

**Iowa Department of Natural Resources  
Title V Operating Permit**

**Name of Permitted Facility: Continental Cement Company –  
Davenport Plant**

**Facility Location: 301 East Front Street  
Buffalo, IA 52728**

**Air Quality Operating Permit Number: 04-TV-007R2**

**Expiration Date: November 8, 2022**

**Permit Renewal Application Deadline: May 8, 2022**

**EIQ Number: 92-3093**

**Facility File Number: 82-04-005**

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**Responsible Official**

**Name: Joseph H. Pennings**

**Title: Plant Manager**

**Mailing Address: 301 E Front St.  
Buffalo, IA 52728**

**Phone #: (563) 328-6201**

**Permit Contact Person for the Facility**

**Name: Bonita Goode**

**Title: Environmental & Public Affairs Manager**

**Mailing Address: 301 E Front St.  
Buffalo, IA 52728**

**Phone #: (563) 328-6204**

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This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

**For the Director of the Department of Natural Resources**

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Lori Hanson, Supervisor of Air Operating Permits Section

Date

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## Abbreviations

acfm	actual cubic feet per minute
CFR	Code of Federal Regulation
dscf	dry standard cubic feet
dscm	dry standard cubic meters
°F	degrees Fahrenheit
EIQ	emissions inventory questionnaire
gr./dscf	grains per dry standard cubic foot
hp./hr.	horsepower hours
IAC	Iowa Administrative Code
IDNR	Iowa Department of Natural Resources
KWH	kilowatts per hour
mg/dscm	milligrams per dry standard cubic meter
N/A	not applicable
ng/dscm	nanograms per dry standard cubic meter
NSPS	new source performance standard
ppmv	parts per million by volume
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal units
MMcf/hr.	million cubic feet per hour
scfm	standard cubic feet per minute
TEQ	toxicity equivalents
TPY	tons per year
tons/hr	tons per hour
USEPA	United States Environmental Protection Agency
VMT/hr	vehicle miles traveled per hour

### Pollutants

PM	particulate matter
PM <sub>10</sub>	particulate matter ten microns or less in diameter
SO <sub>2</sub>	sulfur dioxide
NO <sub>x</sub>	nitrogen oxides
VOC	volatile organic compound
CO	carbon monoxide
HAP	hazardous air pollutant
D/F	dioxins and furans

# I. Facility Description and Equipment List

Facility Name: Continental Cement Company – Davenport Plant

Permit Number: 04-TV-007R2

Facility Description: Portland Cement Plant (SIC 3241)

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## Equipment List

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### A. Fugitives Subject to Fugitive Dust Rule Only

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
0040-0-F	0040-3-F	Raw Materials Screening	N/A
0060-0-F	0060-1-F	Overburden Removal	N/A

### B. Fugitives Subject to Fugitive Dust Rule and Iowa DNR Administrative Consent Order 98-AQ-08

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
0070-0-F	0070-1-F	Raw Materials Loading in Quarry	N/A
0081-0-F	0081-1-F	Quarry Drilling	N/A
0110-0-F	0110-1-F	Raw Materials Storage Pile	N/A
	0110-2-F	Storage Pile Load In/Out	
0120-0-F	0120-1-F	Raw Materials Storage Pile	N/A
	0120-2-F	Storage Pile Load In/Out	
0130-0-F	0130-1-F	Raw Materials Storage Pile	N/A
	0130-2-F	Storage Pile Load In/Out	
0200-0-F	0200-1-F	Front End Loader Filling Clay Hopper	N/A
	0200-2-F	Front End Loader Filling Stone Hopper	
	0200-3-F	Raw Material Transfer to Apron Feeder	
	0200-4-F	Dump Hopper to Apron Feeder	
	0200-5-F	Apron Feeder Transfer to Primary Crusher	
	0200-6-F	0225 Crusher Transfer to 0221	
	0200-7-F	0221 Belt Transfer to 0208	
0200-8-F	0225 Primary Crusher Fugitives		
0203-0-F	0203-1-F	Raw Material Transfer-Conveyor to Conveyor	N/A
0300-0-F	0300-1-F	Raw Material Transfer-Conveyor to Conveyor	N/A
	0300-2-F	Raw Material Transfer-Conveyor to Conveyor	
	0300-3-F	Raw Material Transfer-Conveyor to Pile	
	0300-4-F	Raw Material Transfer-Pile to Conveyor	
0387-0-F	0387-1-F	Raw Material Transfer-Conveyor Over Road	N/A

**C. Fugitives Subject to 40 CFR 63 Subpart LLL**

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
0400-0-F	0400-1-F	0491, 0494, 0496 Weigh Feeders to 0489 Belt	N/A
0420-0-F	0420-1-F	0489 Belt Transfer to 0480 Roller Mill	N/A
0487-0-F	0487-1-F	0487 Slide Gate Truck Loading	N/A
0488-0-F	0488-1-F	0488 Manual Flop Gate Truck Loading	N/A
0576-0-F	0576-1-F	0576 Manual Flop Gate-Truck Loading	N/A
0718-0-F	0718-1-F	Clinker Bin Load Out-Truck Loading	N/A
0745-0-F	0745-1-F	West Silo Loadout Chute	N/A
0746-0-F	0746-1-F	East Silo Loadout Chute	N/A
0766-0-F	0766-1-F	0766 Feeder Transfer to 0722 Belt Conveyor	N/A
0800-0-F	0706-1-F	757 and 719 -Bucket Elevators	N/A
	0800-1-F	Finish Mill Building Fugitives	N/A
	0889-1-F	886 Belt Transfer to 0905 Belt	
	0826-1-F	826 Belt Conveyor	
0906-0-F	0906-1-F	0905 Belt Transfer to 0908 Hopper	N/A
0926-0-F	0926-1-F	0914 Belt Transfer to 0916 Hopper	N/A
1300-0-F	1300-1-F	Rail Loading Fugitives	N/A
	1300-2-F	Truck Loading Fugitives	
2601-0-F	2601-1-F	Barge Loading Spout Fugitives	N/A

**D. Haulroads Subject to Administrative Consent Order No. 98-AQ-08**

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
0155-0-F	0155-1-F	Quarry Haulroad-Rock Hauling	N/A
0160-0-F	0160-1-F	Quarry Haulroad-Clay Hauling	N/A
0165-0-F	0165-1-F	Haulroad-Clay from Storage Piles to Crusher	N/A
0691-0-F	0691-1-F	Haulroad-Rail Unloading Raw Materials	N/A
0692-0-F	0692-1-F	Haulroad-Rail Unloading Clinker	N/A
0695-0-F	0695-1-F	Haulroad-Rail Unloading Fuel	N/A
0765-0-F	0765-1-F	Unpaved Haulroad to 0765 Feeder	N/A
	0765-2-F	Paved Haulroad to 0765 Feeder	
1301-0-F	1301-1-F	Haulroad-Truck Loadout of Cement	N/A

**E. New Haulroad**

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
LMM	LMM	Plant Haul Road- Unpaved Road Segment LMM	17-A-461

**F. Conveying System Transfer Points\ Raw and Finish Mills\ Storage Bins\ Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL**

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
0404-0	0404-1	Raw Material Transfer- Conveyor to Homogenization Silos	78-A-229-S3
0420-0	0420-1	Raw Material Transfer- Airslides to Vertical Conveyor	78-A-228-S4

**G. Conveying System Transfer Points\ Raw and Finish Mills\ Storage Bins\ Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL (cont)**

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
0498-0	0498-1	Raw Material Transfer- Conveyors to Preblend Bin	78-A-226-S5
0504-0	0504-1	Raw Material Transfer- Airslides/Separator/Bin to Kiln	78-A-230-S4
0709-0	0709-1	Drag Conveying Clinker	80-A-012-S3
0723-0-F	0723-1-F	Clinker Reclaim Vibrating Feeders	78-A-236-S4
0743-0	0743-1	Drag Conveying Clinker	78-A-235-S4
0811-0	0811-1	Finish Mill Holding Bin	80-A-013-S3
0817-0	0817-1	Finish Mill (Particulate Emissions)	78-A-237-S4
	0817-2	Finish Mill (VOC Emissions)	
0822-0	0822-1	Finish Mill Air Separator	78-A-238-S5
0950-0	0950-1	Barge Loading Silo	85-A-050-S3
1007-0	1007-1	A&E Silos 16 and 18-30	76-A-003-S4
1009-0	1009-1	A&E Silos 15 and 17	11-A-175
1008-0	1008-1	Slag Transfer Airslide Dust Collector	05-A-634
1017-0	1017-1	Conebottom Silos # 31-40	76-A-004-S4
1027-0	1027-1	Cement Silo	76-A-051-S1
1033-0	1033-1	Cement Silo	80-A-011-S1
1037-0	1037-1	Cement Silo	91-A-326-S1
1041-0	1041-1	Rail Car Loading System- Silo # 41	88-A-076-S3
1044-0	1044-0	North Truck Loading Spout	86-A-015-S4
	1440-03	Airslide Conveyor	
	1442-05	Airslide Conveyor	
1045-0	1045-1	South Bulk Truck Loadout System	86-A-014-S3
1047-0	1047-1	Rail Car Loading System- Silos # 47 & 48	83-A-041-S3
1053-0	1053-1	West Overtrack Silos	78-A-242-S6
1449-0	1449-1	Silo 42	05-A-635-S1
2000-0	2000-1	SO2 Lime Injection Tank	07-A-949-S1
2001-0	2001-1	SO2 Lime Injection Bin	07-A-950-S1
2601-0	2601-1	Barge Loading Spout System	85-A-052-S5

## H. Storage Tanks

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
EPT-1	EUT-1	Storage Tank 1	07-A-1515
EPT-2	EUT-2	Storage Tank 2	07-A-1516
EP T-3	EU T-3	Storage Tank 3	07-A-1517
EP T-4	EU T-4	Storage Tank 4	07-A-1518

## I. Miscellaneous Sources

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
0020-0	0020-1	Emergency Generator	99-A-136-S2
0030-0	0030-1	Diesel Water Pump	99-A-137-S1
0081-0	0081-1	Quarry Drill	87-A-080-S2
0203-0	0203-1	Raw Material Transfer in Transfer House-Conveyor to Conveyor	78-A-221-S6
0218-0	0218-1	Crushing and Conveying of Raw Materials	78-A-218-S7
0327-0-F	0327-1-F	Raw Material Transfer- Vibrating Feeder to Conveyor	78-A-223-S4
0466-0	0466-1	Preheater/Precalciner/Kiln/Raw Mill System	99-A-579-P6
	0466-2	Alkali Bypass	
0499-0	0499-1-F	20,000 gallon Fuel Oil Tank	98-A-1055-S1
0535-0	0535-1	CKD Handling Silo	97-A-789-S2
0611-0	0611-1	Clinker Cooler and Drag Conveyor	01-A-878-P1
0667-0	0667-1	Coal Mill and Bins	78-A-232-S3
	0667-2	Coal Mill and Bins	
0684-0	0684-1	Coal Silo	78-A-248-S6
0684-0-F	0684-1-F	Raw Material Transfer-Conveyor to Conveyor	N/A
0690-0-F	0690-3-F	Coal Hopper/Weigh Feeder-Load In/Out	96-A-645-S3
1310-0	1310-1	Pavement Cleaning	86-A-084-S1
1320-0	1320-1	Pavement Cleaning	86-A-085-S1

## Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
0040-1-F	Raw Materials Storage Pile
0040-2-F	Raw Materials Storage Pile Load In/Out
0040-4-F	Load Out of Screened Material
0082-1-F	Quarry Blasting
0204-1-F	Road Stone/Mason Stone Stockpile
0204-2-F	Storage Pile Load in/Load out
0207-1-F	Raw Material Transfer-Flop Gate
0538-1-F	CKD Load Out
0538-2-F	Haulroad-CKD to Landfill
0538-3-F	CKD Landfill Load Out
0655-1-F	Barge Load In/Out (Coal)
0655-2-F	Haulroad - Barge to Coal Stockpile
0677-1-F	0677 Manual Flop Gate-Truck Loading
0690-1-F	Coal Transfer-Conveyor to Conveyor
0690-2-F	Coal Piles - Wind Erosion
0690-4-F	Coal Stockpile Load In/Out
0696-1-F	Raw Materials Stockpiles Wind Erosion
0696-2-F	Stockpile Load in/Load out
0697-1-F	Rail Unloading Fuels, Raw Materials
0697-2-F	Rail Unloading: Clinker
0760-1-F	Stockpiles (North of Silo) – Wind Erosion
0760-2-F	Clinker Stockpile Load in /Load out
0760-3-F	Raw Material Stockpile-Load In/Out
0761-1-F	Unloading Gypsum Into Gypsum Hopper
0761-2-F	Unloading into Gypsum Hopper: Clinker
0770-1-F	Storage Hall Stockpile – wind Erosion
0770-2-F	Stockpile Load in/Load out – Clinker
0770-3-F	Stockpile Load in/Load out – Raw Materials
I-12	2,000 gal Waste Mtr Oil Storage Tank
I-14	Two 5,524 Gallon #2 Fuel Oil Storage Tank
I-15	Two 10,000 Gallon Grinding Aid Storage Tanks (maximum vapor pressure 0.00003psia)
I-38	Maintenance Welding
I-39	Maintenance Chute-Preheater Tower
I-40	Maintenance Chute-Clinker Cooler
I-41	Maintenance Chute-Coal Mill
I-42	Maintenance Chute-Raw Mill
I-43	Hot Water Heater (0.095 MMBtu/hr)
I-44	Hot Water Heater (30 psi boiler 1.2 MMBtu/hr)
I-45	Parts Washer-44 Gallon Cap.
I-46	Parts Washer-44 Gallon Cap.

<b>Insignificant Emission Unit Number</b>	<b>Insignificant Emission Unit Description</b>
I-47	4,000 Bushel Grain Storage Bin
I-48	Parts Washer-44 Gallon Cap.

## II. Plant-Wide Conditions

Facility Name: Continental Cement Company – Davenport Plant  
Permit Number: 04-TV-007R2

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

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The term of this permit is: Five (5) years.  
Commencing on:  
Ending on:

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

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### **Emission Limits**

*Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:*

Opacity (visible emissions): 40% opacity  
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO<sub>2</sub>): 500 parts per million by volume  
Authority for Requirement: 567 IAC 23.3(3)"e"

### Particulate Matter:

No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).

Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - A person shall take reasonable precautions to prevent particulate matter from becoming airborne in quantities sufficient to cause a nuisance as defined in Iowa Code section 657.1 when the person allows, causes or permits any materials to be handled, transported or stored or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved roads. Ordinary travel includes routine traffic and road maintenance activities such as scarifying, compacting, transporting road maintenance surfacing

material, and scraping of the unpaved public road surface. (the preceding sentence is State Only) All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.
6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

Authority for Requirement: 567 IAC 23.3(2)"c"

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### **Operational Limits & Requirements**

*The owner/operator of this facility shall comply with the operational limits and requirements listed below.*

The Permittee shall comply with all applicable requirements of *Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08*.

Applicable Limits and Requirements From Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08

### **See Appendix A**

Authority for Requirement: Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08

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## **NSPS and NESHAP Applicability**

### **40 CFR 60 Subpart A**

This facility is an affected source and these *General Provisions* apply to the facility. The affected units are emission units 0327-1-F, 0667-1, 0667-2, 0684-1-F, 0466-1, 0466-2, 0400-1-F, 0420-1-F, 0487-1-F, 0488-1-F, 0576-1-F, 0718-1-F, 0745-1-F, 0746-1-F, 0766-1-F, 0706-1-F, 0906-1-F, 0926-1-F, 1300-1-F, 1300-2-F, 2601-1-F, 0404-1, 0420-1, 0498-1, 0504-1, 0709-1, 0723-1-F, 0743-1, 0811-1, 0817-1, 0817-2, 0822-1, 0950-1, 1007-1, 1009-1, 1008-1, 1017-1, 1027-1, 1033-1, 1037-1, 1041-1, 1044-0, 1045-1, 1047-1, 1053-1, 1449-1, 2000-1, 2001-1, 2601-1, 0203-1, and 0611-1. See Appendix E for a link to the Standard.

Authority for Requirement: 40 CFR 60 Subpart A

567 IAC 23.1(2)

### **40 CFR 60 Subpart F**

This facility is subject to Standards of Performance for *Portland Cement Plants*. The affected emission units are 0327-1-F and all of the units listed under the 40 CFR 63 Subpart LLL paragraph on the following page. The emission units subject to NESHAP Subpart LLL are exempt from any otherwise applicable new source performance standard contained in Subpart F that are less stringent than NESHAP Subpart LLL requirements per 40 CFR §63.1356 of Subpart LLL.

See Appendix E for a link to the Standard.

Authority for Requirement: 40 CFR Part 60 Subpart F

567 IAC 23.1(2)"c"

### **40 CFR 60 Subpart Y**

This facility is subject to Standards of Performance for *Coal preparation Plants*. The affected units are emission units 0667-1, 0667-2, and 0684-1-F.

See Appendix E for a link to the Standard.

Authority for Requirement: 40 CFR Part 60 Subpart Y

567 IAC 23.1(2)"v"

### **40 CFR 60 Subpart DDDD**

The kiln, emission units 0466-1 and 0466-2, is subject to Standards of Performance for *Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999*.

See Appendix E for a link to the Standards.

Authority for Requirement: 40 CFR Part 60 Subpart DDDD

#### **40 CFR 61 Subparts A and E**

The kiln, emission unit 0466-1, is subject to subpart A (*General Provisions*; 40 CFR §61.1 through 40 CFR §61.19) and Subpart E (*National Emission Standard for Mercury*; 40 CFR §61.50 through 40 CFR §61.56) of the NESHAP when the kiln uses materials in the *Water & Waste Treatment Byproducts* category listed in Emission Point-Specific Conditions section.

See Appendix E for a link to the Standard.

Authority for Requirements: 40 CFR 61 Subpart A  
567 IAC 23.1(3)  
40 CFR 61 Subpart E  
567 IAC 23.1(3)"d"

#### **40 CFR 63 Subpart A**

This facility is an affected source and these *General Provisions* apply to the facility. The affected units are emission units 0400-1-F, 0420-1-F, 0487-1-F, 0488-1-F, 0576-1-F, 0718-1-F, 0745-1-F, 0746-1-F, 0766-1-F, 0706-1-F, 0906-1-F, 0926-1-F, 1300-1-F, 1300-2-F, 2601-1-F, 0404-1, 0420-1, 0498-1, 0504-1, 0709-1, 0723-1-F, 0743-1, 0811-1, 0817-1, 0817-2, 0822-1, 0950-1, 1007-1, 1009-1, 1008-1, 1017-1, 1027-1, 1033-1, 1037-1, 1041-1, 1044-0, 1045-1, 1047-1, 1053-1, 1449-1, 2000-1, 2001-1, 2601-1, 0203-1, 0611-1, 0020-1, 0030-1, and 0667-2.

See Appendix E for a link to the Standard.

Authority for Requirement: 40 CFR Part 63 Subpart A  
567 IAC 23.1(4)

#### **40 CFR 63 Subpart LLL**

This facility is subject to the National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry. The affected units are emission units 0400-1-F, 0420-1-F, 0487-1-F, 0488-1-F, 0576-1-F, 0718-1-F, 0745-1-F, 0746-1-F, 0766-1-F, 0706-1-F, 0906-1-F, 0926-1-F, 1300-1-F, 1300-2-F, 2601-1-F, 0404-1, 0420-1, 0498-1, 0504-1, 0709-1, 0723-1-F, 0743-1, 0811-1, 0817-1, 0817-2, 0822-1, 0950-1, 1007-1, 1009-1, 1008-1, 1017-1, 1027-1, 1033-1, 1037-1, 1041-1, 1044-0, 1045-1, 1047-1, 1053-1, 1449-1, 2000-1, 2001-1, 2601-1, 0203-1, and 0611-1.

See Appendix E for a link to the Standard.

Authority for Requirements: 40 CFR 63 Subpart LLL  
567 IAC 23.1(4)"bl"

#### **40 CFR 63 Subpart ZZZZ**

Emission units 0020-1 and 0030-1 are subject to the National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines* (RICE NESHAP) [40 CFR Part 63 Subpart ZZZZ].

See Appendix E for a link to the Standard.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ  
567 IAC 23.1(4)"cz"

#### **40 CFR 63 Subpart DDDDD**

Emission unit 0677-2 is subject to the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters .

See Appendix E for a link to the Standard.

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD

# I. Emission Point-Specific Conditions

Facility Name: Continental Cement Company – Davenport Plant

Permit Number: **04-TV-007R2**

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**Emission Point ID Number: See Table: Fugitives Subject to Fugitive Dust Rule Only**

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Fugitives Subject to Fugitive Dust Rule Only

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Table: Fugitives Subject to Fugitive Dust Rule Only

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Raw Material</b>	<b>Rated Capacity (tons/hr)</b>
0010-0-F	0010-1-F	HC Soils Storage Pile	HC Soils	46.0
0040-0-F	0040-3-F	Raw Materials Screening	Raw Materials <sup>(1)</sup>	76.0
0060-0-F	0060-1-F	Overburden Removal	Topsoil	2,000

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

## Applicable Requirements

### Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: See Table: Fugitives Subject to Fugitive Dust Rule  
And Iowa DNR Administrative Consent  
Order 98-AQ-08**

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Fugitives Subject to Fugitive Dust Rule and Iowa DNR Administrative Consent Order 98-AQ-08

Table: Fugitives Subject to Fugitive Dust Rule and Iowa DNR Administrative Consent Order 98-AQ-08

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Raw Material</b>	<b>Rated Capacity</b>
0070-0-F	0070-1-F	Raw Materials Loading in Quarry	Raw Materials <sup>(1)</sup>	2,000 tons/hr
0081-0-F	0081-1-F	Quarry Drilling	Limestone	2,500 tons/hr
0110-0-F	0110-1-F	Raw Materials Storage Pile	Raw Materials <sup>(1)</sup>	0.60 acres
	0110-2-F	Storage Pile Load In/Out	Raw Materials <sup>(1)</sup>	210 tons/hr
0120-0-F	0120-1-F	Raw Materials Storage Pile	Raw Materials <sup>(1)</sup>	0.41 acres
	0120-2-F	Storage Pile Load In/Out	Raw Materials <sup>(1)</sup>	210 tons/hr
0130-0-F	0130-1-F	Raw Materials Storage Pile	Raw Materials <sup>(1)</sup>	2.75 acres
	0130-2-F	Storage Pile Load In/Out	Raw Materials <sup>(1)</sup>	210 tons/hr
0200-0-F	0200-1-F	Front End Loader Filling Clay Hopper	Clay	210 tons/hr
	0200-2-F	Front End Loader Filling Stone Hopper	Limestone	1,400 tons/hr
	0200-3-F	Raw Material Transfer to Apron Feeder	Raw Materials <sup>(1)</sup>	210 tons/hr
	0200-4-F	Dump Hopper to Apron Feeder	Raw Materials <sup>(1)</sup>	1,400 tons/hr
	0200-5-F	Apron Feeder Transfer to Primary Crusher	Raw Materials <sup>(1)</sup>	1,400 tons/hr
	0200-6-F	0225 Crusher Transfer to 0221	Raw Materials <sup>(1)</sup>	1,400 tons/hr
	0200-7-F	0221 Belt Transfer to 0208	Raw Materials <sup>(1)</sup>	1,400 tons/hr
	0200-8-F	0225 Primary Crusher Fugitives	Raw Materials <sup>(1)</sup>	1,400 tons/hr
0203-0-F	0203-1-F	Raw Material Transfer-Conveyor to Conveyor	Raw Materials <sup>(1)</sup>	1,400 tons/hr
0300-0-F	0300-1-F	Raw Material Transfer-Conveyor to Conveyor	Raw Materials <sup>(1)</sup>	1,400 tons/hr

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Raw Material</b>	<b>Rated Capacity</b>
	0300-2-F	Raw Material Transfer-Conveyor to Conveyor	Raw Materials <sup>(1)</sup>	1,400 tons/hr
	0300-3-F	Raw Material Transfer-Conveyor to Pile	Raw Materials <sup>(1)</sup>	1,400 tons/hr
	0300-4-F	Raw Material Transfer-Pile to Conveyor	Raw Materials <sup>(1)</sup>	300 tons/hr
0387-0-F	0387-1-F	Raw Material Transfer-Conveyor Over Road	Raw Materials <sup>(1)</sup>	1,400 tons/hr

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below in Table: Fugitives Subject to Fugitive Dust Rule and Iowa DNR Administrative Consent Order 98-AQ-08-Operational Limits & Requirements.*

Table: Fugitives Subject to Fugitive Dust Rule and Iowa DNR Administrative Consent Order 98-AQ-08 -Operational Limits & Requirements

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Process Throughput Limit</b>	<b>Reporting &amp; Recordkeeping<sup>(1)</sup></b>	<b>Authority for Requirements</b>
0070-0-F	0070-1-F	365,000 tons of raw material to the crusher per month	The quantity of raw materials crushed shall be recorded monthly.	Section IV(2) Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08

Table: Fugitives Subject to Fugitive Dust Rule and Iowa DNR Administrative Consent Order 98-AQ-08 -Operational Limits & Requirements (Cont.)

Emission Point Number	Associated Emission Unit Number	Process Throughput Limit	Reporting & Recordkeeping <sup>(1)</sup>	Authority for Requirements
0081-0-F	0081-1-F	365,000 tons of raw material to the crusher per month	The quantity of raw materials crushed shall be recorded monthly.	Section IV(2) Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08
0110-0-F	0110-1-F	55,480 tons of clay to the crusher per month	The quantity of clay crushed shall be recorded monthly.	
	0110-2-F			
0120-0-F	0120-1-F	55,480 tons of clay to the crusher per month	The quantity of clay crushed shall be recorded monthly.	
	0120-2-F			
0130-0-F	0130-1-F	55,480 tons of clay to the crusher per month		
	0130-2-F			
0200-0-F	0200-1-F	365,000 tons of raw materials to the crusher per month and transferred to the kiln, of which 128,480 tons may be alternative raw materials and clay.	The quantity of raw material and clay crushed shall be recorded monthly	
	0200-2-F			
	0200-3-F			
	0200-4-F			
	0200-5-F			
	0200-6-F			
	0200-7-F			
0200-8-F				
0203-0-F	0203-1-F	365,000 tons of raw material to the crusher per month	The quantity of raw material crushed shall be recorded monthly.	
0300-0-F	0300-1-F	365,000 tons of raw material to the crusher per month	The quantity of raw materials crushed shall be recorded monthly.	
	0300-2-F			
	0300-3-F			
	0300-4-F			
0387-F	0387-1-F	365,000 tons of raw material crushed per month	The quantity of raw materials crushed shall be recorded monthly.	

