when required by paragraph §63.1350(f)(3); and

(c) Procedures to be used during an inspection of the components of the combustion system of each kiln and each in-line kiln raw mill located at the facility at least once per year.

(2) Failure to comply with any provision of the operations and maintenance plan developed in accordance with this section is a violation of the standard. **[Reference: 40 CFR §63.1347(b)]**

(3) In order to demonstrate continuous compliance during startup and shutdown, all air pollution control devices must be operating. **[Reference: 40 CFR §63.1348(b)(9)]**

(4) During periods of startup and shutdown, the kiln shall meet the following requirements: **[Reference: 40 CFR §63.1346(g)]**

(a) During startup the Permittee must use any one or combination of the following clean fuels: natural gas, synthetic natural gas, propane, distillate oil, synthesis gas (syngas), and ultra-low sulfur diesel (ULSD) until the kiln reaches a temperature of 1200 degrees Fahrenheit; **[Reference: 40 CFR §63.1346(g)(1)]**

(b) Combustion of the primary kiln fuel may commence once the kiln temperature reaches 1200 degrees Fahrenheit; **[Reference: 40 CFR §63.1346(g)(2)]**

(c) All dry sorbent and activated carbon systems that control hazardous air pollutants must be turned on and operating at the time the gas stream at the inlet to the baghouse or ESP reaches 300 degrees Fahrenheit (five minute average) during startup. Temperature of the gas stream is to be measured at the inlet of the baghouse or ESP every minute. Such injection systems can be turned off during shutdown. Particulate control and all remaining devices that control hazardous air pollutants should be operational during startup and shutdown; **[Reference: 40 CFR §63.1346(g)(3)]** and

	Table IV – 16 Facility Wide – MACT Sources Only
	(d) The Permittee must keep records as specified in §63.1355 during periods of startup and shutdown. **[Reference: 40 CFR §63.1346(g)(4)]**
16.2	**Testing Requirements** General Testing Requirements: (1) The Permittee shall comply with the testing requirements of §60.8, §60.64, §60.255, §60.257, §63.7, and §63.1349. (2) In conducting the performance tests and relative accuracy tests required in §60.8, the Permittee must use reference methods and procedures and the test methods in appendix A of this part or other methods and procedures as specified in §60.64, except as provided in §60.8(b). **[Reference: 40 CFR §60.64(a) and §60.675(a)]** (3) The Permittee must demonstrate compliance with the PM standards in §60.62 and applicable PM bag filter emission limits using EPA method 5 or method 5I and use Method 9 and the procedures in §60.11 to determine opacity. For any sources other than kilns (including associated clinker cooler) that are subject to the 10 percent opacity limit must follow the appropriate monitoring procedures in §63.1350(f), (m)(1)through (4), (10) and (11), (o), and (p) of this chapter. **[Reference: 40 CFR §60.64(b)]** (4) Initial Performance Test Requirements under 40 CFR Part 63, Subpart LLL - The Permittee must demonstrate compliance with the emissions standards and operating limits by using the test methods and procedures in §63.1349 and 63.7. Any cement kiln that has been subject to the requirements of subpart CCCC or subpart DDDD of 40 CFR Part 60, and is now electing to cease burning nonhazardous solid waste and become subject to this subpart, must meet all the initial compliance testing requirements each time it becomes subject to this subpart, even if it was previously subject to this subpart. **[Reference: 40 CFR §63.1348(a)]** Notes: The first day of the 30 operating day performance test is the first day after the compliance date following completion of the field testing and data collection that demonstrates that the CPMS or CEMS has satisfied the relevant CPMS performance evaluation or CEMS performance specification (e.g., PS 2, 12A, or 12B) acceptance criteria. The performance test period is complete at the end of 30th consecutive day. See §63.1341 for definition of operating day and §63.1348(b)(1) for the CEMS operating requirements. The Permittee has the option of performing the compliance test earlier than the compliance date if desired. (5) Unless being specified in other appropriate requirements, during each stack emissions test or opacity observation, the affected equipment shall be operated at 90% or higher of its rated capacity.

	Table IV – 16 Facility Wide – MACT Sources Only
	Specific Testing Requirements: (6) The Permittee shall comply with the following test requirements: (a) **40 CFR 63.1349(c)** requires the Permittee to repeat performance test for particulate matter emissions required under 40 CFR 63.1349(b)(1) and (b)(2) at least once every five years. (b) **40 CFR 63.1349(d)** requires the Permittee to repeat performance test for dioxin/furan emissions required under 40 CFR 63.1349(b)(3) at least once every 30 months. (c) **40 CFR 63.1349(e)(1)** requires that if a source plans to undertake a change in operations that may adversely affect compliance with an applicable D/F standard under this subpart, the source must conduct a performance test and establish new temperature limit(s) as specified in paragraph (b)(3) of this section. (d) **40 CFR 63.1349(e)(2)** requires that If a source plans to undertake a change in operations that may adversely affect compliance with an applicable PM standard under § 63.1343, the source must conduct a performance test as specified in paragraph (b)(1) of this section. **[40 CFR 63.1349(c), (d), and (e)]** (7) The Permittee shall comply with the following compliance dates: (a) The compliance date for existing sources for all the requirements that became effective on February 12, 2013, except for the open clinker pile requirements will be September 9, 2015; **[Reference: 40 CFR §63.1351(c)]** The Department has extended the compliance date of HCl to September 9, 2016. **[Reference: Department Letter dated July 15, 2015]** (b) The compliance date for new sources is February 12, 2013, or startup, whichever is later; **[Reference: 40 CFR §63.1351(d)]** (c) The compliance date for existing sources with the requirements for open clinker storage piles in §63.1343(c) is February 12, 2014; **[Reference: 40 CFR §63.1351(e)]** and (d) Emissions limits in effect prior to September 9, 2010. Any source defined as an existing source in §63.1351, and that was subject to a PM, mercury, THC, D/F, or opacity emissions limit prior to September 9, 2010, must continue to meet the limits shown in Table 2 to 40 CFR 63, Subpart LLL until September 9, 2015.

	Table IV – 16 Facility Wide – MACT Sources Only
	[Reference: 40 CFR §63.1343(d), Department Letter dated May 22, 2014] (8) If an affected facility subject to 40 CFR 63, Subpart LLL has a different emissions limit or requirement for the same pollutant under another regulation in Title 40, the Permittee of the affected facility must comply with the most stringent emissions limit or requirement and is exempt from the less stringent requirement. **[Reference: 40 CFR §63.1356]**
16.3	**Monitoring Requirements** A. Parameter Monitoring requirements (1) If the Permittee has an operating limit that requires the use of a CMS, the Permittee must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the procedures in (m)(1) through (4) of §63.1350 by the compliance date specified in §63.1351. The Permittee must also meet the applicable specific parameter monitoring requirements in (m)(5) through (11) that are applicable to the facility. **[Reference: §40 CFR 63.1350(m)]** (2) If the Permittee has an operating limit that requires the use of a pressure measurement device, the Permittee must meet the requirements in (m)(6)(i) through (vi) of §63.1350. **[Reference: 40 CFR §63.1350(m)(6)]** (3) If the Permittee elects to use a fabric filter bag leak detection system (BLDS) to comply with the requirements of Part 63, Subpart LLL, the Permittee must install, calibrate, maintain, and continuously operate a BLDS as specified in (m)(10)(i) through (viii) of §63.1350. **[Reference: 40 CFR §63.1350(m)(10)]** B. Continuous Flow Rate Monitoring System (1) The Permittee must install, operate, calibrate, and maintain instruments, according to the requirements in (n)(1) through (10) of §63.1350, for continuously measuring and recording the stack gas flow rate to allow determination of the pollutant mass emissions rate to the atmosphere from sources subject to an emissions limitation that has a pounds per ton of clinker unit. **[Reference: 40 CFR §63.1350(n)]** (2) The Permittee must install each sensor of the flow rate monitoring system in a location that provides representative measurement of the exhaust gas flow rate at the sampling location of the mercury or PM CEMs, taking into account the manufacturer's recommendations. The flow rate sensor is that portion of the system that senses the volumetric flow rate and generates an output proportional to that flow rate. **[Reference: 40 CFR §63.1350(n)(1)]** (3) The flow rate monitoring system must be designed to measure the exhaust flow rate over a range that extends from a value of at least 20 percent less than the lowest expected exhaust flow rate to a value of at least 20 percent greater than the highest expected exhaust flow rate. **[Reference: 40 CFR §63.1350(n)(2)]**

Table IV – 16
Facility Wide – MACT Sources Only

(4) The flow rate monitoring system must be equipped with a data acquisition and recording system that is capable of recording values over the entire range specified in (n)(2) of §63.1350. **[Reference: 40 CFR §63.1350(n)(4)]**

(5) The signal conditioner, wiring, power supply, and data acquisition and recording system for the flow rate monitoring system must be compatible with the output signal of the flow rate sensors used in the monitoring system. **[Reference: 40 CFR §63.1350(n)(5)]**

(6) The flow rate monitoring system must be designed to complete a minimum of one cycle of operation for each successive 15-minute period. **[Reference: 40 CFR §63.1350(n)(6)]**

(7) The flow rate sensor must have provisions to determine the daily zero and upscale calibration drift (CD) (*see* sections 3.1 and 8.3 of Performance Specification 2 in appendix B to Part 60 for a discussion of CD), including the following: **[Reference: 40 CFR §63.1350(n)(7)]**

(a) Conduct the CD tests at two reference signal levels, zero (e.g., 0 to 20 percent of span) and upscale (e.g., 50 to 70 percent of span); and

(b) The absolute value of the difference between the flow monitor response and the reference signal must be equal to or less than 3 percent of the flow monitor span.

(8) The Permittee must perform an initial relative accuracy test of the flow rate monitoring system according to Section 8.2 of Performance Specification 6 of appendix B to Part 60 with the following exceptions specified in (n)(8)(i) and (n)(8)(ii) of §63.1350: **[Reference: 40 CFR §63.1350(n)(8)]**

(a) The relative accuracy test is to evaluate the flow rate monitoring system alone rather than a continuous emission rate monitoring system; and

(b) The relative accuracy of the flow rate monitoring system shall be no greater than 10 percent of the mean value of the reference method data.

(9) The Permittee must verify the accuracy of the flow rate monitoring system at least once per year by repeating the relative accuracy test specified in (n)(8) of §63.1350. **[Reference: 40 CFR §63.1350(n)(9)]**

	Table IV – 16 Facility Wide – MACT Sources Only
	(10) The Permittee must operate the flow rate monitoring system and record data during all periods of operation of the affected facility including periods of startup, shutdown, and malfunction, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). **[Reference: 40 CFR §63.1350(n)(10)]** C. Alternate monitoring requirements approval The Permittee may submit an application to the Department for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of Subpart LLL, except for emission standards for THC. The application for alternative monitoring requirements is subject to the provisions of (o)(1) through (6) of §63.1350. **[Reference: 40 CFR §63.1350(o)]** D. Development and submittal (upon request) of monitoring plans If the Permittee demonstrates compliance with any applicable emissions limit through performance stack testing or other emissions monitoring, the Permittee must develop a site-specific monitoring plan according to the requirements in (p)(1) through (4) of §63.1350. This requirement also applies to the facility if the Permittee petitions the Department for alternative monitoring parameters under (o) of §63.1350 and §63.8(f). If the Permittee uses a BLDS, the Permittee must also meet the requirements specified in (p)(5) of §63.1350. **[Reference: 40 CFR §60.63(i) and 40 CFR §63.1350(p)]** E. Operation and maintenance requirements At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards, i.e., meet the emission standard or comply with the start-up, shutdown, and malfunction plan. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan. To the extent that an unexpected event arises during a start-up, shutdown, and malfunction, the Permittee shall comply by minimizing emissions during such a startup, shutdown, or malfunction event consistent with safety and good air pollution control practices. **[Reference: 40 CFR §63.6(e)(1)(i -ii)]**
16.4	**Record Keeping Requirements** (1) The Permittee shall comply with the recordkeeping requirements of §60.7, §60.65, §60.258, §63.10, and §63.1355. (2) The Permittee shall maintain files of all information (including all reports and notifications) required by §63.1355 recorded in a form suitable and readily

	Table IV – 16 Facility Wide – MACT Sources Only
	available for inspection and review as required by §63.10(b)(1). The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: 40 CFR §63.1355(a)]** (3) The Permittee shall maintain the following records for each affected source as required by §63.10(b)(2) and (b)(3) of this part: **[Reference: 40 CFR §63.1355(b)]** (a) All documentation supporting initial notifications and notifications of compliance status under §63.9; (b) All records of applicability determination, including supporting analyses; and (c) If the Permittee has been granted a waiver under §63.8(f)(6), any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements. (4) In addition to the recordkeeping requirements in (b) of §63.1355, the Permittee of an affected source equipped with a continuous monitoring system shall maintain all records required by §63.10(c). **[Reference: 40 CFR §63.1355(c)]** (5) The Permittee must keep records of the daily clinker production rates and kiln feed rates. **[Reference: 40 CFR §63.1355(e)]** (6) The Permittee must keep records of the date, time and duration of each startup or shutdown period for any affected source that is subject to a standard during startup or shutdown that differs from the standard applicable at other times, and the quantity of feed and fuel used during the startup or shutdown period. **[Reference: 40 CFR §63.1355(f)]** (7) The Permittee must keep records of the date, time and duration of each malfunction that causes an affected source to fail to meet an applicable standard; if there was also a monitoring malfunction, the date, time and duration of the monitoring malfunction; the record must list the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet a standard, and a description of the method used to estimate the emissions. **[Reference: 40 CFR §63.1355(g)(1)]** (8) The Permittee must keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.1348(d) including corrective actions to restore malfunctioning process and air pollution control and monitoring

	Table IV – 16 Facility Wide – MACT Sources Only
	equipment to its normal or usual manner of operation. **[Reference: 40 CFR §63.1355(g)(2)]** (9) For each exceedance from an emissions standard or established operating parameter limit, the Permittee must keep records of the date, duration and description of each exceedance and the specific actions taken for each exceedance including inspections, corrective actions and repeat performance tests and the results of those actions. **[Reference: 40 CFR §63.1355(h)]**
16.5	**Reporting Requirements** (1) The Permittee shall comply with the reporting requirements of §60.19, §60.65, §60.258, §60.676, §63.10, and §63.1354. (2) The Permittee shall comply with the following requirements: **[Reference: 40 CFR §60.64(d)]** (a) Within 60 days after the date of completing each performance test (see § 60.8) as required by this subpart you must submit the results of the performance tests conducted to demonstrate compliance under this subpart to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*http://www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

	Table IV – 16 Facility Wide – MACT Sources Only
	(b) Within 60 days after the date of completing each CEMS performance evaluation test as defined in § 63.2, you must submit relative accuracy test audit (RATA) data to the EPA's CDX by using CEDRI in accordance with paragraph (d)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13. (c) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. (d) All reports required by this subpart not subject to the requirements in paragraphs (d)(1) and (2) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraph (d)(1) and (2) of this section in paper format. (3) he Permittee shall submit reports of excess emissions. The content of these reports must comply with the requirements in §60.7(c). Notwithstanding the provisions of §60.7(c), such reports shall be submitted semiannually. **[Reference: 40 CFR §60.65(a)]** (4) The Permittee shall submit semiannual reports of the malfunction information required to be recorded by §60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere. **[Reference: 40 CFR §60.65(b)]** (5) As required by §63.10(d)(2), the Permittee shall report the results of performance tests as part of the notification of compliance status. **[Reference: 40 CFR §63.1354(b)(1)]**

	Table IV – 16 Facility Wide – MACT Sources Only
	(6) As required by §63.10(d)(3), the Permittee of an affected source shall report the opacity results from tests required by §63.1349. **[Reference: 40 CFR §63.1354(b)(2)]** (7) As required by §63.10(d)(4), the Permittee of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under §63.6(i) shall submit such reports by the dates specified in the written extension of compliance. **[Reference: 40 CFR §63.1354(b)(3)]** (8) As required by §63.10(e)(2), the Permittee shall submit a written report of the results of the performance evaluation for the continuous monitoring system required by §63.8(e). The Permittee shall submit the report simultaneously with the results of the performance test. **[Reference:40 CFR §63.1354(b)(6)]** (9) As required by §63.10(e)(2), the Permittee of an affected source using a continuous opacity monitoring system to determine opacity compliance during any performance test required under §63.7 and described in §63.6(d)(6) shall report the results of the continuous opacity monitoring system performance evaluation conducted under §63.8(e). **[Reference: 40 CFR §63.1354(b)(7)]** (10) As required by §63.10(e)(3), the Permittee of an affected source equipped with a continuous emission monitor shall submit an excess emissions and continuous monitoring system performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit. **[Reference: 40 CFR §63.1354(b)(8)]** (11) The owner or operator shall submit a summary report semiannually within 60 days of the reporting period to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the extensible markup language (XML) schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. The excess emissions and summary reports must be submitted no later than 60 days after the end of the reporting period, regardless of the method in which the reports are submitted. The report must contain the

	Table IV – 16 Facility Wide – MACT Sources Only
	information specified in § 63.10(e)(3)(vi). In addition, the summary report shall include: (a) All exceedances of maximum control device inlet gas temperature limits specified in § 63.1346(a) and (b); (b) Notification of any failure to calibrate thermocouples and other temperature sensors as required under § 63.1350(g)(1)(iii) of this subpart; and (c) Notification of any failure to maintain the activated carbon injection rate, and the activated carbon injection carrier gas flow rate or pressure drop, as applicable, as required under § 63.1346(c)(2). (d) Notification of failure to conduct any combustion system component inspections conducted within the reporting period as required under § 63.1347(a)(3). (e) Any and all failures to comply with any provision of the operation and maintenance plan developed in accordance with § 63.1347(a). (f) For each PM CPMS, HCl, Hg, and THC CEMS, SO_2 CEMS, or Hg sorbent trap monitoring system, within 60 days after the reporting periods, you must report all of the calculated 30-operating day rolling average values derived from the CPMS, CEMS, CMS, or Hg sorbent trap monitoring systems. (g) In response to each violation of an emissions standard or established operating parameter limit, the date, duration and description of each violation and the specific actions taken for each violation including inspections, corrective actions and repeat performance tests and the results of those actions. **[Reference: 40 CFR §63.1354(b)(9)]** (12) If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the total operating time for the reporting period, the Permittee shall submit an excess emissions and continuous monitoring system performance report along with the summary report. **[Reference: 40 CFR §63.1354(b)(10)]**

	Table IV – 16 Facility Wide – MACT Sources Only
	(13) (a) You must submit the information specified in paragraphs (b)(11)(i)(A) and (B) of this section no later than 60 days following the initial performance test. All reports must be signed by a responsible official. (i) The initial performance test data as recorded under § 63.1349(a). (ii) The values for the site-specific operating limits or parameters established pursuant to § 63.1349(b)(1), (3), (6), (7), and (8), as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test. (iii) As of December 31, 2011, and within 60 days after the date of completing each performance evaluation or test, as defined in § 63.2, conducted to demonstrate compliance with any standard covered by this subpart, you must submit the relative accuracy test audit data and performance test data, except opacity data, to the EPA by successfully submitting the data electronically via CEDRI and by using the Electronic Reporting Tool (ERT) (see *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*). For any performance evaluations with no corresponding RATA pollutants listed on the ERT website, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13. (b) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.* beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. **[Reference: 40 CFR §63.1354(b)(11)]** (14) All reports required by this subpart not subject to the requirements in paragraphs (b)(9) introductory text and (b)(11)(i) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (*e.g.,* by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraphs (b)(9) introductory text and (b)(11)(i) of this section in paper format. **[Reference: 40 CFR §63.1354(b)(12)]**

	Table IV – 16 Facility Wide – MACT Sources Only
	(15) For each failure to meet a standard or emissions limit caused by a malfunction at an affected source, the Permittee must report the failure in the semi-annual compliance report required by §63.1354(b)(9). The report must contain the date, time and duration, and the cause of each event (including unknown cause, if applicable), and a sum of the number of events in the reporting period. The report must list for each event the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the emission limit for which the source failed to meet a standard, and a description of the method used to estimate the emissions. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.1348(d), including actions taken to correct a malfunction. **[Reference: 40 CFR §63.1354(c)]** (16) Unless being specified in other appropriate requirements, the Permittee shall submit a stack emissions testing protocol to the Department for review and approval at least 30 days prior to each stack emissions test. (17) Unless being specified in other appropriate requirements, within 60 days after the last day of any required stack emissions test or opacity observation, the Permittee shall submit to the Department the results.
16.6	**Notification Requirements** (1) The Permittee shall comply with the notification requirements of §60.7, §60.19, §63.9, and §63.1353. (2) The Permittee shall notify the Department in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Department to review and approve the site-specific test plan required under §63.7(c), if requested by the Department, and to have an observer present during the test. **[Reference: 40 CFR §63.9(e) and 40 CFR §63.1353(b)(2)]** (3) The Permittee of an affected source shall notify the Department in writing of the anticipated date for conducting the opacity or visible emission observations specified in §63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of 63.9, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under §63.7, the Permittee shall deliver or postmark the notification not less than

Table IV – 16
Facility Wide – MACT Sources Only

30 days before the opacity or visible emission observations are scheduled to take place. **[Reference: 40 CFR §63.9(f) and 40 CFR §63.1353(b)(3)]**

(4) The Permittee of an affected source required to use a CMS by a relevant standard shall furnish the Department written notification as follows: **[Reference: 40 CFR §63.9(g) and 40 CFR §63.1353(b)(4)]**

(a) A notification of the date the CMS performance evaluation under §63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under §63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under §63.7(h), the Permittee shall notify the Department in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;

(b) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by §63.7 in lieu of Method 9 or other opacity emissions test method data, as allowed by §63.6(h)(7)(ii), if compliance with an opacity emission standard is required for the source by a relevant standard. The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin; and

(c) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by §63.8(f)(6), has been exceeded. The notification shall be delivered or postmarked no later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

(5) Before a title V permit has been issued to the affected facility, and each time a notification of compliance status is required under Part 63, the Permittee shall submit to the Department a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list at least the following: **[Reference: 40 CFR §63.9(h)(2)(i) and 40 CFR §63.1353(b)(5)]**

(a) The methods that were used to determine compliance;

(b) The results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;

	Table IV – 16 Facility Wide – MACT Sources Only
	(c) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods; (d) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard; (e) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification); (f) A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and (g) A statement by the Permittee of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements. (6) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under Part 63, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met. **[Reference: §40 CFR 63.9(h)(2)(ii) and 40 CFR §63.1353(b)(5)]** (7) Any change in the information already provided under §63.9 shall be provided to the Department in writing within 15 calendar days after the change. **[Reference: 40 CFR §63.9(j) and 40 CFR §63.1353(b)(5)]**

	Table IV – 16 Facility Wide – MACT Sources Only
	(8) Within 48 hours of an exceedance that triggers retesting to establish compliance and new operating limits, the Permittee shall notify the appropriate permitting agency of the planned performance tests. The notification requirements of §§63.7(b) and 63.9(e) do not apply to retesting required for exceedances under Subpart LLL. **[Reference: 40 CFR §63.1353(b)(6)]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above.