<sup>(1)</sup> The records shall be kept on site for a minimum of five years, and shall be available for inspection by the Department.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: See Table: Fugitives Subject to 40 CFR 63 Subpart LLL**

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Fugitives Subject to 40 CFR 63 Subpart LLL

Table: Fugitives Subject to 40 CFR 63 Subpart LLL

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Raw Material</b>	<b>Rated Capacity (tons/hr)</b>
0400-0-F	0400-1-F	0491, 0494, 0496 Weigh Feeders to 0489 Belt	Raw Materials <sup>(1)</sup>	300
0420-0-F	0420-1-F	0489 Belt Transfer to 0480 Roller Mill	Raw Materials <sup>(1)</sup>	300
0487-0-F	0487-1-F	0487 Slide Gate-Truck Loading	Raw Materials <sup>(1)</sup>	10
0488-0-F	0488-1-F	0488 Manual Flop Gate-Truck Loading	Raw Materials <sup>(1)</sup>	300
0576-0-F	0576-1-F	0576 Manual Slide Gate Load Out	Clinker	30
0718-0-F	0718-1-F	Clinker Bin Load Out-Truck Loading	Clinker	180
0745-0-F	0745-1-F	West Silo Loadout Chute	Clinker	180
0746-0-F	0746-1-F	East Silo Loadout Chute	Clinker	180
0766-0-F	0766-1-F	0766 Feeder Transfer to 0722 Belt Conveyor	Clinker, Gypsum	180
0800-0-F	0706-1-F	757 and 719 Bucket Elevators	Clinker	220
	0800-1-F	Finish Mill Building Fugitives	Clinker	180
	0889-1-F	0886 Belt Conveyor Transfer to 0905 Belt	Cement	200
	0826-1-F	826 Belt Conveyor	Clinker	180
0906-0-F	0906-1-F	0905 Belt Conveyor Transfer to 0908 Hopper	Cement	200
0926-0-F	0926-1-F	0914 Belt Conveyor Transfer to 0916 Hopper	Cement	200
1300-0-F	1300-1-F	Rail Loading Fugitives	Cement	600
	1300-2-F	Truck Loading Fugitives	Cement	300
2601-0-F	2601-1-F	Barge Loading Spout Fugitives	Cement	100

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

## Applicable Requirements

### Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 10%

Authority for Requirement: 567 IAC 23.1(4)"bl"  
40 CFR 63.1345

### NSPS and NESHAP

These emission units are subject to Subpart LLL (*National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*; 40 CFR §63.1340 – §63.1358), but per 40 CFR §63.1356 of Subpart LLL these units are exempted from any otherwise applicable new source performance standard contained in 40 CFR 60 Subpart F, to which they are also subject.

An O & M plan is required by Subpart LLL for these emission units. Relevant requirements of O & M plan for this equipment: Opacity - **see Appendix B.**

Authority for Requirements: 40 CFR 60 Subpart F  
567 IAC 23.1(2)"c"  
40 CFR 63 Subpart LLL  
567 IAC 23.1(4)"bl"

### Operational Limits & Requirements

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Process Throughput Limit</b>	<b>Reporting &amp; Recordkeeping<sup>(1)</sup></b>	<b>Authority for Requirements</b>
0400-0-F	0400-1-F	365,000 tons of raw material to the crusher per month	The quantity of raw materials crushed shall be recorded monthly.	Section IV(2) Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08
0800-0-F	0800-1-F	17,082 tons of gypsum usage per month	The quantity of gypsum used shall be recorded monthly.	
1300-0-F	1300-1-F	262,800 tons of cement production per month	The quantity of cement produced shall be recorded monthly.	
	1300-2-F			
2601-0-F	2601-1-F			

<sup>(1)</sup> The records shall be kept on site for a minimum of five (5) years, and shall be available for inspection by the Department.

**Additional Reporting & Recordkeeping:**

A. Recordkeeping for NESHAP 40 CFR 63 Subpart LLL at the facility shall be done per 40 CFR 63.1355.

Authority for Requirement: 567 IAC 23.1(4)"bl"  
40 CFR 63.Subpart LLL

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

With the exception of emission points 0400-0-F and 1300-0-F, which are totally enclosed and thus exempt from periodic opacity monitoring [40 CFR 63.1350(f)(v)], the facility shall check the opacity as described in 40 CFR 63.1350 (f).

Authority for Requirement - 567 IAC 23.1(4)"bl"  
40 CFR 63.1350

**Agency Approved Operation & Maintenance Plan Required?** Yes  No

**Facility Maintained Operation & Maintenance Plan Required?** Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: See Table: Haulroads Subject to Administrative Consent Order No. 98-AQ-08**

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Haulroads Subject to Administrative Consent Order No. 98-AQ-08

Table: Haulroads Subject to Administrative Consent Order No. 98-AQ-08

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Raw Material</b>	<b>Rated Capacity (VMT/hr)</b>
0155-0-F	0155-1-F	Quarry Haulroad-Rock Hauling	Unpaved Road	16.47
0160-0-F	0160-1-F	Quarry Haulroad-Clay Hauling	Unpaved Road	2.47
0165-0-F	0165-1-F	Haulroad-Clay from Storage Piles to Crusher	Unpaved Road	3.31
0691-0-F	0691-1-F	Haulroad-Rail Unloading Raw Materials	Paved Road	14.77
0692-0-F	0692-1-F	Haulroad-Rail Unloading Clinker	Paved Road	2.27
0695-0-F	0695-1-F	Haulroad-Rail Unloading Fuel	Paved Road	4.55
0765-0-F	0765-1-F	Unpaved Haulroad to 0765 Feeder	Unpaved Road	0.63
	0765-2-F	Paved Haulroad to 0765 Feeder	Paved Road	0.63
1301-0-F	1301-1-F	Haulroad-Truck Loadout of Cement	Paved Road	0.93

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Process throughput: See Section IV(2.) Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08 in Appendix A.

Work practice standards: See Section IV(1.) Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08 in Appendix A.

**Reporting & Record keeping**

*Records as specified in Section IV(1.) and (2.) Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08 in Appendix A shall be kept on site for a minimum of five years. The records shall be available for inspection upon request by representatives of the Department of Natural Resources.*

Authority for Requirement: Iowa Department of Natural Resources Administrative Consent Order No. 98-AQ-08

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: LMM**

### Associated Equipment

Associated Emission Unit ID Numbers: LMM

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Emission Unit vented through this Emission Point: LMM  
Emission Unit Description: Plant Haul Road Segment LMM  
Raw Material: Unpaved Road

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Pollutant: Particulate Matter (PM<sub>10</sub>)

Emission Limit: 8.45 lb/day<sup>(1)</sup>

Authority for Requirement: DNR Construction Permit 17-A-461

- (1) Correlates to a total surface silt content of 2.1 percent, maximum truck traffic travel distance and 75 percent reduction for dust suppressant application as specified in the Operating Requirements with Associated Monitoring and Recordkeeping section condition 5 below.

#### **Operating Requirements with Associated Monitoring and Recordkeeping for EP LMM Only**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records for Unpaved Road Segment LMM:*

- A. The owner or operator is limited to hauling 500,000 tons per rolling 12-month period, not to exceed 100,000 tons in any one month on unpaved road segment (LMM).
  - i. The owner or operator shall maintain record of the tons of material hauled on unpaved road segment (LMM) for each calendar month of use.
  - ii. The owner or operator shall calculate and record 12-month rolling month totals of material hauled on unpaved road segment (LMM) in tons.
- B. The owner or operator shall utilize control measures to achieve 75 percent reduction of particulate emissions generated on unpaved road segment LMM while in use except as noted in conditions iii and iv below. These measures include any of the following

- i. Chemical dust suppressant application. The owner or operator shall apply chemical dust suppressant to the road surface at minimum frequency twice per calendar month,
  - ii. Water application: The owner or operator shall apply water to the road surface as a rate to maintain the road surface as a wet surface at all times during use.
  - iii. If the suppressant application cannot be applied because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35° F (1.7° C) or conditions due to weather could create hazardous driving conditions, then the suppressant application shall be postponed and applied immediately after the scheduled date as the conditions preventing the application have abated
  - iv. Suppressant application need not occur when a rain gauge located at the site indicates that at least 0.2 inches of precipitation (water equivalent) has occurred within the preceding 24-hour time period. However, suppressant application shall resume within 24-hours after the precipitation event has ended
- C. If visible emissions are observed from Unpaved Road Segment LMM during use, the owner or operator shall immediately apply water or chemical dust suppressant to haul road segment LMM.
- D. The total surface material silt content shall not exceed 2.1 percent on unpaved road segment LMM.
- i. Within 90-days after construction permit 17-A-461 issuance (September 20, 2017), performance testing on the haul road surface silt content shall be completed on a quarterly basis. Performance testing shall be completed prior to any suppressant application. The silt content sampling shall be conducted according to the procedures outlined in AP-42, Appendix C.1 Procedures for Sampling Surface/Bulk Dust Loading and Appendix C.2 Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples.
  - ii. The owner or operator shall maintain a log of each silt load sampling event that contains the following: a) The date of silt sampling event; b) The location of the sample taken; c) The measured silt content as percent d) Sample area used for silt sampling in feet; and, e) The operator's initials.
  - iii. The owner or operator shall maintain record of the silt content results expressed as percent for each quarter.
- E. The owner or operator shall maintain as record of the suppressant application on unpaved road segment LMM. The record shall include suppressant application frequency, quantity applied and suppressant utilized. If suppressant is not applied due to weather as specified in conditions B.iii and B.iv above, a written record must be kept on site outlining the conditions and when suppressant application resumed.
- F. Best Management Practices (BMP) – The owner or operator shall implement “good housekeeping” or best management practices to minimize fugitive emissions from unpaved road segment LMM. Such practices may include but are not limited to:
- i. Clean up spills of materials on the road surface as expeditiously as possible and in a manner consistent with good practice for minimizing dust emissions,
  - ii. Post and maintain speed limit (5 mph) signs,
  - iii. Apply additional suppressant to material unloading/loading areas as necessary to prevent track out of material on the traveled road surface.
- G. The owner or operator shall develop a written plan to implement, at a minimum, the Best Management Practices as specified in condition F above. The written plan and any documentation as required by the plan shall be maintained onsite and available for inspection.

Authority for Requirement: DNR Construction Permit 17-A-461

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: See Table: Conveying System Transfer Points\  
Raw and Finish Mills\ Storage Bins\ Bulk Loading  
and Unloading Units Subject to 40 CFR 63  
Subpart LLL**

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Conveying System Transfer Points\  
Raw and Finish Mills\ Storage Bins\ Bulk Loading and Unloading  
Units Subject to 40 CFR 63 Subpart LLL

Emissions Control Equipment ID Number: See Table: Conveying System Transfer Points\  
Raw and Finish Mills\ Storage Bins\ Bulk Loading and  
Unloading Units Subject to 40 CFR 63 Subpart LLL

Emissions Control Equipment Description: See Table: Conveying System Transfer Points\  
Raw and Finish Mills\ Storage Bins\ Bulk Loading and  
Unloading Units Subject to 40 CFR 63 Subpart LLL

Table: Conveying System Transfer Points\  
Raw and Finish Mills\ Storage Bins\ Bulk Loading and  
Unloading Units Subject to 40 CFR 63 Subpart LLL

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Control Equipment Number</b>	<b>Control Equipment Description</b>	<b>Raw Material</b>	<b>Rated Capacity</b>
0404-0	0404-1	Raw Material Transfer-Conveyor to Homo. Silos	0404-C	Baghouse	Raw Materials <sup>(1)</sup>	280 tons/hr
0420-0	0420-1	Raw Material Transfer-Airslides to Vert. Conveyor	0420-C	Baghouse	Raw Materials <sup>(1)</sup>	290 tons/hr
0498-0	0498-1	Raw Material Transfer-Conveyors to Preblend Bin	0498-C	Baghouse	Raw Materials <sup>(1)</sup>	280 tons/hr
0504-0	0504-1	Raw Material Transfer-Airslides/Separator/Bin to Kiln	0504-C	Baghouse	Raw Materials <sup>(1)</sup>	300 tons/hr
0709-0	0709-1	Drag Conveying Clinker	0709-C	Baghouse	Clinker	220 tons/hr
0723-0-F	0723-1-F	Clinker Reclaim Vibrating Feeders	0723-C	Baghouse	Clinker	90 tons/hr
			0724-C	Baghouse		
			0725-C	Baghouse		
			0726-C	Baghouse		
			0727-C	Baghouse		
			0732-C	Baghouse		
0743-0	0743-1	Drag Conveying Clinker	0743-C	Baghouse	Clinker	220 tons/hr
0811-0	0811-1	Finish Mill Holding Bin	0811-C	Baghouse	Cement	75 Tons
0817-0	0817-1	Finish Mill (Particulate Emissions)	0817-C	Baghouse	Clinker, Gypsum	75 tons/hr
	0817-2	Finish Mill (VOC Emissions)			Grinding Aid	26 gal/hr

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Control Equipment Number</b>	<b>Control Equipment Description</b>	<b>Raw Material</b>	<b>Rated Capacity</b>
0822-0	0822-1	Finish Mill Air Separator	0822-C	Baghouse	Cement	75 tons/hr
0950-0	0950-1	Barge Loading Silo	0950-C	Baghouse	Cement	100 tons/hr
1007-0	1007-1	A.E. Silos # 16 & 18-30	1007-C	Baghouse	Cement	200 tons/hr
1008-0	1008-1	Slag Transfer Airslide	1008-C	Baghouse	Slag	200 tons/hr
1009-0	1009-1	Slag Storage Silo 15/17	1093-C	Baghouse	Slag	200 tons/hr
1017-0	1017-1	Conebottom Silos # 31-40	1017-C	Baghouse	Cement	102.8 tons/hr
1027-0	1027-1	Cement Silo	1027-C	Baghouse	Cement	11.08 tons/hr
1033-0	1033-1	Cement Silo	1033-C	Baghouse	Cement	75 tons/hr
1037-0	1037-1	Cement Silo	1037-C	Baghouse	Cement	70 tons/hr
1041-0	1041-1	Rail Car Loading System-Silo # 41	1041-C	Baghouse	Cement	300 tons/hr
1044-0	1044-0	North Truck Loading Spout	1044-C	Baghouse	Cement	150 tons/hr
	1440-03	Airslide Conveyor				150 tons/hr
	1442-05	Airslide Conveyor				150 tons/hr
1045-0	1045-1	South Bulk Truck Loadout System	1045-C	Baghouse	Cement	150 tons/hr
1047-0	1047-1	Rail Car Loading System-Silos # 47 & 48	1047-C	Baghouse	Cement	3,200 tons/hr
1053-0	1053-1	West Overtrack Silos	1053-C	Baghouse	Cement	200 tons/hr
1449-0	1449-1	Silo 42	1449-C	Baghouse	Cement	300 tons/hr
2000-0	2000-1	SO <sub>2</sub> Lime Injection Tank	2301-C	Baghouse	Lime	135 Tons
2001-0	2001-1	SO <sub>2</sub> Lime Injection Bin	2311-C	Baghouse	Lime	10 Tons
2601-0	2601-1	Barge Loading System Spout	2601-C	Baghouse	Cement	250 tons/hr

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

## Applicable Requirements

### Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

*The emissions from these emission points shall not exceed the levels specified in Table: Conveying System Transfer Points\ Raw and Finish Mills\ Storage Bins\ Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL -Emission Limits*

Table: Conveying System Transfer Points\ Raw and Finish Mills\ Storage Bins\ Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL-Emission Limits.

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Opacity Limit<sup>(3)</sup></b>	<b>PM<sub>10</sub> Limit (lb/hr)</b>	<b>PM Limit (lb/hr)</b>	<b>Construction Permit #</b>
0404-0	0404-1	10 % <sup>(1)</sup>	3.33	N/A	78-A-229-S3
0420-0	0420-1	10 % <sup>(1)</sup>	0.56	N/A	78-A-228-S4
0498-0	0498-1	10 % <sup>(1)</sup>	1.16	N/A	78-A-226-S5
0504-0	0504-1	10 %	2.08	N/A	78-A-230-S4
0709-0	0709-1	10 % <sup>(1)</sup>	0.64	N/A	80-A-012-S3
0723-0-F	0723-1-F	10 % <sup>(1)</sup>	0.43	N/A	78-A-236-S4
0743-0	0743-1	10 % <sup>(2)</sup>	3.02	N/A	78-A-235-S4
0811-0	0811-1	10 % <sup>(1)</sup>	0.62	N/A	80-A-013-S3
0817-0	0817-1	10% <sup>(1)</sup>	6.17	N/A	78-A-237-S4
	0817-2				
0822-0	0822-1	10% <sup>(1)</sup>	2.66	N/A	78-A-238-S5
0950-0	0950-1	10 % <sup>(1)</sup>	2.05	N/A	85-A-050-S3
1007-0	1007-1	10 % <sup>(1)</sup>	0.60	N/A	76-A-003-S4
1009-0	1009-1	10 % <sup>(1)</sup>	0.86	N/A	11-A-175
1008-0	1008-1	10%	0.47	0.47	05-A-634
1017-0	1017-1	10 % <sup>(1)</sup>	0.60	N/A	76-A-004-S4
1027-0	1027-1	10% <sup>(2)</sup>	0.08	N/A	76-A-051-S1
1033-0	1033-1	10% <sup>(2)</sup>	0.10	N/A	80-A-011-S1
1037-0	1037-1	10% <sup>(2)</sup>	0.21	N/A	91-A-326-S1
1041-0	1041-1	10 % <sup>(1)</sup>	0.34	N/A	88-A-076-S3
1044-0	1044-0	10 % <sup>(1)</sup>	0.52	N/A N/A	86-A-015-S4
	1440-03				
	1442-05				
1045-0	1045-1	10 % <sup>(1)</sup>	0.52	N/A	86-A-014-S3
1047-0	1047-1	10 % <sup>(1)</sup>	0.38	N/A	83-A-041-S3
1053-0	1053-1	10 % <sup>(1)</sup>	1.44	N/A	78-A-242-S6
1449-0	1449.1	10%	2.14	2.14	05-A-635-S1
2000-0	2000-1	10 % <sup>(1)</sup>	0.22	N/A	07-A-949-S1
2001-0	2001-1	10 % <sup>(1)</sup>	0.09	N/A	07-A-950-S1
2601-0	2601-1	10 % <sup>(1)</sup>	1.71	N/A	85-A-052-S5

<sup>(1)</sup> If opacity greater than that observed in the initial performance test is viewed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

<sup>(2)</sup> An exceedence of the indicator opacity of no visible emissions will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated

with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

<sup>(3)</sup> Additional authority for requirement: 567 IAC 23.1(4)"bl" and 40 CFR 63.1345.

Pollutant: Particulate Matter(PM)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permits specified in Table: Conveying System  
Transfer Points\ Raw and Finish Mills\ Storage Bins\ Bulk Loading and  
Unloading Units Subject to 40 CFR 63 Subpart LLL -Emission Limits  
567 IAC 23.3(2)"a"

### **NSPS and NESHAP**

These emission units are subject to Subpart LLL (*National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*; 40 CFR §63.1340 – §63.1358), but per 40 CFR §63.1356 of Subpart LLL these units are exempted from any otherwise applicable less restrictive new source performance standard contained in 40 CFR 60 Subpart F, to which they are also subject.

An O & M plan is required by Subpart LLL for these emission units. Relevant requirements of O & M plan for this equipment: Opacity-see **Appendix B**.

Authority for Requirements: 40 CFR 60 Subpart F  
567 IAC 23.1(2)"c"  
40 CFR 63 Subpart LLL  
567 IAC 23.1(4)"bl"

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

##### **For Emission Unit 1037-1 only**

Hours of operation:

- A. The source shall be limited to a maximum operating time of 4,800 hours per twelve month rolling period.

#### **Reporting & Record keeping**

*All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:*

- A. The date, time of startup, time of shutdown, and the total hours the emission unit operated on that day.
- B. Determine the annual hours of operation on a rolling 12-month basis for each month of operation.

Authority for Requirement DNR Construction Permit 91-A-326-S1

**Operating Limits**

**For Emission Units 0498-1, 0709-1, 0743-1, 0822-1, 0950-1, 1007-1, 1008-1, 1009-1, 1017-1, 1041-1, 1044-0, 1440-03, 1442-05, 1045-1, 1047-1, 1053-1, 1449-1, 2000-1, 2001-1, and 2601-1**

Control equipment parameters:

- A. The baghouse shall be operated and maintained per the manufacturer’s recommendations.

**Reporting & Record keeping**

*All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:*

- A. The owner or operator shall keep records of all maintenance conducted on the baghouse.

Authority for Requirement: DNR Construction Permits 78-A-226-S5, 80-A-012-S3, 78-A-235-S4, 78-A-238-S5, 85-A-050-S3, 11-A-175, 05-A-634, 76-A-003-S4, 76-A-004-S4, 88-A-076-S3, 86-A-015-S4, 86-A-014-S3, 83-A-041-S3, 78-A-242-S6, 05-A-635-S1, 07-A-949-S1, 07-A-950-S1, 85-A-052-S2, and 05-A-634

**For all emission sources**

- A. Monitoring for NESHAP Subpart LLL at the facility (plant number 82-04-005) shall be done per 40 CFR §63.1350.
- B. Recordkeeping for NESHAP 40 CFR 63 Subpart LLL at the facility shall be done per 40 CFR § 63.1355

Authority for Requirement: DNR Construction Permits specified in Table: Non-Fugitive Sources Subject to 40 CFR 63 Subpart LLL-Emission Limits  
567 IAC 23.1(4)"bl"  
40 CFR 63.Subpart LLL

**Emission Point Characteristics**

*These emission points shall conform to the conditions specified in Table: Conveying System Transfer Points\Raw and Finish Mill\Storage Bins\Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL-Emission Point Characteristics*

Table: Conveying System Transfer Points\Raw and Finish Mill\Storage Bins\Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL-Emission Point Characteristics

Emission Point Number	Emission Unit Number	Construction Permit #	Stack Characteristics				Discharge Style
			Stack Height (feet from Ground)	Stack Opening (inches)	Exhaust Flow Rate (scfm)	Exhaust Temp. (°F)	
0404-0	0404-1	78-A-229-S3	133	25 x 46	19,500	70	Vertical, Unobstructed
0420-0	0420-1	78-A-228-S4	97	12 x 18	2,700	200	Vertical, Unobstructed
0498-0	0498-1	78-A-226-S5	75	22.3	6,750	75	Vertical Unobstructed
0504-0	0504-1	78-A-230-S4	322	21 x 29	10,500	150	Vertical, Unobstructed
0709-0	0709-1	80-A-012-S3	101	17.1	3,750	70	Vertical Unobstructed
0723-0-F	0723-1-F	78-A-236-S4	Vents Inside	Vents Inside	Vents Inside	Vents Inside	Vents Inside
0743-0	0743-1	78-A-235-S4	208	35.5	17,600	70	Vertical Unobstructed
0811-0	0811-1	80-A-013-S3	116.5	56	2,900	200	Vertical, Unobstructed
0817-0	0817-1	78-A-237-S4	116.5	21 x 52	28,900	200	Vertical, Unobstructed
	0817-2						
0822-0	0822-1	78-A-238-S5	140	36.6	12,471	200	Vertical, Unobstructed
0950-0	0950-1	85-A-050-S3	96	16.6	9,564	200	Vertical Unobstructed
1007-0	1007-1	76-A-003-S4	105	12.7	3,041	150	Vertical Unobstructed
1009-0	1009-1	11-A-175	115	15.4	5,000	70	Vertical Unobstructed
1008-0	1008-1	05-A-634	Vents Inside	12	1,100	Ambient	Vents Inside
1017-0	1017-1	76-A-004-S4	120	16	2,811	200	Vertical Unobstructed
1027-0	1027-1	76-A-051-S1	84	11 x 24	2,600	150	Horizontal
1033-0	1033-1	80-A-011-S1	85	10 x 12	3,200	150	Horizontal
1037-0	1037-1	91-A-326-S1	86	15 x 18	6,700	150	Horizontal
1041-0	1041-1	88-A-076-S3	120	8	2,000	70	Vertical Unobstructed
1044-0	1044-0	86-A-015-S4	120	12	3,000	70	Vertical Unobstructed
	1440-03						
	1044-0						
1045-0	1045-1	86-A-014-S3	120	12	3,000	70	Vertical Unobstructed
1047-0	1047-1	83-A-041-S3	120	8	2,190	70	Vertical Unobstructed
1053-0	1053-1	78-A-242-S6	140	15	6,300	150	Vertical Unobstructed
1449-0	1449-1	05-A-635-S1	175	18	5,000	70	Vertical, Unobstructed
2000-0	2000-1	07-A-949-S1	80	9	1,300	70	Vertical Unobstructed
2001-0	2001-1	07-A-950-S1	300	5.6	500	70	Vertical Unobstructed
2601-0	2601-0	85-A-052-S5	100	34	20,000	72	Vertical Unobstructed

Authority for Requirement: DNR Construction Permits specified in Table: Conveying System Transfer Points\ Raw and Finish Mills\ Storage Bins\ Bulk Loading and Unloading Units Subject to 40 CFR 63 Subpart LLL –Emission Point Characteristics.

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements*

The facility shall check the opacity as described in 40 CFR 63.1350 (f).

Authority for Requirement: DNR Construction Permits specified in Table: Non-Fugitive Sources Subject to 40 CFR 63 Subpart LLL-Emission Limits  
567 IAC 23.1(4)"bl"  
40 CFR 63.1350

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the applicable requirements. The data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility’s implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: See Table: Storage Tanks**

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Storage Tanks

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Table: Storage Tanks

<b>Emission Point Number</b>	<b>Associated Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>Raw Material</b>	<b>Rated Capacity (gallons)</b>	<b>Construction Permit Number</b>
T-1	EU T-1	Storage Tank 1	Glycerine Byproducts	30,000	07-A-1515
T-2	EU T-2	Storage Tank 2	Glycerine Byproducts	30,000	07-A-1516
T-3	EU T-3	Storage Tank 3	Glycerine Byproducts	30,000	07-A-1517
T-4	EU T-4	Storage Tank 4	Glycerine Byproducts	30,000	07-A-1518

**Applicable Requirements**

**Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

There are no emission limits at this time.

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Process throughput:

- A. The maximum true vapor pressure of any material stored in these units shall be less than 15.0 kPa (2.18 psi).

**Reporting & Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

- A. A log of all materials stored in these units and their maximum true vapor pressure.
- B. A copy of the Material Safety Data Sheets for each material stored in these units.

Authority for Requirement: DNR Construction Permits specified in Table: Storage Tanks

**Emission Point Characteristics**

*These emission points shall conform to the conditions specified below.*

Stack Height, (ft, from the ground): 20

Stack Opening, (inches, dia.): 2.5

Exhaust Flow Rate (scfm): Displacement Air

Exhaust Temperature (°F): 100

Discharge Style: Unobstructed Vertical

Authority for Requirement: DNR Construction Permits specified in Table: Storage Tanks

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0020-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0020-1

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Emission Unit vented through this Emission Point: 0020-1  
Emission Unit Description: Emergency Generator  
Raw Material/Fuel: #2 Fuel Oil  
Rated Capacity: 250 KW, 335 HP

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limits: 40 %<sup>(1)</sup>

Authority for Requirement: DNR Construction Permit 99-A-136-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)

Emission Limits: 0.74 lb/hr

Authority for Requirement: DNR Construction Permit 99-A-136-S2

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 99-A-136-S2  
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)

Emission Limit(s): 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 99-A-136-S2  
567 IAC 23.3(3)"b"

## NSPS and NESHAP

The emergency engine is subject to 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). According to 40 CFR 63.6590(a)(1)(ii) this compression ignition emergency engine, located at a major source, is an existing stationary RICE as it was constructed prior to June 12, 2006.

### Compliance Date

Per 63.6595(a)(1) you must comply with the provisions of Subpart ZZZZ that are applicable by May 3, 2013.

### Operation and Maintenance Requirements 40 CFR 63.6602, 63.6625, 63.6640 and Tables 2c and 6 to Subpart ZZZZ

1. Change oil and filter every 500 hours of operation or annually, whichever comes first. (See 63.6625(i) for the oil analysis option to extend time frame of requirements.)
2. Inspect air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
4. Operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
5. Install a non-resettable hour meter if one is not already installed.
6. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

### Operating Limits 40 CFR 63.6640(f)

1. Any operation other than emergency operation, maintenance and testing and operation in non-emergency situations (*up to*) 50 hours per year is prohibited.
2. There is no time limit on the use of emergency stationary RICE in emergency situations.
3. You may operate your emergency stationary RICE up to 100 combined hours per calendar year for maintenance checks and readiness testing. See 40 CFR 63.6640(f)(2) for additional information and restrictions.
4. You may operate your emergency stationary RICE up to 50 hours per calendar year for non-emergency situations, but those 50 hours are counted toward the 100 hours of maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

### Recordkeeping Requirements 40 CFR 63.6655

1. Keep records of the maintenance conducted on the stationary RICE.
2. Keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation,

including what classified the operation as emergency and how many hours are spent for non-emergency operation. See 40 CFR 63.6655(f) for additional information.