MACT Requirements - (Applies to MACT Sources Only)

Applicable Standards and Regulations

The Permittee shall comply with the following sections of the General Provisions. The provisions, wwhich do not apply, have been deleted.

Table IV-15a to Subpart LLL of Part 63—Applicability of General Provisions

General Provisions 40 CFR Citation	Requirement	Comment
63.1(a)(1)-(4)	Applicability	
63.1(a)(6)-(8)	Applicability	
63.1(a)(10)-(14)	Applicability	
63.1(b)(2)-(3)	Initial Applicability Determination	
63.1(c)(1)	Applicability After Standard Established	
63.1(c)(2)	Permit Requirements	Area sources must obtain Title V permits.
63.1(c)(4)-(5)	Extensions, Notifications	
63.1(e)	Applicability of Permit Program	
63.2	Definitions	Additional definitions in §63.1341.
63.3(a)-(c)	Units and Abbreviations	
63.4(a)(1)-(3)	Prohibited Activities	
63.4(a)(5)	Compliance date	
63.4(b)-(c)	Circumvention, Severability	

63.5(a)(1)-(2)	Construction/Reconstruction	
63.5(b)(1)	Compliance Dates	
63.5(b)(3)-(6)	Construction Approval, Applicability	
63.5(d)(1)-(4)	Approval of Construction/Reconstruction	
63.5(e)	Approval of Construction/Reconstruction	
63.5(f)(1)-(2)	Approval of Construction/Reconstruction	
63.6(a)	Compliance for Standards and Maintenance	
63.6(b)(1)-(5)	Compliance Dates	
63.6(b)(7)	Compliance Dates	
63.6(c)(1)-(2)	Compliance Dates	
63.6(c)(5)	Compliance Dates	
63.6(f)(2)-(3)	Compliance with Emission Standards	
63.6(g)(1)-(3)	Alternative Standard	
63.6(h)(2)	Opacity/VE Standards	
63.6(h)(4)-(h)(5)(i)	Opacity/VE Standards	
63.6(h)(6)	Opacity/VE Standards	
63.6(h)(7)	Opacity/VE Standards	
63.6(i)(1)-(14)	Extension of Compliance	
63.6(i)(16)	Extension of Compliance	
63.6(j)	Exemption from Compliance	
63.7(a)(1)-(3)	Performance Testing Requirements	§63.1349 has specific requirements.
63.7(b)	Notification period	Except for repeat performance test caused by an exceedance. See §63.1353(b)(6).
63.7(c)	Quality Assurance/Test Plan	
63.7(d)	Testing Facilities	
63.7(e)(2)-(4)	Conduct of tests	
63.7(f)	Alternative Test Method	
63.7(g)	Data Analysis	
63.7(h)	Waiver of Tests	
63.8(a)(1)	Monitoring Requirements	

63.8(b)(1)-(3)	Conduct of Monitoring	
63.8(c)(1)-(8)	CMS Operation/Maintenance	Temperature and activated carbon injection monitoring data reduction requirements given in subpart LLL.
63.8(d)	Quality Control	
63.8(e)	Performance Evaluation for CMS	
63.8(f)(1)-(5)	Alternative Monitoring Method	Additional requirements in §63.1350(l).
63.8(f)(6)	Alternative to RATA Test	
63.8(g)	Data Reduction	
63.9(a)	Notification Requirements	
63.9(b)(1)-(5)	Initial Notifications	
63.9(c)	Request for Compliance Extension	
63.9(d)	New Source Notification for Special Compliance Requirements	
63.9(e)	Notification of performance test	Except for repeat performance test caused by an exceedance. See §63.1353(b)(6).
63.9(f)	Notification of VE/Opacity Test	Notification not required for VE/opacity test under §63.1350(e) and (j).
63.9(g)	Additional CMS Notifications	
63.9(h)(1)-(3)	Notification of Compliance Status	
63.9(h)(5)-(6)	Notification of Compliance Status	
63.9(i)	Adjustment of Deadlines	
63.9(j)	Change in Previous Information	
63.10(a)	Recordkeeping/Reporting	
63.10(b)(1)	General Recordkeeping Requirements	
63.10(b)(2)(iii)	General Recordkeeping Requirements	
63.10(b)(2)(vi)-(ix)	General Recordkeeping Requirements	

63.10(c)(1)	Additional CMS Recordkeeping	PS-8A supersedes requirements for THC CEMS.
63.10(c)(1)	Additional CMS Recordkeeping	PS-8A supersedes requirements for THC CEMS.
63.10(c)(5)-(8)	Additional CMS Recordkeeping	PS-8A supersedes requirements for THC CEMS.
63.10(c)(10)-(15)	Additional CMS Recordkeeping	PS-8A supersedes requirements for THC CEMS.
63.10(d)(1)	General Reporting Requirements	
63.10(d)(2)	Performance Test Results	
63.10(d)(3)	Opacity or VE Observations	
63.10(d)(4)	Progress Reports	
63.10(e)(1)-(2)	Additional CMS Reports	
63.10(e)(3)	Excess Emissions and CMS Performance Reports	Exceedances are defined in subpart LLL.
63.10(f)	Waiver for Recordkeeping/Reporting	
63.12(a)-(c)	State Authority and Delegations	
63.13(a)-(c)	State/Regional Addresses	
63.14(a)-(b)	Incorporation by Reference	
63.15(a)-(b)	Availability of Information	

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(2) ✓ Water cooling towers and water cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;

(3) No. 3 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

The containers are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20 ° C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(4) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 2 Storage of lubricating oils;

(c) No. 4 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(5) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(6) ✓ Potable water treatment equipment, not including air stripping equipment;

(7) ✓ Emissions resulting from the use of explosives for blasting at quarrying operations and from the required disposal of boxes used to ship the explosive;

(8) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act; and

(9) ✓ Laboratory fume hoods and vents.

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations

(1) COMAR 26.04.10, which provides requirements for management of coal combustion byproducts.

(2) COMAR 26.11.01.11B, which provides general requirements for CEMs.

(3) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

(4) COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

(5) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health.

Compliance Demonstration

The Permittee shall submit to the Department by April 1 of each year a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. Such analysis shall include either:

(a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

(b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

BACKGROUND

Heidelberg Materials US Cement LLC (Heidelberg, formerly Lehigh Cement Company LLC) owns and operates a Portland cement manufacturing plant at 675 Quaker Hill Road in Union Bridge, Maryland 21791. The plant is located in both Carroll and Frederick Counties. The Union Bridge Quarry is located in Frederick County (Maryland Air Quality Region II), while the main part of the Union Bridge Plant, including the New Windsor Quarry, is located in Carroll County (Maryland Air Quality Region III). The original plant at Union Bridge was built in 1910 and has been modernized several times, including the modernization/expansion where the four long-dry kilns were replaced with one pre-heater/pre-calciner kiln system. A permit to construct and New Source Review (NSR) and Prevention of Significant Deterioration (PSD) Approvals were issued on April 8, 1999, and revised on June 7, 2000, for the plant modernization and expansion. The primary SIC code for this facility is 3241.

PROCESS DESCRIPTION

The following is a description of the processes at the Union Bridge facility:

Union Bridge Quarry

The principal raw materials used to manufacture cement at the Union Bridge plant are limestone, sand, mill scale, shale, and power plant fly ash/bottom ash. Sand, mill scale, and fly ash/bottom ash are purchased from outside sources and brought to the plant by trucks for use in the kiln. Limestone is mined from the Union Bridge Quarry site near the crushing plant. Limestone is periodically mined from the Union Bridge Quarry, this quarry serves as backup for the New Windsor Quarry and provides infrastructure stone and masonry stone to the plant.

New Windsor Quarry

The New Windsor Quarry began operations on June 1, 2018. A five (5) mile long conveyor system is used to transfer limestone and shale mined from the New Windsor Quarry to the Union Bridge plant, where these raw materials are used to manufacture cement. The New Windsor Quarry has a crushing plant to process limestone.

Rock Crushing

Each quarry has its own crushing plant. The crushing plant at the Union Bridge Quarry is periodically operated. At the New Windsor Quarry, trucks dump the rock into the hopper of an apron feeder, which feeds an impact crusher where the limestone it is broken down into fragments less than six inches in size. After the limestone passes through the impact crusher, the material drops onto the long belt conveyor. Particulate emissions at the New Windsor crushing system and the transfer points are controlled by dust collectors.

Rock Storage

Rock travels to the plant from the New Windsor Quarry crusher along the 5-mile belt to the Union Bridge dome storage. The dome is 400 feet in diameter and 126 feet high and has a storage capacity of 50,000 metric tons of rock.

Raw Material Storage and Handling

Iron and silica-based raw materials are stored in an open area, uncovered. These raw materials are conveyed to a partially enclosed raw material storage barn building. Solid fossil fuels (coal) are located in outdoor storage piles. Alumina-bearing ash (fly ash) raw materials are pneumatically conveyed to a storage silo. There are two (2) covered structures near the kiln for storing Alumina-bearing ash (bottom ash) raw materials. Raw material transfer throughout the plant is done by covered conveyor systems and transfer towers, which have dust collectors venting all transfers.

Vertical Roller Mill (Raw Mill)

The Heidelberg plant includes an in-line Loesche vertical raw mill system. The in-line raw mill utilizes recycled heated gases from the kiln exhaust to dry the raw material ground into raw meal. The dry raw meal is stored in a blending silo (the Raw Mill Silo). Next, the raw meal is conveyed from the blending silo to the preheater/precalciner and then to the rotary kiln. An additional benefit of a pre-heater tower is that the limestone acts as a scrubber to remove some of the sulfur compounds from the precalciner exhaust gases. The exhaust gases from the raw mill are vented through a main kiln dust collector to the main kiln stack.

Blending Silo

In this operation, all the raw materials are blended to the proper proportions for introduction into the preheater tower/kiln system. Particulate emissions from the silos and raw material handling systems are controlled with baghouses.

Coal Storage

Coal is one of the primary fuels and is stockpiled outside on the ground near the preheater tower/kiln system. Coal is ground through a vertical coal mill and stored in two silos. Coal is brought in by truck.

Coal Mill

Heidelberg primarily fires coal and other approved solid fuels in both the kiln and the preheater/precalciner tower. Coal from the stockpiles is ground for use in the preheater tower/kiln system. The coal mill utilizes heated gases from the kiln exhaust to dry and separate the coal. Milled coal is blown into the firing end of the kiln and the preheater/precalciner. Exhaust gases from the coal mill are vented through a coal mill only dust collector and then are exhausted out of the main kiln stack.

Pyro-Processing / Kiln, Raw Meal Feed, and Coal Mill Feed Systems

Pyro-processing is a process in which materials are subjected to high temperatures (typically over 800°C) in order to bring about a chemical or physical change. The Union Bridge plant's pyroprocessing system consists of a 5-stage pre-heater tower and rotary kiln. The preheater tower contains secondary firing and a rotary kiln. Fuel used in the system may consist of coal, dried biolsolids and fuel oil. Energy, in the form of fan-power, is required to draw the kiln combustion gases through the string of cyclones. It is also normal to use the warm exhaust gas to dry the raw materials in the raw-mill and operate the coal mill. The air volume will eventually pass through a dust collector vented to the atmosphere.

Environmental controls installed in the pyro-processing line are SNCR for nitrous oxide reduction, Activated Carbon injection for mercury reduction and a fabric filter dust collector for particulate control.

Heidelberg monitors the emissions of NOx, SO2, CO, THC, CO2, and mercury (Hg), and hydrogen chloride (HCl) with continuous emissions monitors that are installed on the main kiln stack. There are also exhaust gas flow and PM continuous parametric monitoring systems (CPMS) installed in the stack. Particulate matter emissions are controlled by a baghouse, NOx emissions are controlled by urea injection, mercury emissions are controlled by carbon injection with baghouses to control dust at the finish mills, and SO2 emissions are controlled by limestone raw material in the pre-heater tower.

Clinker Cooler
As clinker from the kiln drops into reciprocating grate coolers, cooling air blows up through the clinker. The clinker is then transported to the clinker storage silo. A portion of the cooling ambient air after passing through the cooler grates is used for secondary combustion air for the kiln burner. The cooled clinker is loaded into the clinker silo and then conveyed to the crane hall. Emissions are controlled by a baghouse. There is a PM continuous parametric monitoring system (CPMS) installed in the stack from the cooler.

Roll Press/ Semi-Finishing Grinding Mill
The roll press is used to pre-grind the clinker for feeding to the finish ball mills. The product from the press is pre-ground cement. The finished product from the roll press is conveyed to the finish mills for final grinding. The system is controlled by baghouses.

Finish Mill System
This is the final grinding operation for the cement. Just before the finish grinding, gypsum, grinding aids, and/or limestone are mixed with the cement to control the rate at which the cement will set after it is mixed into concrete. Cement kiln baghouse dust is also mixed in to remove mercury from the kiln system. The finished cement is pneumatically conveyed to the storage silo. The finish mill system includes a semi finishing grinding system, finish mills #1, #4, #5, #6, and #7, in addition to the conversion of the old raw mill system to #8 finish mill. The semi finishing grinding system and the finish mills are controlled by baghouses.

Cement Loadout
There are two (2) cement loadout areas at the plant, the 32-silos area and the Day Silo. A total of 32 product silos are used at the plant. There is also a cement bagging operation on-site also. Cement is shipped offsite by trucks and rail. Both packaged and bulk products are shipped.

The following table summarizes the actual emissions from Heidelberg based on its Annual Emission Certification Reports:

Table 1: Actual Emissions

Year	NO_x (TPY)	SO_x (TPY)	PM_{10} (TPY)	PM Condensable (TPY)	CO (TPY)	VOC (TPY)	Total HAP (TPY)
2022	2274	25	66	21	1473	30	9
2015	2936	12	83	32	1429	40	17
2016	2781	12	74	17	1502	41	10
2017	2560	4	78	17	1546	46	9
2018	2614	26	83	17	2006	49	11
2019	2614	23	66	17	1813	44	342
2020	2583	23	64	18	1485	47	346
2021	2352	16	69	17	1279	19	9

The major source threshold for triggering Title V permitting requirements in Carroll County is 25 tons per year for VOC, 25 tons for NOx, and 100 tons per year for any other criteria pollutants and 10 tons for a single HAP or 25 tons per year for total HAPS. Since the actual emissions of NOx, VOC, PM10, CO, and HAPs from the facility are greater than the major source threshold, Heidelberg is required to obtain a Title V – Part 70 Operating Permit under COMAR 26.11.03.01.

The HAP emissions increased from 11 TPY in 2018 to 342 TPY in 2019. This is due to the processing of raw materials mined from the New Windsor Quarry. Air toxics stack testing was performed May 7-8, 2019 and August 3-10, 2021. The 2019 Annual Emissions Certification indicated significant increases in Chloroform and Ethyl Benzene, impacting the total HAP emissions reported. In October 2021, the Permittee submitted a Toxic Air Pollutant (TAP) Assessment based on the August 2021 stack test results. That assessment showed a reduction in HAPs because organic clays from the New Windsor Quarry are no longer used as raw feed.

The renewal application for the Part 70 permit was received by the Department on August 18, 2020. An administrative completeness review was conducted and the application was deemed to be administratively complete. A letter was sent to Heidelberg on September 23, 2020 granting an application shield.

RECENT PLANT MODIFICATIONS

The following changes and modifications have occurred since the issuance of the last Part 70 permit:

(1) On November 15, 2023, a Permit to Construct [013-0012-6-0256] was issued allowing the Kiln to combust natural gas as a primary fuel.

(2) On May 10, 2022, a Permit to Construct [013-0012-6-0327] was issued in conjunction with all other valid permits. This permit allowed the permanent installation of one (1) MGL EX1 Scalper Screener powered by an electric Cummins 74 HP engine for the purpose of screening debris from wet bottom ash.

(3) On March 8, 2022, a Permit to Construct [013-0012-6-0256] was issued in conjunction with all other valid permits. This facility became subject to Federal Consent Decree 5:19-cv-05688 effective November 18, 2020. Emission Units E01-001 and E02-001 Preheater-Precalciner/Kiln System are subject to the Decree. The Decree imposed limits on NOx and SO2 emissions, prohibited netting credits or offsets from required controls, and imposed requirements for monitoring, recording and reporting to demonstrate compliance with the new limits.

(4) On January 11, 2021, a Permit to Construct [013-0012-6-0352] was issued, superseding the permit of March 14, 2014, to allow an increase in masonry limestone crushing throughput limit from 86,000 short tons per year to 160,000 short tons per year at the New Windsor Quarry. No new installations were proposed.

(5) On May 29, 2018, a Temporary State Permit to Operate [013-0012-6-0352] for the New Windsor Quarry was issued. Although the current Title V permit issued on January 1, 2017 incorporated all of the equipment located at the New Windsor Quarry, the purpose of this temporary permit was to grant the Permittee up to one (1) year for system debugging and compliance demonstration. Immediately after the expiration of this temporary permit on May 31, 2019, the Permittee was required to operate in accordance with the Title V permit if it successfully demonstrated compliance with all applicable requirements. If the Permittee was not able to demonstrate compliance as stated, then they were required to submit a plan-for-compliance to the Department by August 1, 2019 to amend the Title V permit.

Note: On January 6, 2022 the Permittee submitted a Compliance Notification to the Department regarding the status of the New Windsor Quarry. The Permittee began initial operation of the New Windsor Quarry on June 1, 2018.

In May 2018, the Permittee received a Temporary State Permit to Operate for the New Windsor Quarry that allowed the Permittee one year to get the New Windsor Quarry up to normal operating capacity and to comply with the Permit to Construct and Temporary State Permit to Operate requirements. If the Permittee failed to attain full capacity and demonstrate compliance within that period, the Permittee would need to seek a Plan for Compliance from the Department.

Lehigh's January 2022 Compliance Notification stated that the New Windsor Quarry was able to start up, achieve full production rate and demonstrate compliance with the 2014 Permit to Construct and the 2018 Temporary State Permit to Operate requirements. There was no need for any Plan for Compliance.

Additionally, the 2019 and 2020 Annual Compliance Certification Reports included the New Windsor Quarry requirements.

It is noted that on October 12, 2018, the Department extended the compliance date for stack tests and Method 9 observations to June 15, 2019 due to the September 20, 2018 catastrophic failure of the 4.5-milelong conveyor belt at

the quarry. Testing was completed on June 6, 2019 demonstrating compliance with the limits.

GREENHOUSE GAS (GHG) EMISSIONS

Heidelberg emits the following greenhouse gases (GHGs) related to Clean Air Act requirements: carbon dioxide, methane, and nitrous oxide. These GHGs originate from various processes (i.e., combustion source such as kiln, internal combustion engines, and boilers) contained within the facility premises applicable to Heidelberg. Emission certifications reports for the years 2018, 2019, 2020, 2021 and 2022 showed that Heidelberg is a major source (threshold: 100,000 tpy CO_2e) for GHGs. The facility is an existing major source but has not triggered Prevention of Significant Deterioration (PSD) requirements for GHG emissions; therefore, there are no applicable GHG Clean Air Act requirements. While there may be no applicable requirements as a result of PSD, the Permittee shall quantify facility wide GHGs emissions and report them in accordance with Section 3 of the Part 70 permit. The following table summarizes the actual emissions from Heidelberg based on its Annual Emission Certification Reports:

Table 3: Greenhouse Gases Emissions Summary

GHG	Conversion factor	2018 tpy CO_2e	2019 tpy CO_2e	2020 tpy CO_2e	2021 tpy CO_2e	2022 tpy CO_2e
Carbon dioxide CO_2	1	2,056,633	2,022,984	2,510,510	2,062,859	2,109,032
Methane CH_4	25	1,892	2,031	2,386	2,200	2150
Nitrous Oxide N_2O	300	3,294	3,554	4,125	3,900	4200
Total GHG CO_{2eq}		2,061,819	2,208,569	2,517,021	2,068,959	2,115,382

EMISSION UNIT IDENTIFICATION

Heidelberg has identified the following emission units as being subject to Title V permitting requirements and having applicable requirements.