Notification and Reporting Requirements 40 CFR 63.6645, 63.6650 and Table 2c to Subpart ZZZZ

1. An initial notification is not required per 40 CFR 63.6645(a)(5).
2. A report may be required for failure to perform the work practice requirements on the schedule required in Table 2c. (See Footnote 1 of Table 2c for more information.)

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ  
567 IAC 23.1(4)"cz"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Hours of operation:

- A. This emission unit shall operate no more than 500 hours per twelve (12) month period, rolled monthly.

Process throughput:

- B. The fuel used shall not have a sulfur content greater than 0.5%.

**Reporting & Record keeping**

*All records as required by this permit below shall be kept on site for five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.*

- A. For each fuel shipment received, maintain a copy of the vendor's certification or other documentation of the sulfur content of the fuel received.
- B. At the end of each month, record the reading of the hour meter on this unit.
- C. At the end of each month, record the number of hours this unit has operated over the previous month.
- D. At the end of each month, record the number of hours this unit has operated over the previous twelve (12) months.

Authority for Requirement: DNR Construction Permit 99-A-136-S2

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

- Stack Height, (ft, from the ground): 50
- Stack Opening, (inches, dia.): 6
- Exhaust Flow Rate (scfm): 442
- Exhaust Temperature (°F): 500
- Discharge Style: Unobstructed Vertical
- Authority for Requirement: DNR Construction Permit 99-A-136-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

- Agency Approved Operation & Maintenance Plan Required?**      Yes  No
- Facility Maintained Operation & Maintenance Plan Required?**      Yes  No
- Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0030-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0030-1

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Emission Unit vented through this Emission Point: 0030-1  
Emission Unit Description: Diesel Water Pump  
Raw Material/Fuel: #2 Fuel Oil  
Rated Capacity: 182 hp

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limits: 40 %<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 99-A-137-S1  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 20% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)  
Emission Limit(s): 0.1 gr/dscf  
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.43 lb/hr  
Authority for Requirement: DNR Construction Permit 99-A-137-S1

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)  
Emission Limit(s): 2.5 lb/MMBtu  
Authority for Requirement: DNR Construction Permit 99-A-137-S1  
567 IAC 23.3(3)"b"

**NSPS and NESHAP**

The emergency engine is subject to 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). According to 40 CFR 63.6590(a)(1)(ii) this compression ignition emergency engine, located at a major source, is an existing stationary RICE as it was constructed prior to June 12, 2006.

### Compliance Date

Per 63.6595(a)(1) you must comply with the provisions of Subpart ZZZZ that are applicable by May 3, 2013.

### Operation and Maintenance Requirements 40 CFR 63.6602, 63.6625, 63.6640 and Tables 2c and 6 to Subpart ZZZZ

1. Change oil and filter every 500 hours of operation or annually, whichever comes first. (See 63.6625(i) for the oil analysis option to extend time frame of requirements.)
2. Inspect air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
4. Operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
5. Install a non-resettable hour meter if one is not already installed.
6. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

### Operating Limits 40 CFR 63.6640(f)

1. Any operation other than emergency operation, maintenance and testing and operation in non-emergency situations (*up to*) 50 hours per year is prohibited.
2. There is no time limit on the use of emergency stationary RICE in emergency situations.
3. You may operate your emergency stationary RICE up to 100 combined hours per calendar year for maintenance checks and readiness testing. See 40 CFR 63.6640(f)(2) for additional information and restrictions.
4. You may operate your emergency stationary RICE up to 50 hours per calendar year for non-emergency situations, but those 50 hours are counted toward the 100 hours of maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

### Recordkeeping Requirements 40 CFR 63.6655

3. Keep records of the maintenance conducted on the stationary RICE.
4. Keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. See 40 CFR 63.6655(f) for additional information.

### Notification and Reporting Requirements 40 CFR 63.6645, 63.6650 and Table 2c to Subpart ZZZZ

3. An initial notification is not required per 40 CFR 63.6645(a)(5).
4. A report may be required for failure to perform the work practice requirements on the schedule required in Table 2c. (See Footnote 1 of Table 2c for more information.)

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ  
567 IAC 23.1(4)"cz"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Hours of operation:

A, This unit shall operate no more than 500 hours per twelve (12) month period, rolled monthly.

Process throughput:

B. The fuel consumed in this unit shall have a sulfur content not greater than 0.5% by weight.

**Reporting & Record keeping**

*All records as required by this permit below shall be kept on site for five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.*

- A. For each shipment received, maintain a copy of the vendor's certification or other documentation of the sulfur content of the fuel received.
- B. At the end of each month, record the reading of the hour meter on this unit.
- C. At the end of each month, record the number of hours this unit has operated over the previous month.
- D. At the end of each month, record the number of hours this unit has operated over the previous twelve (12) months..

Authority for Requirement: DNR Construction Permit 99-A-137-S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 12.75

Stack Opening, (inches, dia.): 6

Exhaust Flow Rate (scfm): 800

Exhaust Temperature (°F): 500

Discharge Style: Unobstructed Vertical

Authority for Requirement: DNR Construction Permit 99-A-137

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: 0081-0**

### Associated Equipment

Associated Emission Unit ID Numbers: 0081-1  
Emissions Control Equipment ID Number: 0081-C  
Emissions Control Equipment Description: Bag Filter

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Emission Unit vented through this Emission Point: 0081-1  
Emission Unit Description: Quarry Drill  
Raw Material/Fuel: N/A  
Rated Capacity: N/A

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limits: 40 %<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 87-A-080-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup>If visible emissions are observed other than startup, shutdown or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.13 lb/hr  
Authority for Requirement: DNR Construction Permit 87-A-080-S2

Pollutant: Particulate Matter (PM)  
Emission Limit(s): 0.1 gr/scf  
Authority for Requirement: DNR Construction Permit 87-A-080-S2  
567 IAC 23.3(2)"a"

#### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 8  
Stack Opening, (inches, dia.): 8  
Exhaust Flow Rate (scfm): 2,700  
Exhaust Temperature (°F): 70  
Discharge Style: Unobstructed Vertical  
Authority for Requirement: DNR Construction Permit 87-A-080-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: 0203-0**

### Associated Equipment

Associated Emission Unit ID Numbers: 0203-1  
Emissions Control Equipment ID Number: 0203-C  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: 0203-1  
Emission Unit Description: Raw Material Transfer in Transfer House-Conveyor to Conveyor  
Raw Material/Fuel: Raw Materials<sup>(1)</sup>  
Rated Capacity: 1,300 tons/hr

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 10%  
Authority for Requirement: 40 CFR 60.62(c)  
567 IAC 23.1(2)"c"

Pollutant: Opacity  
Emission Limit(s): 40%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 78-A-221-S6  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.72 lb/hr  
Authority for Requirement: DNR Construction Permit 78-A-221-S6

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/dscf  
Authority for Requirement: DNR Construction Permit 78-A-221-S6  
567 IAC 23.3(2)"a"

## **NSPS and NESHAP**

This emission unit is subject to Subpart LLL (*National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*; 40 CFR §63.1340 – §63.1358), but per 40 CFR §63.1356 of Subpart LLL this unit is exempted from any otherwise applicable new source performance standard contained in Subpart F, to which it is also subject.

An O & M plan is required by Subpart LLL for these emission units. Relevant requirements of O & M plan for this equipment: Opacity - **see Appendix B**.

Authority for Requirements: 40 CFR 60 Subpart F  
567 IAC 23.1(2)"c"  
40 CFR 63 Subpart LLL  
567 IAC 23.1(4)"bl"

## **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Process throughput: This process is limited to transferring 365,000 tons of raw materials per month.

## **Reporting & Record keeping**

The quantity of raw material transferred to the crusher shall be recorded monthly, records shall be kept on site for a minimum of five years, and shall be available for inspection by the Department.

Authority for Requirement: Section IV(2) Iowa Department of Natural Resources  
Administrative Consent Order No. 98-AQ-08

## **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 5.6  
Stack Opening, (inches, dia.): 7.8  
Exhaust Flow Rate (scfm): 4,200  
Exhaust Temperature (°F): Ambient  
Discharge Style: Unobstructed Vertical  
Authority for Requirement: DNR Construction Permit 78-A-221-S6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements. The data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0218-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0218-1  
Emissions Control Equipment ID Number: 0218-C  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: 0218-1  
Emission Unit Description: Crushing and Conveying of Raw Materials  
Raw Material/Fuel: Raw Materials<sup>(1)</sup>  
Rated Capacity: 1,300 tons/hr

<sup>(1)</sup>Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 40%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 78-A-218-S7  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 5.59 lb/hr  
Authority for Requirement: DNR Construction Permit 78-A-218-S7

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/dscf  
Authority for Requirement: DNR Construction Permit 78-A-218-S7  
567 IAC 23.3(2)"a"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Process throughput:

The following supplemental materials may be utilized in the crushers as listed below:

<u>Material</u>	<u>Maximum Tons Per Hour</u>
1. Coal Combustion Residue	400
2. Foundry By-Products	1300
3. Hydrocarbon Containing Soils	210
4. Refinery By-Products	105
5. Oils and Greases	0
<u>Total Feed</u>	1300

**Reporting & Record keeping**

*All records, as required by this permit, shall be kept on site for a minimum of five (5) years and be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.*

The records shall show the following:

Materials utilized by the crushers. This record shall show the individual material, the amount of that material (in tons), the percentage of the total for that material, and the total of all materials (in tons/hr).

Authority for Requirement: DNR Construction Permit 78-A-218-S7

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 4.0

Stack Opening, (inches.): 12 x 30

Exhaust Flow Rate (scfm): 32,600

Exhaust Temperature (°F): Ambient

Discharge Style: Horizontal

Authority for Requirement: DNR Construction Permit 78-A-218-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No   
**See Appendix C**

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0327-0-F**

Associated Equipment

Associated Emission Unit ID Numbers: 0327-1-F

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Emission Unit vented through this Emission Point: 0327-1  
Emission Unit Description: Raw Material Transfer-Vibrating Feeder to Conveyor  
Raw Material/Fuel: Raw Materials<sup>(1)</sup>  
Rated Capacity: 250 tons/hr

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 10%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 78-A-223-S4  
40 CFR 60.62(c)  
567 IAC 23.1(2)"c"

<sup>(1)</sup> If opacity greater than that observed in the initial performance test is viewed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.34 lb/hr  
Authority for Requirement: DNR Construction Permit 78-A-223-S4

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/dscf  
Authority for Requirement: DNR Construction Permit 78-A-223-S4  
567 IAC 23.3(2)"a"

**NSPS and NESHAP**

This emission unit is subject to NSPS Subpart A:General Provisions and NSPS Subpart F: Standards of Performance for Portland Cement Plants.

Authority for Requirement: 40 CFR 60 Subpart F  
567 IAC 23.1(2)"c"

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

- Stack Height, (ft, from the ground): Vents into preblend storage dome
- Stack Opening, (inches, dia.): Vents into preblend storage dome
- Exhaust Flow Rate (scfm): Vents into preblend storage dome
- Exhaust Temperature (°F): Vents into preblend storage dome
- Discharge Style: Vents into preblend storage dome
- Authority for Requirement: DNR Construction Permit 78-A-223-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.*

**Opacity Monitoring**

Visible emissions shall be observed on a monthly basis using EPA Method 22 to ensure there are none when the emission unit on this emission point is at or near full capacity. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required. If an opacity (>10 %) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from observation of the violation.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0466-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0466-1

Emissions Control Equipment ID Number: 0466-C, 0466-2-C and 0594-C

Emissions Control Equipment Description: Dry Absorbent Addition (DAA, CE 0466-2-C), Roller Mill Baghouse (CE 0466-C) & Alkali Bypass Baghouse (CE 0594-C) in parallel

Continuous Emissions Monitors ID Numbers: 0466-1-M, 0466-2-M

Emission Unit vented through this Emission Point: 0466-1

Emission Unit Description: Preheater/Precalciner/Kiln/Raw Mill System

Raw Material/Fuel: Raw Materials<sup>(1)</sup> and Fuel

Rated Capacity: 145.3 tons clinker/hr

<sup>(1)</sup> Raw materials refers to any one or a mixture of the kiln-stock materials used to produce cement, which are primarily limestone, clay, or alternative raw materials such as hydrocarbon contaminated soils. Coal and other primary fuel sources are not included in this category.

**Applicable Requirements**

**BACT Emission Limits When Production is Less Than or Equal to 108 Tons of Clinker per Hour (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

Pollutant: Nitrogen Oxides (NO<sub>x</sub>)

Emission Limit(s): 58.67 grams/second and 465.65 lb/hr (expressed as a 3-hour average)

Authority for Requirement: DNR Construction Permit 99-A-579-P6

**BACT Emission Limits When Production is Greater Than 108 Tons of Clinker per Hour (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 10%

Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Particulate Matter (PM<sub>10</sub>)

Emission Limit(s): 0.516 lb/ton of clinker

Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.516 lb/ton of clinker

Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)  
Emission Limit(s): 4,850 tons/yr <sup>(1)(2)</sup>  
Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Nitrogen Oxides (NO<sub>x</sub>)  
Emission Limit(s): 2,546 tons/yr <sup>(1)(2)</sup>, 4.0 lb/ton of clinker <sup>(3)</sup>  
Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Carbon Monoxide (CO)  
Emission Limit(s): 4.5 lb/ton of clinker  
Authority for Requirement: DNR Construction Permit 99-A-579-P6

<sup>(1)</sup> Limit is a 12-month rolling total. Applies at all times including periods of startup, shutdown, or malfunction.

<sup>(2)</sup> Compliance with the applicable emission standards of this permit are based on the CEM data from the owner/operator. Hourly emissions shall be the average of four 15-minute averages analyzed and recorded by the CEM.

<sup>(3)</sup> Limit is a monthly rolling average. Limit does not apply during startup, shutdown, or malfunction. Compliance with this emission standard shall be calculated by the owner/operator by:

- Totaling the pounds of NO<sub>x</sub> recorded by the CEMS during normal operation over the last twelve months of operation.
- Totaling the tons of clinker produced over the last twelve months operation.
- Dividing the pounds of NO<sub>x</sub> by the tons of clinker produced.

### **Other Emission Limits**

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limit(s): 75.0 lb/hr <sup>(6)</sup>  
Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)  
Emission Limit(s): 2,900 lb/hr <sup>(4)</sup>; 66,500 lb/day <sup>(4,5)</sup>; and 4,850 tons/yr <sup>(4,7)</sup>  
Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Mercury (Hg)  
Emission Limit(s): 3.2 kg/24 hr period <sup>(8)</sup>  
Authority for Requirement: DNR Construction Permit 99-A-579-P6  
40 CFR 61 Subpart E  
567 IAC 23.1(3)"d"

<sup>(4)</sup> Compliance with the applicable emission standards of this permit are based on the CEM data from the owner/operator. Hourly emissions shall be the average of four 15-minute averages analyzed and recorded by the CEM.

<sup>(5)</sup> Standard is expressed as a 24-hour rolling total. The limit applies at all times including periods of startup, shutdown, or malfunction.

<sup>(6)</sup> Emission rate used in the facility-wide SIP (State Implementation Plan) maintenance plan dispersion modeling to demonstrate no exceedences of the National Ambient Air Quality Standards (NAAQS).

<sup>(7)</sup> Facility-wide limit per the consent decree entered into between the United States and Lafarge North America, Inc. [Civil Action 3:10-cv-00044-JPG-CJP, United States District Court for the Southern District of Illinois (March 18, 2010)]

<sup>(8)</sup> Per 40 CFR 61.52(b). Standard applies when the kiln uses materials in the *Water & Waste Treatment Byproducts* category listed under Operating Limits, below.

## **40 CFR Part 60 Subpart DDDD Emission Limitations**

### **See Appendix D**

Authority for Requirement: 40 CFR 60 Subpart DDDD

### **NSPS and NESHAP**

Both the emission unit and the source (plant number 82-04-005) are subject to Subpart A (*General Provisions*; 40 CFR §60.1 through 40 CFR §60.19) of the New Source Performance Standards (NSPS) and Subpart A (*General Provisions*; 40 CFR §63.1 through 40 CFR §63.15) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories.

This source (plant number 82-04-005) is subject to Subpart LLL (*National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*; 40 CFR §63.1340 – 40 CFR §63.1358). Please note that EPA amended NESHAP Subpart LLL on February 12, 2013 and the source (plant number 82-04-005) may be subject to requirements in those amendments.

This emission unit is not subject to the requirements of NESHAP Subpart LLL as it is subject to the Commercial and Industrial Solid Waste Incinerator (CISWI) Rule (either 40 CFR Part 60 Subpart CCCC or 40 CFR Part 60 Subpart DDDD) according to an August 6, 2014 determination made by the Environmental Protection Agency (EPA). If the owner or operator discontinues the combustion of solid waste in this emission unit and the emission unit is no longer considered a solid waste incineration unit as defined in 40 CFR Part 241 the emission unit will then be subject to the requirements of NESHAP Subpart LLL.

This emission unit is an affected facility per NSPS Subpart F (*Standards of Performance for Portland Cement Plants*; 40 CFR §60.60 through 40 CFR §60.66). Per 40 CFR §60.62(d), if an owner or operator has an affected source subject to Subpart F with a different emission limit or requirement for the same pollutant under another regulation in Title 40 of CFR, the owner or operator must comply with the most stringent emission limit or requirement and is not subject to the less stringent requirement. Please note that EPA amended NSPS Subpart F on February 12, 2013 and this emission unit may be subject to requirements in those amendments.

This emission unit is subject to Subpart A (*General Provisions*; 40 CFR §61.1 through 40 CFR §61.19) and Subpart E (*National Emission Standard for Mercury*; 40 CFR §61.50 through 40 CFR §61.56) of the NESHAP when the kiln uses materials in the *Water & Waste Treatment Byproducts* category listed below in Operational Limits & Requirements Condition F.

Authority for Requirement: DNR Construction Permit 99-A-579-P6  
40 CFR 60 Subpart F

567 IAC 23.1(2)"c"  
40 CFR Subpart CCCC  
40 CFR Subpart DDDD  
40 CFR 61 Subpart E  
567 IAC 23.1(3)"d"  
40 CFR 63 Subpart LLL  
567 IAC 23.1(4)"bl"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

A. The kiln is limited to firing on the following fuels and alternative fuels:

- *Coal*
- *Coke*
- *Natural gas*
- *Fuel oil*
- *Used oil*
- *Used oil filter media from the shredding of used oil filters*
- *Glycol distillation bottoms*
- *Tire derived fuel (TDF)*
- *Plastic derived fuel (PDF)*
- *Any obsolete seed with up to 0.75% by mass coating of seed treatment including fungicide & insecticide.*
- *Ethanol, distiller's dried grains with solubles (DDGS)*
- *Biodiesel products/byproducts (BDPB)*
- *Fatty glycerins from tallow soap manufacturing*
- *Animal meat and bone meal (MBM)*
- *Diatomaceous earth filters from Alcoa*
- *Auto fluff with a chlorine (Cl) content less than 1.0% (by weight)*
- *Solid waste derived fuel (SWDF).* The following materials under this category are approved without further review:
  - Off-spec industrial hose and SMI Fuel Briquettes from the SMI East Troy Plant in East Troy, WI;
  - Waste material from Iowa West Liberty Foods plants;
  - Rollprint packaging products scrap plastic and foil laminates;
  - A-Line E.D.S. Cellulose Fluff;
  - Quincy Recycling sandwich wrap paper;
  - General Mills foil wrappers and bags;
  - Advanced Waste Services, Inc. facility cleanup material;
  - John Deere seeding oil absorbents, dried paint items (plastic, filters), and personal protective equipment (PPE);
  - Dry paint waste, dry paint filters, and oil absorbents from John Deere Harvester Works in East Moline, IL;
  - Carpet scrap from carpet manufacturing from Clear, Inc.;
  - Nitrile gloves from body care product manufacturing from Raining Rose, Inc.;

- #4 – 7 plastic from Harvest Technologies, Inc.;
  - Protective equipment from Sivyer Steel;
  - John Deere swarf and filter media;
  - Injection mold resin scrap from injection molding;
  - Polyurethane foam packaging from Hy-Capacity, Inc.;
  - IAC scrap baled auto carpet;
  - Nestlé beverage food packaging;
  - River Cities Business Park Wood Boiler Ash;
  - Laminate Film Scrap from Marck Industries;
  - Molded Reject Scrap from Interplex Daystar;
  - Paper and Plastic Trim from Quincy Recycle;
  - Friction Paper from B.L. Duke;
  - Wood boiler ash from River Bend Industrial Center;
  - Empty Juice Pouches from Kraft; and
  - Nylon Fiber from Liberty Tire Recycling.
  - *Comparable fuel (Comp)* – Any comparable fuel used must be certified as non-hazardous according to US EPA Resource Conservation and Recovery Act (RCRA) rules. The following materials under this category are approved without further review:
    - Mixed Distillation Residues [mixture of ethanalamine (141-43-5) and polymers of vinylpyrrolidone (88-12-0); 2-pyrrolidone (616-45-5); 1,4,-butanediol (110-63-4); 2-butene-1,4-diol (110-64-5); and 2(3H) furanone, dihydro (96-48-0)]
- B. The feed rate of obsolete seed shall not exceed 5.0 tons/hr.
- C. The roller mill air heater is limited to firing on fuel oil, natural gas, used oil, ethanol, and BDPB.
- D. Any fuel used shall not have a lead (Pb) content greater than 500 ppm.
- E. The following supplemental materials may be utilized by the roller mill and kiln as listed below:

		MAXIMUM TONS PER HOUR	
	Material	Roller Mill	Kiln
1	Coal Combustion Residue	30	30
2	Foundry By-Products	30	30
3	Hydrocarbon Containing Soils	46	46
4	Refinery By-Products	30	30
5	Oils and Greases	0	2
	Total Feed	300	300

- F. The following supplemental materials may also be utilized in the roller mill and kiln:
- *Agricultural Products/Byproducts.* The following materials under this category are approved without further review: Egg shells, rice hulls, and rice hull ash.
  - *Mining and Energy Products/Byproducts.* The following materials under this category are approved without further review: Cut stone, stone products, limestone fines, potash fines, refractory, sand & gravel fines, and sand & gravel off spec rejects.
  - *Manufacturing Products/Byproducts.* The following materials under this category are approved without further review: Boiler ash, refractory, clay fiber, broken glass, Kaolin, whey, iron fines, clay & ceramic tiles, bricks, lime & cement kiln dust, clay, porcelain, coke

- finer, used abrasives, grinding media, slag, foundry sand, shot/blast media, alumina dust, Pet coke, dross, and off-spec bauxite.
- *Water & Waste Treatment Byproducts.* The following materials under this category are approved without further review: lime sludge from Alcoa's Davenport, IA plant; waste filter cake from Toyota's Georgetown, KY plant.
- G. Per 40 CFR §279.63, used oil that contains a total halogen concentration greater than 1,000 ppm is presumed to be a hazardous waste and a rebuttal demonstration is required to burning the used oil. To ensure that the used oil managed at a used oil burner facility is not hazardous waste under the rebuttable presumption of 40 CFR §279.10(b)(1)(ii), a used oil burner must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.
- H. The polychlorinated biphenyl (PCB) concentration of any used oil combusted shall be less than 50 ppm.
- I. Used oil shall only be burned while the kiln system is at normal operating temperatures and not during start-up or shutdown.
- J. Simultaneous feeding of the alternative materials listed in Conditions E and F above is allowed, but the combined total of the materials shall not exceed twenty (20) percent of the total material being fed to the kiln at any given time. See 40 CFR §63.1349(e) for performance testing requirements.
- K. Prior to use of any fuels or materials that fall under the categories listed in Conditions A, E or F above, unless otherwise specified in those conditions, the owner or operator shall supply material data to the Department for review and approval. This data shall include, but is not limited to:
- A description of the alternative fuel or alternate raw material,
  - A complete chemical analysis of the material, and
  - Evaluation of the impact on air emissions.
- L. In accordance with Subpart F (Standards of Performance for Portland Cement Plants), the source (plant number 82-04-005) shall record its daily production rates and kiln feed rates.
- M. Per Paragraph 75 of USA v. Lafarge North America, Inc. <sup>(1)</sup> et al, 3:10-cv-00044, No. 45 (S.D. Ill. Mar. 18, 2010), Lafarge shall continuously operate the Dry Absorbent Addition (DAA) technology during all times of kiln operation except during period of DAA technology malfunction.
- N. Per Paragraph 92 of USA v. Lafarge North America, Inc. et al, 3:10-cv-00044, No. 45 (S.D. Ill. Mar. 18, 2010), emission reductions of SO<sub>2</sub> and/or NO<sub>x</sub> resulting from compliance with the requirements of the Consent Decree shall not be considered as a creditable contemporaneous emission decrease for the purpose of obtaining a netting credit under the Clean Air Act's Nonattainment New Source Review (NA NSR) and Prevention of Significant Deterioration (PSD) programs.
- O. Lafarge shall submit a "*Profile Analysis Plan*" to the Department for approval at least thirty (30) days prior to the use of a "*Profile Analysis*" in lieu of testing each shipment of alternative fuel. At a minimum the "*Profile Analysis Plan*" shall contain the following:
- A detailed explanation of the "*Profile Analysis*",
  - The procedures to be used for the "*Profile Analysis*",
  - The constituents (i.e. heat content, Pb content, S content, Hg content, etc.) to be measured and tracked,
  - The frequency of testing, and
  - The information to be stored by Lafarge and retention time of that information.

Lafarge shall not use the “*Profile Analysis*” until it is approved by the Department. Any amendments to the “*Profile Analysis Plan*” shall be submitted to and approved by the Department prior use.

- (1) Lafarge North America, Inc. is the previous plant name for Continental Cement Company – Davenport Plant.

### **Reporting & Record keeping**

*All records, as required below, shall be satisfactory for demonstrating compliance with all applicable operating limits. Records shall be maintained on site for five (5) years and be available for inspection upon request by representatives of the Department of Natural Resources. These records shall show the following:*

- A. The sulfur content (in lb/MMBTU) of all individual fuels and the total sulfur (in lb/MMBTU) of any combination of fuels that are fired in the kiln and roller mill air preheater. The fuel analysis sent with the fuel shipment or the most recent profile information collected and maintained according to the “*Profile Analysis Plan*” in Operational Limits & Requirements condition O. can be an adequate demonstration for this record.
- B. The Pb content of each batch of used oil or other alternative fuel fired in the kiln or roller mill air preheater. The fuel analysis sent with the fuel shipment or the most recent profile information collected and maintained according to the “*Profile Analysis Plan*” in Operational Limits & Requirements condition O. can be an adequate demonstration for this record. If these fuels have been received from a single supplier and a uniform process for a period of at least six (6) consecutive months, the Pb sampling frequency can be reduced to once per week or once every ten (10) loads, whichever occurs earlier, under the following conditions:
- At least twenty-four (24) loads have been received and analyzed over the 6-month period;
  - All samples analyzed during the 6-month period show lead concentrations to be less than 50 ppm; and
  - A statement is obtained from the fuel supplier certifying the following:
    - The alternative fuel is a product of a consistent process, and
    - If the process is altered in any manner that would result in an increase in the Pb concentration of the alternative fuel by 50 ppm or more, the supplier will notify Lafarge prior to sending the fuel.

If a sample is found to contain more than 50 ppm Pb, the permittee will be required to revert back to sampling each batch of fuel until conditions B.a through B.c directly above are met once again.