Emission Unit Table 1-1: Area A-1 – Union Bridge Quarry Operations
(SCC 3-05-006-09)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT and NSPS Requirements			
HR1	6-0027	Quarry haul roads	Modified – 2002
SP1	6-0027	Limestone Storage Pile	Modified – 2002
TLU1	6-0027	Limestone Truck Loading	1970
TLU2	6-0027	Limestone Truck Loading/Unloading	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
SP8	6-0327	Iron B02-001 Surge Storage Pile	2002
SP9	6-0327	Silica B02-001 Surge Pile	2002
SP11	6-0027	Overburden Storage Pile	1911 & 1957
A01-009	6-0027	Gyratory Crusher – Primary crushing – Baghouse A01-012	1957
B01-017	6-0327	Belt Conveyor #8 - Baghouse A02-025	1970, moved from Area B
A01-018	6-0027	Belt Conveyor #1 – Baghouse A01-012	1957
A01-021	6-0027	Surge Bin/#8 Belt - Baghouse A01-025	1955
A02-005	6-0027	Belt Conveyor #2 - Baghouse A02-008, A02-003	1970
A02-006	6-0027	Secondary Crusher – Baghouse A02-008	1970
A02-010	6-0027	Belt Conveyor #3 – Baghouse A02-008	1970
A02-017	6-0027	Belt Conveyor #6 – Baghouse A02-008	1970
A02-018	6-0027	Belt Conveyor #5 – Baghouse A02-008	1970
A02-019	6-0027	Tertiary Crusher – Baghouse A02-008	1970
A02-021	6-0027	Belt Conveyor #4 – Baghouse A02-008	1970
A02-011	6-0027	Vibrating Screen and Transfer System – Baghouses A02-012, A01-015, A02-025	1970
A02-022	6-0027	Vibrating Screen and Transfer System - Baghouses A02-012. A01-015, A02-025	1970
A02-023	6-0027	Vibrating Screen and Transfer System - Baghouses A02-012, A02-015 and A02-025	1970
A02-024	6-0027	Belt Conveyor #7 – Baghouses A02-012, A02-015	1970
A03-022	6-0352	Masonry Hauling at Union Bridge (paved)	2014, Modified 2020
SP13	6-0327	Bottom Ash Storage Pile	2011
A02-026	6-0327	Screen for processing wet bottom ash	2011
Sources Subject to NSPS 40 CFR 60, Subpart OOO Requirements			
C01-001	6-0327	Bottom Ash Screener – one (1) MGL EX1 Scalper Screener, powered by an electric Cummins 74 HP engine	2022

Emission Unit Table 1-2: Area A-2 – New Windsor Quarry Operations
(SCC 3-05-006-09)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to NSPS Requirements			
A03-001A	6-0352	Waste Rock Hauling (Segment A)	2014

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
A03-001B	6-0352	Waste Rock Hauling (Segment B)	2014
A03-001C	6-0352	Waste Rock Hauling (Segment C)	2014
A03-002A	6-0352	Limestone Hauling (Segment A)	2014
A03-002C	6-0352	Limestone Hauling (Crusher Segment)	2014
A03-003	6-0352	Front End Loader to Limestone Truck	2014
A03-004	6-0352	Truck to Primary Hopper	2014
Sources Subject to NSPS 40 CFR 60, Subpart OOO Requirements			
A03-005	6-0352	Primary Crusher for calcium, silica, alumina, and iron bearing raw materials – Baghouse A03-007	2014
A03-006	6-0352	Primary Crusher for to Belt #1 – Baghouse A03-007	2014
A03-008	6-0352	Belt #1 to Belt #2 Transfer – Baghouse A03-007	2014, Modified 2020
A03-010	6-0352	Transfer from Belt #2 to Belt #3 or to Masonry Pile – Baghouse A03-011	2014
SP10	6-0352	New Windsor Storage Pile	2014
SP12	6-0352	Masonry Storage Pile	2014
A03-012	6-0352	Belt #2 to Limestone Overland Conveyor (Belt #4) – Baghouse A03-013	2014, Modified 2020
A03-014	6-0352	Overland Conveyor (Belt #4) Transfer to Belt #5 to New Transfer Tower – Baghouse A03-015	2014
A03-016	6-0352	New Transfer Tower – Baghouse A03-017	2014
A03-018	6-0352	Masonry Transfer to Crusher	2014, Modified 2020
A03-019	6-0352	Masonry Portable Crusher	2014, Modified 2020
A03-020	6-0352	Transfer from Masonry Crusher to Truck	2014, Modified 2020
A03-021	6-0352	Masonry Hauling at New Windsor (unpaved)	2014, Modified 2020

Emission Unit Table 2: Area B – Raw Material Transport and Storage
(SCC 3-05-006-12)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT Requirements			
TU1	6-0327	Iron and Silica Truck Unloading	2002
SP4	6-0327	Silica Storage Pile	2002
SP5	6-0327	Iron Storage Pile	2002
B03-031	6-0256	Activated Carbon Injection (ACI) system tank controlled by a bin vent	2011
Sources Subject to MACT Requirements			
B01-011	6-0327	Enclosed Limestone Dome	2001
B02-007	6-0327	Belt Conveyor – Baghouse B02-008	2001
B02-011	6-0327	Silica Bearing Material Bin – Baghouse B02-008	2001
B02-012	6-0327	Iron Bearing Material Bin – Baghouse B02-008	2001
B02-017	6-0327	Reversible Belt Conveyor – Baghouse B02-008	2001
B03-004	6-0327	Fly Ash Blending Silo System - Baghouse B03-008	2002
B04-019	6-0327	Limestone Bin - Baghouse B04-016	2002
TT3	6-0327	Transfer Tower #3 – Baghouses B04-011, B04-016	2002
TT4	6-0327	Transfer Tower #4 - Baghouse B02-019)	2002

Emission Unit Table 3: Area C – Raw Grinding
(SCC 3-05-006-13)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
C01-002	6-0328	Limestone Weighfeeder- Baghouse C01-007	2001
C01-004	6-0328	Iron Weighfeeder - Baghouse C01-007	2001
C01-006	6-0328	Silica Weighfeeder - Baghouse C01-007	2001
C01-011	6-0328	Belt Conveyor – Baghouse C01-007, C02-021	2001
C01-015	6-0328	Fly Ash Weigh Bin – Baghouse C01-019	2001
C02-001	6-0328	Bucket Elevator – Baghouse C02-011, C02-021	2001
C02-006	6-0328	100 Ton Bin – Baghouse C02-011	2001
C04-068	6-0328	Airslide – Baghouse C04-050, C04-075	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
C04-070	6-0328	Airslide – Baghouse C04-075	2002
C04-072	6-0328	Airslide – Baghouse C04-075	2002
C04-074	6-0328	Airslide – Baghouse C04-075	2002
C04-037	6-0328	Bucket Elevator – Baghouses C04-050, C04-075	2002
C04-038	6-0328	600 Ton Bin – Baghouse C04-075, C04-050	2002
C02-038	6-0328	Rejects Belt Conveyor - Baghouse C02-021	2001
C02-060	6-0328	Reversible Belt Conveyor (to Raw Mill) - Baghouse C02-011	2001
C03-034	6-0328	Airslide – Baghouse C03-001	2002
C03-035	6-0328	Airslide – Baghouse C03-001	2002
C03-040	6-0328	Airslide – Baghouse C03-001	2002
C03-042	6-0328	Airslide – Baghouse C03-001	2002
C03-045	6-0328	Airslide – Baghouses C03-047, C03-050	2002
C03-008	6-0328	Airslide – Baghouse C03-050	2002
C03-054	6-0328	Airslide – Baghouse C03-050	2002
C03-046	6-0328	Bucket Elevator – Baghouse C03-030, D01-037	2002
C03-017	6-0328	Airslide – D01-037	2002
C03-010	6-0328	Airslide – Baghouse C03-030	2002
C03-013	6-0328	Airslide – Baghouse C03-030	2002
C02-025	6-0328	Raw Mill – Baghouse C04-014	2001
C04-066	6-0328	Airslide – C03-050	2002

Emission Unit Table 4: Area D – Raw Meal – Kiln Feed
(SCC 3-05-006-23)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
D01-001	6-0329	Blending Silo – Baghouse D01-037	2002
D01-002	6-0329	Recirculation Airslide – Baghouse D01-037	2002
D01-003	6-0329	Recirculation Airslide – Baghouse D01-037	2002
D01-020	6-0329	185 Metric Ton Feed Bin – Baghouse D01-034	2002
D02-004	6-0329	Airslide – Baghouse D01-034	2002
D02-006	6-0329	Flow Meter – Baghouse D01-034	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
D02-017	6-0329	Airslide – Baghouse D01-034	2002
D02-019	6-0329	Flow Meter – Baghouse D01-034	2002
D01-023	6-0329	Airslide – Baghouse D01-040	2002
D01-026	6-0329	Airslide – Baghouse D01-040	2002
D02-007	6-0329	Airslide – Baghouse D01-040	2002
D02-020	6-0329	Airslide – Baghouse D01-040	2002
D02-010	6-0329	Airslide – Baghouse D02-041	2002
D02-023	6-0329	Airslide – Baghouse D02-041	2002
D02-049	6-0329	Airslide – Baghouse D02-041	2002
D02-025	6-0329	Bucket Elevator – Baghouse D02-041, D02-027	2002
D02-026	6-0329	Bucket Elevator – Baghouse D02-041, D02-027	2002
D02-033	6-0329	Airslide – Baghouse D02-027	2002
D02-045	6-0329	Airslide – Baghouse D02-027	2002
D02-047	6-0329	Airslide – Baghouse D02-027	2002

Emission Unit Table 5: Area E – Kiln and Clinker Cooler
(SCC 3-05-006-23)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
E01-001	6-0256	Kiln – Baghouse C04-014	2001
E02-001	6-0256	Preheater / Precalciner – baghouse C04-014	2001, modified 2023
E03-001	6-0256	Clinker Cooler – Baghouse E04-016	2001

Emission Unit Table 6: Area F – Coal Grinding Mill for Kiln
(SCC 3-05-006-21)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT Requirements			
F01-034	6-0330	Belt Conveyor #11/14	1970
F01-037	6-0330	Belt Conveyor #11/14	1970
SP2	6-0330	Coal Storage Pile	2002
SP3	6-0330	Coal Storage Pile	2002
TT2	6-0330	Transfer Tower #2	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
TU2	6-0330	Truck Unloading	2002
F02-006	6-0330	Reclaim Elevator	2002
F02-018	6-0330	Belt Conveyor	2002
F03-001	6-0330	Belt Conveyor	2002
F03-002	6-0330	Coal Bin Weighfeeder	2002
F03-003	6-0330	Coke Bin Weighfeeder	2002
Sources Subject to MACT Requirements			
F02-007	6-0330	Belt Conveyor	2002
F03-016	6-0330	Coal Mill System – Baghouses F03-028,F03-032, F03-036, F03-040, F03-044, F03-048 (Associated with kiln)	2001
F04-009	6-0330	Pneumatic Pump for Fine Coal Dust Bin – Baghouse F04-010	2002
F04-018	6-0330	Kiln Fuel Bin Pressure Relief - Baghouse C04-014	2002
F04-026	6-0330	Calciner Fuel Bin Pressure Relief - Baghouse C04-014	2002
TT5	6-0330	Transfer Tower #5 – baghouse F02-027	2002

Emission Unit Table 7: Area G – Clinker Transport & Storage – Craneway Building ***(SCC 3-05-006-16)***

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
TT8/9	6-0125	Transfer Tower #8/9 – Baghouse G02-041, Baghouse B01-018	2004
TT6	6-0125	Transfer Tower #6 – Baghouse G02-025	2004
G01-001	6-0125	Main Pan Conveyor – Baghouse E04-016	2001
G03-010	6-0125	Clinker into Craneway – Baghouse G03-011	2001
CWAY	6-0125	Craneway	1970
SP6	6-0125	Gypsum Stockpile	2015
TU3	6-0125	Gypsum Truck Unloading	2004
G04-014	6-0125	450 Metric Ton Clinker Bin – Baghouse G04-011	2001
G04-020	6-0125	Belt Conveyor - Baghouse G04-011	2001
G04-010	6-0125	Bucket Elevator - Baghouse G04-011	2001
G04-009	6-0125	Belt Conveyor - Baghouse G04-034	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
G04-016	6-0125	Belt Feeder – Baghouse G04-034	2002
G04-056	6-0125	Belt Feeder – Baghouse G04-034	2002
G04-058	6-0125	Clinker Bin, H01-006 Belt - Baghouse H01-210	2002
G04-059	6-0125	H01-015 Clinker Feeder, G04-018 Belt – Baghouse H01-210	2002
G01-012	6-0125	Clinker Storage Silo – Baghouse G01-009	2002
G02-002	6-0125	Transfer Tower #11, #12, #13 Belt Conveyors – Baghouse G02-047, G02-044, G02-021	2002
G04-018	6-0125	Belt Conveyor – Baghouse G04-037	2004
G04-019	6-0125	CE2 Bucket Elevator – Baghouse G04-037	1970
G04-031	6-0125	Drag Conveyor B3 – Baghouse H09-073	1970
G05	6-0125	Off Loading Trucks Preheater Dust Silo	2004
TL1	6-0125	Clinker Truck/Rail Loadout – Baghouse G02-053	2004
TT7	6-0125	Transfer Tower #7 – Baghouse G03-004	2004
TT9/10	6-0125	Transfer Tower #9/10 – Baghouse G03-011	2004

Emission Unit Table 8: Area H – Clinker Finish Mills
(SCC 3-05-006-17)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
H04-001	6-0331	Gypsum Bin 409	2002
H04-003	6-0331	Limestone Tank 416	2002
H05-001	6-0331	Gypsum Bin 509	2002
H06-001	6-0331	Gypsum Bin 609	2002
H07-001	6-0331	Gypsum Bin	2002
H08-001	6-0331	Gypsum Bin	2002
H04-004	6-0331	Clinker Bin 403	1970
H05-004	6-0331	Gypsum Bin 503	1970
H06-004	6-0331	Clinker Bin 603	1970
H07-004	6-0331	Gypsum Bin	2004
H01-040	6-0331	Finish Mill #1 – Baghouse H01-070	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
H01-061	6-0331	Cyclone and Belts – Baghouse H01-070	2002
H01-063	6-0331	Cyclone and Belts – Baghouse H01-070	2002
H01-080	6-0331	Elevator and Tipping Valves – Baghouse H01-230	2002
H01-090	6-0331	Finish Mill #1 Burner – Baghouse H01-070	2002
H01-105	6-0331	Belt Conveyor and Tipping Valves – Baghouse H01-210	2002
H01-110	6-0331	Bin – Baghouse H01-210	2002
H01-112	6-0331	Belt Conveyor and Tipping Valves – Baghouse H01-210	2002
H07-015	6-0331	Cement to Cement Cooler – Finish Mill #7 – Baghouse H01-240	2002
H07-016	6-0331	Airslide – Baghouse H01-240	2002
H04-006	6-0331	Belt Conveyor – Finish Mill #4 System – Baghouse H04-044	1970
H04-014	6-0331	Finish Mill #4 System – Baghouse H04-044	1970
H05-014	6-0331	Finish Mill #5 System – Baghouse H05-044	1970
H06-014	6-0331	Finish Mill #6 System – Baghouse H06-044	1970
H06-017	6-0331	Cyclone 642 – Finish Mill #6 System - Baghouse H06-044	1970
H06-037	6-0331	Separator 627 – Finish Mill #6 System - Baghouse H06-044	1970
H07-014	6-0331	Finish Mill #7 System – Baghouses H07-056, H07-057	2002
H07-018	6-0331	Finished Cement Transfer System – Baghouses H07-056, H07-057	2001
H07-068	6-0331	Finished Cement Transfer System – Baghouses H07-056, H07-057	2001
H07-040	6-0331	Cement Cooler – Baghouse H10-113	2002
H07-070	6-0331	Airslide – Baghouses H07-056, H07-057	2001
H07-071	6-0331	Airslide – Baghouse H10-113	2002
H08-014	6-0331	Finish Mill #8 System – Baghouse H08-056	2002
H08-017	6-0331	Separator – Finish Mill #8 System – Baghouse H08-056	2002
H08-037	6-0331	Cyclone – Finish Mill #8 System – Baghouse H08-056	2002

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
H08-038	6-0331	Cyclone – Finish Mill #8 System – Baghouse H08-056	2002
H08-040	6-0331	Cement Cooler – Baghouse H10-113	2002
H08-064	6-0331	Airslide – Baghouse H10-113	2002
H09-000	6-0331	Semi Finishing Grinding System – Baghouse H09-059	2001
H09-019	6-0331	Weighfeeder (from 750 ton Clinker Bin) – Baghouse H09-025	2001
H09-020	6-0331	100 Metric Ton Slag/Clinker Bin Weighfeeder – Baghouse H09-082	2002
H09-021	6-0331	100 Metric Ton Clinker Bin Weighfeeder – Baghouse H09-082	2002
H09-023	6-0331	100 Metric Ton Gypsum Bin Weighfeeder – Baghouse H09-025	2001
H09-024	6-0331	Belt Conveyor (from weigh feeders) – Baghouse H09-025	2001
H09-028	6-0331	Bucket Elevator – Baghouse H09-051	2000
H09-031	6-0331	Belt Conveyor – Baghouses H09-051, H09-033	2000
H09-036	6-0331	Bin – Baghouses H09-059, H09-033	2004
H09-041	6-0331	Roll Press – Baghouse H09-033	2004
H09-046	6-0331	Belt Conveyor – Baghouse H09-033	2002
H09-047	6-0331	Bucket Elevator – Baghouse H09-059	2000
H09-058	6-0331	Belt Conveyor to 90 Metric Ton Bin - Baghouse H09-073, H09-059	2000
H09-062	6-0331	Reversible Belt Conveyor – Baghouse H09-051, H09-082	2000
H09-066	6-0331	Belt Conveyor – Baghouse H09-082	2002
H09-075	6-0331	90 Ton Bin – Baghouse H09-073	2000
H09-091	6-0331	Clinker Belt – Baghouse H09-094	2000
H10-001	6-0331	Airslide – Baghouse H10-113	2002
H10-006	6-0331	Bucket Elevator – Baghouse H10-113	2002
H10-007	6-0331	Airslide – Baghouse H10-119	2001
H10-010	6-0331	Bucket Elevator – Baghouse H10-119	2001
H10-124	6-0331	Airslide – Baghouse H10-119	2001
H10-125	6-0331	Airslide – Baghouse H10-119	2001
H10-167	6-0331	Airslide – Baghouse H10-181	2002
H10-176	6-0331	Bucket Elevator – Baghouse H10-181	2002
H10-177	6-0331	Airslide – Baghouse H10-179	2002

Emission Unit Table 9: Area I – Cement Storage and Shipping with Bag Packing
(SCC 3-05-006-18)

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Subject to MACT Requirements			
I01-033	6-0039	Day Tank – Baghouse H10-179	2002
I02-289	6-0039	Feed Bin – Baghouse I02-290	2002
I03/I04	6-0039	Packaging and Palletizing – Pack house Collector	1970
TL2	6-0039	Truck Day Tank Loadout – Baghouse I02-290	2002
I02-001 to I02-032	6-0039	Product Silos – Baghouses H10-224, H10-252, H10-254, H10-221,	1970 and 2003
TL4 (F6/F5/H7/J6/ J3/J4/E7/H3)	6-0039	Bulk Loadout System – Baghouses I11-180, I11-190, I12-180, I12-190, I13-180, I13-190, I14-180, I14-190	1970 and 2003

Emission Unit Table 10: Dried BioSolids (DBS) Related Processes

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
Sources Not Subject to MACT Requirements			
F04-058	6-0330	DBS Storage Tank (Fluidized Coke Storage Tank) – Baghouses F04-062 & F04-064	2007
F05-049	6-0330	Rotary Air Lock for Feeding DBS from Silo – Baghouses F04-062, F04-064	2007
F05-050	6-0330	Scale, Pfister Dosing System – Baghouses F04-062, F04-064	2007
F05-051	6-0337	Mobile DBS Conveyor	2007
F05-055	6-0330	Diverter Valve to Calciner – Baghouses F04-062, F04-064	2007
F05-056	6-0330	Diverter Valve to Main Kiln Burner – Baghouses F04-062, F04-064	2007
G05-001	6-0331	Pneumatic baghouse dust (BD) transfer system – Baghouse G05-003	2009

Emission Unit Table 11: Emergency Generator

Emissions Unit Number	ARA Registration No.	Emissions Unit Name and Description	Date of Installation
J08-532	9-0186	Caterpillar 2520 horsepower emergency generator	2001

AN OVERVIEW OF THE PART 70 PERMIT

The Fact Sheet is an informational document. If there are any discrepancies between the Fact Sheet and the Part 70 permit, the Part 70 permit is the enforceable document.

Section I of the Part 70 Permit contains a brief description of the facility and an inventory list of the emissions units for which applicable requirements are identified in Section IV of the permit.

Section II of the Part 70 Permit contains the general requirements that relate to administrative permit actions. This section includes the procedures for renewing, amending, reopening, and transferring permits, the relationship to permits to construct and approvals, and the general duty to provide information and to comply with all applicable requirements.

Section III of the Part 70 Permit contains the general requirements for testing, record keeping and reporting; and requirements that affect the facility as a whole, such as open burning, air pollution episodes, particulate matter from construction and demolition activities, asbestos provisions, ozone depleting substance provisions, general conformity, and acid rain permit. This section includes the requirement to report excess emissions and deviations, to submit an annual emissions certification report and an annual compliance certification report, and results of sampling and testing.

Section IV of the Part 70 Permit identifies the emissions standards, emissions limitations, operational limitations, and work practices applicable to each emissions unit located at the facility. For each standard, limitation, and work practice, the permit identifies the basis upon which the Permittee will demonstrate compliance. The basis will include testing, monitoring, record keeping, and reporting requirements. The demonstration may include one or more of these methods.

Section V of the Part 70 Permit contains a list of insignificant activities. These activities emit very small quantities of regulated air pollutants and do not require a permit to construct or registration with the Department. For insignificant activities that are subject to a requirement under the Clean Air Act, the requirement is listed under the activity.

Section VI of the Part 70 Permit contains State-only enforceable requirements. Section VI identifies requirements that are not based on the Clean Air Act, but solely on Maryland air pollution regulations. These requirements generally relate to the prevention of nuisances and implementation of Maryland's Air Toxics Program.

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

Portland Cement MACT- 40 CFR Part 63 Subpart LLL

The Heidelberg – Union Bridge plant is a major hazardous air pollutant (HAP) emission source. The plant is subject to the Portland Cement MACT standards found at 40 CFR Part 63, Subpart A and Subpart LLL, which was finalized February 12, 2013, with Final Technical Amendments published July 27, 2015, corrections to the Final Technical Amendments published on September 11, 2015, and Final Risk and Technology Review Rule published in July 25, 2018. Since the current kiln was constructed at the same premises as the old plant, the current kiln is considered a Brownfield site, not a Greenfield site. The following sources at a Portland cement plant are subject to Subpart A and Subpart LLL:

(1) Each kiln, except for kilns that burn hazardous waste and are subject to and regulated under 40 CFR 63 subpart EEE;
(2) Each clinker cooler at any portland cement plant;
(3) Each raw mill at any portland cement plant;
(4) Each finish mill at any portland cement plant;
(5) Each raw material dryer at any portland cement plant;
(6) Each raw material, clinker, or finished product storage bin at any portland cement plant that is a major source;
(7) Each conveying system transfer point including those associated with coal preparation used to convey coal from the mill to the kiln at any portland cement plant that is a major source;
(8) Each bagging and bulk loading and unloading system at any portland cement plant that is a major source; and
(9) Each open clinker storage pile at any portland cement plant.

Onsite sources that are subject to standards for nonmetallic mineral processing plants in 40 CFR 60, Subpart OOO are not subject to 40 CFR 63, Subpart LLL. Crushers are not covered by Subpart LLL regardless of their location.

The first affected source in the material handling sequence, at a plant with on-site mineral processing, is the first transfer point associated with the conveyor transferring material from the raw material storage bins immediately prior to the raw mill. Crushers and any other equipment which precede the raw material storage are not subject to this rule. The first affected source at the plant is the transfer of material from the 100-ton bin (C02-006) to the belt conveyor (C02-060) that brings the material to the raw mill, controlled by dust collector C02-011. The first conveyor system transfer point subject to the MACT is the transfer point associated with the conveyor that transfers material from the raw material storage to the raw mill. Conveyor system transfer points prior to this conveyor are not affected sources. The MACT does not apply to emissions from cement kiln dust storage facilities and coal conveyance equipment before the coal mill. Heidelberg has on-site mineral processing (the quarry). Operations at the quarry are not subject to the MACT.

Under the MACT, Heidelberg was required to prepare for each affected source, a written operations and maintenance plan and include it in the Title V permit application.

Portland cement plants (constructed or reconstructed after March 24, 1998) must demonstrate compliance with Subpart LLL. Heidelberg is an existing source with respect to Subpart LLL. The compliance date for existing sources with the PM, mercury, THC, and HCl emission limits in 63.1343(b) which became effective in February 12, 2013 was September 9, 2015.

Heidelberg is required to continuously monitor the emissions of mercury, total hydrocarbons, and particulate matter. The amended rules also establish methods and criteria for installing and certifying the accuracy of continuous emissions monitoring systems for mercury. The particulate matter monitoring requirement in the amended rule replaces existing opacity (visual evaluation) standards with a more accurate means of demonstrating compliance with the particulate matter emission limit.

Heidelberg does not have an alkali bypass or a coal mill stack. Requirements pertaining to these sources are not included in the permit.

The permit has been updated to reflect the 2018 promulgation of the Cement MACT.

New Source Performance Standards (NSPS)
Certain raw material handling units constructed or modified after August 31, 1983, which are not subject to the Portland cement MACT, are subject to Subparts OOO- Standards of Performance for Nonmetallic Mineral Processing Plant. The raw material storage equipment constructed or modified after August 17, 1971 is subject to Subparts F - Standards of Performance for Portland Cement Plant. Under 40 CFR §63.1356, the coal feed system including the coal mill is subject to Subpart Y of Part 60 - Standards of Performance for Coal Preparation Plants.

Most of the operations at the Union Bridge quarry are not subject to the NSPS requirements of Subpart OOO (nonmetallic mineral processing plants) since these standards only apply to facilities which commenced construction, reconstruction, or modification after August 31, 1983. The Union Bridge quarry operations date back to the 1950's. However, the bottom ash screener, installed in 2022 and located near the dome and fly ash storage, is subject to the NSPS. The New Windsor quarry is subject to the more stringent requirements under Subpart OOO applicable to any affected facility commenced construction, reconstruction, or modification on or after April 22, 2008.

The conveying system transfer points used to convey coal from the mill to the kiln are subject to 40 CFR 63 Subpart LLL. (See § 63.1340(b)(7))

Prevention of Significant Deterioration (PSD)/Non-Attainment New Source Review (NSR) Approvals
On April 8, 1999, the Department issued Permit to Construct #06-6-0256, PSD Approval #PSD-97-01, and NSR Approval #97-02 to Heidelberg for the modernization and expansion of the Heidelberg facility. The PSD Approval and the permit to construct were modified on June 7, 2000. Conditions from these permits are included in the Title V operating permit.

The modernization and expansion project triggered PSD for carbon monoxide (CO) and triggered non-attainment major NSR for volatile organic compounds (VOC). Heidelberg submitted a netting analysis for PM, PM_{10}, SO_2, and NOx that demonstrated that the net increase in emissions of these pollutants did not exceed the PSD/NSR significant level. In addition, the potential emissions of lead and fluorides were less than the PSD significance level.

COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

Compliance Assurance Monitoring (CAM) is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act for large emission units that rely on air pollution control (APC) equipment to achieve compliance. The CAM approach establishes monitoring for the purpose of:

(1) documenting continued operation of the control measures within ranges of specified indicators of performance (such as emissions, control device parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements;

(2) indicating any excursions from these ranges; and

(3) responding to the data so that the cause or causes of the excursions are corrected.

Per 40 CFR 64.2(a), the CAM requirements are applicable to a unit which is located at a major source and subject to an emission limitation or standard; uses a control device to achieve compliance; has pre-control emissions of at least 100% of the major source amount; and must not otherwise be exempt from CAM under 40 CFR 64.2(b)(1)(i). 40 CFR 64.2(b)(1)(i) exempts all *emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to Section 111 or 112 of the Act.* Applicability determinations are made on a pollutant-by-pollutant basis for each emissions unit.

Emission Units Subject to CAM Requirements

Finish mills - Although the finish mills are subject to MACT requirements for opacity limit only, they are also subject to the particulate emission limit, 0.01 grains per standard cubic foot of dry air under Permit to Construct #06-6-0256 issued in 1999 to preclude applicability of a PSD review, which is more stringent than the MACT requirements. Therefore, the finish mills are subject to the CAM requirements.

Other Potential Emission Units Not Subject to CAM Requirements

The preheater/precalciner kiln, the in-line raw mill and the in-line coal mills are all exhausted through a common stack and their potential emissions exceed the CAM triggering levels for PM_{10}, NOx, VOC and SO_2. But they are not subject to the CAM requirements for the following reasons:

(1) The continuous emission monitoring system have been implemented to monitor NOx, VOC and SO_2 emissions; and

(2) As to PM_{10} emission, they are subject to MACT emission limits which are more stringent than all applicable emission standards including the limit under Permit to Construct #06-6-0256 issued in 1999 to escape PSD review. In addition, the Permittee had implemented CPMS for PM compliance demonstration.

(3) The clinker cooler is a potential major PM_{10} emission unit and is subject to a MACT PM_{10} standard that is more stringent than all other applicable standards including the limit under Permit to Construct #06-6-0256 issued in 1999 to escape PSD review. In addition, the Permittee had implemented CPMS for PM compliance demonstration. Therefore, the clinker cooler is exempt from the CAM requirements.

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

Compliance Tables of Section IV of the Part 70 permit:

Table IV-1: Quarry – Fugitive Sources (Area A)

1.0 Emissions Unit Number(s)

a. *The Union Bridge quarry located in Frederick County*
HR1- Quarry Haul Roads
SP1- Limestone Storage Pile
TLU1- Limestone truck loading/unloading
TLU2- Truck loading/unloading
SP8 – Iron B01-001 Surge Storage Pile
SP9 – Silica B02-001 Storage Pile
SP11 – Overburden Storage Pile
A03-022 Masonry Hauling at Union Bridge (paved)

b. *The New Windsor quarry located in Carroll County*
A03-001A - Waste Rock Hauling
A03-001B - Waste Rock Hauling
A03-001C - Waste Rock Hauling
A03-002A - Limestone Hauling
A03-002C - Limestone Hauling
A03-003 - Front End Loader to Limestone Truck
A03-004 - Truck to Primary Hopper
SP10 – New Windsor Storage Pile
SP12 - Masonry Storage Pile
A03-018- Masonry Transfer to Crusher
A03-019- Masonry Portable Crusher
A03-020- Transfer from Masonry Crusher to Truck
A03-021- Masonry Hauling at New Windsor (unpaved)

Applicable Standards and Regulations

(1) **COMAR 26.11.06.03D**- Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used,

constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

(2) **COMAR 26.11.06.12**, which states that a person may not construct modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source in a manner which results or will result in violation of the provisions of 40 CFR, Part 60.

(3) New Source Performance Standards (NSPS) for nonmetallic mineral processing plants **40 CFR 60 Subpart OOO** (New Windsor Quarry Only):

(a) The fugitive emissions from crushers at which a capture system is not used shall not exceed 12% opacity; **[Reference 40 CFR §60.672(b) & (e)(2)]**

(b) The fugitive emissions from each vent or each transfer point on a belt conveyor shall not exceed 7% opacity; and **[Reference 40 CFR §60.672(b) & (e)(2)]**

(c) Fugitive emissions from the building openings (except for vents as defined in 40 CFR §60.671) shall not exceed 7% opacity. **[Reference 40 CFR §60.672(e)(1)]**

(4) **Permit to Construct Conditions, PTC No. 013-0012-6-0352** (New Windsor Quarry Only) –

(a) Wet suppression systems shall be used whenever they are needed to comply with all applicable visible emissions and opacity limits. **[Reference Permit to Construct No. 013-0012-6-0352 Issued January 11, 2021]**

(b) The Permittee shall control fugitive dust from plant roads and stockpiles by using water, chemical dust suppressants, or a combination of both, as needed. **[Reference Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

Compliance Demonstration

The Permittee shall comply with and update as needed the best management plan that describes the procedures and methods that will be used to take reasonable precautions. The best management plan may be included in the written operation and maintenance plan required under the Portland Cement MACT. The Permittee shall keep the plan on-site and maintain records to demonstrate compliance with the procedures outlined in the plan. In addition, for the New Windsor Quarry, the Permittee shall perform monthly wet suppression system inspections as required by NSPS 40 CFR 60, Subpart OOO. All NSPS requirements should be incorporated into the best management plan.

Rationale for Compliance Demonstration

The best management plan is reviewed and approved by the Department and contains the methods and procedures that the Permittee uses to minimize emissions from these fugitive sources, including federal NSPS monitoring requirements. Documentation that

the procedures in the plan are followed is sufficient to demonstrate that the Permittee is using reasonable precautions to minimize fugitive emissions.

Table IV – 2: Union Bridge Quarry - Point Sources (Area A-1)
(Note: The Union Bridge quarry is located in Frederick County)

2.0 Emissions Unit Number(s):

Baghouse	Emission Unit
A01-012	A01-009- Gyratory Crusher; A01-018- Belt Conveyor #1
A01-025	A01-021- Surge Bin
A02-008	A02-005- Belt Conveyor #2; A02-006- Secondary Crusher; A02-010- Belt Conveyor #3; A02-017-Belt; Conveyor #6; A02-018- Belt Conveyor #5; A02-019- Tertiary Crusher and A02-021- Belt Conveyor #4
A02-012 & 015	A02-011; A02-022 and A02-023 - Vibrating Screens and Transfer Systems and A02-024- Belt Conveyor #7
A02-025	A02-011; A02-022; and A02-023 - Vibrating Screens and Transfer Systems and B01-017- Belt Conveyor #8

The Union Bridge quarry, which did not commence construction, modification, or reconstruction after August 31, 1983, is not subject to New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO.

Applicable Standards and Regulations

(1) **COMAR 26.11.30.05(B)(1)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity.

(2) **COMAR 26.11.30.04(B)(1)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.05 grains per standard cubic foot dry.

(3) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** - The following equipment shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm):

(a) A01-021 – Surge Bin;

(b) A02-024 & B01-017 – Belt Conveyors #7 & #8; and

(c) A02-011, A02-023, and A02-022 - Vibrating Screens and Transfer System.

(4) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** - The following equipment shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.015 gr/SCFD (34.3 mg/dscm):

(a) A01-009- Gyratory Crusher;

(b) A01-018- Belt Conveyor #1;

(c) A02-005- Belt Conveyor #2;

(d) A02-006- Secondary Crusher;

(e) A02-010- Belt Conveyor #3;

(f) A02-017- Belt Conveyor #6;

(g) A02-018- Belt Conveyor #5;

(h) A02-019- Tertiary Crusher; and

(i) A02-021- Belt Conveyor #4.

Compliance Demonstration

(1) The Permittee shall conduct a monthly 1-minute visible emissions test of the exhaust stack of each emission unit in accordance with Method 22 of Appendix A to part 60. The frequency of the tests may be reduced to semiannually or annually as specified in the permit.

(2) The exhaust gas from each equipment shall vent through a dust collector designed to meet the particulate matter emissions before discharging into the atmosphere. **[Reference Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]**

(3) The Permittee shall comply with and update, as needed, the preventative maintenance plan for each baghouse that describes the maintenance activity and time schedule for completing each activity. **[Reference COMAR 26.11.03.06C]**

(4) The Permittee shall maintain records of the results of the monthly inspections for at least five (5) years and make them available to the Department upon request At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference COMAR 26.11.03.06C]**

(5) The log of inspection and maintenance records shall be kept for at least five (5) years and shall be made available to the Department upon request. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[COMAR 26.11.03.06C]**

Rationale for Compliance Demonstration

Each emission unit is controlled by a bag filter which is the most effective control for visible emissions and particulate matter. In addition to the preventive maintenance plan used for bag filters, the Permittee should use Method 22 tests to monitor the visible emissions

situation and to keep each bag filter in a good operating condition. Reporting and record keeping requirements are sufficient documentation of the tests and results.

Table IV – 3: New Windsor Quarry - Point Sources (Area A-2)
(Note: The New Windsor quarry is located in Carroll County)

3.0 Emissions Unit Number(s):

Baghouse	Emission Unit
A03-007	A03-005- Primary Crusher for Ca, silica, alumina, and Fe bearing raw materials
	A03-006- Primary Crusher to Belt #1
A03-007	A03-008- Belt #1 to Belt #2 Transfer
A03-011	A03-010-Transfer from Belt #2 to Belt #3 or to Masonry Pile
A03-013	A03-012- Belt #2 to Limestone Overland Conveyor (Belt #4)
A03-015	A03-014-Overland Conveyor (Belt #4) Transfer to Belt #5 to New Transfer Tower
A03-017	A03-016- New Transfer Tower

The New Windsor quarry, which commenced construction, modification, or reconstruction after August 31, 1983, is subject to New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO.

Applicable Standards and Regulations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) **COMAR 26.11.06.02C(2),** which prohibits visible emissions other than uncombined water from any installation or building.

Exceptions. The visible emissions standard in COMAR 26.11.06.02C(2) does not apply to emissions during start-up and process modifications or adjustments, or occasional cleaning of control equipment, if: (i) the visible emissions are not greater than 40 percent opacity; and (ii) the visible emissions do not occur for more than 6 consecutive minutes in any 60 minute period.

(3) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot of dry exhaust gas.

(4) **COMAR 26.11.06.03D**, which requires that the Permittee take reasonable precautions to prevent particulate matter from materials handling and construction operations from becoming airborne.

(5) **COMAR 26.11.06.12**, which states that a person may not construct modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source in a manner which results or will result in violation of the provisions of 40 CFR, Part 60.

(6) Particulate matter emissions from each baghouse shall not exceed 0.014 grains per standard cubic foot of dry air (0.014 gr/dscf). **[Reference: 40 CFR §60.672(a)]**

(7) The fugitive emissions from crushers at which a capture system is not used shall not exceed 12% opacity. **[Reference: 40 CFR §60.672(b) & (e)(2)]**

(8) The fugitive emissions from each vent or each transfer point on a belt conveyor shall not exceed 7% opacity. **[Reference: 40 CFR §60.672(b) & (e)(2)]**

(9) Fugitive emissions from the building openings (except for vents as defined in 40 CFR §60.671) shall not exceed 7% opacity. **[Reference: 40 CFR §60.672(e)(1)]**

(10) Except as otherwise provided in this part, the New Windsor Quarry, including the modification of the Masonry limestone operation to increase the masonry limestone crushing throughput limit to 160,000 short tons per year, shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(11) The masonry portable crusher A03-019 shall not crush more than 160,000 short tons of limestone in any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(12) Particulate matter emissions from each bag filter shall not exceed 0.010 grains per standard cubic foot of dry air (0.010 gr/dscf). **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(13) The limestone mined from both the Union Bridge Quarry and the New Windsor Quarry shall be used only to support the Union Bridge Portland Cement Plant. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(14) The limestone crushing throughput from the New Windsor Quarry is limited to 3.65 million short tons for any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(15) The combined limestone crushing throughput from the Union Bridge Quarry and the New Windsor Quarry is limited to 3.70 million short tons for any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(16) The Union Bridge Quarry crushing system and the New Windsor Quarry crushing system shall not operate at the same time. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(17) A combined annual hours of operation, on a calendar year basis, for Union Bridge Quarry crushing system and the New Windsor Quarry crushing system is limited to 3,952 hours. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(18) The limestone withdrawal rate from the Union Bridge Limestone Storage Dome is limited to 3.53 million short tons for any rolling 12-month period. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(19) Beginning with the calendar month in which the New Windsor Quarry crushing system produces 811,100 annual short tons of limestone, when rolled monthly, the Union Bridge Quarry crushing system shall be limited to 2,615,942 short tons for any rolling 12-month period. The production of limestone from the Union Bridge Quarry crushing system shall be permanently reduced from the 2,615,942 short ton limit by at least 0.9 short tons for every short ton produced by the New Windsor Quarry crushing system above 811,100 annual short tons, rolled monthly. **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(20) The exhaust gases from the following operations shall vent through a bag filter prior to discharging to the atmosphere to meet all applicable particulate matter emissions limits: **[Reference: Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

(a) Primary Crusher operations to Belt Conveyor #1, and limestone transport operations from Belt Conveyor #1 to Belt Conveyor #2;

(b) limestone transport operations from Belt Conveyor #2 to the New Windsor Transfer Tower and from the New Windsor Transfer Tower to Belt Conveyor #3;

(c) limestone transport operations from the New Windsor Transfer Tower to Belt Conveyor #4 (the Overland Conveyor);

(d) limestone transport operations from Belt Conveyor #4 (the Overland Conveyor) to Belt Conveyor #5 at the Union Bridge Portland Cement Plant; and

(e) limestone transport operations from Belt Conveyor #5 to the Union Bridge Transfer Tower and from the Union Bridge Transfer Tower to the modified Belt Conveyor B01-002.

Compliance Demonstration

The Permittee shall comply with the following testing and monitoring requirements:

(1) The Permittee must conduct an initial stack emissions test to demonstrate compliance with all applicable particulate matter emissions limits within 60 days after achieving the maximum hourly production rate at which the affected facility will be operated, but not later than 180 days after initial startup. **[Reference 40 CFR § 60.672(a)]**

Note: On May 29-31, 2019, and June 3-6, 2019, Heidelberg conducted particulate matter stack testing on the New Windsor primary crusher baghouse and (3) Transfer Tower Baghouses (16, 17, & 18) as required by 40 CFR 60 Subpart OOO for initial NSPS start-up compliance. The Test report was received on June 27, 2019. On October 12, 2018, MDE granted Heidelberg an extension to June 15, 2019 to perform the test due the broken 4.5 mile conveyor belt. The results are as follows:

Source		Results	Standard	Production
Primary Crusher	PM	0.0004 gr/dscf	0.014gr/dscf	1,830 tph
	PM10	0.0004 gr/dscf	N/A	1,830 tph
	PM2.5	0.0001 gr/dscf	N/A	1,830 tph
Transfer Tower #16	PM	0.0010 gr/dscf	0.014gr/dscf	2,330 tph
	PM2.5	0.0001 gr/dscf	N/A	2,330 tph
Transfer Tower #17	PM	0.0010 gr/dscf	0.014gr/dscf	1,200 tph
	PM2.5	0.0009 gr/dscf	N/A	1,200 tph
Transfer Tower #18	PM	0.0004 gr/dscf	0.014gr/dscf	2,200 tph
	PM2.5	0.0003 gr/dscf	N/A	2,200 tph

(2) The Permittee must conduct initial opacity observations using EPA Method 9 as specified in **40 CFR 60, Subpart OOO**. For continuous compliance, the Permittee must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 [40 CFR Part 60 Appendix A-7] in accordance with Subpart OOO.