- C. The daily kiln production rates and kiln feed rates.
- D. Copies of the semiannual excess emissions reports per 40 CFR § 60.65.
- E. Materials (including fuels) utilized by the roller mill and kiln. This record shall show the individual material, the amount of that material (in tons/hr), the percentage of the total for that material, the total of all materials (in tons/hr), and whether the roller mill or kiln or both were utilizing the material.
- F. A record showing the PCB content meets the requirements of Operational Limits & Requirements section condition H above. This record shall be either:
- Testing to determine the PCB concentration on individual samples, or in accordance with the testing procedures described in 40 CFR 761.60(g)(2), or
  - Other information documenting that the used oil fuel does not contain PCBs in a

- concentration equal to or greater than 50 ppm, including either personal, special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the used oil contains no detectable PCBs.
- G. The owner or operator shall maintain a record of the total halogen content concentration (in ppm) for all of the used oil burned. If the total halogen concentration is greater than or equal to 1,000 ppm, the owner or operator shall also maintain the rebuttal demonstration for the used oil showing that it does not contain hazardous waste. The owner or operator shall determine the halogen content of the used oil by:
- Testing the used oil;
  - Applying knowledge of the halogen content of the used oil in light of the materials or processes used, or
  - If the used oil has been received from a processor/re-refiner subject to regulation under subpart F of 40 CFR Part 279, using information provided by the processor/re-refiner.
- H. The owner or operator shall develop written operating procedures to ensure that used oil is not burned during start-up or shutdown. The owner or operator shall document any deviations from the written operating procedures.
- I. Determine the total SO<sub>2</sub> emissions for each operating day. An operating day is defined as a 24-hour period between 12:00 midnight and the following midnight during which any clinker is produced at any time in the kiln. It is not necessary for clinker to be produced continuously by the kiln for the entire 24-hour period.
- J. Upon issuance of construction permit # 99-A-579-P6 and prior to the kiln modification, Lafarge shall calculate the monthly rolling average for the pounds of NO<sub>x</sub>/ton of clinker emission limit for the previous full 12 months. Lafarge shall continue to determine the 12-month rolling average each month thereafter.
- K. After the kiln modification, Lafarge shall restart the calculation for the monthly rolling average for the pounds of NO<sub>x</sub>/ton of clinker. The calculation shall start the first full month after the modification to the kiln and Lafarge shall continue to determine the monthly rolling average for each month thereafter.
- L. Upon issuance of construction permit # 99-A-579-P6 calculate the total NO<sub>x</sub> emissions for the twelve (12) months previous to the issuance of the permit.
- M. After the issuance of construction permit # 99-A-579-P6, determine the annual NO<sub>x</sub> emissions on a rolled-12-month total for each month of operation.
- N. For the first twelve months after the kiln modification, calculate the cumulative SO<sub>x</sub> emissions for each month of operation.
- O. After the first twelve months after the kiln modification, calculate the total SO<sub>x</sub> emissions on a rolling-12-month total for each month of operation.

Authority for Requirement: DNR Construction Permit 99-A-579-P6

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

- Stack Height, (ft, from the ground): 340
- Stack Opening, (inches, dia.): 108
- Exhaust Flow Rate (scfm): 175,000
- Exhaust Temperature (°F): 300
- Discharge Style: Unobstructed Vertical
- Authority for Requirement: DNR Construction Permit 99-A-579-P6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Stack Testing**

- Pollutant – Mercury (Hg) <sup>(1)</sup>
- Stack Test to be Completed by – For each new water or waste treatment byproduct approved for use in the kiln <sup>(2)</sup>
- Test Method - 40 CFR 60, Appendix A, Method 18
- Authority for Requirement – DNR Construction Permit 99-A-579-P6

<sup>(1)</sup> Stack test or sludge sampling. Per 40 CFR §61.53(d), unless a waiver of emission testing is obtained under 40 CFR §61.13, testing is required within ninety (90) days of use of any sludge in the kiln. Sludge means sludge produced by a treatment plant that processes municipal or industrial waste waters (40 CFR §61.51). This includes materials in the *Water & Waste Treatment Byproducts* category listed in condition F of the Operating Limits section above. Testing shall be conducted in accordance with the procedures set forth either in 40 CFR §61.53(d) or in 40 CFR §61.54.

<sup>(2)</sup> Unless specifically waived by the Department testing is required for each new *water or waste treatment byproduct* approved for use in the kiln.

*The owner of this equipment or the owner’s authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)*

Stack Testing is required to be performed annually per 40 CFR 60.2145(b) and 60.2710(b).

**See Appendix D**

Authority for Requirement: 40 CFR 60 Subpart DDDD

## Continuous Emissions Monitoring:

In accordance with the New Source Performance Standards (NSPS) Subpart F (Standards of Performance for Portland Cement Plants), the facility (plant number 82-04-005) shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 1 (PS1).

In accordance with NESHAP Subpart LLL [40 CFR §63.1350(g)(1)], the facility (plant number 17-01-005) shall install, calibrate, maintain, and continuously operate a continuous monitor to record the temperature of the exhaust gases from the kiln at the inlet to or upstream of the kiln particulate matter control device. Per 40 CFR §63.1350(g)(1), the following shall be done:

- The recorder response range must include zero and 1.5 times either of the average temperatures established according to the requirements in 40 CFR §63.1349(b)(3)(iv).
- The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator.
- The three-hour average temperature shall be calculated as the average of 180 successive one-minute average temperatures.
- Periods of time when one-minute averages are not available shall be ignored when calculating three-hour rolling averages. When one-minute averages become available, the first one-minute average is added to the previous 179 values to calculate the three-hour rolling average.
- The calibration of all thermocouples and other temperature sensors shall be verified at least once every three months.

Compliance with the sulfur dioxide emission limits of this permit shall be continuously demonstrated by the owner/operator through the use of a CEMS. Therefore, the facility (plant number 82-04-005) shall install, calibrate, maintain, and operate a CEMS for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system. The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

Compliance with the nitrogen oxide emission limits of this permit shall be continuously demonstrated by the owner/operator through the use of a CEMS. Therefore, the facility (plant number 82-04-005) shall install, calibrate, maintain, and operate a CEMS for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

The following conditions shall apply:

- (1) The CEMS required by this permit shall be operated at all times except for CEM breakdowns, repairs, calibration checks, and zero span adjustments. Data is recorded during

- calibration checks and zero span adjustments.
- (2) The 1-hour average SO<sub>2</sub> and NO<sub>x</sub> emission rates measured by the CEMS required by this permit shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.
  - (3) For each hour of missing emission data (NO<sub>x</sub> or SO<sub>2</sub>), the owner or operator shall substitute data by:
    - A. If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
      - i) For the missing data period less than or equal to twenty-four (24) hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
      - ii) For a missing data period greater than twenty-four (24) hours, substitute the greater of:
        - (a) The 90<sup>th</sup> percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
        - (b) The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
    - B. If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
      - i) For a missing data period of less than or equal to eight (8) hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
      - ii) For the missing data period of more than eight (8) hours, substitute the greater of:
        - (a) The 95<sup>th</sup> percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
        - (b) The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
    - C. If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

If requested by the Department, the owner/operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

Authority for Requirement - DNR Construction Permit 99-A-579-P6

*The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)*

**Agency Approved Operation & Maintenance Plan Required?** Yes  No

**Facility Maintained Operation & Maintenance Plan Required?** Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes  No   
**See Appendix C**

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0499-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0499-1-F

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Emission Unit vented through this Emission Point: 0499-1-F  
Emission Unit Description: 20,000 gal Fuel Oil Tank  
Raw Material/Fuel: Fuel Oil  
Rated Capacity: 2,400 gal/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: DNR Construction Permit 98-A-1055-S1  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/scf

Authority for Requirement: DNR Construction Permit 98-A-1055-S1  
567 IAC 23.3(2)"a"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Process throughput:

A. The storage tank is limited to storing distillate fuel oil.

**Reporting & Record keeping**

*All records, as required by this permit, shall be kept on site for a minimum of five (5) years and be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The records shall show the following*

A. The type of fuel stored in the tank.

B. Records showing the dimensions of the storage vessel and the capacity.

Authority for Requirement: DNR Construction Permit 98-A-1055-S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Source: Storage Tank

Tank Shell Diameter: 11 ft

Tank Shell Height: 28 ft

Tank Volume (Gallons): 20,000

Exhaust Flow Rate: Fugitive

Authority for Requirement: DNR Construction Permit 98-A-1055-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0535-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0535-1  
Emissions Control Equipment ID Number: 0535-C  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: 0535-1  
Emission Unit Description: CKD Handling Silo  
Raw Material/Fuel: CKD  
Rated Capacity: 405 tons/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 40%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 97-A-789-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup> If opacity greater than that observed in the initial performance test is viewed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.55 lb/hr  
Authority for Requirement: DNR Construction Permit 97-A-789-S2

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/scf  
Authority for Requirement: DNR Construction Permit 97-A-789-S2  
567 IAC 23.3(2)"a"

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 102  
Stack Opening, (inches, dia.): 16 x 7  
Exhaust Flow Rate (scfm): 2,900  
Exhaust Temperature (°F): 140  
Discharge Style: Unobstructed Vertical  
Authority for Requirement: DNR Construction Permit 97-A-789-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No   
**See Appendix C**

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0611-0**

Associated Equipment

Associated Emission Unit ID Number: 0611-1  
Emissions Control Equipment ID Number: 0611-C  
Emissions Control Equipment Description: Baghouse  
Continuous Emissions Monitors ID Number: 0611-1-M

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Emission Unit vented through this Emission Point: 0611-1  
Emission Unit Description: Clinker Cooler  
Raw Material/Fuel: Clinker  
Rated Capacity: 145.3 tons of clinker/hr

**Applicable Requirements**

**BACT Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 5%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 01-A-878-P1

<sup>(1)</sup>The averaging period for this standard is one (1) hour.

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limit(s): 0.015 gr/dscf  
Authority for Requirement: DNR Construction Permit 01-A-878-P1

Pollutant: Particulate Matter (PM)  
Emission Limit(s): 0.015 gr/dscf  
Authority for Requirement: DNR Construction Permit 01-A-878-P1

**Other Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 40%<sup>(2)</sup>  
Authority for Requirement: DNR Construction Permit 01-A-878-P1  
567 IAC 23.3(2)"d"

<sup>(2)</sup>An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)

Emission Limit(s): 17.92 lb/hr <sup>(3)</sup>

Authority for Requirement: DNR Construction Permit 01-A-878-P1

<sup>(3)</sup> Emission rate used in the facility-wide SIP (State Implementation Plan) maintenance plan dispersion modeling to demonstrate no exceedences of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.07 lb/ton clinker

Authority for Requirement: 40 CFR 63.1343

567 IAC 23.1(4)"bl"

### **NSPS and NESHAP**

Both the emission unit and the source (plant number 82-04-005) are subject to Subpart A (*General Provisions*; 40 CFR §60.1 through 40 CFR §60.19) of the New Source Performance Standards (NSPS) and Subpart A (*General Provisions*; 40 CFR §63.1 through 40 CFR §63.15) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories.

This source (plant number 82-04-005) is subject to Subpart LLL (*National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*; 40 CFR §63.1340 – 40 CFR §63.1358). Please note that EPA amended NESHAP Subpart LLL on February 12, 2013 and the source (plant number 82-04-005) may be subject to requirements in those amendments.

An O & M plan is required by Subpart LLL for these emission units. Relevant requirements of O & M plan for this equipment: Particulate Matter and Opacity-see **Appendix B**.

This emission unit is an affected facility per NSPS Subpart F (*Standards of Performance for Portland Cement Plants*; 40 CFR §60.60 through 40 CFR §60.66). Per 40 CFR §63.1356, any affected source subject to the provisions of NESHAP Subpart LLL is exempted from any otherwise applicable new source performance standard contained in 40 CFR Part 60, Subpart F. Please note that EPA amended NSPS Subpart F on February 12, 2013 and this emission unit may be subject to requirements in those amendments.

Authority for Requirements: DNR Construction Permit 01-A-878-P1

40 CFR 60 Subpart F

567 IAC 23.1(2)"c"

40 CFR 63 Subpart LLL

567 IAC 23.1(4)"bl"

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

- A. The owner or operator shall schedule a PM<sub>10</sub> compliance test within thirty (30) days if this emission point exceeds the 5% (1- hour averaging period) BACT opacity limit.

**Reporting & Record keeping**

*All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The records shall show the following:*

- A. A log of:
  - One (1) hour opacity averages,
  - Dates and times of any exceedances, and
  - Dates of any PM<sub>10</sub> compliance tests.
- B. A copy of all PM CPMS and corresponding opacity test results if a PM CPMS is used for compliance.
- C. Monitoring for NESHAP Subpart LLL at the facility (plant number 82-04-005) shall be done in accordance with 40 CFR §63.1350.
- D. Recordkeeping for NESHAP Subpart LLL at the facility (plant number 82-04-005) shall be done in accordance with 40 CFR §63.1355.

Authority for Requirement: DNR Construction Permit 01-A-878-P1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 113  
 Stack Opening, (inches, dia.): 126  
 Exhaust Flow Rate (scfm): 133,000  
 Exhaust Temperature (°F): 340  
 Discharge Style: Unobstructed Vertical  
 Authority for Requirement: DNR Construction Permit 01-A-878-P1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Continuous Emissions Monitoring:**

- A. The following monitoring systems are required to demonstrate compliance with the NSPS, NESHAP, and Best Available Control Technology (BACT) requirements listed in this permit:

- o *Opacity:*

In order to demonstrate compliance with the applicable opacity standards the owner or operator shall either:

1. Install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 1 (PS1).  
And/or
2. Install, calibrate, maintain, and operate a continuous parametric monitoring system for particulate matter (PM CPMS). The owner or operator shall conduct Method 9 opacity testing annually to establish a correlation between the PM CPMS milliamp (mA) output and opacity from the stack (EP 0611-0). The PM CPMS shall provide a 4 – 20 mA output. The PM CPMS operating range must be capable of reading PM concentrations from zero (0) to a level equivalent to three (3) times the allowable emission limit.

Authority for Requirement – DNR Construction Permit 01-A-878-P1  
40 CFR Subpart LLL  
567 IAC 23.1(3)"bl

*The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements. The data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0667-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0667-1, 0667-2  
Emissions Control Equipment ID Number: 0667-C  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: 0667-1  
Emission Unit Description: Coal Mill and Bins  
Raw Material/Fuel: Coal  
Rated Capacity: 20 tons/hr

Emission Unit vented through this Emission Point: 0667-2  
Emission Unit Description: Coal Mill Air Heater  
Raw Material/Fuel: Natural Gas  
Rated Capacity: 0.01 MMcf/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 20%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 78-A-232-S3  
567 IAC 23.1(2)"v"  
40 CFR 60.252(c)

<sup>(1)</sup> If opacity greater than that observed in the initial performance test is viewed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 5.76 lb/hr  
Authority for Requirement: DNR Construction Permit 78-A-232-S3

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/scf  
Authority for Requirement: DNR Construction Permit 78-A-232-S3  
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)  
Emission Limit(s): 500 ppmv  
Authority for Requirement: 567 IAC 23.3(3)"e"

## **NSPS and NESHAP**

This unit is subject to Subpart A (General Provisions) and Subpart Y- *Standards of Performance for Coal preparation Plants of the New Source Performance Standards (NSPS)*.

Authority for Requirement: 40 CFR 60 Subpart Y  
567 IAC 23.1(2)"v"

The Coal Mill Air Heater is subject to National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD], and 40 CFR Part 63 Subpart A, General Provisions.

Authority for Requirement: 40 CFR 63 Subpart DDDDD

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 113  
Stack Opening, (inches, dia.): 11 x 14  
Exhaust Flow Rate (scfm): 29,000  
Exhaust Temperature (°F): 140  
Discharge Style: Unobstructed Vertical  
Authority for Requirement: DNR Construction Permit 78-A-232-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

#### **Facility Periodic Opacity Monitoring**

On a weekly basis, the facility will have a certified smoke reader conduct a Method 22 visible emissions check on the Coal Mill building. If there are visible emissions, the smoke reader will conduct a standard EPA Method 9 observation. If an opacity  $\geq 20\%$  is observed, it would be considered a violation and corrective action will be taken as soon as possible, but no later than eight hours from the time of the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately two-hour intervals throughout the day. If all observation tests for the week have been unsuccessful due to weather, an observation shall be made the next operating day when weather permits.

All opacity observations and any resulting actions shall be recorded and the records maintained for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

**Agency Approved Operation & Maintenance Plan Required?** Yes  No

**Facility Maintained Operation & Maintenance Plan Required?** Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes  No   
See Appendix C

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0684-0**

Associated Equipment

Associated Emission Unit ID Numbers: 0684-1  
Emissions Control Equipment ID Number: 0684-C  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: 0684-1  
Emission Unit Description: Coal Silo  
Raw Material/Fuel: Coal  
Rated Capacity: 200 tons/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 20%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 78-A-248-S6  
567 IAC 23.1(2)"v"  
40 CFR 60.252(c)

<sup>(1)</sup> If opacity greater than that observed in the initial performance test is viewed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.67 lb/hr  
Authority for Requirement: DNR Construction Permit 78-A-248-S6

Pollutant: Particulate Matter  
Emission Limits: 0.1 gr/scf  
Authority for Requirement: DNR Construction Permit 78-A-248-S6  
567 IAC 23.3(2)"a"

**NSPS and NESHAP**

This unit is subject to Subpart A (General Provisions) and Subpart Y- *Standards of Performance for Coal preparation Plants of the New Source Performance Standards (NSPS)*.

Authority for Requirement: 40 CFR 60 Subpart Y  
567 IAC 23.1(2)"v"

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

- Stack Height, (ft, from the ground): 142
- Stack Opening, (inches, dia.): 12 x 21
- Exhaust Flow Rate (scfm): 4,000
- Exhaust Temperature (°F): 70
- Discharge Style: Unobstructed Vertical
- Authority for Requirement: DNR Construction Permit 78-A-248-S6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Facility Periodic Opacity Monitoring**

On a weekly basis, the facility will have a certified smoke reader conduct a Method 22 visible emissions check on the coal silo. If there are visible emissions, the smoke reader will conduct a standard EPA Method 9 observation. If an opacity  $\geq 20\%$  is observed, it would be considered a violation and corrective action will be taken as soon as possible, but no later than eight hours from the time of the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately two-hour intervals throughout the day. If all observation tests for the week have been unsuccessful due to weather, an observation shall be made the next operating day when weather permits.

All opacity observations and any resulting actions shall be recorded and the records maintained for a minimum of five years.

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the applicable requirements.*

*The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility’s implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 0684-0-F**

Associated Equipment

Associated Emission Unit ID Numbers: 0684-1-F

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Emission Unit vented through this Emission Point: 0684-1-F  
Emission Unit Description: Belt transfer to coal silo  
Raw Material/Fuel: Coal  
Rated Capacity: 200 tons/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 20%  
Authority for Requirement: 567 IAC 23.1(2)"v"  
40 CFR 60.252(c)

**NSPS and NESHAP**

This unit is subject to Subpart A (General Provisions) and Subpart Y- *Standards of Performance for Coal preparation Plants of the New Source Performance Standards (NSPS)*.

Authority for Requirement: 40 CFR 60 Subpart Y  
567 IAC 23.1(2)"v"

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Periodic Opacity Monitoring**

On a weekly basis, the facility will have a certified smoke reader conduct a Method 22 visible emissions check on the belt transfer of coal to the coal silo. If there are visible emissions, the smoke reader will conduct a standard EPA Method 9 observation. If an opacity  $\geq 20\%$  is observed, it would be considered a violation and corrective action will be taken as soon as possible, but no later than eight hours from the time of the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately two-hour intervals throughout the day. If all observation tests for the week have been unsuccessful due to weather, an observation shall be made the next operating day when weather permits.

All opacity observations and any resulting actions shall be recorded and the records maintained for a minimum of five years.

**Agency Approved Operation & Maintenance Plan Required?** Yes  No

**Facility Maintained Operation & Maintenance Plan Required?** Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: 0690-0-F**

### Associated Equipment

Associated Emission Unit ID Numbers: 0690-3-F

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Emission Unit vented through this Emission Point: 0690-3-F  
Emission Unit Description: Hopper/Weigh Feeder  
Raw Material/Fuel: Coal  
Rated Capacity: 200 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: DNR Construction Permit 96-A-645-S3  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 20% emissions will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)

Emission Limits: 0.95 lb/hr and 0.52 tons/yr

Authority for Requirement: DNR Construction Permit 96-A-645-S3

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

Process throughput:

- A. The transfer of coal associated with this source (EU SO690-3F) shall not exceed the rate of 200 tons per hour.
- B. The transfer of coal associated with this source (EU SO690-3F) shall not exceed the rate of 600 tons per day.

**Reporting & Record keeping**

*Records shall be maintained on site for five (5) years and be available for inspection upon request by representatives of the Department of Natural Resources. The records shall show the following:*

- A. A log shall be kept showing the date, the amount of coal (in tons/day) transfer associated with source 0690-4-F on that date, the total hours (in hrs/day) of operation for source 0690-3-F on that date, and the average rate (in tons/hr) of coal transfer for source 0690-3-F for that day.

Authority for Requirement: DNR Construction Permit 96-A-645-S3

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): N/A

Stack Opening, (inches, dia.): N/A

Exhaust Flow Rate (scfm): N/A

Exhaust Temperature (°F): Ambient

Discharge Style: N/A

Authority for Requirement: DNR Construction Permit 96-A-645-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: 1310-0**

### Associated Equipment

Associated Emission Unit ID Numbers: 1310-1  
Emissions Control Equipment ID Number: 1310-C  
Emissions Control Equipment Description: Mobile Industrial Vacuum

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Emission Unit vented through this Emission Point: 1310-1  
Emission Unit Description: Pavement Cleaning  
Raw Material/Fuel: Dust  
Rated Capacity: 15 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 40%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 86-A-084-S1  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 10% emissions will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.06 lb/hr  
Authority for Requirement: DNR Construction Permit 86-A-084-S1

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/dscf  
Authority for Requirement: DNR Construction Permit 86-A-084-S1  
567 IAC 23.3(2)"a"

#### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 8  
Stack Opening, (inches, dia.): 8  
Exhaust Flow Rate (scfm): 2,300  
Exhaust Temperature (°F): 70  
Discharge Style: Unobstructed Vertical  
Authority for Requirement: DNR Construction Permit 85-A-084-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: 1320-0**

### Associated Equipment

Associated Emission Unit ID Numbers: 1320-1  
Emissions Control Equipment ID Number: 1320-C  
Emissions Control Equipment Description: Mobile Industrial Vacuum

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Emission Unit vented through this Emission Point: 1320-1  
Emission Unit Description: Pavement Cleaning  
Raw Material/Fuel: Dust  
Rated Capacity: 15 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from these emission points shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 40%<sup>(1)</sup>  
Authority for Requirement: DNR Construction Permit 86-A-085-S1  
567 IAC 23.3(2)"d"

<sup>(1)</sup> An exceedence of the indicator opacity of 10% emissions will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM<sub>10</sub>)  
Emission Limits: 0.06 lb/hr  
Authority for Requirement: DNR Construction Permit 86-A-085-S1

Pollutant: Particulate Matter (PM)  
Emission Limits: 0.1 gr/dscf  
Authority for Requirement: DNR Construction Permit 86-A-085-S1  
567 IAC 23.3(2)"a"

#### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 8  
Stack Opening, (inches, dia.): 8  
Exhaust Flow Rate (scfm): 2,300  
Exhaust Temperature (°F): 70  
Discharge Style: Unobstructed Vertical  
Authority for Requirement: DNR Construction Permit 86-A-085-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?**      Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**      Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**      Yes  No

Authority for Requirement: 567 IAC 22.108(3)

## **IV. General Conditions**

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

### **G1. Duty to Comply**

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*

2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*

3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*

4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*

5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*

6. For applicable requirements with which the permittee is in compliance, the permittee shall continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. *567 IAC 22.108(15)"c"*

### **G2. Permit Expiration**

1. Except as provided in rule 567—22.104(455B), permit expiration terminates a source's right to operate unless a timely and complete application for renewal has been submitted in accordance with rule 567—22.105(455B). *567 IAC 22.116(2)*

2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall submit on forms or electronic format specified by the Department to the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Windsor Heights, Iowa 50324, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to U.S. EPA Region VII, Attention: Chief of Air Permits, 11201 Renner Blvd., Lenexa, KS 66219. Additional copies to local programs or EPA are not required for application materials submitted through the electronic format specified by the Department. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

### **G3. Certification Requirement for Title V Related Documents**

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

### **G4. Annual Compliance Certification**

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance

status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

#### **G5. Semi-Annual Monitoring Report**

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

#### **G6. Annual Fee**

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.

2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.

3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.

- a. Form 1.0 "Facility Identification";
- b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
- c. Form 5.0 "Title V annual emissions summary/fee"; and
- d. Part 3 "Application certification."

4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:

- a. Form 1.0 "Facility Identification";
- b. Form 5.0 "Title V annual emissions summary/fee";
- c. Part 3 "Application certification."

5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.

6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.

7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.

8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

### **G7. Inspection of Premises, Records, Equipment, Methods and Discharges**

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

### **G8. Duty to Provide Information**

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

### **G9. General Maintenance and Repair Duties**

The owner or operator of any air emission source or control equipment shall:

1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

### **G10. Recordkeeping Requirements for Compliance Monitoring**

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:

- a. The date, place and time of sampling or measurements
- b. The date the analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses; and
- f. The operating conditions as existing at the time of sampling or measurement.
- g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

- a. Comply with all terms and conditions of this permit specific to each alternative scenario.
- b. Maintain a log at the permitted facility of the scenario under which it is operating.
- c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

**G11. Evidence used in establishing that a violation has or is occurring.**

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

- a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;
- b. Compliance test methods specified in 567 Chapter 25; or
- c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

- a. Any monitoring or testing methods provided in these rules; or
- b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

**G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

**G13. Hazardous Release**

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

**G14. Excess Emissions and Excess Emissions Reporting Requirements**

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures.

Determination of any subsequent enforcement action will be made following review of this report.

If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within

a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

## 2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1) ) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The initial report may be made by electronic mail (E-mail), in person, or by telephone and shall include as a minimum the following:

- i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and expected duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps being taken to remedy the excess emission.
- vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required initial reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

- i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.
- vi. The steps that were taken to limit the excess emission.
- vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. 567 IAC 24.1(1)-567 IAC 24.1(4)

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore

normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The facility at the time was being properly operated;
- c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and
- d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice fulfills the requirement of paragraph 22.108(5)"b." – See G15. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or upset provision contained in any applicable requirement. *567 IAC 22.108(16)*

#### **G15. Permit Deviation Reporting Requirements**

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

#### **G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations**

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

#### **G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification**

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

- a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.
- b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
- d. The changes are not subject to any requirement under Title IV of the Act (revisions

affecting Title IV permitting are addressed in rules 567—22.140(455B) through 567 - 22.144(455B));.

e. The changes comply with all applicable requirements.

f. For each such change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,

ii. The date on which the change will occur,

iii. Any change in emission as a result of that change,

iv. The pollutants emitted subject to the emissions trade

v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.

vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and

vii. Any permit term or condition no longer applicable as a result of the change.

*567 IAC 22.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

### **G18. Duty to Modify a Title V Permit**

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that does any of the following:

i. Correct typographical errors

ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

## 2. Minor Title V Permit Modification.

a. Minor Title V permit modification procedures may be used only for those permit modifications that satisfy all of the following:

- i. Do not violate any applicable requirement;
- ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit;
- iii. Do not require or change a case by case determination of an emission limitation or other standard, or an increment analysis;
- iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act;
- v. Are not modifications under any provision of Title I of the Act; and
- vi. Are not required to be processed as significant modification under rule 567 - 22.113(455B).

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

- i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- ii. The permittee's suggested draft permit;
- iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
- iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against the facility.

## 3. Significant Title V Permit Modification.

Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all

requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, as those requirements that apply to Title V issuance and renewal.