Note: The NSPS 40 CFR Part 60 Subpart OOO requires that 30-minute Method 9 visible emissions observations be performed on newly installed crushers and material transport belts to demonstrate compliance with the NSPS 7% opacity standard. On April 7, 2021 the Permittee performed the following Method 9 observations while at full load:

Portable Masonry Limestone Crusher (Warrior Power Screener) – 2.92% Opacity
Belt from Crusher to Storage Pile – 0.0% Opacity

(3) As an alternative to the periodic Method 22 visible emissions inspections specified in 40 CFR §60.674(c), any affected facility that uses a bag filter to control emissions may use a bag leak detection system, which must meet the specifications and requirements of 40 CFR §60.674(d), including the site-specific monitoring plan.

(4) The bag leak detection system must be operated and maintained according to the site specific monitoring plan at all times. **[Reference: 40 CFR §60.674(d)]**

Record Keeping and Reporting

The Permittee shall comply with the following record keeping and reporting requirements:

(1) The Permittee shall maintain the log of inspection and maintenance records for at least five (5) years and make it available to the Department upon request. At a

minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference COMAR 26.11.03.06C]**

(2) At least 30 days prior to initial operation of the New Windsor Quarry expansion project, the Permittee must submit the operation and maintenance plan for the Union Bridge Portland Cement Plant revised to include:

(a) The New Windsor Quarry expansion project,
(b) The preventative maintenance plan for the Union Bridge Portland Cement Plant revised to include each bag filter for the New Windsor Quarry expansion project, and

(a) The best management plan for fugitive emissions for the Union Bridge Portland Cement Plant revised to include fugitive sources from the New Windsor Quarry expansion project.

These submittals are for the review and approval by the Department. If applicable, each of these plans shall be updated to reflect the modification of the masonry limestone operation increasing the throughput limit to 160,000 short tons per year: **[Reference Permit to Construct #013-0012-6-0352 Issued January 11, 2021]**

Note: Updated plans were received by the Department on February 3, 2017.

(3) The Permittee must comply with the federal reporting and recordkeeping requirements under **40 CFR Part 60 Subpart A and Subpart OOO**. Records must be kept on site for a minimum of five (5) years and be made available to the Department and EPA upon request.
The records must include the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment, each periodic inspection required under §60.674(b) or (c), and records pertaining to each bag leak detection system should that alternate compliance method be selected.

Reporting must include notification of the actual date of initial startup of the Windsor Mill quarry, the results of all compliance performance tests conducted, reports of opacity observations made using EPA Method 9, notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted and notification of the anticipated date for conducting the opacity observations required by 40 CFR §60.11(e)(1).

Note: On May 9, 2018 the Permittee notified the Department that the initial operation of the New Windsor Quarry would occur on June 1, 2018.

(4) Records of the operating data required by **Permit to Construct #013-0012-6-0352 Issued January 11, 2021** must be kept at the site for at least five (5) years and be made available to the Department upon request.

The records must include the amount of limestone processed in the New Windsor Quarry crushing system each month and for any 12-month period rolling monthly, the amount of limestone processed in the Union Bridge Quarry crushing system each month and for any 12-month period rolling monthly, the exact times when the New Windsor Quarry crushing system was operated and the total annual operating hours on a calendar year basis, the exact times when the Union Bridge Quarry crushing system was operated and the total annual operating hours on a calendar year basis; the total annual operating hours, on a calendar year basis, for the New Windsor Quarry crushing system and the Union Bridge Quarry crushing system, combined, the amount of limestone withdrawn from the Union Bridge Limestone Storage Dome each month and for any 12-month period rolling monthly, and the amount of masonry limestone processed by the portable crusher A03-019 in the New Windsor Quarry each month and for any 12- month period rolling monthly.

Rationale for Compliance Demonstration
The New Windsor quarry is subject to post-April 2008 NSPS Subpart OOO requirements.

Each emission unit is controlled by a bag filter which is the most effective control for visible emissions and particulate matter. Subsequent quarterly 30-minute visible emissions inspections using Method 22 observations as specified in Subpart OOO are sufficient to ensure that the baghouses are operating properly to ensure continuous compliance with applicable particulate matter standards.

The operation and maintenance plan including each bag filter and best management plan for fugitive emissions updated to include New Windsor Quarry operation will minimize the emissions from Quarry operation.

The record keeping and reporting requirements for throughput and annual hours of operation of both Union Bridge and New Windsor Quarry are to ensure the facility is in compliance with operating requirements specified in Permit to Construct #013-0012-6-0352 dated March 13, 2014, and updated January 11, 2021.

Table IV – 4: Material Handling - Fugitive Sources - Not subject to MACT Requirements

4.0 Emissions Unit Numbers
Area A – Union Bridge Quarry Operations
SP13 – Bottom Ash Storage Pile
A02-026 – Screen

Area B – Raw Material Transport and Storage
TU1- Iron and silica truck unloading
SP4- Silica Storage Pile
SP5- Iron Ore Storage Pile

Area F – Coal Grinding Mill for Kiln
F01-034 – Belt Conveyor #11
F01-037 – Belt Conveyor #14

SP2 – Coal Storage Pile
SP3 – Coal Storage Pile
TT2 – Transfer Tower #2
TU2 – Truck Unloading
F02-018 - Belt Conveyor
F03-001 - Belt Conveyor
F03-002 – Coal Weigh feeder
F03-003 – Coke Weigh feeder

Applicable Standards and Regulations

COMAR 26.11.06.03D - Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

Compliance Demonstration

The Permittee shall comply with and update as needed the best management plan that describes the procedures and methods that will be used to take reasonable precautions. The best management plan may be included in the written operation and maintenance plan required under the Portland Cement MACT. The Permittee shall keep the plan on-site and maintain records to demonstrate compliance with the procedures outlined in the plan.

Rationale for Compliance Demonstration

The best management plan is reviewed and approved by the Department and contains the methods and procedures that the Permittee uses to minimize particulate matter from these fugitive sources. Documentation that the procedures in the plan are followed is sufficient to demonstrate that the Permittee is using reasonable precautions to minimize fugitive particulate matter.

Table IV – 5: Material Handling - Fugitive Sources - Subject to MACT Requirements

5.0 Emissions Unit Numbers

Area B – Raw Material Transport and Storage
B01-011 – Enclosed Limestone Dome

Area F – Coal Grinding Mill for Kiln
F02-007 – Belt Conveyor

Area G – Clinker Transport & Storage – Craneway Building
CWAY – Craneway
TU3 – Gypsum Truck Unloading

Area H – Clinker Finish Mill
H04-001 – Gypsum Bin 409
H04-003 – Limestone Tank 416
H04-004 – Clinker Bin 403

H05-001 – Gypsum Bin 509
H05-004 – Clinker Bin 503
H06-001 – Gypsum Bin 609
H06-004 – Clinker Bin 603
H07-001 – Gypsum Bin
H07-004 – Clinker Bin
H08-001 – Gypsum Bin

Applicable Standards and Regulations

(1) **Portland Cement MACT**- Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]**

(2) **COMAR 26.11.06.03D** - Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

Compliance Demonstration

The Permittee must comply with and update as necessary, an opacity monitoring plan to demonstrate continuous compliance as specified in 40 CFR 63, Subpart LLL. The plan shall be incorporated into the required Operations and Maintenance Plan for Subpart LLL affected sources. The Permittee shall keep the plan on-site and maintain records to demonstrate compliance with the procedures outlined in the plan.

Rationale for Compliance Demonstration

The operations and maintenance plan is reviewed and approved by the Department and contains the methods and procedures that the Permittee uses to minimize opacity and particulate matter from these fugitive sources. Documentation that the procedures in the plan are followed is sufficient to demonstrate that the Permittee is using reasonable precautions to comply with the opacity limitation and minimize fugitive particulate matter.

Table IV – 6: Material Handling - Point Sources - Subject to MACT requirements

6.0 Emissions Unit Numbers

Area B - Raw Material Transport and Storage

Baghouse	Emission Unit
B02-008	B02-007- Belt Conveyor; B02-011- Silica Bearing Material Bin; B02-012- Iron Bearing Material Bin; and B02-017- Reversible Belt Conveyor
B03-008	B03-004- Fly ash Blending System
B04-016	TT3- Transfer Tower #3
B04-011	TT3- Transfer Tower #3

B04-016	B04-019 Limestone bin
B02-019	TT4- Transfer Tower #4

Area C – Raw Grinding

Baghouse	Emission Unit
C02-021	C02-038- Rejects Belt Conveyor
C02-011	C02-060- Reversible Belt Conveyor (to Raw Mill)
C03-001	C03-034, C03-035, C03-040, & C03-042 - Airslides
C03-047	C03-045- Airslides
C03-050	C03-008, C03-045, C03-054, & C04-066 - Airslides
C03-030	C03-010 & C03-013 - Airslides and C03-046- Bucket Elevator
C01-007	C01-002- Limestone Weighfeeder; C01-004- Iron Weighfeeder; C01-006- Silica Weighfeeder; and C01-011- Belt Conveyor
C01-019	C01-015- Fly ash Weigh bin
C02-011	C02-001- Bucket elevator
C02-011	C02-006- 100 T Bin
C04-050	C04-037- Bucket Elevator
C04-075	C04-037- Bucket Elevator
C04-050	C04-038- 600T Bin and C04-068- Airslide
C04-075	C04-070, C04-072, and C04-074- Airslide

Area D – Raw Meal - Kiln Feed

Baghouse	Emission Unit
D01-037	C03-046- Bucket Elevator; C03-017-Airslide; D01-001- Blending Silo; and D01-003 & D01-002 - Recirculation Airslides
D01-034	D01-020- 185 MT Feed Bin; D02-004 & D02-017- Airslides and D02-006 & D02-019- Flow Meters
D01-040	D01-023, D01-026, D02-007, & D02-020 - Airslides
D02-041	D02-010, D02-023, & D02-049 - Airslides
D02-041	D02-025- Bucket Elevator and D02-026- Bucket Elevator
D02-027	D02-033, D02-045 & D02-047 – Air Slides

Area F – Coal Grinding Mill for Kiln

Baghouse	Emission Unit
F02-027	TT5- Transfer Tower #5
	F02-006 Reclaim Elevator
	F02-007 Belt Conveyor

Area G – Clinker Transport & Storage – Craneway Building

Baghouse	Emission Unit
B01-018	TT8/9- Transfer Tower #8/9
G02-041	TT8/9- Transfer Tower #8/9
G02-025	TT6 – Transfer Tower #6
G04-037	G04-018 – Belt Conveyor

Area H – Clinker Finish Mill

Baghouse	Emission Unit
G05-003	G05-001 Dust System

H10-113	H07-040- Cement Cooler; H07-071- Airslide; H08-040-Cement Cooler; H08-064- Airslide; H10-001- Airslide; and H10-006- Bucket Elevator
H10-119	H10-007, H10-124, and H10-125- Airslides; and H10-010 - Bucket Elevator
H10-181	H10-167- Airslide; and H10-176- Bucket Elevator
H10-179	H10-177- Airslide

Area I – Cement Storage and Shipping with Bag Packing

Baghouse	Emission Unit
H10-179	H10-177
	I01-033- Day Tank
I02-290	I02-289 – Feed Bin
	TL2 – Truck Day Tank Loadout
H10-221	Product Silos (I02-001 to I02-032)
H10-224	Product Silos (I02-001 to I02-032)
H10-252	Product Silos (I02-001 to I02-032)
H10-254	Product Silos (I02-001 to I02-032)
Pack house	I03/I04 - Packaging and Palletizing
I11-180; -190	TL4 - Truck/ Rail and Bulk Loadout System – (F6/F5/H7/J6/J3/J4/E7/H3)
I12-180; -190	TL4 - Truck/ Rail and Bulk Loadout System – (F6/F5/H7/J6/J3/J4/E7/H3)
I13-180; -190	TL4 - Truck/ Rail and Bulk Loadout System – (F6/F5/H7/J6/J3/J4/E7/H3)
I14-180; -190	TL4 - Truck/ Rail and Bulk Loadout System – (F6/F5/H7/J6/J3/J4/E7/H3)

Applicable Standards and Regulations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) **40 CFR Part 60, Subpart F, §60.62(c)** - Which limits the opacity of any gas from raw material storage to 10 percent for facility that commences construction or modification after August 17, 1971.

Note: This condition is equivalent to the requirements of §63.1345 for the same affected facilities, therefore as long as the Company complies with §63.1345, it meets this requirement.

(3) **40 CFR Part 60, Subpart Y, §60.254(a)** - which limits coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008 to 20 percent opacity.

(4) **Portland Cement MACT**- Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]**

(5) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(6) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** - Each emissions unit shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm).

Compliance Demonstration

(1) The Permittee must comply with and update as necessary, an opacity monitoring plan to demonstrate continuous compliance as specified in **40 CFR 63 Subpart LLL**. The plan shall be incorporated into the required operations and maintenance Plan for Subpart LLL affected sources. The Permittee shall keep the plan on-site and maintain records to demonstrate compliance with the procedures outlined in the plan.

(2) The Permittee must comply with and update as necessary, an opacity monitoring plan to demonstrate continuous compliance with **40 CFR Part 60 Subpart Y**. The Permittee shall keep the plan on-site and maintain records to demonstrate compliance with the procedures outlined in the plan. This plan can be incorporated into the operations and maintenance plan required for Subpart LLL affected sources.

(3) The exhaust gases from each emissions unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]**

(4) The Permittee shall comply with and update, as needed, the preventative maintenance plan for each baghouse that describes the maintenance activity and time schedule for completing each activity. **[COMAR 26.11.03.06C]**

Rationale for Compliance Demonstration

The opacity monitoring plan & the operations and maintenance plan are reviewed and approved by the Department and contain the methods and procedures that the Permittee uses to comply with the opacity and particulate matter limitations. Each emission unit is controlled by a bag filter which is the most effective control for visible emissions and particulate matter. Reporting and record keeping requirements are sufficient documentation that the procedures are followed.

Table IV – 7: Union Bridge Quarry - Point Sources (Area A-1) Subject to NSPS Requirements
(Note: The Union Bridge quarry is located in Frederick County)

Registration No. 6-0327 – Bottom Ash Screener consisting of one (1) MGL EX1 Scalper Screener, powered by an electric Cummins 74 HP engine, Emissions Unit Number C01-0001.

This bottom ash screener, which commenced construction, modification, or reconstruction after August 31, 1983, is subject to New Source Performance Standards (NSPS) for nonmetallic mineral processing plants 40 CFR 60 Subpart OOO.

Applicable Standards and Regulations

(1) 40 CFR Part 60 Subpart OOO, which states that the Permittee shall comply with a standard of no more than 7 percent opacity from this screener.

(2) COMAR 26.11.06.03C and D, which states that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources and materials handling and construction operations from becoming airborne.

Compliance Demonstration

(1) Within 180 days after initial startup of the screener, visible emissions observations shall be conducted to demonstrate compliance with the opacity standard specified in 40 CFR Part 60 Subpart OOO. **[Reference: Table 3 to 40 CFR Part 60 Subpart OOO, as a modification that has occurred after April 22, 2008]**

(2) After the initial visible emissions observation is performed, repeat observations shall be performed within every 5 years from the previous observation. **[Reference: Table 3 to 40 CFR Part 60 Subpart OOO, as a modification that has occurred after April 22, 2008]**

(3) The screener shall be operated at 90% or higher of its rated capacity during visible emissions observations.

(4) In determining compliance with the opacity standard under **40 CFR Part 60 Subpart OOO**, the Permittee shall use Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in 40 CFR §60.11 with the following additions:

(a) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
(b) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of 40 CFR Part 60 Section 2.1) must be followed.
(c) The duration of the Method 9 observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive

emission limit in Table 3 of 40 CFR Part 60 Subpart OOO must be based on the average of the five 6-minute averages.

(5) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:

(a) Records of all visible emissions observations conducted on the screener. **[Reference: Table 3 to 40 CFR Part 60 Subpart OOO, as a modification that has occurred after April 22, 2008]**

(b) The total surface area of the screen. **[Reference: 40 CFR Part 60 Subpart OOO(a)(2)]**

(c) Records of the occurrence and duration of any startup, shutdown, or malfunction of the operation of the screener. **[Reference: 40 CFR §60.7b]**

(d) Records of the amount of material processed in the screener each month.

(6) The Permittee shall submit written reports of the results of all visible emissions observations conducted to demonstrate compliance with the opacity standard set forth in **40 CFR Part 60 Subpart OOO** within 45 days after the visible emission observation was performed.

Rationale for Compliance Demonstration:
This unit is expected to have minimal fugitive emissions due to the moisture content of the material being processed. Additionally, Method 9 observations will be used to monitor the operation and ensure that opacity limitations are complied with. Reporting and record keeping requirements provide sufficient documentation of the visible emissions observations.

Table IV – 8: Kiln, Raw and Coal Mills - (Subject to MACT requirements)

8.0 Emissions Unit Numbers

Area C – Raw Grinding

Baghouse	Emission Unit
C04-014	C02-025- Raw Mill

Area E – Clinker Burning and Cooling with Preheater Kiln

Baghouse	Emission Unit
C04-014	E01-001/E02-001- Preheater-Precalciner/Kiln System

Area F – Coal Grinding Mill for Kiln

Baghouse	Emission Unit
F03-028	F03-016- Coal Mill
F03-032	F03-016- Coal Mill
F03-036	F03-016- Coal Mill

F03-040	F03-016- Coal Mill
F03-044	F03-016- Coal Mill
F03-048	F03-016- Coal Mill
F04-010	F04-009-Pneumatic Pump for Fine Coal Dust Bin
C04-014	F04-018-Kiln Fuel Pressure Relief
C04-014	F04-026-Calciner Fuel Bin Pressure Relief

Note: These emission units discharge through a common stack.

The pyroprocessing system consists of an in-line raw mill and 5-stage preheater kiln system. The kiln line consists of an in-line raw mill, preheater-precalciner, kiln, clinker cooler, baghouse, stack and associated duct work. A portion of the kiln flue gas is pulled off for the coal mill system and the raw mill system for drying. Gases from the kiln not needed for the mill processes, as well as the raw mill gases, are vented through the main baghouse and stack. Gases from the coal mill are vented through a separate baghouse before entering the main stack. Although the coal mill feed system is not subject to MACT requirements, the coal mills are addressed here with Preheater-Precalciner/Kiln system because they utilize the exhaust gases from the Preheater-Precalciner/Kiln system for coal drying and the exhaust gases vent through the main stack. The startup and shutdown work practices - 40 CFR 63.1346(g) are listed separately in section 14.1 Applicable standards /Limits and operating conditions on Table IV-14 Facility Wide-MACT sources only.

Lime injection has inherent acid gas scrubbing properties.

Selective Non-Catalytic Reduction (SNCR) system (6-0256) was installed 2010 and modified 2013. Powered Activated Carbon (PAC) system was installed 2011, modified 2013.

Applicable Regulations and Standards

A&B

Visible and Particulate Matter Emissions

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]**

(3) The Permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater. **[Reference: 40 CFR §60.254(a)]**

(4) **COMAR 26.11.30.04B(2)** - A person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 gr/SCFD (68.7 mg/dscm).

(5) The Permittee may not discharge particulate matter (PM) into the atmosphere from the kiln in excess of 0.07 pound per ton of clinker. **[Reference: 40 CFR §60.62(a)(1)(iii)] and Table 1-1 of 40 CFR §63.1343(b)(1)]**

(6) If the Permittee has an affected source subject to 40 CFR 60, Subpart F with a different emissions limit or requirement for the same pollutant under another regulation in Title 40, the Permittee must comply with the most stringent emissions limit or requirement and is not subject to the less stringent requirement. **[Reference: 40 CFR §60.62(d)]**

(7) **Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000** which limits particulate matter emissions from the main exhaust stack to 0.0158 gr/scfd (36.2 mg/dscm).

Compliance Demonstration

(1) The Permittee shall comply with and update, as needed, the preventative maintenance plan for each baghouse that describes the maintenance activity and time schedule for completing each activity. **[Reference: COMAR 26.11.03.06C]**

(2) For affected sources subject to opacity requirements under §63.1345, the Permittee must develop an opacity monitoring plan in accordance with §63.1350(p)(1) through (4) and (o)(5), if applicable, and conduct required opacity monitoring in accordance with the plan and the requirements listed in 40 CFR 64.1350(f)(1)(i)-(iv). For a raw mill or finish mill, the Permittee must monitor opacity in accordance with 40 CFR 64.1350(f)(2)(i)-(iii). **[Reference: 40 CFR §63.1350(f)]**

(3) The Permittee shall, for Cement Kilns and Clinker Coolers, uses a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit for continuous visible emissions and particulate matter compliance determinations in accordance with **COMAR 26.11.30.04C(1) and .05C(2).**

(4) For the PM CPMS, the Permittee will establish a site-specific operating limit in accordance with §60.63(c)(2) through (5) and §63.1349(b)(1)(i) through (iv). The Permittee shall conduct annual performance tests to reassess and adjust the site-specific operating limit as necessary. The Permittee shall follow the procedures in 40 CFR §63.1350(b)(iii) and (iv) for any exceedance of the established operating parameter limit of COMAR 26.11.30.04(C)(1) on a 30 process operating day basis. **[Reference: COMAR 26.11.30.04(C)(5), COMAR 26.11.30.04B(3), 40 CFR §60.63(c)(2) and 40 CFR §63.1349(b)(1)]**

Note: The most recent MACT PM Stack Test of the kiln and clinker cooler was performed on May 3-5, 2021. The Results are as follows:

Kiln (Raw Mill Off) – 0.0065 lb/ton of clinker (30-day rolling MACT standard of 0.07 lb/ton of clinker)

Kiln (Raw Mill On) – 0.0045 lb/ton of clinker (30-day rolling MACT standard of 0.07 lb/ton of clinker)

The Permittee performed PSD PM stack testing on April 21-22, 2020 and May 19, 2020. Test results are as follows:

Kiln (Raw Mill OFF)	**0.0024 gr/dscf (PSD Std.- 0.0158 gr/dscf)**
Kiln (Raw Mill ON)	**0.0010 gr/dscf (PSD Std.- 0.0158 gr/dscf)**

(5) The Permittee shall maintain all records collected from both testing and monitoring requirements for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained offsite. [Reference: 40 CFR §63.1355]

(6) If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the total operating time for the reporting period, the Permittee shall submit an excess emissions and continuous monitoring system performance report along with the summary report. **[Reference: 40 CFR §63.1354(b)(10)]**

(7) The Company shall submit to the Department semiannually a Summary Report - *Gaseous and Opacity Excess Emissions and Continuous Monitoring System (CMS) Performance* on January 31st and July 31st of each year. The Summary Report shall include the information specified in the permit. **[Reference: 40 CFR §63.1354b(9) and 40 CFR §63.10(e)(3)(vi)]**

(8) The Permittee shall submit a quarterly summary report of all emissions which exceed the applicable emission standards to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the information specified in the permit. **[Reference: COMAR 26.11.01.11A(3) & COMAR 26.11.01.10G(2)(d)]**

(9) The Permittee shall submit the results of performance tests before the close of business on the 60th day following the completion of the performance test. **[Reference: 40 CFR §63.1354(b)(1) & 40 CFR §63.10(d)(2)]**

(10) At least 30 days prior to each stack emissions testing, the Permittee shall submit to the Department a stack test protocol for review and approval. **[Reference: Part D(7) of Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000]**

Rationale of Compliance Demonstration

The kiln and coal mills are controlled by baghouses which are the most effective control for visible emissions and particulate matter. In accordance with its O & M plan and SSP

plan, Heidelberg calibrates, operates and maintains its CPMS in a manner consistent with good air pollution control. The PM CPMS output signal (in milliamps) is used, along with corresponding Method 5 stack test results (performed annually), to establish a site-specific operating limit for each stack. The CPMS with a data acquisition system (DAS) is in continuous operation except for periods of malfunctions, out-of-control, repairs, maintenance, and calibration checks. Any malfunction of the CPMS shall be identified and corrective actions will be implemented, as soon as practicable. Heidelberg will perform preventative maintenance on each baghouse as specified in the baghouse preventive maintenance plan. All periods of CPMS downtime, QA/QC activities and corrective measures are recorded and reported to show compliance status.

C. Dioxins/Furans (D/F)

(1) 40 CFR §63.1343(b)(1) which prohibits D/F in excess of:

(a) 0.2 ng per dscm (8.7 X 10^{-11} gr per dscf)(TEQ) corrected to seven percent oxygen; or

(b) 0.4 ng per dscm (1.7 x 10^{-10} gr dscf)(TEQ) corrected to seven percent oxygen, when the temperature at the inlet to the particulate matter air pollution control device is 204°C (400° F) or less.

(2) The Permittee, subject to a D/F emissions limitation under §63.1343, must operate the kiln such that the temperature of the gas at the inlet to the kiln PM control device (PMCD) does not exceed the applicable temperature limit specified in paragraph (b) of §63.1346. The Permittee must operate the in-line kiln/raw mill as specified in the permit. **[Reference: 40 CFR §63.1346(a)]**

Compliance Demonstration

(1) The Permittee must conduct a performance test using Method 23 of appendix A-7 to 40 CFR, Part 60. Subsequent performance tests must be performed within 30 months of the last performance test. **[Reference: 40 CFR §63.1349(b)(3)]**

Note: Dioxin / furan stack testing was performed on Sept 25-26, 2019. The stack test results are as follows:

Test Results for Raw Mill OFF:
0.0043 ng/DSCM TEQ corrected to 7% O2 (MACT standard- 0.40 ng/DSCM TEQ corrected to 7% O2 @ < 204 °C)

Test Results for Raw Mill ON:
0.0052 ng/DSCM TEQ corrected to 7% O2 (MACT standard- 0.40 ng/DSCM TEQ corrected to 7% O2 @ < 204 °C)

(2) The Permittee shall comply with the monitoring requirements of (g)(1) through (g)(6) and (m)(1) through (m)(4) of §63.1350 to demonstrate continuous compliance with the D/F emissions standard. The Permittee shall also develop

an emissions monitoring plan in accordance with (p)(1) through (p)(4) of §63.1350. **[Reference: 40 CFR §63.1350(g)]**

(3) The Permittee shall calibrate, maintain, and continuously operate a CMS to record the temperature of the exhaust gases from the kiln at the inlet to, or upstream of, the kiln PMCDs. **[Reference: 40 CFR §63.1350(g)(1)]**

(4) The Permittee shall maintain all records collected from both testing and monitoring requirements for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained offsite. **[Reference: 40 CFR §63.1355]**

(5) The Company shall submit to the Department semiannually a Summary Report - *Gaseous and Opacity Excess Emissions and Continuous Monitoring System (CMS) Performance* on January 31st and July 31st of each year. The Summary Report shall include the information specified in the permit. **[Reference: 40 CFR §63.1354b(9) & §63.10(e)(3)(vi)]**

Rationale for Compliance Demonstration
The CMS with a data acquisition system (DAS) is used to monitor the flue gas temperature entering the baghouse and is in continuous operation except for periods of malfunctions, out-of-control, repairs, maintenance, and calibration checks. Any malfunction of the CPMS shall be identified and corrective actions will be implemented, as soon as practicable. All periods of CMS downtime, QA/QC activities and corrective measures are recorded and reported to show compliance status. Subsequent performance tests will ensure continuous compliance.

D to G
NOx, SOx, CO, and VOC/THC Emissions

(1) **Permit to Construct #06-6-0256, 0331, and 0337 September 21, 2009** - NOx emission limits shall not exceed 3.85 pounds per tons of clinker on a monthly average only if the number of hours of the Pyroprocessing Portland cement plant burning DBS is greater than 25% of the kiln operating hours during the month.

(2) The Permittee shall operate the Selective Non-catalytic Reduction System (SNCR) to reduce NOx emissions in order to comply with a NOx emission limit of 2.4 pounds per ton of clinker produced on a 30-day rolling average in accordance with **COMAR 26.11.30.07C(2) & 26.11.30.07D.**

(3) **COMAR 26.11.30.06A(1) and 26.11.30.06C**, which limit the sulfur dioxide concentration in the exhaust gases not to exceed 500 parts per million by volume corrected to 7 percent oxygen.

(4) **COMAR 26.11.30.06B(1) and 26.11.30.06C**, which limits the content of sulfuric acid, sulfur trioxide, or any combination not to exceed 35 milligrams reported as sulfuric acid per cubic meter of gas corrected to 7 percent oxygen.

(5) **Prevention of Significant Deterioration (PSD) Approval #PSD-97-01R dated April 8, 1999 and revised June 7, 2000** which states that the premises-wide carbon monoxide (CO) emissions from the Pyroprocessing Portland cement plant and the existing Portland cement plant shall not exceed 3,328 tons for any 12-month period, rolling monthly.

(6) The emissions limits of total hydrocarbons (THC) is 24 parts per million by volume dry (ppmvd) measured as propane and corrected to 7% O_2. Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 12 ppmvd for total organic hazardous air pollutants (HAP). Standards for THC are based on a roling 30-day average. **[Reference: Table 1-1. of 40 CFR 63.1343(b)(1)]**

Compliance Demonstration

(1) The Permittee must operate, calibrate, and maintain CEMs to continuously monitor and record the emissions of NOX, CO, SO2 and VOC/THC emissions into the atmosphere for the kiln as specified in the permit. **[Reference: Permit to construct and Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000 and COMAR 26.11.01.11C]**

(2) The Permittee shall monitor NOx emissions, pounds per ton of clinker, on a monthly average, the total operating hours of the kiln, and the total operating hour of the Pyroprocessing Portland cement plant burning DBS for each month. **[Reference: Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000, August 7, 2009, and September 21, 2009]**

(3) The Permittee shall operate the Selective Non-catalytic Reduction System (SNCR) to reduce NOx emissions in order to comply with a NOx emission limit of 2.4 pounds per ton of clinker produced on a 30-day rolling average. **[Reference: COMAR 26.11.30.07C(2) & 26.11.30.07D]**

(4) The Permittee shall continuously monitor NOx emissions with a continuous emissions monitor ("CEM") certified in accordance with COMAR 26.11.01.11B(1) and (4) and C or use an alternative method approved by the Department and the EPA for compliance determination. **[Reference: COMAR 26.11.30.08A & B]**

(5) The Permittee shall maintain all records collected from both testing and monitoring requirements for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**

(6) For each CEM used to monitor a gas concentration, the Permittee shall equip the CEM to record not less than four equally spaced data points per hour and to automatically reduce data in terms of averaging times consistent with applicable emission standard. **[Reference: COMAR 26.11.01.11D(3)]**

(7) For THC Emission, the Permittee must demonstrate comply with the information specified in **40 CFR §63.1349(b)(4)(i), (ii), (iii), (iv) and (v), §63.1350(i) and §63.1350(i)(1) and (2).**

(8) The information with supporting documentation specified in the permit shall be maintained for at least 5 years and made available to the Department upon request. **[Reference: New Source Review Approval #NSR-97-02 issued April 8, 1999 and Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000]**

(9) The Permittee shall submit to the Department, a report no later than 30 days after the end of each calendar quarter, which shall include a summary of the information specified in the permit. **[Reference: New Source Review Approval #NSR-97-02 issued April 8, 1999 & Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000 & COMAR 26.11.03.06C]**

Rationale of Compliance Demonstration

The add-on control devices are used to control NOx (Non-selective catalytic convertor) and SO_2 (controlled by the lime raw material with additional lime injected if needed) emissions. The SO_2 standard is more stringent than the limits of the content of sulfuric acid, sulfur trioxide, or any combination, therefore as long as the facility meet the SO_2 requirement, it meets the applicable requirements of sulfuric acid, sulfur trioxide, or any combination. CEMs and the good combustion practices including kiln temperature, carbon monoxide, and oxygen monitoring are used to reduce CO and VOC emission. All emissions are continuously monitored by CEMs. In accordance with the O & M plan and SSMP, each CEMs with a data acquisition system (DAS) is in continuous operation except for periods of malfunctions, out-of-control, repairs, maintenance, and calibration checks. Any malfunction of the CEMs is identified and corrective actions will be implemented, as soon as practicable. All periods of CEMs downtime, QA/QC activities and corrective measures are recorded and reported to show compliance status.

H. Lead Emissions

Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000 which states that the emissions from the entire premises, including the existing Portland cement plant and the Pyroprocessing Portland cement plant, shall not exceed 0.6 tons of lead for any 12-month period, rolling monthly.

Note: The majority of facility's lead emissions are exhausted through the main kiln stack. Since 12-month rolling lead emissions are about 0.02 tons per year, well below the PSD significant net emission increase of 0.6 tons per year, any further lead emission testing is not meaningful.

Compliance Demonstration

The Permittee shall follow the required compliance demonstration for visible and particulate matters emissions to also demonstrate compliance with the lead emissions limit. The Permittee has demonstrated initial compliance with the lead emission limit through stack testing. As long as the Permittee complies with the

requirements for visible emissions and particulate matter, the Permittee will not exceed the lead emission limit.

Note: The Permittee performed Hazardous Air Pollutant stack testing on August 3-10, 2021. This program included lead. Test results are as follows:

Kiln (Raw Mill OFF)	**2.48 E-6 lb/ton clinker**
Kiln (Raw Mill ON)	**1.94 E-6 lb/ton clinker**

Rationale for Compliance Demonstration

I. Fluoride Emissions

(1) **COMAR 26.11.06.07B(1)(a)**, which states that a person may not cause or permit the discharge of fluorides into the atmosphere that causes a violation of any applicable air quality standards for fluorides set forth in COMAR 26.11.04.

(2) **COMAR 26.11.06.07B(1)(b)**, which states that the Department, after written notice to a person discharging fluorides to the atmosphere, may require the person to conduct a surveillance to determine whether ambient air quality standards for fluorides are violated. The manner, scope, and duration of the surveillance program will be determined by the Department.

Note: The majority of facility's fluoride emissions are exhausted through the main kiln stack. (For the compliance demonstration, see the discussion below.) Since 12- month rolling fluoride emissions are about 1.5 tons per year, well below the PSD significant net emission increase of 3.0 tons per year, any further fluoride emission testing is not meaningful.

Compliance Demonstration

The Permittee shall maintain the records of 12-month rolling fluoride emissions for at least 5 years and shall make them available to the Department upon request and include fluoride emissions in its annual emission certification.

Note: The Permittee performed Hazardous Air Pollutant stack testing on August 3-10, 2021. This program included hydrogen fluoride. Test results are as follows:

Kiln (Raw Mill OFF)	**7.75 E-5 lb/ton clinker**
Kiln (Raw Mill ON)	**1.00 E-4 lb/ton clinker**

Rationale of Compliance Demonstration

The kiln stack baghouse would reduce fluoride emissions to an insignificant level and the Permittee had demonstrated compliance with premises-wide emission limits through stack emissions testing. Since 12- month rolling fluoride emissions are about 1.5 tons per year, well below the PSD significant net emission increase of 3.0 tons per year, any further fluoride emission testing is not meaningful. The record

keeping requirements and annual emission certification are sufficient for compliance demonstration.

J. Mercury Emissions

The mercury emissions limit is 55 pounds per million tons (lb/MM tons) of clinker on a 30-day rolling basis. **[Reference: Table 1-1. of 40 CFR §63.1343(b)(1)]**

Compliance Demonstration

(1) The Permittee must operate a mercury CEMs or a sorbent trap monitoring system in accordance with the requirements of §63.1350(k). **[Reference: 40 CFR §63.1349(b)(5)]**

(2) The Permittee must operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in §63.1350(k)(5). **[Reference: 40 CFR §63.1349(b)(5)(i)]**

(3) The Permittee shall monitor the following operating data: **[Permit to Construct No. 013-0012-6-0256, 0331, and 0337 issued March 1, 2013]**

(a) Mercury emissions in pounds per million tons of clinker produced based on a 30-day rolling average during normal operation by using the mercury CEMs; and

(b) Work Practices required under 40 CFR §63.1346(g) during periods of startup and shutdown.

(4) The Permittee shall maintain all records collected from both testing and monitoring requirements for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: COMAR 26.11.03.06C]**

(5) As applicable, the Permittee shall equip the CEM to record not less than four equally spaced data points per hour and to automatically reduce data in terms of averaging times consistent with applicable emission standard. **[Reference: COMAR 26.11.01.11D(3)]**

(6) The information with supporting documentation specified in the permit shall be maintained for at least 5 years and made available to the Department upon request. **[Reference: New Source Review Approval #NSR-97-02 issued April 8, 1999 and Prevention of Significant Deterioration (PSD) Approval #PSD-97-01 issued April 8, 1999 and revised June 7, 2000]**

(7) The Permittee shall submit to the Department, a report no later than 30 days after the end of each calendar quarter, which shall include a summary of the information specified in the permit. **[Reference: COMAR 26.11.03.06C]**

Rationale for Compliance Demonstration
Mercury is controlled through the use of an activated carbon injection system and baghouse dust removal and finish mill reuse process. Mercury emissions are continuously monitored by a CEMs. In accordance with the O & M plan and SSMP, the CEMs with a data acquisition system (DAS) is in continuous operation except for periods of malfunctions, out-of-control, repairs, maintenance, and calibration checks. Any malfunction of the CEMs is identified and corrective actions will be implemented, as soon as practicable. All periods of CEMs downtime, QA/QC activities and corrective measures are recorded and reported to show compliance status.

K. Hydrogen Chloride (HCl) Emissions
The emissions limit for hydrogen chloride (HCl) is 3 parts per million by volume dry (ppmvd) measured as propane and corrected to 7% O2. **[Reference: Table 1 of 40 CFR §63.1343(b)(1)]**

Compliance Demonstration
The Permittee has installed a CEMs to continuously monitor and record HCl emissions.

The Permittee must conduct performance testing using Method 321 of appendix A to Part 63 unless the Permittee have installed a CEMs that meets the requirements §63.1350(l)(1). For kilns with inline raw mills, testing should be conducted for the raw mill on and raw mill off conditions. [Reference:40 CFR §63.1349(b)(6)(i)(A)]

(1) If the CPMS is chosen instead of a CEM, for a dry scrubber, the Permittee must measure and record the sorbent injection rate in intervals of no more than 15 minutes during the HCl test. Compute and record the 24-hour average sorbent injection rate and average sorbent injection rate for each sampling run in which the applicable emissions limit is met. [Reference:40 CFR §63.1349(b)(6)(i)(B)]

(2) The initial compliance test must be based on the 30 kiln operating days that occur after the compliance date of this rule in which the affected source operates using a HCl CEMs. Hourly HCl concentration data must be obtained according to §63.1350(l). [Reference: §63.1349(b)(6)(ii)(B)]

(3) As an alternative to §63.1349(b)(6)(i)(B), the Permittee may choose to monitor SO_2 emissions using a CEMs in accordance with the requirements of §63.1350(l)(3). The Permittee must establish an SO_2 operating limit equal to the average recorded during the HCl stack test where the HCL stack test run result demonstrate compliance with the emission limit. This operating limit will apply only for demonstrating HCl compliance. [Reference: 40 CFR §63.1349(b)(6)(iii)]

(4) If kiln gases are diverted to a coal mill and exhausted through a separate stack, the Permittee must calculate a kiln-specific HCl limit using Equation 11of §63.1349(b)(6)(iv). [Reference: 40 CFR §63.1349(b)(6)(iv)]

Note: On June 29-20, 2016, the HCL CEM passed its RATA with NIST certified calibration gasses. On December 2016, Heidelberg completed the 30-day HCL CEM compliance demonstration, within the 180-day MACT compliance demonstration period.

Rationale for Compliance Demonstration
Upon certification, the Permittee will demonstrate initial compliance with the emission limit for HCl through the use of continuous emission monitoring systems (CEMs). Heidelberg uses a pre-heater/pre-calciner kiln that inherently controls acid gases prior to discharging to the atmosphere. HCl emissions are continuously monitored by a CEMs. In accordance with the O & M plan and SSMP, the CEMs with a data acquisition system (DAS) is in continuous operation except for periods of malfunctions, out-of-control, repairs, maintenance, and calibration checks. Any malfunction of the CEMs is identified and corrective actions will be implemented, as soon as practicable. All periods of CEMs downtime, QA/QC activities and corrective measures are recorded and reported to show compliance status.

L. Greenhouse Gas (GHG) Emissions
There is no GHG emission limit specified in **40 CFR 98 Subpart H** (Cement Production).

Compliance Demonstration
For each cement kiln that meets the conditions specified in §98.33(b)(4)(ii) or (b)(4)(iii), the Permittee must calculate and report under this subpart the combined process and combustion CO2 emissions by operating and maintaining a CEMS to measure CO2 emissions according to the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources). **[Reference: 40 CFR 98.83]**

If a CEMS is used to measure CO2 emissions, then in addition to the records required by §98.3(g), the Permittee must retain under this subpart the records required for the Tier 4 Calculation Methodology in §98.37. If a CEMS is not used to measure CO2 emissions, then in addition to the records required by §98.3(g), the Permittee must retain the records specified in this paragraph (b) for each portland cement manufacturing facility. The Permittee must keep a record of the file generated by the verification software specified in §98.5(b) for the applicable data specified in paragraphs (c)(1) through (17) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (17) of this section. **[Reference: 40 CFR 98.87]**

Rationale for Compliance Demonstration
While there may be no applicable requirements as a result of PSD, the Permittee shall quantify facility wide GHGs emissions and report them in accordance with 40 CFR 98 Subpart H.

Table IV – 8a: Kiln (Subject to Federal Consent Decree 5:19-cv-05688)

8a.0 Emission Unit Numbers

Area E – Clinker Burning and Cooling with Preheater Kiln

Baghouse	Emission Unit
C04-014	E01-001/E02-001- Preheater-Precalciner/Kiln System

This facility became subject to **Federal Consent Decree 5:19-cv-05688 effective November 18, 2020**. Emission Units E01-001 and E02-001 Preheater-Precalciner/Kiln System (ARA registration number 6-0256) are subject to the Decree. [Reference: PTC 013-0012-6-0256 Issued March 8, 2022]

Applicable Standards and Regulations

(1) The Union Bridge facility owned and operated by the Permittee became subject to Federal Consent Decree 5:19-cv-05688 ("Decree") effective November 18, 2020.

(2) Emission Units E01-001 and E02-001 Preheater-Precalciner/Kiln System [ARA Registration No. 013-0012-6-0256] are subject to the Decree.

(3) Beginning on June 16, 2021 the Permittee shall comply with the following:

(a) The Union Bridge Kiln shall continuously operate the SNCR NOx control technology at all times of Kiln operation.

(b) The Union Bridge Kiln shall comply with a 30-day rolling average emission limit of 2.1 lbs NOx / Ton of Clinker.

(4) Beginning on February 10, 2021 the Permittee shall comply with the following:

(a) The Union Bridge Kiln shall continuously operate its SO2 emission control technology at all times of Kiln operation. The Kiln may rely on inherent SO2 scrubbing properties and/or lime injection to control SO2 emissions.

(b) The Union Bridge Kiln shall comply with a 30-day rolling average emission limit of 0.4 lbs SO2 / Ton of Clinker.