The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.111-567 IAC 22.113*

#### **G19. Duty to Obtain Construction Permits**

Unless exempted in 567 IAC 22.1(2) or to meet the parameters established in 567 IAC 22.1(1)"c", the permittee shall not construct, install, reconstruct or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, or conditional permit, or permit pursuant to rule 567 IAC 22.8, or permits required pursuant to rules 567 IAC 22.4, 567 IAC 22.5, 567 IAC 31.3, and 567 IAC 33.3 as required in 567 IAC 22.1(1). A permit shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source or anaerobic lagoon. *567 IAC 22.1(1)*

#### **G20. Asbestos**

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations (*567 IAC 23.1(3)"a"*); training fires and controlled burning of a demolished building (*567 IAC 23.2*).

#### **G21. Open Burning**

The permittee is prohibited from conducting open burning, except as provided in 567 IAC 23.2. *567 IAC 23.2 except 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

#### **G22. Acid Rain (Title IV) Emissions Allowances**

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

#### **G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements**

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

- a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
- b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
- c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
- d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.

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

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
  - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)
  - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.
  - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.
3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,
5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

**G24. Permit Reopenings**

- 1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*
- 2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.
  - a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;
  - b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.
  - c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a"*, *567 IAC 22.108(17)"b"*
- 3. A permit shall be reopened and revised under any of the following circumstances:

- a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;
  - b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
  - c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
  - d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
  - e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*
4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*
5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 22.114(3)*

### **G25. Permit Shield**

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:
  - a. Such applicable requirements are included and are specifically identified in the permit; or
  - b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
3. A permit shield shall not alter or affect the following:
  - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;
  - b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
  - d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

### **G26. Severability**

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

**G27. Property Rights**

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

**G28. Transferability**

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought consistent with the requirements of *567 IAC 22.111(1)*. *567 IAC 22.111 (1)"d"*

**G29. Disclaimer**

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

**G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification**

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of *567 – Chapter 23* or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. If the owner or operator does not provide timely notice to the department, the department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Upon written request, the department may allow a notification period of less than 30 days. At the department's request, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. A testing protocol shall be submitted to the department no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator  
Iowa DNR, Air Quality Bureau  
7900 Hickman Road, Suite #1  
Windsor Heights, IA 50324  
(515) 725-9545

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

*567 IAC 25.1(7)"a"*, *567 IAC 25.1(9)*

**G31. Prevention of Air Pollution Emergency Episodes**

The permittee shall comply with the provisions of *567 IAC Chapter 26* in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons. *567 IAC 26.1(1)*

**G32. Contacts List**

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits  
U.S. EPA Region 7  
Air Permits and Compliance Branch  
11201 Renner Blvd.  
Lenexa, KS 66219  
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau  
Iowa Department of Natural Resources  
7900 Hickman Road, Suite #1  
Windsor Heights, IA 50324  
(515) 725-9500

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

**Field Office 1**

909 West Main – Suite 4  
Manchester, IA 52057  
(563) 927-2640

**Field Office 2**

2300-15th St., SW  
Mason City, IA 50401  
(641) 424-4073

**Field Office 3**

1900 N. Grand Ave.  
Spencer, IA 51301  
(712) 262-4177

**Field Office 4**

1401 Sunnyside Lane  
Atlantic, IA 50022  
(712) 243-1934

**Field Office 5**

7900 Hickman Road, Suite #200  
Windsor Heights, IA 50324  
(515) 725-0268

**Field Office 6**

1023 West Madison Street  
Washington, IA 52353-1623  
(319) 653-2135

**Polk County Public Works Dept.**

Air Quality Division  
5885 NE 14th St.  
Des Moines, IA 50313  
(515) 286-3351

**Linn County Public Health**

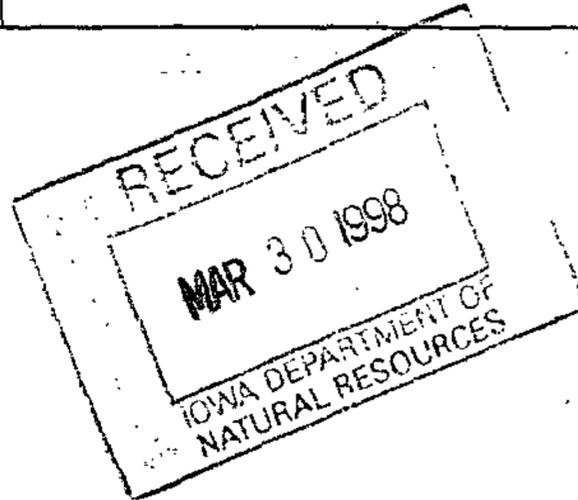
Air Quality Branches  
501 13th St., NW  
Cedar Rapids, IA 52405  
(319) 892-6000

# Appendix A: Administrative Consent Order #98-AQ-08

## IOWA DEPARTMENT OF NATURAL RESOURCES ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF:  LAFARGE CORPORATION	ADMINISTRATIVE CONSENT ORDER  NO. 98-AQ-08
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TO: LAFARGE CORPORATION  
 Cement Group/Davenport Plant  
 Heinz Knopfel  
 Process and Environmental Manager  
 P.O. Box 4049  
 Davenport, Iowa 52808



LAFARGE CORPORATION  
 c/o Prentice Hall Corporation System, Registered Agent  
 729 Insurance Exchange Building  
 Des Moines, Iowa 50309

### I. SUMMARY

This Administrative Consent Order is entered into between the Iowa Department of Natural Resources (DNR) and Lafarge Corporation (Lafarge) for the purpose of resolving PM-10 National Ambient Air Quality Violations monitored in Buffalo, Iowa. This consent order supersedes Administrative Consent Order 97-AQ-09 and any conflicting terms of Administrative Consent Order 97-AQ-09 shall terminate upon the signature of this administrative consent order by the director of the DNR.

Any questions regarding this order should be directed to:

**Relating to technical requirements:**

Doug Campbell  
 Iowa Department of Natural Resources  
 7900 Hickman Road, Suite 1  
 Des Moines, Iowa 50322  
 Ph: 515/281-8930

**Relating to appeal rights:**

Anne Preziosi  
 Iowa Department of Natural Resources  
 7900 Hickman Road, Suite 1  
 Des Moines, Iowa 50322  
 Ph: 515/281-6243

### II. STATEMENT OF FACTS

1. DNR has monitored three exceedences of the 24-hour PM-10 National Ambient Air Quality Standard. On October 15, 1995, a DNR monitoring site located at

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11100-110th Avenue in Buffalo, Iowa, recorded a PM-10 concentration of 156.5 micrograms per cubic meter ( $\text{ug}/\text{m}^3$ ), and on August 25, 1995, the same monitor recorded a value of 162.7  $\text{ug}/\text{m}^3$ . On April 26, 1994, a monitored value of 229  $\text{ug}/\text{m}^3$  also was recorded at this site. Per 40 C.F.R. Part 50, Appendix K, the number of expected exceedences was calculated to be 4.8 for the three calendar year period from 1993 through 1995.

2. During the period 1993 through 1995, the annual PM-10 National Ambient Air Quality Standard was exceeded. The monitored annual arithmetic mean for 1993 was 46.7  $\text{ug}/\text{m}^3$ , for 1994 was 60.5  $\text{ug}/\text{m}^3$ , and for 1995 was 67.1  $\text{ug}/\text{m}^3$ , for a three year average of 58.1  $\text{ug}/\text{m}^3$ .

3. Lafarge is a cement manufacturer located in Buffalo, Iowa. At DNR's request, Lafarge has provided modeling to DNR. This modeling has established that Lafarge is a contributor to the PM-10 levels monitored.

4. The DNR and Lafarge have cooperated in an effort to reach a resolution in order to avoid having to redesignate the area to be in nonattainment for PM-10. For that purpose, DNR and Lafarge have agreed to enter into this Administrative Consent Order.

Lafarge has already completed the following projects as part of the agreement with DNR, of which this Administrative Consent Order is a part:

- 1) Lafarge has erected a 6-foot high chain-link fence along the shoreline of the their property, completing the entire fencing in of the plant property. The fencing is located as designated on Exhibit "A," which is by this reference made a part of this consent order. This construction was required by air quality permit number 96-A-645S1.
- 2) Lafarge has relocated the discharges for five dust collectors from horizontal to vertical discharges, two feet above the applicable building structures. These stack reconfigurations were included in the revised air dispersion modeling analysis. The table below lists the stacks that have been reconfigured.

Emission Point Number	Source Description	IDNR Permit Number
S0420	Vent Conveying System from Raw Mill	78-A-228S2
S0817	Finish Mill #1 System	78-A-237S2
S0822	Finish Mill Separator #1 System	78-A-238S2
S0684	Belt Conveyor 694 to Coal Silo	78-A-248S4
S0811	Finish Product Holding Bin	80-A-013S1

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- 3) Lafarge has purchased and is currently using a new 8000-gallon watering truck for the control of dust along the haul roads throughout the facility. This new truck has the capability of spraying water or chemical dust suppressant to control the dust generated from traffic.
- 4) Amended air quality permits 76-A-005S1 and 78-A-242S1 were issued on December 22, 1997, authorizing reconstruction of part of the Lafarge Overtrack Silo Distribution system. This reconstruction will include the replacement of two dust collectors, S1043 and S1053. The revised PM-10 emission rate and stack parameter changes for these two sources have been incorporated in the revised air dispersion modeling. The amended permits require reconstruction to begin within 18 months of the date of permit issuance and be completed within 36 months after permit issuance.

**III. CONCLUSIONS OF LAW**

1. This order is issued pursuant to the provisions of Iowa Code sections 455B.134(9) and 455B.138(1), which authorize the Director to issue any administrative orders necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division II, and the rules promulgated and permits issued pursuant thereto, and to prevent, abate, and control air pollution.

2. The emission units and fugitive emissions located at Lafarge in Buffalo, Iowa, are "air contaminant sources" as defined by Iowa Code section 455B.131(2) and "stationary sources" as defined by 567 Iowa Administrative Code (I.A.C.) 20.2.

3. According to 567 I.A.C. 28.1, the ambient air quality standards for the State of Iowa shall be the National Primary and Secondary Ambient Air Quality Standards (NAAQS) located at 40 C.F.R. Part 50, as amended through July 1, 1987.

4. The primary and secondary 24-hour ambient air quality standard for PM-10 is 150 ug/m<sup>3</sup>, 24-hour average concentration. The standards are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 ug/m<sup>3</sup>, as determined in accordance with 40 C.F.R. Part 50, Appendix K, is equal to or less than one. The concentrations monitored in this case and the resulting number of exceedences constitute a violation of this standard.

5. The level of the primary and secondary annual standards for PM-10 is 50 ug/m<sup>3</sup>, annual arithmetic mean averaged over a three calendar year period. The standards are attained when the expected annual arithmetic mean concentration, as determined in accordance with 40 C.F.R. Part 50, Appendix K, is less than or equal to 50 ug/m<sup>3</sup>. The average of the annual arithmetic means for the period 1993 through 1995 exceeds this standard.

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6. An exceedence of the NAAQS for PM-10 constitutes "air pollution" as defined by Iowa Code section 455B.131(3).

7. In accordance with the provisions of Iowa Code section 455B.134(9), the Director shall issue orders consistent with the rules to cause the abatement or control of air pollution.

8. According to the provisions of 567 I.A.C. 22.1(1) and 567 I.A.C. 22.1(3), the owner or operator of a stationary source shall obtain a permit to install or alter equipment or control equipment. Any modifications occurring as a result of this consent order and subject to the provisions of 567 I.A.C. chapter 22 shall require a construction permit or shall meet the requirements of a construction permit exemption contained in the provisions of 567 I.A.C. 22.1(2).

9. According to the provisions of 567 I.A.C. 23.2(2)"c"(1), no person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. "Reasonable precautions" are defined in this rule.

**IV. ORDER**

THEREFORE, DNR orders and LAFARGE AGREES to the following:

1. Control of dust on frequently traveled paved and unpaved roads within the facility and quarry shall be performed in accordance with Plan A, Plan C, or Plan D, as specified in Exhibit "B," which is by this reference made a part of this consent order. For purposes of Plans A and D contained in Exhibit "B", an operating day is a 24-hour period beginning with 6 am. Lafarge may change the definition of operating day for the purposes of this consent order by submitting advance notice of the change to DNR in writing. Sweeping or watering need not occur when a rain gauge located at the site indicates that at least 0.2 inch per day of precipitation (water equivalent) has occurred. Lafarge shall conduct its fugitive dust maintenance program according to the specifications in Exhibit "B" which is hereby recognized as providing a 95 percent control efficiency. Lafarge shall maintain daily written records of the amount and type of precipitation, the specific times during which water or suppressant is applied, the amount of water or suppressant applied, and the areas of application. The records shall be

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retained for a period of two years following the date of such measurements and applications and shall be made available to the DNR upon request. Record keeping shall commence no later than April 1, 1998, or within 30 days of entering into this administrative consent order, whichever last occurs.

2. For purposes of the annual average emission rate for PM-10, Lafarge shall follow the "Monthly Limits" listed in Exhibit "C," which is by this reference made a part of this consent order. The applicable parameters specified in Exhibit "C" shall be entered in a monthly log to demonstrate compliance with the monthly limits list. Monthly logs shall be retained for a period of two years following the date of such entries and shall be made available to the Department upon request. Record keeping shall commence no later than April 1, 1998, or within 30 days of entering into this administrative consent order, whichever last occurs.

3. The fuel load in/out (SO 690-3-F) shall be limited to a maximum of 200 tons per hour and 600 tons during any 24-hour period. The calculated PM-10 hourly and annual fugitive emission rates shall be limited to 0.95 lbs/hr and 0.52 tons/yr, respectively. A permit amendment application shall be submitted to the DNR by April 1, 1998, or within 30 days of entering into this administrative consent order, whichever last occurs, requesting that air quality permit number 96-A-645S1 be amended as necessary to include the above operating capacity and emissions limitations. Record keeping requirements shall be as specified in the amended air quality permit.

4. Cement Kiln Dust (CKD) shall no longer be placed in the current location adjacent to Highway 22. The placement area adjacent to Highway 22 shall be capped in accordance with plans approved by the Land Quality Bureau of DNR. Both of these actions shall be completed by December 30, 1998, or within 60 days after receipt of approval from DNR, whichever last occurs. This site shall comply with all applicable DNR regulations. The CKD management plan is part of a Solid Waste Disposal permit application currently being reviewed by the Land Quality Bureau of DNR.

5. Reconstruction of the CKD conditioning system shall commence within 12 months of the issuance date of air quality construction permit number 97-A-789 and shall be completed within 18 months of the start of construction date. (Note: Permit number 97-A-789 was issued on December 22, 1997.) As indicated in the construction permit application, the open stockpile (140-1-F), open CKD transfers (140-2-F), alkali bypass fugitives (550-1-F), waste dust bin collector (564-1), and the nodulizer CKD loadout fugitives, dust collector, and dust collector fugitives (580-1-F, 802-1, 802-1-F) shall be removed from the facility. These emission points shall be removed from the facility within 60 days after completion of the CKD reconstruction. Lafarge shall notify the Department in writing that the above emission sources have been removed from the facility within 90 days of completion of the CKD reconstruction.

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6. By no later than May 1, 1998, Lafarge shall submit to DNR permit applications which include the emission rates listed in Exhibit "D". Exhibit "D" is by this reference made a part of this consent order. Additionally, the permit applications shall include the stack parameters used in the revised air dispersion modeling analysis being submitted to the EPA with this administrative consent order.

7. Lafarge shall continue to comply with all paragraphs of Iowa DOT Agreement No. 94-16-069. A copy of this agreement is provided in Exhibit "E" of this Consent Order. Exhibit "E" shall by this reference become a part of this Consent Order.

8. Lafarge shall submit to the Washington DNR Field Office written quarterly reports detailing progress toward the completion of the requirements of this Consent Order, including compliance with the requirements of all air quality construction permits issued as a result of this Consent Order. The quarterly reports shall be due no later than 30 days following the close of each quarter. The first report shall be due on April 30, 1998.

**V. NO ADMISSION**

While Lafarge agrees to comply with the orders contained herein, it makes no admission as to the Findings of Facts and Conclusions of Law.

**VI. WAIVER OF APPEAL RIGHTS**

This order is entered into knowingly and with the consent of Lafarge. For that reason, Lafarge waives its right to appeal this order or any part thereof.

**VII. NONCOMPLIANCE**

Failure to comply with this order may result in the imposition of administrative penalties or referral to the Attorney General's office to obtain injunctive relief and civil penalties pursuant to the provisions of Iowa Code section 455B.146.

**VIII. TERMINATION OF THIS ADMINISTRATIVE CONSENT ORDER**

This Consent Order may terminate upon a showing by Lafarge, acceptable to DNR, that it has complied with the obligations contained herein.

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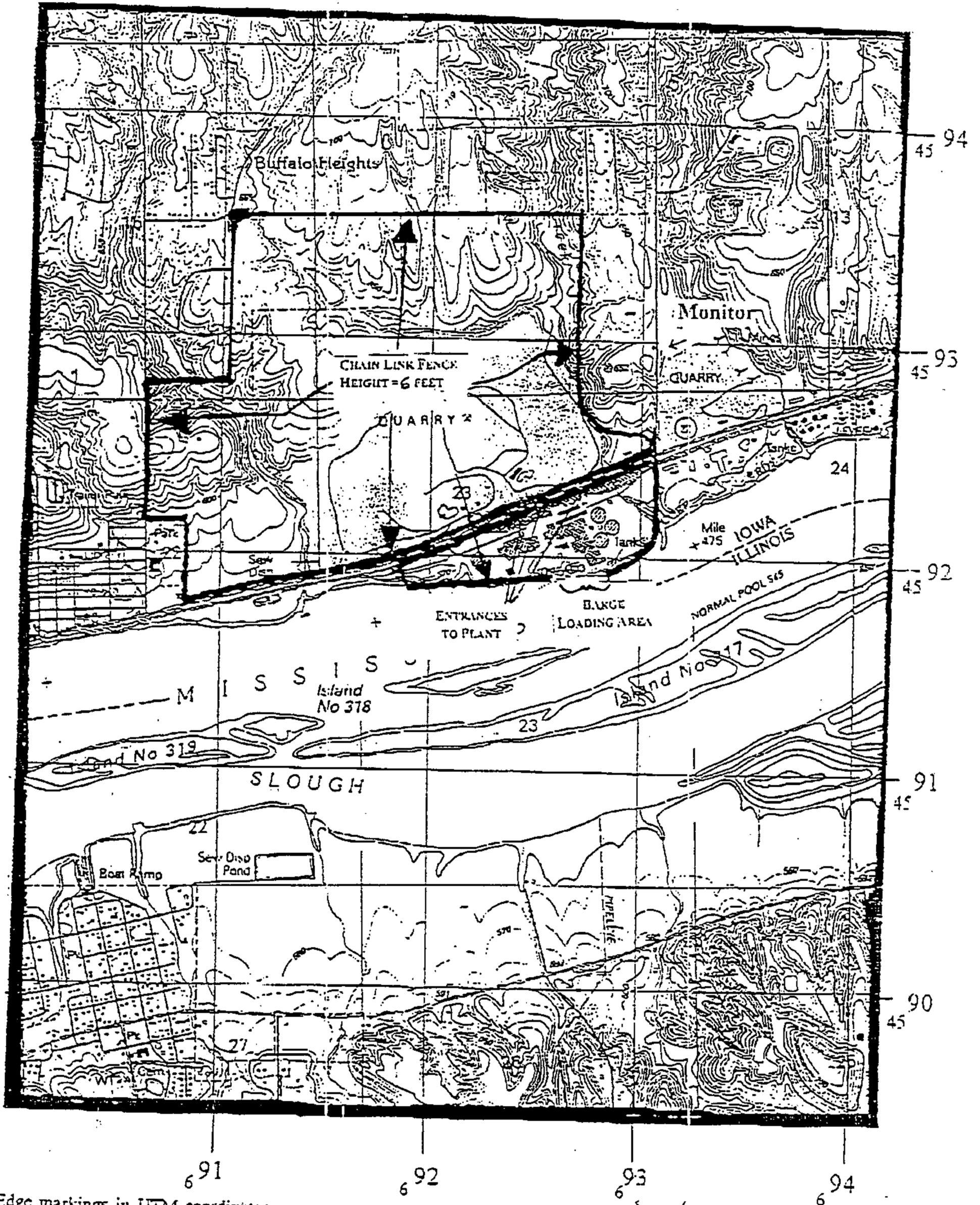
  
\_\_\_\_\_  
LARRY J. WILSON, DIRECTOR  
IOWA DEPARTMENT OF NATURAL RESOURCES

Dated this 19 day of  
March, 1998.

  
\_\_\_\_\_  
for LAFARGE CORPORATION

Dated this 13 day of  
MARCH, 1998.

Figure 8-1. Area map - Lafarge Corporation, Buffalo, Iowa.



Edge markings in UTM coordinates.

Exhibit "A"

# Exhibit "B"

## 4.2 Lafarge Corporation Haul Road Fugitive Dust Plan

Lafarge has the following identifiable fugitive road dust sources.

Table 4-3. Identifiable fugitive road dust sources.

Emission Unit	Paved/ Unpaved	Type	Description
0155-1-F	U	Truck	Rock hauled from quarry to crusher
0160-1-F	U	Truck	Clay hauled from quarry to crusher/storage
0165-1-F	U	Loader	Clay loaded into crusher building hopper
0691-1-F	P	Truck	Unloading of raw material from railcar
0692-1-F	P	Truck	Unloading of clinker from railcar
0695-1-F	P	Truck	Unloading of fuel from railcar
0765-1-F	U	Loader	Raw materials from storage hall to 0765 feeder - Unpaved
0765-2-F	P	Loader	Raw materials from storage hall to 0765 feeder - Paved
1301-1-F	P	Truck	Hauling cement offsite by truck

Lafarge will utilize one of the following methodologies to achieve a 95 percent control efficiency for fugitive dust from unpaved roads unless otherwise agreed upon with the IDNR:

### Unpaved Roads

Plan A: Watering

Plan C: Chemical Dust Suppressant

### Paved Roads

Plan A: Water flushing followed by sweeping

Plan D: High Pressure Washing

### 4.2.1 Quarry Roads

#### Unpaved Roads 155, 160, and 165: Plan A - Watering

The control efficiency of unpaved road watering depends on the:

- Amount of water applied
- Time between re-applications
- Traffic volume
- Meteorological conditions

Exhibit "B"

Page 1 of 9

An empirical model for the performance of water as a control technique has been developed.<sup>1</sup> The model is as follows:

$$C = 100 - \left( \frac{0.8 p d t}{i} \right)$$

where:

- $C$  = average control efficiency, %
- $p$  = potential average hourly daytime evaporation rate, mm/h
- $d$  = average hourly daytime traffic rate (h<sup>-1</sup>)
- $i$  = application intensity, L/m<sup>2</sup>
- $t$  = time since last application, hours

$$p = 0.0049(40, \text{ Southeast Iowa}) = \frac{0.196 \text{ mm}}{\text{hr}}$$

*Calculations:*

Quarry sources include: 155, 160, and 165

The vehicle traffic for 155 and 160 combined based on monthly (730 hours) production limits is:

$$d = \left( \frac{365,000 \text{ tons} + 55,480 \text{ tons}}{730 \text{ hr}} \right) \left( \frac{1 \text{ truck}}{85 \text{ tons}} \right) \left( \frac{24 \text{ hrs / day}}{12 \text{ hrs typical operation / day}} \right) = \frac{13.6 \text{ trucks}}{\text{hr}} \text{ (one way)}$$

The vehicle traffic for 165 based on monthly (730 hours) production limits is:

$$d = \left( \frac{55,480 \text{ tons}}{730 \text{ hr}} \right) \left( \frac{1 \text{ load}}{12 \text{ tons}} \right) \left( \frac{24 \text{ hrs / day}}{12 \text{ hrs typical operation / day}} \right) = \frac{12.7 \text{ trucks}}{\text{hr}} \text{ (one way)}$$

Average quarry traffic is then = 13.2 trucks/hr

The desired control efficiency is 95 percent. The corresponding application intensity is calculated as:

$$95\% \text{ control} = 100 - \frac{0.8(0.196)(13.2)(12)}{i}$$

$$i = \frac{24.8}{5}$$

$$= \frac{5.0 \text{ liters}}{\text{m}^2} = \frac{0.12 \text{ gal}}{\text{ft}^2}$$

<sup>1</sup>Cowherd, Jr., Chatten and John S., and John S. Kinsey, Air Pollution Engineering Manual, A WMA, 1992, pp. 141-144.

These vehicles are approximately 10 feet wide. The water truck sprays a 20 foot wide path, and consequently waters both sides of the haul road on one pass. The volume of water per linear foot is calculated as 0.12 gal/ft<sup>2</sup>

$$= \frac{0.12 \text{ gal}}{\text{ft}^2} (20 \text{ feet}) = \frac{2.4 \text{ gal}}{\text{ft}}$$

Sources 155, 160, and 165 travel a combined one way distance of (0.5 miles + 0.095 miles) = 0.595 miles

The volume of water required per day (12 hours of quarry operation) is:

$$= 0.595 \text{ miles} \left( \frac{5,280 \text{ ft}}{\text{mile}} \right) \left( \frac{2.4 \text{ gal}}{\text{ft}} \right) = 7,540 \text{ gallons / day}$$

#### 4.2.2 Plant Roads

**Paved Roads 691-1, 692-1, and 695-1: Plan A: Water flushing followed by sweeping.**

The control efficiency of paved road watering/sweeping depends on the:

- Amount of water applied
- Traffic frequency

An empirical model for the performance of water flushing followed by sweeping as a control technique has been developed.<sup>2</sup> The model is as follows:

$$C = 96 - 0.263V$$

where:

C = control efficiency, %

V = number of vehicle passes since application

Equation assumes water applied at 0.48 gal/sq.yd. = 0.053 gal/sq.ft.

With a 20 foot coverage area, the number of gallons per linear foot is:

$$\left( \frac{0.053 \text{ gal}}{\text{ft}^2} \right) (20 \text{ ft path}) = \frac{1.06 \text{ gal}}{\text{ft}}$$

A control efficiency of 90 percent is desired for paved roads. The equation provides an instantaneous efficiency rather than an average. Therefore, the average must be

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<sup>2</sup>Cowherd, Jr., Chatten and John S., and John S. Kinsey, Air Pollution Engineering Manual, AWMA, 1992, pp. 145.

calculated. Immediately after sweeping, C = 96%, it then decreases with the number of passes. To achieve an average efficiency of 90%, the efficiency must remain between 84% and 96%. The number of vehicle passes to achieve 90% is calculated as

$$84 = 96 - 0.263V$$

$$V = \frac{12}{0.263} = 45.6 \text{ vehicle passes between applications}$$

*Calculations:*

Rail unloading sources include 691-1, 692-1, and 695-1. The rail unloading process can only fill three trucks/hr therefor the vehicle passes are fixed. As the rail unloading is a daylight process, 12 hour day, the maximum number of trucks per day is estimated as 36. Therefore one pass per day of the watering truck and sweeper will be sufficient.

The distance traveled varies significantly with the material being unloaded. The maximum distance traveled is for clay. The water required is calculated as follows:

$$\text{Volume} = (0.74 \text{ miles}) \left( \frac{5,280 \text{ feet}}{\text{mile}} \right) \left( \frac{1.06 \text{ gal}}{\text{ft}} \right) = \frac{4,142 \text{ gal}}{\text{day}}$$

**Paved Road 1301-1: Plan A: Water flushing followed by sweeping.**

The source, 1301-1, Cement Loadout, has a monthly production limit of 262,800 tons.

$$d = \left( \frac{262,800 \text{ tons}}{730 \text{ hr}} \right) \left( \frac{1 \text{ load}}{50 \text{ tons}} \right) = \frac{7.2 \text{ trucks}}{\text{hr}} = \frac{173 \text{ trucks}}{\text{day}}$$

As 45.6 passes are calculated as "V", re-applications of water and sweeping would be required every 6.3 hours. The vehicles have a distance of 0.080 miles = 422 feet. At 1.06 gal/sq.ft, 448 gallons are required every 6.3 hours. Alternatively, 853 gallons every 12 hours, or 1700 gallons per day.