(5) The Permittee is prohibited from generating or using any emission reductions due to compliance with the Decree as netting reductions, emission offsets, or to apply for, obtain, trade, or sell any emission reduction credits.

(6) Baseline actual emissions for the Kiln during any 24-month period selected by the Permittee shall be adjusted downward to exclude any portion of the baseline emissions that would have been eliminated had the Permittee been complying with the Decree during that 24-month period.

(7) Any plant-wide applicability limits ("PALs") or PAL-like limits that apply to the Kiln must be adjusted downward to exclude any portion of the baseline emissions used

in establishing such limit(s) that would have been eliminated had the Permittee been complying with the Decree during such baseline period.

Compliance Demonstration

(1) In order to demonstrate compliance with the NOx and SO2 limits defined in the Federal Consent Decree, the Permittee is required to install CEMS in accordance with the requirements of 40 CFR Part 60 on the Kiln stack. The CEMS are required to be in operation during all times that the Kiln is in operation. The CEMS must monitor and record NOx and SO2 emissions in units of parts per million (ppm), lbs of pollutant per hour, and lbs of pollutant per ton of clinker produced. During any time when the CEMS is inoperable or otherwise not measuring emissions from the Kiln, the Permittee shall apply the missing data substitution procedures defined in 40 CFR Part 75, Subpart D.

(2) For the purposes of this section of the operating permit, an Operating Day shall mean any calendar day on which Kiln operation has occurred.

(3) A "30-Day Rolling Average Emission Limit" shall mean, with respect to the Kiln complying with an emission limit in this section of the operating permit, the maximum allowable rate of emission of a specified air pollutant from the Kiln, and shall be expressed as pounds (lbs) of such air pollutant emitted per ton of clinker produced. Compliance with the 30-Day Rolling Average Emission Limit shall be determined by calculating the 30-Day Rolling Average Emission Limit.

(4) The "30-Day Rolling Average Emission Rate" shall mean, with respect to the Kiln, the rate of emission of NOx or SO2, respectively, expressed as pounds (lbs) per ton of clinker produced by the Kiln and calculated in accordance with the following procedure: first, sum the total pounds of the pollutant in question emitted from the Kiln during an Operating Day and the previous twenty-nine (29) Operating Days, as measured; second, sum the total tons of clinker produced by the Kiln during the same Operating Day and previous twenty-nine (29) Operating Days; and third, divide the total number of pounds of that pollutant emitted from the Kiln during the thirty (30) Operating Days referred to in this paragraph by the total tons of clinker produced at the Kiln during the dame thirty (30) Operating Days. A new 30-Day Rolling Average Emission Rate shall be calculated for each new Operating Day. Only emission data determined to be valid under 40 CFR § 60.13 or during any time when the CEMS is inoperable or otherwise not measuring emissions from the Kiln, the Permittee shall apply the missing data substitution procedures defined in 40 CFR Part 75, Subpart D. In calculating each 30-Day Rolling Average Emission Rate, the total pounds of that pollutant emitted from the Kiln during a specified period (Operating Day or 30-Day Period) shall include all emission s of that pollutant from the Kiln that occur during the specified period, including emissions during each malfunction.

(5) The Permittee shall determine and record the daily clinker production rates by installing, calibrating, maintaining, and operating a permanent weigh scale system to measure and record weight rates of the amount of clinker produced in ton of mass per hour. The system of measuring hourly clinker production must be

maintained within ± 5 percent accuracy; or install, calibrate, maintain and operate a permanent weigh scale system to measure and record weigh rates of the amount of feed to the Kiln in tons of mass per hour, the system of measuring feed must be maintained withing ± 5 percent accuracy. If the Permittee chooses to measure and record the production rates at the Kiln, then the Permittee shall calculate the hourly clinker production rate using a kiln-specific feed-to-clinker ration based on the reconciled clinker production determined for accounting purposes and recorded feed rates, this ratio should be updated no less frequently than once per month; if this ratio changes at clinker reconciliation, the new ratio must be used going forward, but shall not be applied retroactively to change clinker production rates previously explained.

Record Keeping and Reporting

(1) The Permittee must maintain for at least five (5) years, and shall make available to the Department upon request, all records used to demonstrate compliance with NOx and SO2 emission limits, records demonstrating that the SNCR NOx control technology has been operated as required, and records demonstrating that the SO2 emission control technology has been operated as required.

(2) The Permittee must submit reports semi-annually until termination of the decree and quarterly thereafter that include a demonstration of compliance with the decree and a description of any non-compliance, with an explanation of the likely cause, corrective, and preventative actions taken to address the non-compliance.

Rationale for Compliance Demonstration

The Permittee is subject to the Federal Consent Decree as described. The limitations on NOx and SO2 emission rates will be monitored by CEMS, according to Part 60 rules. The implementation of Part 75 data substitution rules in the case of CEMS downtime incentives uptime. The CEMS data will also be recorded providing verification of compliance with emission limits. The use of certain control technologies as described in the decree is also required. The CEMS data will reflect the use of those technologies. The Permittee is prohibited using emissions reductions realized from compliance with the decree in a beneficial manner as pertains to PAL or PAL-like limits. The CEMS data will quantify any emissions savings due to compliance with the decree.

Table IV – 9: Clinker Cooler and Main Pan Conveyor - (Subject to MACT requirements)

9.0 Emissions Unit Numbers

Area E – Clinker Burning and Cooling with Preheater Kiln

Baghouse	Emission Unit
E04-016	E03-001 - Clinker Cooler

Area G – Clinker Transport & Storage – Craneway Building

Baghouse	Emission Unit
E04-016	G01-001 - Main Pan Conveyor

The clinker cooler is used to cool the kiln product and exhaust from the clinker cooler is passed through the clinker cooler baghouse then to the cooler exhaust stack.

Applicable Standards and Regulations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) On and after the date on which the performance test required to be conducted by §60.8 is completed, the Permittee may not discharge gases which exhibit 10 percent opacity or greater for clinker coolers constructed, reconstructed, or modified after August 17, 1971, but on or before June 16, 2008, except that this opacity limit does not apply to any clinker cooler subject to a PM limit in paragraph (b)(1) of this section that uses a PM continuous parametric monitoring system (CPMS). **[Reference: 40 CFR §60.62(b)(1)(iv)]**

(3) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(4) On and after the date on which the performance test required to be conducted by §60.8 is completed, the Permittee may not discharge PM into the atmosphere from the clinker cooler, which undergone a modification, in excess of 0.07 pound per ton of clinker. **[Reference: 40 CFR 40 CFR §60.62(b)(1)(ii)]**

(5) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000**, which limits particulate matter from the clinker cooler exhaust stack to 0.0129 gr/scfd (29.5 mg/dscm).

(6) The particulate matter emissions from the clinker cooler that has been constructed or reconstructed on or before May 6, 2009 during normal operation shall not exceed 0.07 pounds per tons of clinker. **[Reference: Table 1-7. of 40 CFR §63.1343(b)(1)]**

Compliance Demonstration

(1) The Permittee shall conduct particulate matter emissions stack tests using Method 5 of 40 CFR Part 60, Appendix A, for particulate matter on the clinker cooler once per calendar year, allowing at least 180 days between each particulate matter stack test [Consent Decree, August 24, 2009]. Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating under representative performance conditions in accordance with 40 CFR Part 63, Subpart LLL. Each run shall be conducted for at least one hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of the three runs shall be used to determine compliance. **[Reference: 40 CFR §63.1349(b) and (c)]**

(2) The Permittee uses a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit for continuous visible emissions

and particulate matter compliance determinations in accordance with **COMAR 26.11.30.04C(1) and .05C(2).**

(3) For the PM CPMS, the Permittee will establish a site-specific operating limit in accordance with §63.1349(b)(1)(i) through (iv). The Permittee shall conduct annual performance tests to reassess and adjust the site-specific operating limit as necessary. The Permittee shall follow the procedures in 40 CFR §63.1350(b)(iii) and (iv) for any exceedance of the established operating parameter limit of COMAR 26.11.30.04(C)(1) on a 30 process operating day basis. [Reference: COMAR 26.11.30.04(C)(5), COMAR 26.11.30.04B(3), 40 CFR §60.63(c)(2) and 40 CFR §63.1349(b)(1)]

Note: The most recent MACT PM Stack Test of the clinker cooler was performed on May 3-5, 2021. The results are as follows:

Clinker Cooler – 0.0012 lb/ton of clinker (30-day rolling MACT standard of 0.07 lb/ton of clinker)

(4) The Permittee shall comply with and update as needed the written operations and maintenance plan, which includes the following information:

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §63.1345;

(b) Corrective actions to be taken when required by §63.1350(e); and

(c) Procedures to be used to periodically monitor affected sources subject to opacity standards under§63.1345.

[Reference: 40 CFR §63.1350(a) and (b)]

(5) The exhaust gases from E03-001-Clinker Cooler and G01-001- Main Pan Conveyor shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Reference: COMAR 26.11.03.06C]**

(6) The Permittee shall comply with and update, as needed, the preventative maintenance plan for each baghouse that describes the maintenance activity and time schedule for completing each activity. **[Reference: COMAR 26.11.03.06C]**

(7) The Permittee shall maintain all records collected from both testing and monitoring requirements for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained offsite. **[Reference: 40 CFR §63.1355]**

(8) If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the

total operating time for the reporting period, the Permittee shall submit an excess emissions and continuous monitoring system performance report along with the summary report. **[Reference: 40 CFR §63.1354(b)(10)]**

(9) The Company shall submit to the Department semiannually a Summary Report - *Gaseous and Opacity Excess Emissions and Continuous Monitoring System (CMS) Performance* on January 31st and July 31st of each year. The Summary Report shall include the information specified in the permit. **[Reference: 40 CFR §63.1354b(9) and 40 CFR §63.10(e)(3)(vi)]**

(10) The Permittee shall submit a quarterly summary report to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the information specified in the permit. **[Reference: COMAR 26.11.01.11A(3) & COMAR 26.11.01.10G(2)(d)]**

(11) The Permittee shall submit the results of performance tests before the close of business on the 60th day following the completion of the performance test. **[Reference: 40 CFR §63.1354(b)(1) & 40 CFR §63.10(d)(2)]**

(12) At least 30 days prior to each stack emissions testing, the Permittee shall submit to the Department a stack test protocol for review and approval. **[Reference: Part D(7) of Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000]**

(13) The Permittee shall calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of feed to the kiln as specified in the permit. **[Reference: 40 CFR §60.63(b)(1)(i) & (ii) and §63.1350(d)(1)(i) & (ii)]**

(14) The Permittee shall measure the kiln feed rates and calculate clinker production, record the hourly kiln feed and clinker production rates. During each quarter of source operation, the Permittee must determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow). **[Reference: 40 CFR §60.63(b)(2) and 40 CFR §63.1350(d)(2) and (3)]**

Rationale for Compliance Demonstration

The clinker cooler is controlled by a baghouse which is the most effective control for visible emissions and particulate matter. In accordance with its O & M plan and SSP plan, Heidelberg calibrates, operates and maintains its CPMS in a manner consistent with good air pollution control. The PM CPMS output signal (in milliamps) is used, along with corresponding Method 5 stack test results (performed annually), to establish a site-specific operating limit for each stack. The CPMS with a data acquisition system (DAS) is in continuous operation except for periods of malfunctions, out-of-control, repairs, maintenance, and calibration checks. Any malfunction of the CPMS shall be identified and corrective actions will be implemented, as soon as practicable. Heidelberg will perform preventative maintenance on each baghouse as specified in the baghouse

preventive maintenance plan. All periods of CPMS downtime, QA/QC activities and corrective measures are recorded and reported to show compliance status

Table IV – 10: Clinker Handling and Craneway - Point Sources - (Subject to MACT requirements)

10.0 Emission Unit Numbers

Area G – Clinker Transport & Storage

Baghouse	Emission Unit
G01-009	G01-012- Clinker Storage Silo
G02-047	G02-002-Transfer Tower #13 Belt Conveyor
G02-044	G02-002- Transfer Tower #12 Belt Conveyor
G02-021	G02-002-Transfer Tower #11 Belt Conveyor
G02-053	TL1- Clinker Truck/Rail Loadout
G03-011	TT9/10- Transfer Tower #9/10 and G03-010- Clinker into Craneway
G03-004	TT7- Transfer Tower #7
G04-011	G04-010- Bucket Elevator; G04-014- 450 MT Clinker Bin; and G04-020- Belt Conveyor
G04-034	G04-009 & G04-016 - Belt Conveyor; G04-010- Bucket Elevator; G04-016- Belt Feeder; and G04-056- 100 MT Clinker Bin Weighfeeder
H01-220	G04-058- Clinker Bin, H01-006 Belt
(G04-034)	G04-059- H01-015 Clinker Feeder, G04-018 Belt

Area H – Clinker Finish Mill

Baghouse	Emission Unit
H09-051	H09-028- Bucket Elevator and H09-062- Reversible Belt Conveyor
H09-059	H09-047- Bucket Elevator; H09-058- Belt Conveyor; H09-000- Semifinish Grinding System; and H09-031- Belt Conveyor
H09-025	H09-019- Weighfeeder; H09-023- 100 MT Gypsum Bin Weighfeeder; and H09-024- Belt Conveyor (from Weighfeeder)
H09-073	H09-075- 90 Ton Bin
H09-082	H09-021- 100 MT Clinker Bin Weighfeeder; H09-066- Belt Conveyor; and H09-020- 100 MT Slag/Clinker Bin Weighfeeder
H09-033	H09-031 & H09-046 - Belt Conveyor and H09-036 & H09-041 - Bin & Roll Press
H09-094	H09-091- Metal Reclamation System Belt Conveyor

Applicable Standards and Regulations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) **Portland Cement MACT- 40 CFR §63.1345** which limits opacity to 10% or less for each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system.

(3) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(4) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000** – All emission units shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm) except TT9/10 - Transfer Tower #9/10 which is required to meet 0.0108 gr/SCFD (24.7 mg/dscm).

Compliance Demonstration

(1) The Permittee shall conduct a monthly 1-minute visible emissions test of the exhaust stack of each emission unit in accordance with Method 22 of Appendix A to part 60. The frequency of the tests may be reduced to semiannually or annually as specified in the permit.

(2) The Permittee shall comply with and update as needed the written operations and maintenance plan which includes the following information:

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§63.1348; and

(b) Procedures to be used to periodically monitor affected sources. **[Reference: 40 CFR §63.1350(a) and (b)]**

(3) The exhaust gas from each emissions unit shall vent a dust collector designed to reduce particulate matter emissions limits before discharging into the atmosphere. **[Reference: COMAR 26.11.03.06C]**

(4) The Permittee shall maintain all records for at least five years following the date of each inspection, occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained offsite. **[Reference: 40 CFR §63.1355]**

(5) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

Rationale for Compliance Demonstration

The opacity monitoring plan and preventive maintenance plan under the site specific monitoring plan and the operation and maintenance plan are reviewed and approved by the Department and contain the methods and procedures that the Permittee uses to comply with the opacity and particulate matter limitations. Each emission unit is controlled by a bag filter which is the most effective control for visible emissions and particulate

matter. Reporting and record keeping requirements are sufficient documentation that the procedures are followed.

Historical Stack Test Results

Heidelberg conducted compliance testing for particulate matter emissions from Dust Collector #H09-033 (Emission Units #H09-031, #H09-036, #H09-041, and #H09-046) on September 4 and 6, 2002, which indicated a particulate matter emission concentration of 0.0038 gr/dscf. Heidelberg conducted compliance testing for particulate matter emissions from Dust Collector #H09-082 (Emission Units #H09-021, #H09-020, #H09-062, and #H09-066) on September 19, 2002, which indicated a particulate matter emission concentration of 0.0004 gr/dscf. These stack tests on this representative set of dust collectors demonstrated that the dust collectors used throughout the plant were all designed to meet the emissions limits of 0.01 gr/dscf.

Table IV – 11: Finish Mill Systems - (Subject to MACT requirements)

11.0 Emission Unit Numbers

Area H – Clinker Finish Mill

Baghouse	Emission Unit
H01-070	H01-040 – Finish Mill #1; H01-061 – Cyclones and Belts; H01-063 – Cyclone and Belts and H01-090 – Finish Mill #1 Burner
H01-210	H01-105 – Belt Conveyor and Tipping Valves; H01-110 – Bin and H01-112 – Belt Conveyor and Tipping Valves
H01-230	H01-080 – Elevator and Tipping Valves
H01-240	H07-015 – Cement to Cement Cooler and H07-016 - Airslide
H04-044	H04-006- Belt Conveyor and H04-014- Finish Mill #4 System
H05-044	H05-014- Finish Mill #5 System
H06-044	H06-014- Finish Mill #6 System; H06-017- Cyclone 642 (FM#6 System); and H06-037- Separator 627 (FM#6 System)
H07-056	H07-014- Finish Mill #7 System, H07-018, H07-068, H07-070 – Finished Cement Transfer System
H07-057	H07-018, H07-068, & H07-070 – Finished Cement Transfer System
H08-056	H08-014- Finish Mill #8 System; H08-017- Separator (FM#8 System); H08-037- Cyclone (FM#8 System) and H08-038 – Cyclone (FM#8 System)

Applicable Regulations and Standards

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) Opacity for each finish mill, located at a major source, during all operating mode shall not exceed 10%. **[Reference: Table 1-13. of 40 CFR §63.1343(b)(1)]**

(3) Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading

system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent. **[Reference: 40 CFR §63.1345]**

(4) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(5) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000**, which limits particulate matter from each exhaust stack of H04-006 Belt Conveyor, H04-014 Finish Mill #4, H05-014 Finish Mill #5, H06-014 Finish Mill #6, H06-017 Cyclone 642, and H06-037 Separator 627 to 0.0132 gr/scfd (30.2 mg/dscm).

(6) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000**, which limits particulate matter from each exhaust stack of H07-014 Finish Mill #7, H08-014 Finish Mill #8, and H07-018, & H07-070 – Finished Cement Transfer System to 0.01 gr/scfd (22.9 mg/dscm).

(7) **Permit to Construct #013-6-0256M dated February 23, 2005**, which limits particulate matter to 0.0132 gr/scfd (30.2 mg/dscm).

(8) Greenhouse Gas (GHG) Emissions – There is no GHG emission limit specified in **40 CFR 98 Subpart H** (Cement Production).

Compliance Demonstration

(1) The Permittee shall conduct a particulate matter emissions test for each mill at least once every 5-year period in accordance with AMA Technical Memorandum 91-01 or using Method 5 of 40 CFR Part 60, Appendix A. Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating under representative performance conditions in accordance with **40 CFR Part 63, Subpart LLL**. Each run shall be conducted for at least one hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of the three runs shall be used to determine compliance. At least 30 days prior to each stack emissions testing, the Permittee shall submit to the Department a stack test protocol for review and approval. Within 60 days after each stack emissions testing, the Permittee shall submit to the Department the stack emissions test reports and compliance demonstration with emissions limits. [Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000]

Note: The permittee stack tested Finish Mills #1, #7, and #8 for particulate matter on May 25-26, 2021. The results are as follows:

Finish Mill #1 – 0.0006 gr/dscf TSP
Finish Mill #7 – 0.0017 gr/dscf TSP
Finish Mill #8 – 0.0024 gr/dscf TSP

(2) The Permittee shall conduct daily visual emissions observations of each mill sweep and air separator PMCDs of each affected source in accordance with Method 22 of Appendix A to part 60. The Method 22 test shall be conducted while the affected source is operating under representative performance conditions in accordance with 40 CFR 63.7(e). The frequency of the tests may be reduced as specified in the permit. **[Reference: 40 CFR §63.1350(f)]**

(3) The Permittee shall comply with and update as needed the written operations and maintenance plan. The plan shall include the following information:

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of 40 CFR §63.1347; and,

(b) Procedures to be used to periodically monitor affected sources.

[40 CFR §63.1350(a) and (b)]

(4) The exhaust gases from each emission unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging to the atmosphere. **[Reference: COMAR 26.11.03.06C]**

(5) The Permittee shall monitor, record, and report GHGs in accordance with 40 CFR 98.34, 98.35, 98.36, and 98.37 for the Finish Mill No. 1 Air Heater.

(6) The Permittee shall implement and comply with the requirements of the CAM plan as specified in the permit.

(7) The Permittee shall maintain all records, including particulate matter emissions test results, for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained offsite.
[Reference: 40 CFR §63.1355 & COMAR 26.11.03.06C]

(8) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

Note: From the historical and recent stack test results for finish mill systems, all the finish mills and finished cement transfer systems have been operated in compliance with the emission limit of 0.0132 gr/scfd (30.2 mg/dscm) for finish mill # 4, 5, and 6 and 0.01 gr/scfd (22.9 mg/dscm) for finish mill #7 and 8 and the finished cement transfer systems.

Rationale for compliance demonstration

The permit requires that the exhaust gases from each emission unit vent through a baghouse, which is the most effective control for visible emissions and particulate matter, before discharging into the atmosphere for compliance with the emissions limits of visible emissions and particulate matter. The Permittee shall quantify GHGs emissions and report them in accordance with 40 CFR 98.36. The implementation of the CAM plan would ensure that each piece baghouse functions in accordance with the established operating criteria. Reporting and record keeping requirements are sufficient documentation that the procedures are followed.