Sources 765-1 and 765-2, transporting raw materials from the storage hall to the 0765 feeder, are the same vehicle traveling on half paved road and half unpaved road. The distance for each is 220 feet. The source is limited to 50,400 tons of raw material while the kiln is in operation.

**Paved Road 765-2: Plan A: Water flushing followed by sweeping.**

$$d = \left( \frac{50,400 \text{ tons}}{730 \text{ hr}} \right) \left( \frac{1 \text{ load}}{12 \text{ tons}} \right) = \frac{5.75 \text{ loads}}{\text{hr}} = \frac{138 \text{ loads}}{\text{day}}$$

The base rate of re-application is 138 trips/day/(V= 45.6 passes between applications) = 3 applications/day.

The required volume of water per application is:

$$\text{Volume} = 220 \text{ ft} \left( \frac{1.06 \text{ gal}}{\text{ft}} \right) = \frac{233 \text{ gal}}{\text{application}}$$

Alternatively, 466 gallons can be applied per 16 hour period, or 700 gallons once per day.

### Unpaved Road 765-1: Plan A: Watering.

The number of trips/hr was calculated above. The intensity of water application is:

$$\begin{aligned} 95\% \text{ control} &= 100 - \frac{0.8(0.196)(5.75)(24)}{i} \\ i &= \frac{216}{5} \\ &= \frac{4.3 \text{ liters}}{\text{m}^2} = \frac{0.11 \text{ gal}}{\text{ft}^2} \end{aligned}$$

The volume of water per linear foot is:

$$= \frac{0.11 \text{ gal}}{\text{ft}^2} (20 \text{ feet}) = \frac{2.2 \text{ gal}}{\text{ft}}$$

The total volume of water is:

$$= 220 \left( \frac{2.2 \text{ gal}}{\text{ft}} \right) = \frac{466 \text{ gal}}{\text{day}}$$

**Exhibit "B"**  
**Page 5 of 9**

### **Plan A - Summary for Paved and Unpaved Roads**

Plan A can achieve 95 percent control of fugitive PM<sub>10</sub> emissions with the associated sources operating at maximum capacity, if the following volumes of water are applied once per day.

Quarry Roads = 7,500 gallons (maximum)

Plant Roads = 7,000 gallons (maximum)

### **Plan C - Unpaved Roads: Chemical Dust Suppressant**

Apply a chemical dust suppressant to bring the ground inventory to 0.25 gal (concentrate)/sq. yd. After the initial application, re-applications will be applied every two weeks at a rate of 0.05 gal(concentrate)/sq. yd. to achieve 95 percent control. (Air Pollution Engineering Manual, Figure 6, Page 144). This applies to unpaved roads 155, 160, and 165. The total distance is 0.595 miles. The corresponding total square yards, assuming a 20 foot wide road, is 6,981. The initial application of chemical dust suppressant required to achieve a ground inventory of 0.25 gallons per square yard equals 1,745 gallons concentrate. The re-application rate will be 349 gallons concentrate every two weeks.

### **Plan D - Paved Roads: High Pressure Washing**

A high pressure washing system will be used as an alternative to "water flushing followed by sweeping." The water volumes required are the same as calculated for Plan A for plant roads. However, the pressurized water spraying system washes the particles from the pavement, and forces the particles off of the path of travel, all in one pass.

Plan D can achieve 95 percent control of fugitive PM<sub>10</sub> emissions with the associated sources operating at maximum capacity, if the following volumes of water are applied once per day.

Plant Roads = 7,000 gallons (maximum)

**Recordkeeping:**

Lafarge will maintain a daily log of the following:

1. The date and time
2. The specific watering plan being used
3. The volume of water or other dust suppressant applied (if applicable to the plan being utilized), and
4. The distance traveled (if applicable to the plan being utilized).

Or

- 5a. The amount and type of precipitation, if the daily precipitation is greater than 0.2 inches. (The calculations listed below indicate that additional watering beyond 0.2 inches of precipitation will not be needed to achieve 95 percent control).
- 5b. If the ambient temperature during the day is less than 35<sup>o</sup>F. or conditions due to weather in combination with the application of water or dust suppressant would *creat dangerous conditions, then the fugitive dust plan will be postponed for that operating day and the temperature will be recorded in a log.*
- 5c. Records to demonstrate that the source will not be in operation during the operating day, such that fugitive dust controls will not be required (as described in the following pages).

**Exhibit "B"**  
**Page 7 of 9**

**Fugitive Dust Plan Exception:** The fugitive dust plan, regardless of the specific plan, will be postponed if the following amount of precipitation is obtained during the day (as 95 percent control will be achieved from precipitation, and no further control beyond 95 percent, is required).

Quarry:

$$i = \frac{5.0 \text{ l}}{\text{m}^2} = \frac{0.12 \text{ gal}}{\text{ft}^2}$$

$$= \frac{5,000 \text{ cm}^3}{\text{m}^2}$$

$$= \frac{5,000 \text{ cm}^3}{10,000 \text{ cm}^2}$$

$$155, 160, \& 165 = 0.5 \text{ cm of rain} = \frac{0.2 \text{ inches}}{\text{day}}$$

Plant:

$$i = \frac{0.053 \text{ gal}}{\text{ft}^2} = \frac{0.201 \text{ l}}{\text{ft}^2}$$

$$= \frac{2.2 \text{ l}}{\text{m}^2}$$

$$= \frac{2,200 \text{ cm}^3}{10,000 \text{ cm}^2}$$

$$691-1, 692-1, \& 695-1 = 0.22 \text{ cm of rain} = \frac{0.09 \text{ inches}}{\text{day}}$$

$$1301-1 = 4(0.22 \text{ cm}) = \frac{0.35 \text{ inches}}{\text{day}}$$

$$765-2 = 2(0.22 \text{ cm}) = \frac{0.17 \text{ inches}}{\text{day}}$$

$$765-1 = \frac{0.11 \text{ gal}}{\text{ft}^2} = \frac{0.2 \text{ inches}}{\text{day}}$$

$$\text{average} = \frac{0.2 \text{ inches}}{\text{day}}$$

Therefore 95 percent fugitive dust control will be achieved, for both the plant and quarry roads, if greater than 0.2 inches of precipitation is received during the day.

**Fugitive Dust Plan Exception:** If the ambient temperature during the day is less than 35°F. or conditions due to weather in combination with the application of water or dust suppressant would create dangerous conditions, then the fugitive dust plan will be postponed for that operating day and the temperature will be recorded in a log.

**Exhibit "B"**  
**Page 8 of 9**

**Fugitive Dust Plan Exception (Quarry):** If the quarry is not in operation during an operating day, the fugitive dust plan will be postponed for that operating day. Records will be kept to demonstrate that the quarry was not operating.

**Fugitive Dust Plan Exception (Plant):** If the plant is not in operation during an operating day, the fugitive dust plan will be postponed for that operating day, and records will be kept to demonstrate that the plant was not operating.

On weekends, plant traffic is usually less than 10 percent of that on weekdays. On days when plant traffic will be less than 10 percent of maximum, the fugitive dust plan will be postponed for that day. The justification for this exemption, is that the uncontrolled emission rate from 17 trucks is mathematically the same, or less, than the fugitive dust from 173 trucks at 90 percent control. The largest plant haul road fugitive dust source is number 1301 (trucks hauling out cement). 10 percent of the maximum daily number of cement trucks corresponds to approximately 17 trucks. Therefore, if less than 17 truckloads of cement will be sent on a day, the fugitive dust plan will be postponed for that day, and a record of the number of cement trucks during the day will be kept.

**Exhibit "B"**  
**Page 9 of 9**

Exhibit - C. Fugitive Sources: Monthly Limits - Lafarge Corporation, Davenport Plant.

Emission Unit No.	Source Description	Monthly Limits	Basis <sup>1</sup>
0070-1-F	Raw Materials Loading in Quarry	365,000	tons raw materials to crusher
0081-1-F	Quarry Drilling Fugitives	365,000	tons raw materials to crusher
0110-2-F	Storage Pile Load In/Out	55,480	tons clay to crusher
0120-2-F	Storage Pile Load In/Out	55,480	tons clay to crusher
0130-2-F	Storage Pile Load In/Out	55,480	tons clay to crusher
0155-1-F	Quarry Haulroad - Rock	365,000	tons limestone to crusher
0160-1-F	Quarry Haulroad - Clay	55,480	tons clay to crusher
0165-1-F	Haulroad - Clay from Storage Piles to Crusher	55,480	tons clay to crusher
0200-1-F	0235 - Filling Clay Hopper	128,480	tons alternative raw materials and clay to kiln
0200-2-F	0232 - Filling Stone Hopper	365,000	tons raw materials to crusher
0200-3-F	0235 Belt Transfer to 0230	128,480	tons alternative raw materials and clay to kiln
0200-4-F	0232 Belt Transfer to 0230	365,000	tons raw materials to crusher
0200-5-F	0230 Belt Transfer to 0225 Crusher	365,000	tons raw materials to crusher
0200-6-F	0225 Crusher Transfer to 0221	365,000	tons raw materials to crusher
0200-7-F	0221 Belt Transfer to 0208	365,000	tons raw materials to crusher
0200-8-F	0225 Crushing Fugitives	365,000	tons raw materials to crusher
0203-1-F	Transfer House Material Transfer Fugitives	365,000	tons raw materials to crusher
0300-1-F	0387 Belt Transfer to 0360	365,000	tons raw materials to crusher
0300-2-F	0387 Belt Transfer to 0341	365,000	tons raw materials to crusher
0300-3-F	Stacking 0341 to Pile	365,000	tons raw materials to crusher
0300-4-F	Reclaim of Pile to Belt 0332	365,000	tons raw materials to crusher
0387-1-F	Belt Conveyor Over Road	365,000	tons raw materials to crusher
0400-1-F	0493,0495,0497 Bins to 0489 Belt	365,000	tons raw materials to crusher
0691-1-F	Haul Road - Rail Unloading Raw Materials	55,480	tons clay to kiln
0692-1-F	Haul Road - Rail Unloading Clinker	262,800	tons cement production
0695-1-F	Haul Road - Rail Unloading Fuel	32,761	tons fuel usage
0765-1-F	Haulroad to 0765 Feeder - Unpaved	262,800	tons cement production
0765-2-F	Haulroad to 0765 Feeder - Paved	262,800	tons cement production
0800-2-F	0703 Gypsum Transfer to 0867	17,082	tons gypsum usage
0802-1-F	0802 Nodulizer Dust Collector Fugitives	10,646	tons CKD production
1300-1-F	Rail Loading Fugitives	262,800	tons cement production
1300-2-F	Truck Loading Fugitives	262,800	tons cement production
1301-1-F	Haulroad - Truck Loadout of Cement	262,800	tons cement production
2601-1-F	Barge Loading Spout Fugitives	262,800	tons cement production

<sup>1</sup>Following is a list of the parameters that will be recorded in a monthly log to demonstrate compliance with the monthly limits listed

Plant process	Monthly Limit	Specific parameter recorded
Quarry =	365,000	tons raw materials to crusher
Quarry =	55,480	tons clay to crusher
Kiln =	128,480	tons alternative raw materials and clay to kiln
Kiln =	55,480	tons clay to kiln
Kiln =	32,761	tons fuel usage
Kiln =	10,646	tons CKD production
Finish Mill =	262,800	tons cement production
Finish Mill =	17,082	tons gypsum usage

Exhibit D. Allowables for Dust Collectors (D.C.)

Emission Point No.	Dust Collector Unit No.	Description	Allowable Emission Rate (lb PM-10/hr)
0081-0	0081-1	Quarry Drill D.C.	0.13
0203-0	0203-1	Transfer House D.C.	0.20
0218-0	0218-1	Crusher D.C.	1.54
0327-0	0327-1.	D.C. at Dome	0.09
0404-0	0404-1	Homogenization Silo D.C.	0.85
0420-0	0420-1	Raw Mill Air Slides D.C.	0.14
0466-0	0466-1,2	Kiln/Raw Mill and Alkali Bypass D.C.s	75.0
0498-0	0498-1	0489 Belt D.C.	0.32
0504-0	0504-1	Kiln Feed System D.C.	0.32
0611-0	0611-1	Clinker Cooler D.C.	17.92
0667-0	0667-1	Coal Mill D.C.	2.19
0684-0	0684-1	Coal Silo D.C.	0.27
0709-0	0709-1	Clinker Handling D.C.	0.25
0723-0	0723-1	Clinker Silo Reclaim D.C.	0.16
0743-0	0743-1	Clinker Handling D.C.	1.18
0811-0	0811-1	Finish Mill Holding Bin D.C.	0.07
0817-0	0817-1	Finish Mill D.C.	2.53
0822-0	0822-1	Finish Mill Air Sep. D.C.	1.08
0950-0	0950-1	Barge Loading Silo D.C.	1.02
1007-0	1007-1	Cement Silo D.C.	0.10
1017-0	1017-1	Cement Silo D.C.	0.10
1027-0	1027-1	Cement Silo D.C.	0.08
1033-0	1033-1	Cement Silo D.C.	0.10
1037-0	1037-1	Cement Silo D.C.	0.21
1044-0	1044-1	Bulk Truck Loadout D.C.	0.08
1045-0	1045-1	Bulk Truck Loadout D.C.	0.08
1046-0	1046-1	Cement Silo D.C.	0.05
1047-0	1047-1	Center Spout over Tracks D.C.	0.06
1048-0	1048-1	Railcar Loadout Spouts Silo D.C.	0.06
1183-0	1183-1	Backup Packing Machine D.C.	0.29
1257-0	1257-1	Mason Packing Machine D.C.	0.16
1263-0	1263-1	Portland Packing Machine D.C.	0.16
1310-0	1310-1	Vaculoader	0.06
1320-0	1320-1	Vaculoader	0.06
2601-0	2601-1	Barge Loading Spout D.C.	0.06

**Exhibit "E"**

**Iowa DOT Agreement No. 94-16-069**

AGREEMENT

County Scott  
Project No. Iowa 22  
Iowa DOT  
Agreement No. 94-16-069

This AGREEMENT, made and entered into by and between the State of Iowa, Iowa Department of Transportation (herein DOT), and the "Lafarge Corporation" (previously "Davenport Cement Co."), an Iowa general partnership, (hereafter COMPANY) as follows:

WITNESSETH; that

WHEREAS, the COMPANY and the DOT previously entered into Agreements for vehicles to cross Iowa Highway No. 22 in the City of Buffalo in Scott County, Iowa. The Agreements were signed by the COMPANY and the DOT on September 1 and 14, 1987, and August 20 and 30, 1990, respectively, and;

WHEREAS, Chapter 321E, Code of Iowa, authorizes the Iowa Department of Transportation to issue special permits; and

WHEREAS, the DOT is willing to extend the terms of the Agreements to the COMPANY for the crossing of Iowa Highway No. 22 for the purpose of transporting limestone materials from the north side quarry to the COMPANY's south side plant, subject to the stipulation hereinafter set forth.

NOW THEREFORE, in consideration of these premises and the mutually dependent covenants herein contained, it is agreed as follows:

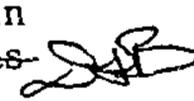
1. The COMPANY agrees that only one (1) point of ingress and one (1) point of egress, opposite one another at Station 262+20 shall be utilized in crossing Iowa Highway No 22 with the vehicles covered by special permit in accord with the terms of this Agreement.
2. The DOT shall furnish and install advance warning signs on Iowa Highway No. 22 in advance of the crossing in compliance with the Iowa Manual on Uniform Traffic Control Devices for Streets and Highways.
3. The COMPANY agrees to remove immediately any and all foreign material which may be deposited on the Iowa 22 roadbed as a result of the COMPANY's operations under this Agreement.

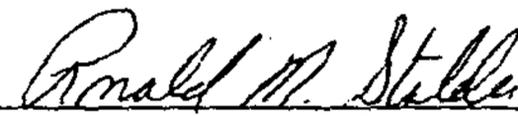
4. The COMPANY shall indemnify and save harmless the DOT and the State of Iowa from any and all causes of action, suits of law or in equity, or losses, damages, claims, or demands, and from all liability of whatsoever nature for and on account of or due to any error, omission or negligent act of the COMPANY, its members employees, agents, subcontractors, or assigns, arising out of or in connection with this Agreement of the performance of any part thereof or for any accident which may occur as a result of the COMPANY vehicles using the crossing.
5. If future rehabilitation at the crossing at Station 262+20 on Iowa Highway No. 22 becomes necessary, it is understood and agreed that the DOT shall have the responsibility of deciding the proper highway rehabilitation, including all phases thereof.
6. The DOT shall perform any required future rehabilitation work and will bill the COMPANY for the actual cost of that portion of the rehabilitation work attributed to the COMPANY's use of the crossing at Station 262+20 by vehicles covered by special permits.
7. The COMPANY agrees to reimburse the DOT for the actual cost of that portion of the rehabilitation at the crossing at Station 262+20 attributed to the COMPANY's use of the crossing by vehicles covered under specific permits. Failure by the COMPANY to reimburse the DOT shall cause cancellation of this Agreement by written notification to the COMPANY by the DOT. After the COMPANY's use of Iowa 22 under this Agreement has been terminated, the DOT will assess the roadway damage and bill the COMPANY for said costs based on the actual quantities in place and the accepted contract bid.
8. The DOT shall issue an annual permit(s) to the COMPANY upon application therefore for each vehicle used in transporting the limestone material over the crossing. The charge for the permit(s), payable in advance to the DOT, shall be at the then current rate per vehicle per year.
9. The terms of this Agreement shall be extended for a period of three (3) additional (consecutive) years. Prior to the expiration date, the COMPANY may, in writing, request that the Agreement be extended again.
10. The COMPANY agrees to comply with any and all provisions set forth in Chapter 321E, Code of Iowa. Failure by the COMPANY to comply with said Code provisions or terms of this Agreement shall constitute sufficient cause for the DOT to void this Agreement immediately.
11. This Agreement may be executed in two counterparts, each of which so executed shall be deemed to be an original and both shall constitute but one and the same instrument.

IN WITNESS WHEREOF, each of the parties hereto has executed Agreement No. 94-16-069 as of the date shown opposite its signature below.

LAFARGE CORPORATION

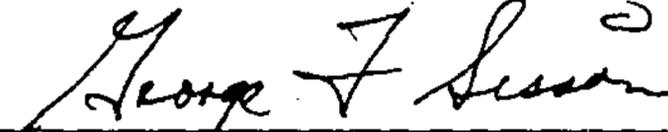
BY   
~~President~~ Plant Manager

On this 7th day of October, 1993, personally appeared duly sworn did say that he is Doug Buchanan of the LaFarge Corporation and that said instrument was signed and executed by him in behalf of the said Corporation. ~~by authority of its Board of Directors as its voluntary act and deed.~~ 

  
Notary Public in and for said State

Executed by the DOT this 3<sup>rd</sup> day of Nov., 1993.

IOWA DEPARTMENT OF TRANSPORTATION

BY   
George F. Sisson  
Deputy Director-Development  
Highway Division

ATTEST:

BY 

East Central Iowa Transportation Center  
430 Sixteenth Avenue SW  
P.O. Box 3150, Cedar Rapids, IA 52406-3150

319-364-0235  
FAX: 319-364-9614

December 18, 1996

Re: Iowa 22  
Scott County  
Addendum 97-A-056

George Kistler  
Plant Manager  
Lafarge Corporation  
P.O. Box 4049  
Davenport, IA 52808

RECEIVED  
LAFARGE

DEC 19 1996

AVT \_\_\_\_\_  
M \_\_\_\_\_  
SLS \_\_\_\_\_

SUBJECT: Hauling Operations on Iowa 22-Lafarge Corporation

Dear Mr. Kistler:

Attached is your original of the fully executed addendum to Agreement 94-16-069 between Lafarge Corporation and the Iowa Department of Transportation as referenced above. The addendum allows for a five (5) year extension of hauling operations across Iowa 22 within the City of Buffalo.

Thank you for your cooperation in the processing of this agreement.

Very truly yours,

Richard E. Kautz, P.E.  
Local Systems Engineer

REK:keh

Attachment

cc: Doug Rick, Davenport AME, Davenport, IA 52809 w/copy of addendum

ADDENDUM TO  
AGREEMENT 94-16-069

County Scott

Lafarge Corporation

Project No. Iowa 22

Iowa DOT  
Addendum No. 97-A-056

IT IS AGREED between the State of Iowa, Iowa Department of Transportation (herein IDOT), Maintenance Division and the Lafarge Corporation in Scott County, Iowa, (herein COMPANY) as follows:

1. The COMPANY is currently conducting hauling operations across Iowa 22 within the City of Buffalo for the purpose of transporting limestone materials from the COMPANY'S north side quarry to the south side of Iowa 22.
2. The COMPANY and DOT previously entered into Agreement 94-16-069 for the above referenced hauling operations. The Agreement was signed by the COMPANY and DOT on October 7 and November 3, 1993 respectively.
3. The COMPANY, per a September 24, 1996 letter, has requested an extension of the agreement for hauling operations on Iowa 22 in the City of Buffalo in Scott County Iowa (see Exhibit A attached).
4. The terms and conditions contained in previously executed Agreement 94-16-069 (see section 2 above) shall be extended for a period of five (5) years. Prior to the expiration date, the COMPANY may, in writing, request that the Agreement be extended again. For the purpose of this Addendum, the "expiration date" shall be defined as; five (5) years subsequent to the date of the COMPANY'S signature on this Addendum.
5. All provisions contained in previously executed Agreement 94-16-069 which are not revised or in any way affected by this addendum shall remain in full force and effect.
6. If any section, provision, or part of this Addendum shall be found to be invalid or unconstitutional, such judgment shall not affect the validity of the

Addendum as a whole or any section, provision, or part thereof not found to be invalid or unconstitutional.

7. This Addendum may be executed in two counterparts, each of which so executed shall be deemed to be an original.
8. Any subsequent change or modification to the terms of this Addendum shall be in the form of a duly executed Amendment to this Addendum.

IN WITNESS WHEREOF, each of the parties hereto has executed Preconstruction Agreement No. 97-A-056 as of the date shown opposite its signature below.

**LAFARGE CORPORATION:**

BY: *George J. Koster*  
President *Plant Manager*

On this 19 Day of NOV, 1996, personally appeared duly sworn did say that *Plant Manager* he is President of the Lafarge Corporation and that said instrument was signed and executed by him on behalf of said Corporation by authority of its Board of Directors as its voluntary act and deed.

*Ronald M. Stelder*  
Notary Public in and for the State of Iowa

**IOWA DEPARTMENT OF TRANSPORTATION:**

BY *Neil Volmer* 12/16/96, 1996  
Neil Volmer Date  
Director  
Maintenance Division

Attest: *Ed Fawkes*



EXHIBIT A  
Agreement 97-A-056

September 24, 1996

Douglas L. Rick, P.E.  
Iowa Department of Transportation  
Davenport Maintenance Office  
P. O. Box 2646  
Davenport, IA 52809

Dear Mr. Rick:

In reference to your attached letter dated September 23, 1996, Lafarge Corporation would like to continue the IA22 crossing agreement.

Sincerely,

George Kistler  
Plant Manager

GK/kv  
Attachment

RECEIVED  
LAW AREA

SEP 28 1996

CEMENT GROUP/DAVENPORT PLANT  
P.O. Box 4049, Davenport, IA 52808  
Office: (319) 323-2751 Fax: (319) 323-7001



## **FAX Correspondence**

**Fax # 248-354-7648**

**Subject:**  
Consent Agreement

**Date:**  
12 March 1998

**To:**  
Michael Pelan

**From:**  
H.Knopfel

---

**cc:**

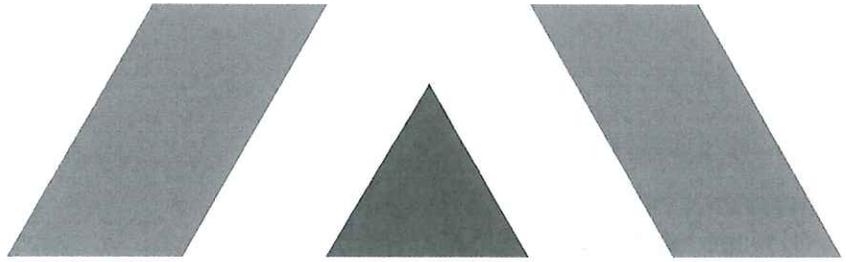
Mr. Pelan:

Please review this consent agreement

Davenport Plant  
P.O. Box 4049  
Davenport, Iowa  
52808

Telephone: (319) 323-2751  
Fax: (319) 323-7001

# Appendix B: Operation & Maintenance Plans



## PC MACT OPERATIONS & MAINTENANCE PLAN Continental Cement > Davenport Plant

301 E. Front St.  
PO Box 690  
Buffalo, IA 52728

Prepared By:

**Trinity Consultants**  
5320 Spectrum Drive, Suite A  
Frederick, MD 21703  
(240) 379-7490

May 22, 2017

**Revision 9.0**

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- A. Example Preventive Maintenance Job Plan
- B. Example Standard Operating Procedure
- C. Blank Method 22 Visual Emissions Data Log Sheets
- D. Blank Method 9 Opacity Observation Data Log Sheets
- E. Preventive Maintenance Work Orders

# 1. INTRODUCTION

---

## 1.1. INTRODUCTION

Continental Cement Company owns and operates a cement manufacturing plant on its property in Scott County, approximately one-mile northeast of Buffalo, IA, near Davenport, IA (Davenport Plant). The facility property encompasses approximately 740 acres, situated at approximately 41 degrees, 28 minutes north latitude and 90 degrees, 41 minutes west longitude along Highway 22. The operation includes an open pit mine quarry north of the highway and a cement manufacturing plant south of the highway that includes a long, dry cement kiln, a preheater / precalciner tower and a finish mill. The location of the facility is shown on Figure 1-1.

The plant street address is:  
Continental Cement Davenport Plant  
301 E. Front Street  
Buffalo, IA 52728

Several units at the Davenport Plant are subject to regulation under 40 CFR 63 Subpart LLL, *National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry* (PC MACT). In order to be in compliance, the Davenport Plant has developed the compliance plans required to satisfy the PC MACT standards including this Operations and Maintenance Plan.

## 1.2. PROCESS DESCRIPTION

The Davenport Plant obtains the primary raw material (limestone) for Portland cement manufacturing from an open pit mine adjacent to the cement plant. The limestone is crushed using a Humboldt Wedag impact type crusher with a capacity of 1300 tons per hour of minus 60" quarry run to 95% minus 3 ½" product.

The crushed limestone is carried across highway 22 via a belt conveyor to the top of a storage dome on the plant side. The conveyor discharges to a motor operated 2-way gate which directs the material either to the stacker belt conveyor for building a storage pile in the dome with a 15,000-ton capacity, or to another belt conveyor (360). The 360-belt conveyor discharges the material to another motorized 2-way gate that directs the material either to the "high" lime silo with a capacity of 500 tons or to the "low rock" silo with a capacity of 2,000 tons.

The "low rock" mixture is reclaimed from the dome storage using a slope-raking system consisting of adjustable harrows. The harrows rake the face of the pile in a radial, back and forth motion causing a uniform layer of material from the entire pile face to flow to a scraper conveyor. The conveyor forces the material to the center column and discharges to a surge bin with a 100-ton capacity.

"Low rock" and "high rock" are discharged from their respective bins and fed proportionally to the raw mill rotary air lock, which discharges directly to an Allis Chalmers roller mill with a SLF 6150 classifier. The rated capacity of the raw mill is 230 stph with a feed size of minus 4 inches to a fineness of 85% minus 200 mesh, while simultaneously drying the raw mix from a moisture content of 8.6% to 0.5%.

The raw mix from the roller mill is pneumatically conveyed via an airlift to the top of a homogenizing silo with a capacity of 10,000 tons. Another vertical airlift conveys material from the homogenizing silo (kiln feed) to the top of a preheater tower to a level storage bin. From the bin material is fed to an air duct between stages 1 and 2 of a 4-stage preheater/precalciner.

The preheated material is fed to a coal-fired precalciner where the material and fuel are premixed before being introduced to a combustion air stream. The pre-calcined material then enters a long dry rotary kiln that is coal fired through a combination burner pipe with oil nozzles used for warm up and start up.

Clinker is discharged from the kiln into an air quenching moveable grate clinker cooler in which ambient air is blown up through the bottom of the cooler and up through the clinker bed. The hot air exiting the cooler is recycled to several different areas in the process.

Up to 50% of the kiln exhaust gases entering the preheater can be sent to an alkali bypass system in order to decrease the amount of alkalis and sulfur in the clinker product and to minimize buildup and plugging. The hot kiln gases are quenched through intermixing of ambient air. The gases leaving the quench chamber are then passed through a water spray gas conditioning tower for further cooling before entering a dust collector.

Coal is reclaimed from its large outdoor storage pile through underground hoppers with vibrating feeders and fed to a 1250-ton storage silo. From the silo, coal is fed to a bowl mill where it is crushed and then conveyed to 2 – 5 ton tanks. 70% of the coal is used to fuel the precalciner and the remaining 30% is consumed in the kiln burner pipe.

Clinker discharges from the clinker cooler to a series of drag conveyors and elevators that eventually lead to one drag conveyor that can discharge the clinker into one of 2 – 37,500 ton silos. From the silos, clinker is conveyed to one of two finish mill storage bins and a third bin is used to store gypsum and can be filled with a front-end loader.

Proportioned amounts of clinker and gypsum are fed to a 15-foot diameter, 50-Foot long Allis Chalmers two compartment ball mill with a capacity of 180 tph. The cement product discharged from the mill passes through either a static separator, an air separator, or both. The fine material that makes its way through the separation process is passed through one of two cement coolers and then conveyed to storage silos in the shipping department.

### 1.3. SYSTEM DEFINITION

Based on the process description described above, the Davenport Plant has divided operations at the cement plant into the following six systems:

1. Raw Material Preparation
2. Kiln, Coal/Coke Handling
3. Coal/Coke Preparation System
4. Clinker Cooler
5. Cement Production
6. Cement Shipping

The plant flow diagrams which illustrate the division of these systems are provided in Appendix F. The remainder of this document provides Operations & Maintenance Plan as required for compliance with the PC MACT standards. Note that the in-line kiln/raw mill system at the Davenport Plant is a commercial and industrial solid waste incineration (CISWI) unit in accordance with 40 CFR 60 Subpart DDDD; and, therefore is not subject to the PC MACT regulations.

Appendices to this document include the following:

- Appendix A: Example preventive maintenance job plan
- Appendix B: Example standard operating procedure
- Appendix C: Blank Method 22 Visual Emissions Data Log Sheets
- Appendix D: Blank Method 9 Opacity Observation Data Log Sheets
- Appendix E: Preventive Maintenance Work Orders
- Appendix F: Plant Flow Diagrams

## 2. RAW MATERIAL PREPARATION SYSTEM

### 2.1. SOURCE DESCRIPTION

The Raw Material Preparation System is used to grind and combine raw materials prior to feeding them into the pyroprocessing systems. Its three main system components are:

- A raw material preparation system that reclaims individual raw materials and delivers them to the raw mill. The system includes the preblend dome, the limestone silos, and the reclaim conveyors used to deliver material to the raw mill.
- A raw grinding system that prepares raw materials for combination.
- A homogenization silo (preheater/kiln feed) system that combines and stores raw material mixture prepared for feed to the pyroprocessing system.

### 2.2. SYSTEM EMISSION POINTS AND AIR POLLUTION CONTROL EQUIPMENT

During Raw Material Preparation System operations, particulate matter are emitted at several emission points. The system includes five different baghouses to control particulate matter emissions during raw material preparation system operations. The following table summarizes system emission points and applicable air pollution control devices (APCDs), as well as the visual inspection interval (see Section 6.0):

ID #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
EP 0203-0	Dust Collector – In Transfer House – Conveyor to Conveyor	Dust Collector Baghouse	21020200	Monthly
EP 0404-0	Dust Collector – Homogenization Silo	Dust Collector Baghouse	31040400	Monthly
EP 0400-0-F	0491, 0494, 0496 Weigh Feeders to 0489 Belt	None		Monthly
EP 0420-0	Dust Collector – Raw Mill Airslides	Dust Collector Baghouse	31042000	Monthly
EP 0420-0-F	0489 Belt Transfer to 0480 Roller Mill	None		Monthly
EP 0487-0-F	0487 Slide Gate – Truck Loading (Inside Roller Mill Bldg)	None		Monthly
EP 0488-0-F	0488 Manual Flop Gate – Truck Loading	None		Monthly
EP 0498-0	Dust Collector – Raw Mill Feed	Dust Collector Baghouse	31049800	Monthly
EP 0504-0	520 Kiln Feed Level Bin, Airlift, Airslides, 527 Separator	Dust Collector	Regulated by CISWI	

### 2.3. APPLICABLE EMISSION LIMIT

The emission limits applicable to the Raw Material Preparation System are the following:

- Visible emissions must not exceed 10 percent opacity. [40 CFR §63.1345]

## 2.4. OPERATOR PROCEDURES FOR MINIMIZING VISIBLE EMISSIONS FROM THE RAW MATERIAL PREPARATION SYSTEM

Raw Material Preparation System operations are performed in accordance with the Continental Cement Standard Operating Procedure (SOP) documents for Raw Material Preparation, Raw Material Grinding, and Homo Silo (Preheater/Kiln Feed). Applicable SOPs include the following:

- Homogenizing Silo—Normal Operation

These procedures are part of the plant’s electronic operating procedures system, which is maintained and kept current on the plant’s network drive. The SOPs discuss how the plant shall be operated, and are used for job-specific training. The tasks necessary to ensure proper operation of the Raw Material Preparation System with minimum emissions are also included within the SOPs.

### 2.4.1. Startup and Shutdown

Operation during startup and shutdown of the Raw Material Preparation System does not differ substantially from normal operation. Startup and shutdown of the Raw Material Preparation System is conducted to minimize emissions, and the baghouses used to control emissions from each system component are operated during startup and shutdown.

Startup commences when the control room starts the associated APCD. Startup is complete after one minute of associated APCD fan operating time.

Raw Material Preparation System shutdown procedures are performed in accordance with the Lafarge Standard Operation Procedure (SOP) documents for the Raw Material Preparation System. Applicable SOP’s include the following:

- Inching Procedure

Shutdown is considered to be the one minute period prior to the APCD fan shutting off.

## 2.5. PREVENTIVE MAINTENANCE

Preventive maintenance work orders are maintained on MAXIMO, the Plant’s Windows-based electronic maintenance management system. Sample work orders are included in the appendices. All items on work orders are checked, but not recorded unless values are out of normal operating range. Maintenance Department technicians perform preventive maintenance (PM) tasks on the Raw Material Preparation System equipment, including:

Equipment #	Equipment Description – Function
21020200	Exhaust Fan – Dust Collector 203
21020300	Dust Collector – 207 Flop Gate, Head of 208 Belt, Tail of 387 Belt
21021600	Screw Conveyor – Dust Collector 218
21021700	Exhaust Fan – Dust Collector 218
21021800	Dust Collector – 225 Crusher, Head of 221 Belt, Tail of 208 Belt
31032700	Dust Collector – Dome, Reclaimer Tunnel, Tail of 320 Belt
31040300	Exhaust Fan – Dust Collector 404
31040400	Dust Collector – Homogenization Silo

31040500	Screw Conveyor – Dust Collector 405
31041900	Exhaust Fan – Dust Collector 420
31042000	Dust Collector – Roller Mill Airslides
31044000	Dust Collector – 475 Motor Cooling, ER 3A, ER 3B
31044100	Exhaust Fan – Dust Collector 440
31044200-31045800	Screw Conveyors 442-448, 452-458 – Dust Collector 466
31046700	Exhaust Fan – Dust Collector 466
31049800	Dust Collector – Raw Mill Feed
31049900	Exhaust Fan – Dust Collector 498

The Raw Material Preparation System PM schedule is maintained on MAXIMO. The PM schedules and the PM task lists for equipment in the Raw Material Preparation System are based upon past experience with similar equipment and the manufacturer’s documentation/recommendations.

Maintenance Technicians utilize checklists from the MAXIMO database to conduct PM activities. The checklists include detailed steps and instructions for performance of these activities. Once work completion has been verified, checklist data is entered into MAXIMO. This and other relevant information are periodically archived within the database, establishing a verifiable record of ongoing PM activity completion and providing a method by which to review historical equipment performance.

## 2.6. MONITORING REQUIREMENTS

### 2.6.1. Periodic Method 22 and Method 9 Visible Emissions Monitoring and Corrective Action Requirements

The conveyors, limestone silo, homogenization silo and other sources subject to a PC MACT opacity limit will be tested for visible emissions once each month using USEPA Method 22 – Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares. The procedures for this opacity monitoring, as well as the procedures for corrective actions taken in response to visible emissions are included in the Davenport Plant’s Site-Specific Emissions and Opacity Monitoring Plan. Please refer to that plan for details.

### 3. PYROPROCESSING - CLINKER COOLER SYSTEM

#### 3.1. SOURCE DESCRIPTION

The Clinker Cooler System is used to cool clinker produced by the kiln and prepare the clinker for storage and processing. Its two main system components are:

- A clinker cooler system that receives clinker from the kiln and blows air across it, including the clinker cooler, the clinker cooler fans, and the clinker chutes.
- A clinker cooler dust collection system that removes dust from air leaving the clinker cooler before it reaches the atmosphere, including cooling fans, the clinker cooler baghouse, and the clinker cooler stack.

#### 3.2. SYSTEM EMISSION POINTS AND AIR POLLUTION CONTROL EQUIPMENT

During Clinker Cooler System operations, particulate matter is emitted at one emission point. The system includes one main baghouse to control particulate matter emissions at the clinker cooler. The following table summarizes system emission points and applicable air pollution control devices (APCDs), as well as the visual inspection interval (See Section 6.0):

ID #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
EP 0576-0-F	576 Manual Flop Gate – Truck Loading of Clinker	None		Monthly
EP 0611-0	Dust Collector – Clinker Cooler Ductwork	Dust collector Baghouse	41061100	N/A –PM CPMS
EP 2000-0	Lime Injection Tank	Dust Collector Baghouse	41020000	Monthly
EP 2001-0	Lime Injection Bin	Dust Collector Baghouse	41020010	Monthly

#### 3.3. APPLICABLE EMISSION LIMIT

The emission limit applicable to the Clinker Cooler System is:

- Particulate matter emissions must not exceed 0.07 lb/ton of clinker.

#### 3.4. OPERATOR PROCEDURES FOR MINIMIZING VISIBLE EMISSIONS FROM THE CLINKER COOLER SYSTEM

Clinker Cooler System operations are performed in accordance with the Continental Cement Standard Operating Procedure (SOP) documents for Clinker Cooler, Clinker Handling and Storage, and Clinker Cooler Dust Collection. Applicable SOPs include the following:

- Clinker Cooler—Normal Operation

These procedures are part of the plant's electronic operating procedures system, which is maintained and kept current on the plant's network drive. The SOPs discuss how the plant shall be operated, and are used for job-specific training. The tasks necessary to ensure proper operation of the Clinker Cooler System with minimum emissions are also included within the SOPs.

### 3.4.1. Startup and Shutdown

Operation during startup and shutdown of the Clinker Cooler System does not differ substantially from normal operation. Startup and shutdown of the Clinker Cooler System is conducted to minimize emissions, and the baghouses used to control emissions from each system component are operated during startup and shutdown. Startup commences when the control room starts the associated APCD. Startup is complete after one minute of associated APCD fan operating time.

Clinker Cooler System shutdown occurrences and durations begin when the first item in the sequential stop procedure is initiated, and end when the sequential stop procedure is complete.

Clinker Cooler System shutdown procedures are provided in the Continental Cement SOP Documents for Normal Clinker Cooler System operations. Applicable SOP's include:

- Clinker Cooler – Normal Shutdown

## 3.5. PREVENTIVE MAINTENANCE

Preventive maintenance work orders are maintained on MAXIMO, the Plant's Windows-based electronic maintenance management system. Sample work orders are included in the appendices. All items on work orders are checked, but not recorded unless values are out of normal operating range. Maintenance Department technicians perform preventive maintenance (PM) tasks on the Clinker Handling System equipment, including:

Equipment #	Equipment Description - Function
41061000	Exhaust Fan – Dust Collector 611
41061100	Dust Collector – Clinker Cooler Ductwork
410611A1, B1, C1, D1	Thermocouples – Dust Collector 611
41077400, 41077601, 41077602, 41077700-41078000	Screw Conveyors – Dust Collector 611

The Clinker Cooler System PM schedule is maintained on MAXIMO. The PM schedules and the PM task lists for equipment in these systems are based upon past experience with similar equipment and the manufacturer's documentation/recommendations.

Maintenance Technicians utilize checklists from the MAXIMO database to conduct PM activities. The checklists include detailed steps and instructions for performance of these activities. Once work completion has been verified, checklist data is entered into MAXIMO. This and other relevant information are periodically archived within the database, establishing a verifiable record of ongoing PM activity completion and providing a method by which to review historical equipment performance.

## 3.6. OPEN CLINKER STORAGE PILES

Standard operating conditions include the storage of clinker in silos, however there are instances where clinker may be stored outside for short periods of time or in small piles due to accidental spillage. These instances include, but are not limited to, weigh tests, the failure of both clinker elevators at the same time, or if the plant reaches capacity of the clinker silos. None of these scenarios represent general operating conditions. In the instances where clinker must be stored outside due to production limitations the clinker is stored in the crane way, which is a historic building foundation with 15 foot walls located adjacent to the clinker silos. The walls

and the adjacent tall structures, minimizes fugitive dust emissions by acting as a partial enclosure and wind barrier. Clinker stored outside is placed back into the production system as quickly as possible to prevent degradation of the material.

Temporary piles of clinker that result from accidental spillage or clinker storage cleaning operations must be cleaned up within 3 days and are not subject to fugitive dust control measures as required under the rule. Accidental spillage resulting in small piles are cleaned up and placed back into the process as soon as possible to prevent degradation of the material.

## **3.7. MONITORING REQUIREMENTS**

### **3.7.1. Particulate Matter Monitoring Requirements**

The Clinker Cooler baghouse emissions are monitored for particulate matter using a particulate matter continuous parameter monitoring system (PM CPMS) in accordance with 40 CFR 63.1350(b). The production of clinker is monitored via an impact flow meter in accordance with 40 CFR 63.1350(d).

## 4. CEMENT PRODUCTION SYSTEM

### 4.1. SOURCE DESCRIPTION

The Cement Production System is used to process clinker and gypsum into finished cement products ready for sale and shipping. Its four main system components are:

- A clinker handling and storage system that moves clinker from the clinker cooler to the clinker silos in preparation for further processing or handling. The system includes drag chains, a bucket elevator, and the clinker silos.
- A finish grinding system that processes/crushes clinker, including the gypsum and clinker weigh feeders, the finish mill conveyor, the finish mill, the grinding aid distribution system, the finish mill elevator, the separator, and the cement cooler.
- A cement transport system that routes finished cement to the appropriate storage locations, including the conveyor belts to the overtrack silos and AE silos.
- A gypsum/clinker handling and storage system that is used to supply gypsum and clinker for finish milling of cement. The system includes the gypsum truck unloading, the gypsum reclaim loading hopper, the gypsum storage silos, and the gypsum/clinker reclaim conveyors.

### 4.2. SYSTEM EMISSION POINTS AND AIR POLLUTION CONTROL EQUIPMENT

During Cement Production System operations, particulate matter is emitted at several emission points. The system includes ten different baghouses to control particulate matter emissions during cement finish mill operations, cement transfer and storage operations, and gypsum handling and storage operations. The following table summarizes system emission points and applicable air pollution control devices (APCDs), as well as the visual inspection interval (see Section 6.0):

ID #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
EU 0706-1-F	757 and 759 Bucket Elevators	None		Monthly
EP 0709-0	Dust Collector – Clinker/Gypsum 712 Drag Conveyor	Dust Collector Baghouse	41070900	Monthly
EP 0718-0-F	Clinker Bin Load out – Truck Loading	None		Monthly
EP 0723-0-F	Dust Collectors – Clinker Tunnel (Vents in tunnel; emissions are fugitive)	Dust Collector Baghouse	41072300- 41072700, & 41073200	Monthly
EP 0743-0	Dust Collector – Clinker/ Gypsum Storage Silos	Dust Collector Baghouse	41074300	Monthly
EP 0745-0-F	West Silo Loadout Chute	None		Monthly
EP 0746-0-F	East Silo Loadout Chute	None		Monthly
EP 0766-0-F	766 Feeder Transfer to 722 Belt	None		Monthly
EP 0800-1-F	Finish Mill Building Fugitives	None		Monthly

EP 0811-0	Dust Collector – Surge Bins, Pumps	Dust Collector Baghouse	52081100	Monthly
EP 0817-0	Dust Collector – Finish Mill	Dust Collector Baghouse	52081700	Daily
EP 0822-0	Dust Collector – Finish Mill Air Separator	Dust Collector Baghouse	52082200	Daily
EP 0826-1-F	Dust Collector – Finish Mill Feed Belt 862	Dust Collector Baghouse	52082600	Monthly

### 4.3. APPLICABLE EMISSION LIMIT

The emission limit applicable to the Cement Production System emission points are:

- Visible emissions must not exceed 10 percent opacity. [40 CFR 63.1345]

### 4.4. OPERATOR PROCEDURES FOR MINIMIZING VISIBLE EMISSIONS FROM THE CEMENT PRODUCTION SYSTEM

Cement Production System operations are performed in accordance with the Continental Cement Standard Operating Procedure (SOP) documents for Finish Grinding, Cement Transport, and Gypsum Handling & Storage. Applicable SOPs include the following:

- Clinker Handling – Normal Operation
- 52-MID-01 PD Finish Mill—Normal Operation

These procedures are part of the plant’s electronic operating procedures system, which is maintained and kept current on the plant’s network drive. The SOPs discuss how the plant shall be operated, and are used for job-specific training.

#### 4.4.1. Startup and Shutdown

Operation during startup and shutdown of the Cement Production System does not differ substantially from normal operation. Startup and shutdown of the Cement Production System is conducted to minimize emissions, and the baghouses used to control emissions from each system component are operated during startup and shutdown.

Startup commences when the control room starts the associated APCD. Startup is complete after one minute of associated APCD fan operating time.

Cement Production System shutdown occurrences and durations begin when the first item in the sequential stop procedure is initiated, and end when the sequential stop procedure is complete.

Cement Production System shutdown procedures are provided in the Lafarge SOP (electronic operating system). Applicable SOPs include the following:

- Finish Mill Shutdown Procedure  
Grinding the Mill Out, Crash Stop for Process Department Audits, Normal Stop

As with the startup procedures, the shutdown procedures are maintained in the plant’s electronic operating procedures system. The SOPs include these procedures and are used for job-specific training.

#### 4.5. PREVENTIVE MAINTENANCE

Preventive maintenance work orders are maintained on MAXIMO, the Plant’s Windows-based electronic maintenance management system. Sample work orders are included in the appendices. All items on work orders are checked, but not recorded unless values are out of normal operating range. Maintenance Department technicians perform preventive maintenance (PM) tasks on the Cement Production System equipment, including:

Equipment #	Equipment Description - Function
41076500	Gypsum Reclaim Loading Hopper
41070800	Exhaust Fan – Dust Collector 709
41070900	Dust Collector – Clinker/Gypsum 712 Drag Conveyor
41072300-41072700, 41073200	Dust Collectors – Clinker Tunnel
41074200	Exhaust Fan – Dust Collector 743
41074300	Dust Collector – Clinker/Gypsum Storage Silos
52081100	Dust Collector – Surge Bins, Pumps
52081200	Exhaust Fan – Dust Collector 811
52081700	Dust Collector – Finish Mill
52081701	Thermocouple– Dust Collector 817 Inlet
52081800	Exhaust Fan – Dust Collector 817
52082500	Screw Conveyor – Dust Collector 817
52082000	Screw Conveyor – Dust Collector 822
52082100	Exhaust Fan – Dust Collector 822
52082200	Dust Collector – Finish Mill Air Separator
52082600	Dust Collector – Finish Mill Feed Belt 862
52082700	Exhaust Fan – Dust Collector 826
52088900	Dust Collector – Feed End of 905 Belt
52089000	Exhaust Fan – Dust Collector 889
65090600	Dust Collector – Discharge of 905 Belt
65090700	Exhaust Fan – Dust Collector 906
65092600	Dust Collector – Discharge of 914 Belt
65092700	Exhaust Fan – Dust Collector 926

The Cement Production System PM schedule is maintained on MAXIMO. The PM schedules and the PM task lists for equipment in these systems are based upon past experience with similar equipment and the manufacturer’s documentation/recommendations.

Maintenance Technicians utilize checklists from the MAXIMO database to conduct PM activities. The checklists include detailed steps and instructions for performance of these activities. Once work completion has been verified, checklist data is entered into MAXIMO. This and other relevant information are periodically archived within the database, establishing a verifiable record of ongoing PM activity completion and providing a method by which to review historical equipment performance.

## 4.6. MONITORING REQUIREMENTS

### 4.6.1. Periodic Method 22 and Method 9 Visible Emissions Monitoring Requirements and Corrective Actions for the Finish Mill

The Finish Mill must be tested for visible emissions once each day using the procedures described in USEPA Method 22 – Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares. The procedures for this opacity monitoring, as well as the procedures for corrective actions taken in response to visible emissions are included the Davenport Plant’s Site-Specific Emissions and Opacity Monitoring Plan. Please refer to that plan for details.

### 4.6.2. Periodic Method 22 and Method 9 Visible Emissions Monitoring Requirements and Corrective Actions for Other Emission Points

The conveyors, limestone silo, homogenization silo and other sources subject to a PC MACT opacity limit will be tested for visible emissions once each month using USEPA Method 22 – Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares. The procedures for this opacity monitoring, as well as the procedures for corrective actions taken in response to visible emissions are included the Davenport Plant’s Site-Specific Emissions and Opacity Monitoring Plan. Please refer to that plan for details.

## 5. CEMENT SHIPPING SYSTEM

### 5.1. SOURCE DESCRIPTION

The Cement Shipping System is used to store finished cement products ready for sale and load the products for shipping. Its main system component is:

- A cement storage and bulk loading system that stores finished cement products and loads them for shipping, including the cement truck loadout chutes, railcar loadout chutes, and the barge loading silo and chute.

### 5.2. SYSTEM EMISSION POINTS AND AIR POLLUTION CONTROL EQUIPMENT

During Cement Shipping System operations, particulate matter are emitted at four emission points. The system includes six different dust collector baghouses to control particulate matter emissions at the truck, rail, and barge loadout chutes. The following table summarizes system emission points and applicable air pollution control devices (APCDs), as well as the visual inspection interval (see Section 6.0):

ID #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
EU 0889-1-F	886 Belt Transfer to 905 Belt	None		Monthly
EP 0906-0-F	905 Belt Transfer to 908 Hopper	None		Monthly
EP 0926-0-F	914 Belt Transfer to 916 Hopper	None		Monthly
EP 0950-0	Dust Collector – East & West River Silos	Dust Collector Baghouse	65095600	Monthly
EP 1007-0	Dust Collector – AE Silos	Dust Collector Baghouse	65100700	Monthly
EP 1008-0	Dust Collector – Slag Extraction/Air Slide	Dust Collector Baghouse	DAV DC 0051	Monthly
EP 1009-0	Dust Collector – Silo 15/17 Slag Storage	Dust Collector Baghouse	DAV DC 0052	Monthly
EP 1017-0	Dust Collector – Cone Bottom Silos	Dust Collector Baghouse	65101600	Monthly
EP 1027-0	Cement Silo	Dust Collector Baghouse		Monthly
EP 1033-0	Cement Silo	Dust Collector Baghouse	65103300	Monthly
EP 1037-0	Cement Silo	Dust Collector Baghouse		Monthly
EP 1041-0	Dust Collector – E Rail Scale	Dust Collector Baghouse	65104100	Monthly
EP 1044-0	Dust Collector – N Truck Scale	Dust Collector Baghouse	65104400	Monthly
EP 1045-0	Dust Collector – S Truck Scale	Dust Collector Baghouse	65104500	Monthly
EP 1047-0	Dust Collector – W Rail Scale	Dust Collector Baghouse	65104700	Monthly
EP 1053-0	Dust Collector – Overtrack Silos	Dust Collector Baghouse	65105300	Monthly

ID #	Description	Air Pollution Control Device	Equipment #	VE Inspection Interval
EU 1300-1-F	Rail Loading Fugitives	None		Monthly
EU 1300-1-F	Truck Loading Fugitives	None		Monthly
EP 1449-0	Dust Collector – Silo 42	Dust Collector Baghouse	DAV DC 0039	Monthly
EP 2601-0	Barge Loadout	Dust Collector Baghouse	DAV DC 0050	Monthly
EP 2601-0-F	Barge Loadout Spout Fugitives	None		Monthly

### 5.3. APPLICABLE EMISSION LIMIT

The emission limit applicable to the Cement Shipping System emission points are:

- Visible emissions must not exceed 10 percent opacity. [40 CFR 63.1345]

### 5.4. OPERATOR PROCEDURES FOR MINIMIZING VISIBLE EMISSIONS FROM THE CEMENT SHIPPING SYSTEM

Cement Shipping System operations are performed in accordance with the Continental Cement Standard Operating Procedure (SOP) documents for (Cement Storage and Bulk Loading System). Applicable SOPs include the following:

- Truck Loading—Normal Operation
- Rail Loading—Normal Operation
- Barge Loading—Normal Operation
- A-E Pump Operation
- Cone Bottom Pump Operation

These procedures are part of the plant’s electronic operating procedures system, which is maintained and kept current on the plant’s network drive. The SOPs discuss how the plant shall be operated, and are used for job-specific training. The tasks necessary to ensure proper operation of the Cement Shipping System with minimum emissions are also included within the SOPs.

#### 5.4.1. Startup and Shutdown

Operation during startup and shutdown of the Cement Shipping System does not differ substantially from normal operation. Startup and shutdown of the Cement Shipping System is conducted to minimize emissions, and the baghouses used to control emissions from each system component are operated during startup and shutdown.

Startup commences when the control room starts the associated APCD. Startup is complete after one minute of associated APCD fan operating time.

Cement Shipping System shutdown procedures are provided in the Lafarge SOP (electronic operating system). Applicable SOPs include the following:

➤ Shutting down Cone Bottom Pumps

Shutdown is considered to be the one minute period prior to the APCD fan shutting off.

### 5.5. PREVENTIVE MAINTENANCE

Preventive maintenance work orders are maintained on MAXIMO, the Plant’s Windows-based electronic maintenance management system. Sample work orders are included in the appendices. All items on work orders are checked, but not recorded unless values are out of normal operating range. Maintenance Department technicians perform preventive maintenance (PM) tasks on the Cement Shipping System equipment, including:

Equipment #	Equipment Description - Function
65095600	Dust Collector – East & West River Silos
65095700	Exhaust Fan – Dust Collector 956
65100600	Exhaust Fan – Dust Collector 1007
65100700	Dust Collector – AE Silos
65101600	Dust Collector – Cone Bottom Silos
65103300	Dust Collector – Cement Silo
65104100	Dust Collector – East Rail Scale
65104400	Dust Collector – North Truck Scale
65104500	Dust Collector – South Truck Scale
65104700	Dust Collector – West Rail Scale
65105200	Exhaust Fan – Dust Collector 1053
65105300	Dust Collector – Overtrack Silos
DAV DC 0051	Dust Collector – Barge Loadout
DAV DC 0051	Dust Collector – Slag Extraction/Air Slide
DAV DC 0052	Dust Collector – Silo 15/17 Slag Storage
DAV DC 0039	Dust Collector – Silo 42

The Cement Shipping System PM schedule is maintained on MAXIMO. The PM schedules and the PM task lists for equipment in these systems are based upon past experience with similar equipment and the manufacturer’s documentation/recommendations.