Table IV-11a: Finish Mill Systems CAM Plan

Table IV-11a Finish Mill Systems CAM Plan	
11a.0 - Emission Units: **H01-040 Finish Mill #1 System** **H04-014 Finish Mill #4 System** **H05-014 Finish Mill #5 System** **H06-014 Finish Mill #6 System** **H07-014 Finish Mill #7 System** **H08-014 Finish Mill #8 System**	
11a.1 – Monitoring Approach	
11a.1-A – Indicator #1	Stack performance test
11a.1-B – Measurement Approach	PM emissions from the baghouses' exhaust will be tested in accordance with AMA Technical Memorandum 91-01 or using Method 5 of 40 CFR Part 60, Appendix A.
11a.1-C – Indicator Range	An excursion is defined as the test result is greater than the PM standard for individual stack specified in Table IV-10 10.1. Excursions trigger an inspection of the baghouse, corrective action, and a reporting requirement
11a.1-D – Performance Criteria **Data Representativeness:** **QA/QC Practices and Criteria:** **Monitoring Frequency and Data Collection Procedure:**	 Measurements are made at the baghouse exhaust while the finish mills are operating. Stack test proposal will be sent to the Department for approval before test. Each mill at least once every 5-year period. Test results will be documented and reports submitted to the Department.
11a.2-A – Indicator #2	Visible emissions
11a.2-B – Measurement Approach	Visible emissions from the baghouses' exhaust will be monitored daily using and EPA Reference Method 22 procedures.

Table IV-11a Finish Mill Systems CAM Plan	
11a.2-C – Indicator Range	An excursion is defined as the presence of visible emissions. Excursions trigger an inspection of the baghouse, corrective action, and a reporting requirement
11a.2-D – Performance Criteria **Data Representativeness:** **QA/QC Practices and Criteria:** **Monitoring Frequency and Data** **Collection Procedure:**	 Measurements are made at the baghouse exhaust while the finish mills are operating. The observer will be familiar with Reference Method 22 and will follow Method 22 procedures. A 6-minute Method 22 observation is performed daily. A follow-up six minutes Method 22 test will be performed within 24 hours of the end of the six-minute test in which the visible emission was observed. If visible emissions are observed during the follow-up Method 22 test, a 30-minute Method 9 test must be performed. The VE observation is documented by the observer.
11a.3-A – Indicator #3	Inspection/Maintenance
11a.3-B – Measurement Approach	Daily inspection according to checklist and maintenance performed in accordance with manufacturer's recommendations or as needed.
11a.3-C – Indicator Range	N/A
11a.3-D – Performance Criteria **Data Representativeness:** **QA/QC Practices and Criteria:** **Monitoring Frequency and Data Collection Procedure:**	 Inspections are performed on the baghouses: H01-070, H04-044, H05-044, H06-044, H07-056 & 057, and H08-014. Qualified personnel perform inspections and maintenance. Daily Records are maintained to document daily inspections and dates of the completion of any required maintenance.

Table IV – 12: Miscellaneous Sources Venting Inside Building – Subject to MACT requirements

12.0 Emissions Unit Numbers

Area G – Clinker Transport & Storage – Craneway Building

Baghouse	Emission Unit
G04-037	G04-018-Belt Conveyor (Venting Inside Building)
	G04-019-CE2 Bucket Elevator (Venting Inside Building)
H09-073	G04-031-Drag Conveyor B3 (Venting Inside Building)

Area H – Clinker Finish Mill

Baghouse	Emission Unit
H09-059	H09-058-Belt Conveyor (Venting Inside Building)
H09-073	H09-058-Belt Conveyor (Venting Inside Building) & H09-075-90T Bin (Venting Inside Building)

Applicable Standards and Regulations

(1) **COMAR 26.11.30.05(B)(2)**, which states that a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(2) **Portland Cement MACT- 40 CFR §63.1345** which limits opacity to 10% or less for each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system.

(3) **COMAR 26.11.30.04(B)(2)**, which states that a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(4) **Permit to Construct #06-6-0256N dated April 8, 1999 and revised June 7, 2000**- Each emissions unit shall be equipped with a dust collector designed to reduce particulate matter emissions to 0.01 gr/SCFD (22.9 mg/dscm).

Compliance Demonstration

(1) The Permittee shall conduct a monthly 1-minute visible emissions test of the exhaust stack of each emission unit in accordance with Method 22 of Appendix A to part 60. The frequencies of the test are specified in the permit. **[Reference: 40 CFR §63.1350(a)(4)(i)-(iii) and (l)]**

(2) The Permittee has the option to conduct a Method 22 visible emissions test according to the requirements of 40 CFR §63.1350(a)(4)(i)-(iii) and (l) for each emissions unit located within the building, or for the building itself. If visible emissions from the building are monitored, the requirements of 40 CFR §63.1350(a)(4)(i)-(iii) and (l) apply to monitoring the building, and the Permittee must also test visible emissions from each side, roof, and vent of the building for at

least 1 minute. The test must be conducted under normal operating conditions. **[Reference: 40 CFR §63.1350(a)(4)(vi)-(vii)]**

(3) The Permittee shall comply with and update as needed the written operations and maintenance plan which includes the following information:

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§63.1348; and

(b) Procedures to be used to periodically monitor affected sources. **[Reference: 40 CFR §63.1350(a) and (b)]**

(4) The exhaust gas from each emissions unit shall vent through a dust collector designed to meet the particulate matter emissions limit before discharging into the atmosphere. **[Reference: COMAR 26.11.03.06C]**

(5) The Permittee shall maintain all records for at least five years following the date of each inspection, occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. **[Reference: 40 CFR §63.1355]**

(6) The Permittee shall submit a summary report semiannually which contains all failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a). **[Reference: 40 CFR §63.1354(b)(9)(v)]**

Rationale for compliance demonstration

The opacity monitoring plan and preventive maintenance plan under the site specific monitoring plan and the operation and maintenance plan are reviewed and approved by the Department and contain the methods and procedures that the Permittee uses to comply with the opacity and particulate matter limitations. Each emission unit is controlled by a bag filter which is the most effective control for visible emissions and particulate matter. Reporting and record keeping requirements are sufficient documentation that the procedures are followed.

Table IV – 13: Dried BioSolids (DBS) Related Operations

13.0 Emissions Unit Numbers

Product Collectors	Emission Unit
F04-062	F04-058 - DBS Storage Tank (Fluidized Coke Storage Tank)
F04-064	F04-058 - DBS Storage Tank (Fluidized Coke Storage Tank)
F04-062	F05-055 – Diverter Valve to Calciner
F04-064	F05-055 – Diverter Valve to Calciner

F04-062	F05-056 – Diverter Valve to Main Kiln Burner
F04-064	F05-056 – Diverter Valve to Main Kiln Burner
F04-062	F05-049 – Rotary Air Lock for Feeding DBS from Silo
F04-064	F05-049 – Rotary Air Lock for Feeding DBS from Silo
F04-062	F05-050 – Scale, Pfister Dosing System
F04-064	F05-050 – Scale, Pfister Dosing System
G05-003	G05-001 – Pneumatic baghouse dust (BD) transfer system F05-051 – Mobile DBS Conveyor for Rail Car Unloading

Dried BioSolids (DBS) system - installed 2009, updated 2013

Applicable Standards and Regulations

COMAR 26.11.06.03D- Particulate Matter from Materials Handling and Construction. A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

Compliance Demonstration

The product collectors F04-062, F04-064, and G05-003, either vent through kiln or back to the storage devices to recover products. The Permittee shall comply with and update as needed the best management plan that describes the procedures and methods that will be used to take reasonable precautions. The best management plan may be included in the written operation and maintenance plan required under the Portland Cement MACT. The Permittee shall keep the plan on-site and maintain records to demonstrate compliance with the procedures outlined in the plan.

Rationale for Compliance Demonstration

The best management plan is reviewed and approved by the Department and contains the methods and procedures that the Permittee uses to minimize particulate matter from these fugitive sources. Documentation of corrective measures taken in accordance with the plan is sufficient to demonstrate that the Permittee is using reasonable precautions to minimize fugitive particulate matter.

Table IV – 14: Facility Wide Requirements

14.0 Emissions Unit Numbers

Facility Wide

Applicable Standards and Regulations

(1) **Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000** which states that NOx emissions from the entire premises shall not exceed 4,871 tons for any 12-month period, rolling monthly.

(2) **Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000** which states that emissions from the entire premises shall not exceed the following limits for any 12-month period, rolling monthly:

(a) 925 tons of PM;

(b) 716 tons of PM10; and

(c) 586 tons of PM10 stack emissions.

(3) **Permit to Construct #06-6-0256 issued April 8, 1999 and revised June 7, 2000** which states that SO2 emissions from the entire premises shall not exceed 1,041 tons for any 12-month period, rolling monthly.

(4) **Prevention of Significant Deterioration (PSD) Approval #PSD-97-01R dated April 8, 1999** which states that the premises-wide carbon monoxide (CO) emissions from the Pyroprocessing Portland cement plant and the existing Portland cement plant shall not exceed 3,328 tons for any 12-month period, rolling monthly.

(5) **New Source Review Approval #NSR-97-02 issued April 8, 1999** which states that premises-wide emissions shall not exceed 165 tons of VOC for any 12-month period, rolling monthly. In determining compliance with VOC emission limits, VOC emissions shall be determined by calculating the numerical difference between the measured values of total hydrocarbon (THC) emissions and non-VOC emissions.

(6) **Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000** which states that the emissions from the entire premises, including the existing Portland cement plant and the Pyroprocessing Portland cement plant, shall not exceed 0.6 tons of lead for any 12-month period, rolling monthly.

(7) **Permit to Construct #06-6-0256 dated April 8, 1999 and revised June 7, 2000** which states that the emissions from the entire premises, including the existing Portland cement plant and the Pyroprocessing Portland cement plant, shall not exceed 3.0 tons of fluoride for any 12-month period, rolling monthly.

(8) **COMAR 26.11.03.06C** which prevents the discharge of fluorides into the atmosphere that causes a violation of any applicable ambient air quality standards for fluorides set forth in COMAR 26.11.04.

Compliance Demonstration

(1) The Permittee shall submit quarterly emission reports for emissions of each regulated pollutant on a rolling 12-month basis.

(2) The Permittee shall submit an annual emission certification report for each regulated pollutant and shall use the premises-wide actual emissions, which does not exceed the allowable emission limits, as its emission baseline for future modifications.

(3) The Permittee shall not use any alternative kiln raw material, fuel, or additive except the following: **[Permit to Construct No. 06-6-0256, 0331, and 0337 dated March 1, 2013 & Permit to Construct No. 013-0012-6-0256 Issued November 15, 2023]**

(a) Quarried stone, sand and shale;
(b) Iron-bearing materials, such as pyrites and millscale;
(c) Cat fines;
(d) Bottom ash and fly ash from coal-fired fuel burning equipment;
(e) Natural gas;
(f) Coal;
(g) Scrap tires;
(h) Petroleum coke;
(i) Used oil generated on site;
(j) Class A Dried BioSolids (DBS); and
(k) Other materials which are included in the Permittee's current operating permit or may have been approved by the Department in the past under separate action.

Any alternative kiln raw material, fuel, or additive not approved under authority of this permit or under any previous action may not be used unless it is demonstrated to the Department's satisfaction that the use of any substitute raw material, fuel or additive does not violate the Department's air toxics screening levels and does not increase air emissions beyond the allowable limits stated in the permit to construct, the PSD approval, or the NSR approval.

Rationale for Compliance Demonstration

The Permittee has demonstrated compliance with all premises-wide emission limits through stack emissions testing and/or continuous emissions monitoring. As long as the Permittee demonstrates compliance with all requirements for each emission unit, its premises-wide actual emissions will not exceed allowable emission limits. Quarterly emission reports and annual emissions certification reports confirm compliance with the limits.

Table IV – 15: Emergency Generator

15.0 Emission Unit Number:

Emission Unit	
J08-532	Caterpillar 2520 horsepower (1750 kW) diesel generator, ARMA Reg. No. 013-0012-9-0186, installed in July 2001

This generator was constructed in July 2001, before the applicability date of the NSPS for generators (40 CFR 60, Subpart IIII). This generator is not subject to 40 CFR, Part 63, Subpart ZZZZ since emergency generators at major sources of HAPs are exempt from the requirements of 40 CFR, Part 63, Subpart ZZZZ according to 40 CFR 63.6590(b)(3)(iii). The following requirements have been included in Table IV-18 in the permit.

Applicable Standards and Regulations

(1) The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity. **[Reference: COMAR 26.11.09.05E(2)]**

(2) The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity. **[Reference: COMAR 26.11.09.05E(3)]**

Exceptions. COMAR 26.11.09.05E(4) establishes the following:

(a) Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
(b) Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service: 30 minutes; and (ii) All other engines: 15 minutes.
(c) Section E(2) and (3) do not apply while maintenance, repair, or testing is being performed by qualified mechanics.

(3) The Permittee shall not burn any distillate fuel oil with a sulfur content of greater than 0.3% by weight. **[Reference: COMAR 26.11.09.07A(1)(c)]**

(4) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in **40 CFR, Part 72.2**) of 15 percent or less shall:

(a) Provide certification of the capacity factor of the equipment to the Department in writing;

(b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;

(c) Maintain the results of the combustion analysis at the site for at least 5 years and make these results available to the Department and the EPA upon request;

(d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. **[Reference: COMAR 26.11.09.08G]**

For the purposes of COMAR 26.11.09.08, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. **[Reference: COMAR 26.11.09.08B(5)]**

(5) The Permittee shall burn only diesel fuel (No. 2 fuel oil) that meets all applicable federal and state requirements in the generator unless the Permittee obtains an approval from the Department to burn alternate fuels. **[Reference: COMAR 26.11.02.09A]**

Compliance Demonstration

(1) The Permittee is limited to burning only diesel fuel (No. 2 fuel oil) that meets all applicable federal and state requirements in the generator unless the Permittee obtains an approval from the Department to burn alternate fuels. The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]**

(2) The Permittee performs combustion analyses and training as required by **COMAR 26.11.09.08** for the emergency generator.

(3) The Permittee shall maintain the following records at the premises at least five (5) years, and shall make available to the Department upon request:

(a) Records of the calculated capacity factors. [Reference: COMAR 26.11.03.06C]
(b) Records of hours of operation. [Reference: COMAR 26.11.02.19C]
(c) Records of combustion analysis performed if the hours of operation exceed 500. [Reference: COMAR 26.11.09.08G(1)(c)]
(d) Records of all maintenance/repairs performed [Reference: COMAR 26.11.03.06C]
(e) Record of training program attendance for each operator. [Reference: COMAR 26.11.09.08G(1)(e)]
(f) Annual records of the quantity and type of fuel combusted in the generator.
(g) Fuel supplier certifications. Reference: COMAR 26.11.03.06C]

(h) Incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]**

Rationale for Compliance Demonstration

COMAR 26.11.09.08 outlines the methods for compliance with the training and combustion analysis requirements. Compliance with the requirements of COMAR 26.11.09.08 ensures that operators of the generator are properly trained and the generator is properly maintained to not cause emissions in excess of the applicable visible emissions standards. Fuel supplier certification is sufficient to ensure that the fuel used in the emergency generator meets the applicable sulfur content limit. The Permittee shall keep records of all analyses and fuel supplier certifications to confirm compliance.

Table IV – 16: Facility Wide – MACT Sources Only

16.0 Emissions Unit Number(s)

Facility Wide- MACT Sources Only

Applicable Standards and Regulations

(1) The Permittee must prepare a written operations and maintenance plan. The plan must be submitted to the Department, for review and approval, as part of the application for a Title V - Part 70 operating permit and must include the following information: **[Reference: 40 CFR §63.1347(a)]**

(a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emissions limits and operating limits, including fugitive dust control measures for open clinker piles, of **40 CFR §63.1343 through 40 CFR §63.1348**. the Permittee's operations and maintenance plan must address periods of startup and shutdown;

(b) Corrective actions to be taken when required by paragraph **40 CFR §63.1350(f)(3)**; and

(c) Procedures to be used during an inspection of the components of the combustion system of each kiln and each in-line kiln raw mill located at the facility at least once per year.

(2) Failure to comply with any provision of the operations and maintenance plan developed in accordance with this section is a violation of the standard. **[Reference: 40 CFR §63.1347(b)]**

(3) In order to demonstrate continuous compliance during startup and shutdown, all air pollution control devices must be operating. **[Reference: 40 CFR §63.1348(b)(9)]**

(4) During periods of startup and shutdown, the kiln shall meet the following requirements: **[Reference: 40 CFR §63.1346(g)]**

(a) During startup the Permittee must use any one or combination of the following clean fuels: natural gas, synthetic natural gas, propane, distillate oil, synthesis gas (syngas), and ultra-low sulfur diesel (ULSD) until the kiln reaches a temperature of 1200 degrees Fahrenheit; **[Reference: 40 CFR §63.1346(g)(1)]**

(b) Combustion of the primary kiln fuel may commence once the kiln temperature reaches 1200 degrees Fahrenheit; **[Reference: 40 CFR §63.1346(g)(2)]**

(c) All dry sorbent and activated carbon systems that control hazardous air pollutants must be turned on and operating at the time the gas stream at the inlet to the baghouse or ESP reaches 300 degrees Fahrenheit (five minute average) during startup. Temperature of the gas stream is to be measured at the inlet of the baghouse or ESP every minute. Such injection systems can be turned off during shutdown. Particulate control and all remaining devices that control hazardous air pollutants should be operational during startup and shutdown; **[Reference: 40 CFR §63.1346(g)(3)]** and

(d) The Permittee must keep records as specified in §63.1355 during periods of startup and shutdown. **[Reference: 40 CFR §63.1346(g)(4)]**

Compliance Demonstration

The Permittee shall meet all of the testing, monitoring, recordkeeping and reporting requirements in Table IV-16 of the Title V Operating Permit, int Table IV-16. It is noted that the following initial requirements have been satisfied:

(1) Initial Performance Test Requirements under **40 CFR Part 63, Subpart LLL** - The Permittee must demonstrate compliance with the emissions standards and operating limits by using the test methods and procedures in §63.1349 and 63.7. Any cement kiln that has been subject to the requirements of subpart CCCC or subpart DDDD of 40 CFR Part 60, and is now electing to cease burning nonhazardous solid waste and become subject to this subpart, must meet all the initial compliance testing requirements each time it becomes subject to this subpart, even if it was previously subject to this subpart. **[Reference: 40 CFR §63.1348(a)]**

(2) The Permittee shall comply with the following compliance dates:

(a) The compliance date for existing sources for all the requirements that became effective on February 12, 2013, except for the open clinker pile requirements will be September 9, 2015; [Reference: 40 CFR §63.1351(c)] The Department has extended the compliance date of HCl to September 9, 2016. **[Reference: Department Letter dated July 15, 2015]**

(b) The compliance date for new sources is February 12, 2013, or startup, whichever is later; **[Reference: 40 CFR §63.1351(d)]**

(c) The compliance date for existing sources with the requirements for open clinker storage piles in §63.1343(c) is February 12, 2014; **[Reference: 40 CFR §63.1351(e)]** and

(d) Emissions limits in effect prior to September 9, 2010. Any source defined as an existing source in §63.1351, and that was subject to a PM, mercury, THC, D/F, or opacity emissions limit prior to September 9, 2010, must continue to meet the limits shown in **Table 2 to 40 CFR 63, Subpart LLL** until September 9, 2015.

[Reference: 40 CFR §63.1343(d), Department Letter dated May 22, 2014]

Rationale for Compliance Demonstration
The requirements of the Cement MACT (40 CFR Part 63 Subpart LLL) are incorporated into the Title V Operating Permit, in Table IV-16. Compliance with the requirements in the Operating Permit ensures that the facility will meet the requirements and standards of the MACT.

COMPLIANCE SCHEDULE

Heidelberg is currently in compliance with all applicable air quality regulations.

TITLE IV – ACID RAIN

Heidelberg is not subject to the Acid Rain Program requirements.

TITLE VI – OZONE DEPLETING SUBSTANCES

Heidelberg is not subject to Title VI requirements.

SECTION 112(r) – ACCIDENTAL RELEASE

Heidelberg is not subject to the requirements of Section 112(r).

PERMIT SHIELD

The Heidelberg facility requested that a permit shield be expressly included in the Permittee's Part 70 permit. Permit shields are granted on an emission unit by emission unit basis. If an emission unit is covered by a permit shield, a permit shield statement will follow the emission unit table in Section IV - Plant Specific Conditions of the permit. In this case, a permit shield was granted for each emission unit covered by the permit.

INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(2) ✓ Water cooling towers and water cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;

(3) No. 3 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

The containers are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20 ° C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(4) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 2 Storage of lubricating oils;

(c) No. 4 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(5) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(6) ✓ Potable water treatment equipment, not including air stripping equipment;

(7) ✓ Emissions resulting from the use of explosives for blasting at quarrying operations and from the required disposal of boxes used to ship the explosive;

(8) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act; and

(9) ✓ Laboratory fume hoods and vents.

STATE ONLY ENFORCEABLE REQUIREMENTS

This section of the permit contain state-only enforceable requirements. The requirements in this section will not be enforced by the U.S. Environmental Protection Agency. The requirements in this section are not subject to COMAR 26.11.03 10 - Public Petitions for Review to EPA Regarding Part 70 Permits.

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations

(1) COMAR 26.04.10, which provides requirements for management of coal combustion byproducts.

(2) COMAR 26.11.01.11B, which provides general requirements for CEMs.

(3) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

(4) COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

(5) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health.

Compliance Demonstration

The Permittee shall submit to the Department by April 1 of each year a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. Such analysis shall include either:

(a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

(b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

In October 2021, the Permittee submitted a Toxic Air Pollutant (TAP) Assessment based on the August 2021 stack test results.

Rationale of Compliance Demonstration

Compliance Demonstrations specified for each emission unit, particularly for the Kiln, should be sufficient to demonstrate compliance with regards to the issues of nuisance and toxic air pollutants. In addition, the Permittee is required to submit to the Department each year a written certification of the results of an analysis of emissions of toxic air pollutants.