Maintenance Technicians utilize checklists from the MAXIMO database to conduct PM activities. The checklists include detailed steps and instructions for performance of these activities. Once work completion has been verified, checklist data is entered into MAXIMO. This and other relevant information are periodically archived within the database, establishing a verifiable record of ongoing PM activity completion and providing a method by which to review historical equipment performance.

### 5.6. MONITORING REQUIREMENTS

#### 5.6.1. Periodic Method 22 and Method 9 Visible Emissions Monitoring and Corrective Action Requirements

The conveyors, limestone silo, homogenization silo and other sources subject to a PC MACT opacity limit will be tested for visible emissions once each month using USEPA Method 22 – Visual Determination of Fugitive

Emissions from Material Sources and Smoke Emissions from Flares. The procedures for this opacity monitoring, as well as the procedures for corrective actions taken in response to visible emissions are included the Davenport Plant's Site-Specific Emissions and Opacity Monitoring Plan. Please refer to that plan for details.

## 6. CORRECTIVE ACTIONS

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The Davenport Plant has developed and implemented a system for corrective actions to diagnose, repair and document the proper maintenance of equipment in the case of operations issues. This program applies to all affected sources under the PC MACT, as well as Continuous Monitoring Systems (CMS) and APCDs.

### 6.1. VISIBLE EMISSIONS

The Davenport Plant initiates corrective actions on equipment subject to visible emissions limitations whenever visible emissions are observed during the routine daily or monthly visible emissions inspections. These corrective actions are initiated within 1 hour of the visible emissions observation, per 40 CFR §63.1350(f). More detail on the corrective action procedures for visible emissions is available in Section 3 of the facility's Site-Specific Emissions and Opacity Monitoring Plan.

### 6.2. MALFUNCTION PROCEDURES

#### 6.2.1. Baghouse Malfunction and Response

Baghouse malfunctions include failures of the following components that result in excess emissions:

- Bag failure(s)
- Plugged bags
- Faulty blow down systems
- Structural failures (internal diaphragms, external walls and other components)

Response to a malfunction event is immediate notification to the maintenance department. Unless the malfunction can be promptly repaired the production process or APCD will be modified to bring emissions into compliance or the operation will be shut down.

#### 6.2.2. PM CPMS Malfunction

A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the CMS to provide valid data. Records of the date, time and duration of each monitoring system malfunction that causes or results in a source's failure to meet the applicable emission limit or standard. In addition, records of the actions taken to minimize emissions including corrective actions must be maintained for each CMS malfunction event.

## 7. RECORDKEEPING AND REPORTING

The Davenport Plant maintains all the records associated with the operation and maintenance of all affected sources, and the associated baghouses as required under the PC MACT. A list of the records and the storage locations is provided in Table 6-1.

**Table 7-1. Recordkeeping for Operation and Maintenance of All Affected Sources**

Description of Record	Regulatory Reference	Period Record Maintained	Location of Record
All required maintenance performed on the air pollution control and monitoring equipment.	40 CFR 63.10(b)(2)(iii)	5 years	MAXIMO
All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.	40 CFR 63.1355(b)(1)	5 years	Facility operating record
All records of applicability determination, including supporting analyses (if applicable).	40 CFR 63.1355(b)(2)	5 years	Facility operating record
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.	40 CFR 63.1355(g)(1)	5 years	Facility operating record
Records of actions taken during periods of malfunction to minimize emissions, including corrective actions taken to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.	40 CFR 63.1355(g)(2)	5 years	Facility operating record
Records of the date, duration and description of each exceedance from an emissions standard or established operating limit. Includes the specific actions taken for each exceedance including inspections, corrective actions and repeat performance tests and the results of the actions.	40 CFR 63.1355(h)	5 years	Facility operating record

In addition, the PC MACT requires records be kept related to the monitoring of each affected source. A detailed list and description of the records associated with monitoring is maintained in the Davenport Plant Site-Specific Monitoring Plan. Please refer to the Davenport Plant Site-Specific Monitoring Plan for the details.

## 7.1. REPORTING

The Davenport Plant completes all reporting associated with the operation and maintenance of all affected sources and the associated baghouses. The Davenport Plant submits the semi-annual report required under 40 CFR 63.1354(b)(9), which includes a report of all failures to comply with this Operation and Maintenance Plan. More details on the list and description of the reports submitted by the Davenport Plant is maintained in the Davenport Plant Site-Specific Monitoring Plan. Please refer to the Davenport Plant Site-Specific Monitoring Plan for the details.

## 8. PERIODIC REVIEW AND REVISION OF OPERATION & MAINTENANCE PLAN

The Environmental Manager (or a designated representative) will review this Operations & Maintenance Plan once per year for adequacy and currency. Documentation of the annual review or update will be retained in Environmental Department files for five years. The Plan was reviewed on the following dates:

Review Date
March 2002
March 2012
March 2013
March 2014
December 2015
May 2017

Records of Revisions to this plan are detailed in the following table.

Revision Number	Revision Date	Revision Author (name, company)	Description of Revision (page, section, item)	Reason for Revision
1.0	March 2002	Davenport Plant	Initial Plan generation	N/A
2.0	September 2002	Davenport Plant	Section 5.0; Added EUs 1008, 1009 and 1449 Section 6.0; Added EUs 2601 and 2701	New emission units
3.0	September 2004	Davenport Plant	Generated coal/coke preparation system OMP	Generated coal/coke preparation OMP
4.0	September 2008	Davenport Plant	Section 3.0; Inserted regulatory reference	N/A
5.0	September 2008	Davenport Plant	Section 4.0; Deleted clinker handling and storage	N/A
6.0	November 2013	Davenport Plant	Section 4.0; Added outside clinker storage areas	Updated regulatory requirements

<b>Revision Number</b>	<b>Revision Date</b>	<b>Revision Author (name, company)</b>	<b>Description of Revision (page, section, item)</b>	<b>Reason for Revision</b>
7.0	September 2014	Davenport Plant	Section 4.0; Added provisions for accidental spillage of clinker	Updated regulatory requirements
8.0	December 2015	Davenport Plant	Combined into one plan; revised VE observations and added components	Update with new PC MACT requirements
9.0	May 2017	Davenport Plant	Updated Emission Sources	Title V Permit Renewal

## APPENDIX A: EXAMPLE PREVENTIVE MAINTENANCE JOB PLAN

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**A. EXAMPLE PREVENTATIVE MAINTENANCE JOB PLAN**

Work Order: 27211 Quarry & Raw material DC route,-218, 203, 327, 498 / , 420, 440, 637, 504, 404, 535, & 574

Status Code: APPR	Target Start Date: 19-MAR-2002	Parent:
Reported Date: 19-Mar-2002	Target Completion Date: 19-MAR-2002	Sequence:
Problem Code:	Reported By: VBUKER	Originating WO:
	Labor Group: MECH	Crew ID:
		Supervisor STALDERR

Location: DAV216: Grinding,Drying,Thining,Classifying,Systems,Raw Mix L1 /

Equipment: : /  
Old Eq #:

Lead Craft	Work Type	Priority
	PM	4

Labor Code	Quantity	Planned Hours
MEMM Maintenance Mechanic		8.00

Item Number	Description	Planned Quantity	Bin
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Job Plan:	PM-M-8HR	Tool Number	Planned Quantity	Description
	MECH 8 hr Job Plan /			

Operations		Measurement	Date
10	Notify control room of work to be done if required		
20	Follow equipment LOTO procedure		
30	Be aware of potential hazards around your work site		
40	Complete required repair work		
50	Return equipment to operational condition at completion of work		
60	Notify control room when equipment is available for operation		
70	Remove any spare parts (used/unused) and restock or dispose of them		
80	Clean up work site (Rags, grease, used parts, etc.)		

27211

-Work Order: 27212  
Quarry & Raw material DC route,-218, 203

Location: DAV105DC01  
218 COLLECTOR,DUST

Operations	Measurement	Date
1		
20		
30		
40		
50		

PM INSPECTION FOR PULSE JET DUST COLLECTORS

**\*\*TOOLS REQUIRED\*\***

1. SAFETY LOCK
2. DUST MASK
3. EYE PROTECTION
4. PERSONAL TOOLS

**\*\*SAFETY HAZZARDS\*\***

1. DUST
2. FANS & SCREWS MAY START REMOTELY

**\*\*POWER ON INSPECTION\*\***

- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_ IN
- 2) MANIFOLD AIR PRESSURE \_\_\_\_\_ PSI
- 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)

SEQUENCE: 1,3,5,2,4,6,8,

- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
- 5) FAN VIBRATION \_\_\_\_\_ (GOOD.POOR,OK,ETC.)
- 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
- 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL \_\_\_\_\_
- 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
- 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
- 10) CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
- 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED \_\_\_\_\_
- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

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**\*\*POWER OFF INSPECTION\*\***

\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\*

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
- 3) INSPECT HOPPER FOR BUILDUP
- 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
- 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
- 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
- 7) BLOW OUT MAGNEHELIC LINES
- 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\* AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
- 9) CHECK CAGE VENTURIES FOR WEAR HOLES
- 10)CHECK BLOWPIPE HOLES FOR WEAR

WOPRINT.SQT

27211

55 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS  
 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
 DIRECTLY OVER CENTER OF VENTURI  
 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*  
 NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_  
 70 NOTIFY CONTROL ROOM WHEN INSPECTION IS  
 COMPLETE

Sub-Work Order: 27213  
 Quarry & Raw material DC route,-218, 203

Location: DAV105DC02  
 203 · COLLECTOR,DUST

Operations	Measurement	Date
1	PM INSPECTION FOR PULSE JET DUST COLLECTORS	
20	**TOOLS REQUIRED** 1. SAFETY LOCK 2. DUST MASK 3. EYE PROTECTION 4. PERSONAL TOOLS	
30	**SAFETY HAZZARDS** 1. DUST 2. FANS & SCREWS MAY START REMOTELY **POWER ON INSPECTION** 1) DIFFERENTIAL PRESSURE _____IN 2) MANIFOLD AIR PRESSURE _____PSI 3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES) SEQUENCE: 1,3,5,2,4,6,8, 4) DIAPHRAGMS HITTING _____ (IF NOT, WHICH ONES) 5) FAN VIBRATION _____ (GOOD.POOR,OK,ETC.) 6) BEARINGS HOT OR NOISY? _____ 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL _____ 8) CHECK FAN EXPANTION JOINT _____ 9) CHECK FAN GUARD CONDITION _____ 10 CHECK FOR MATERIAL IN HOPPER _____ 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED _____ 12)CHECK PICKUP PIPES FOR HOLES _____ 13)CHECK WALLS FOR CRACKS _____ 14)VISABLE OPACITY _____ 15)COMMENTS _____	
50	**POWER OFF INSPECTION** ***** WHEN COLLECTOR IS OFF *****  1) CHECK FOR DUST BUILDUP ON TUBE SHEET	

27211

- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
  - 3) INSPECT HOPPER FOR BUILDUP
  - 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
  - 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
  - 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
  - 7) BLOW OUT MAGNEHELIC LINES
  - 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*
  - AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
  - 9) CHECK CAGE VENTURIES FOR WEAR HOLES
  - 10)CHECK BLOWPIPE HOLES FOR WEAR
  - 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
  - 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS DIRECTLY OVER CENTER OF VENTURI
- 55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*  
 NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_  
 70 NOTIFY CONTROL ROOM WHEN INSPECTION IS COMPLETE

Sub-Work Order: 27214  
 Quarry & Raw material DC route,-218, 203

Location: DAV210DC01  
 327 COLLECTOR,DUST RECLAIMER TUNNEL

Operations

Measurement

Date

PM INSPECTION FOR PULSE JET DUST COLLECTORS

- 20 \*\*TOOLS REQUIRED\*\*
- 1. SAFETY LOCK
  - 2. DUST MASK
  - 3. EYE PROTECTION
  - 4. PERSONAL TOOLS
- 30 \*\*SAFETY HAZZARDS\*\*
- 1. DUST
  - 2. FANS & SCREWS MAY START REMOTELY
- 40 \*\*POWER ON INSPECTION\*\*
- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_ IN
  - 2) MANIFOLD AIR PRESSURE \_\_\_\_\_ PSI
  - 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)
  - SEQUENCE: 1,3,5,2,4,6,8,
  - 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
  - 5) FAN VIBRATION \_\_\_\_\_ (GOOD.POOR,OK,ETC.)
  - 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
  - 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL \_\_\_\_\_
  - 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
  - 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
  - 10 CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
  - 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED \_\_\_\_\_

27211

- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS \_\_\_\_\_

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**\*\*POWER OFF INSPECTION\*\***  
**\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\***

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
  - 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
  - 3) INSPECT HOPPER FOR BUILDUP
  - 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
  - 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
  - 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
  - 7) BLOW OUT MAGNEHELIC LINES
  - 8) CLEAN FAN RUNNER **\*\*\* BE SURE TO \*\*\*\*\***  
**AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\***
  - 9) CHECK CAGE VENTURIES FOR WEAR HOLES
  - 10)CHECK BLOWPIPE HOLES FOR WEAR
  - 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
  - 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
 DIRECTLY OVER CENTER OF VENTURI
- 55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60

**\*\*SIGN-OFF\*\***  
 NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_  
 NOTIFY CONTROL ROOM WHEN INSPECTION IS  
 COMPLETE

**Sub-Work Order: 27215**  
 Quarry & Raw material DC route,-218, 203

**Location: DAV216DC01**  
 498 COLLECTOR,DUST RAW MILL FEED

Operations	Measurement	Date
1 PM INSPECTION FOR PULSE JET DUST COLLECTORS		
20 <b>**TOOLS REQUIRED**</b>		
1. SAFETY LOCK		
2. DUST MASK		
3. EYE PROTECTION		
4. PERSONAL TOOLS		
30 <b>**SAFETY HAZZARDS**</b>		
1. DUST		
2. FANS & SCREWS MAY START REMOTELY		
40 <b>**POWER ON INSPECTION**</b>		
1) DIFFERENTIAL PRESSURE _____IN		
2) MANIFOLD AIR PRESSURE _____PSI		
3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES)		
SEQUENCE: 1,3,5,2,4,6,8,		

27211

- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
- 5) FAN VIBRATION \_\_\_\_\_ (GOOD,POOR,OK,ETC.)
- 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
- 7) HOLES OR CRACKS IN HOUSING  
OR PEDISTAL \_\_\_\_\_
- 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
- 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
- 10) CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
- 11)TIPPING VALVES FUNCTIONING  
FREELY AND LUBRICATED \_\_\_\_\_
- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

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**\*\*POWER OFF INSPECTION\*\***  
**\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\***

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
- 3) INSPECT HOPPER FOR BUILDUP
- 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
- 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
- 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
- 7) BLOW OUT MAGNEHELIC LINES
- 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*  
AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
- 9) CHECK CAGE VENTURIES FOR WEAR HOLES
- 10)CHECK BLOWPIPE HOLES FOR WEAR
- 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
- 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
DIRECTLY OVER CENTER OF VENTURI

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RETURN EQUIPMENT TO OPERATIONAL CONDITION

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**\*\*SIGN-OFF\*\***  
 NAME/S: \_\_\_\_\_ DATE \_\_\_\_\_

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NOTIFY CONTROL ROOM WHEN INSPECTION IS  
COMPLETE

**Sub-Work Order: 27216**  
 Quarry & Raw material DC route,-218, 203

**Location: DAV314DC02**  
 420 COLLECTOR,DUST RAW MILL AIRSLIDES

**Operations**

**Measurement**

**Date**

1 PM INSPECTION FOR PULSE JET DUST COLLECTORS

- 20 **\*\*TOOLS REQUIRED\*\***
- 1. SAFETY LOCK
  - 2. DUST MASK

27211

- 3. EYE PROTECTION
- 4. PERSONAL TOOLS
- \*\*SAFETY HAZZARDS\*\*
- 1. DUST
- 2. FANS & SCREWS MAY START REMOTELY
- \*\*POWER ON INSPECTION\*\*
- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_ IN
- 2) MANIFOLD AIR PRESSURE \_\_\_\_\_ PSI
- 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)
- SEQUENCE: 1,3,5,2,4,6,8,
- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
- 5) FAN VIBRATION \_\_\_\_\_ (GOOD.POOR,OK,ETC.)
- 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
- 7) HOLES OR CRACKS IN HOUSING  
OR PEDISTAL \_\_\_\_\_
- 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
- 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
- 10 CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
- 11)TIPPING VALVES FUNCTIONING  
FREELY AND LUBRICATED \_\_\_\_\_
- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

40

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- \*\*POWER OFF INSPECTION\*\*
- \*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\*
- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
- 3) INSPECT HOPPER FOR BUILDUP
- 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
- 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
- 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
- 7) BLOW OUT MAGNEHELIC LINES
- 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*  
AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
- 9) CHECK CAGE VENTURIES FOR WEAR HOLES
- 10)CHECK BLOWPIPE HOLES FOR WEAR
- 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
- 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
DIRECTLY OVER CENTER OF VENTURI
- RETURN EQUIPMENT TO OPERATIONAL CONDITION

55

60

\*\*SIGN-OFF\*\*  
NAME/S: \_\_\_\_\_ DATE \_\_\_\_\_

70

NOTIFY CONTROL ROOM WHEN INSPECTION IS  
COMPLETE

27211

-Work Order: 27217  
 Quarry & Raw material DC route,-218, 203

Location: DAV310DC01  
 440 DUST COLL./475 MOTOR COOLING

Operations	Measurement	Date
1	PM INSPECTION FOR PULSE JET DUST COLLECTORS	
20	**TOOLS REQUIRED** 1. SAFETY LOCK 2. DUST MASK 3. EYE PROTECTION 4. PERSONAL TOOLS	
30	**SAFETY HAZZARDS** 1. DUST 2. FANS & SCREWS MAY START REMOTELY	
40	**POWER ON INSPECTION** 1) DIFFERENTIAL PRESSURE _____ IN 2) MANIFOLD AIR PRESSURE _____ PSI 3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES) SEQUENCE: 1,3,5,2,4,6,8, 4) DIAPHRAGMS HITTING _____ (IF NOT, WHICH ONES) 5) FAN VIBRATION _____ (GOOD.POOR,OK,ETC.) 6) BEARINGS HOT OR NOISY? _____ 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL _____ 8) CHECK FAN EXPANTION JOINT _____ 9) CHECK FAN GUARD CONDITION _____ 10 CHECK FOR MATERIAL IN HOPPER _____ 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED _____ 12)CHECK PICKUP PIPES FOR HOLES _____ 13)CHECK WALLS FOR CRACKS _____ 14)VISABLE OPACITY _____ 15)COMMENTS	
50	**POWER OFF INSPECTION** ***** WHEN COLLECTOR IS OFF *****  1) CHECK FOR DUST BUILDUP ON TUBE SHEET 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.) 3) INSPECT HOPPER FOR BUILDUP 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE 7) BLOW OUT MAGNEHELIC LINES 8) CLEAN FAN RUNNER *** BE SURE TO ***** AND CHECK FOR CRACKS OR DAMAGE *** LOCK OUT FAN ***** 9) CHECK CAGE VENTURIES FOR WEAR HOLES 10)CHECK BLOWPIPE HOLES FOR WEAR	

27211

50 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS  
 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS DIRECTLY OVER CENTER OF VENTURI  
 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*  
 NAME/S: \_\_\_\_\_ DATE \_\_\_\_\_  
 70 NOTIFY CONTROL ROOM WHEN INSPECTION IS COMPLETE

Sub-Work Order: 27218  
 Quarry & Raw material DC route,-218, 203

Location: DAV310DC02  
 637 COLLECTOR,DUST ER 2 & 610

Operations	Measurement	Date
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1 PM INSPECTION FOR PULSE JET DUST COLLECTORS

20 \*\*TOOLS REQUIRED\*\*

- 1. SAFETY LOCK
- 2. DUST MASK
- 3. EYE PROTECTION
- 4. PERSONAL TOOLS

30 \*\*SAFETY HAZZARDS\*\*

- 1. DUST
  - 2. FANS & SCREWS MAY START REMOTELY
- \*\*POWER ON INSPECTION\*\*
- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_IN
  - 2) MANIFOLD AIR PRESSURE \_\_\_\_\_PSI
  - 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)
- SEQUENCE: 1,3,5,2,4,6,8,
- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
  - 5) FAN VIBRATION \_\_\_\_\_ (GOOD,POOR,OK,ETC.)
  - 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
  - 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL \_\_\_\_\_
  - 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
  - 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
  - 10) CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
  - 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED \_\_\_\_\_
  - 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
  - 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
  - 14)VISABLE OPACITY \_\_\_\_\_
  - 15)COMMENTS \_\_\_\_\_

50 \*\*POWER OFF INSPECTION\*\*  
 \*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\*

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET

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- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
  - 3) INSPECT HOPPER FOR BUILDUP
  - 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
  - 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
  - 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
  - 7) BLOW OUT MAGNEHELIC LINES
  - 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*  
AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
  - 9) CHECK CAGE VENTURIES FOR WEAR HOLES
  - 10)CHECK BLOWPIPE HOLES FOR WEAR
  - 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
  - 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
DIRECTLY OVER CENTER OF VENTURI
- 55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*  
NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_

70 NOTIFY CONTROL ROOM WHEN INSPECTION IS  
COMPLETE

**Sub-Work Order:** 27219  
Quarry & Raw material DC route,-218, 203

**Location:** DAV312DC01  
504 COLLECTOR,DUST KILN FEED

Operations	Measurement	Date
PM INSPECTION FOR PULSE JET DUST COLLECTORS		
20 **TOOLS REQUIRED**		
1. SAFETY LOCK		
2. DUST MASK		
3. EYE PROTECTION		
4. PERSONAL TOOLS		
30 **SAFETY HAZZARDS**		
1. DUST		
2. FANS & SCREWS MAY START REMOTELY		
40 **POWER ON INSPECTION**		
1) DIFFERENTIAL PRESSURE _____ IN		
2) MANIFOLD AIR PRESSURE _____ PSI		
3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES)		
SEQUENCE: 1,3,5,2,4,6,8,		
4) DIAPHRAGMS HITTING _____ (IF NOT, WHICH ONES)		
5) FAN VIBRATION _____ (GOOD.POOR,OK,ETC.)		
6) BEARINGS HOT OR NOISY? _____		
7) HOLES OR CRACKS IN HOUSING OR PEDISTAL _____		
8) CHECK FAN EXPANTION JOINT _____		
9) CHECK FAN GUARD CONDITION _____		
10 CHECK FOR MATERIAL IN HOPPER _____		
11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED _____		

27211

- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

50

**\*\*POWER OFF INSPECTION\*\***  
**\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\***

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
  - 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
  - 3) INSPECT HOPPER FOR BUILDUP
  - 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
  - 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
  - 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
  - 7) BLOW OUT MAGNEHELIC LINES
  - 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*
  - AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
  - 9) CHECK CAGE VENTURIES FOR WEAR HOLES
  - 10)CHECK BLOWPIPE HOLES FOR WEAR
  - 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
  - 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS DIRECTLY OVER CENTER OF VENTURI
- 55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60

**\*\*SIGN-OFF\*\***  
 NAME/S: \_\_\_\_\_ DATE \_\_\_\_\_  
 NOTIFY CONTROL ROOM WHEN INSPECTION IS COMPLETE

**Sub-Work Order: 27220**  
 Quarry & Raw material DC route,-218, 203

**Location: DAV314DC03**  
 404 COLLECTOR,DUST HOMO SILO

Operations	Measurement	Date
1 PM INSPECTION FOR PULSE JET DUST COLLECTORS		
20 <b>**TOOLS REQUIRED**</b>		
1. SAFETY LOCK		
2. DUST MASK		
3. EYE PROTECTION		
4. PERSONAL TOOLS		
30 <b>**SAFETY HAZZARDS**</b>		
1. DUST		
2. FANS & SCREWS MAY START REMOTELY		
40 <b>**POWER ON INSPECTION**</b>		
1) DIFFERENTIAL PRESSURE _____IN		
2) MANIFOLD AIR PRESSURE _____PSI		
3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES)		
SEQUENCE: 1,3,5,2,4,6,8,		

27211

- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
- 5) FAN VIBRATION \_\_\_\_\_ (GOOD.POOR,OK,ETC.)
- 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
- 7) HOLES OR CRACKS IN HOUSING  
OR PEDISTAL \_\_\_\_\_
- 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
- 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
- 10 CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
- 11)TIPPING VALVES FUNCTIONING  
FREELY AND LUBRICATED \_\_\_\_\_
- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

50

**\*\*POWER OFF INSPECTION\*\***  
**\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\***

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
- 3) INSPECT HOPPER FOR BUILDUP
- 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
- 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
- 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
- 7) BLOW OUT MAGNEHELIC LINES
- 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*  
AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
- 9) CHECK CAGE VENTURIES FOR WEAR HOLES
- 10)CHECK BLOWPIPE HOLES FOR WEAR
- 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
- 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
DIRECTLY OVER CENTER OF VENTURI

55

RETURN EQUIPMENT TO OPERATIONAL CONDITION

60

**\*\*SIGN-OFF\*\***  
 NAME/S: \_\_\_\_\_ DATE \_\_\_\_\_

70

NOTIFY CONTROL ROOM WHEN INSPECTION IS  
 COMPLETE

**Sub-Work Order: 27221**  
 Quarry & Raw material DC route,-218, 203

**Location: DAV315DC02**  
 535 COLLECTOR,DUST CKD

**Operations**

**Measurement**

**Date**

1 PM INSPECTION FOR PULSE JET DUST COLLECTORS

- 20 **\*\*TOOLS REQUIRED\*\***
- 1. SAFETY LOCK
  - 2. DUST MASK

27211

- 3. EYE PROTECTION
- 4. PERSONAL TOOLS
- \*\*SAFETY HAZZARDS\*\***
- 1. DUST
- 2. FANS & SCREWS MAY START REMOTELY
- \*\*POWER ON INSPECTION\*\***
- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_ IN
- 2) MANIFOLD AIR PRESSURE \_\_\_\_\_ PSI
- 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)
- SEQUENCE: 1,3,5,2,4,6,8,
- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
- 5) FAN VIBRATION \_\_\_\_\_ (GOOD,POOR,OK,ETC.)
- 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
- 7) HOLES OR CRACKS IN HOUSING  
OR PEDISTAL \_\_\_\_\_
- 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
- 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
- 10) CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
- 11)TIPPING VALVES FUNCTIONING  
FREELY AND LUBRICATED \_\_\_\_\_
- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

50

- \*\*POWER OFF INSPECTION\*\***
- \*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\***
- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
- 3) INSPECT HOPPER FOR BUILDUP
- 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
- 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
- 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
- 7) BLOW OUT MAGNEHELIC LINES
- 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*  
AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
- 9) CHECK CAGE VENTURIES FOR WEAR HOLES
- 10)CHECK BLOWPIPE HOLES FOR WEAR
- 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
- 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
DIRECTLY OVER CENTER OF VENTURI
- 55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60

**\*\*SIGN-OFF\*\***  
 NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_

70

NOTIFY CONTROL ROOM WHEN INSPECTION IS  
 COMPLETE

27211

Work Order: 27222  
Quarry & Raw material DC route,-218, 203

Location: DAV315DC04  
574 DUST COLLECTOR TOP CKD TANK

Operations	Measurement	Date
1 PM INSPECTION FOR PULSE JET DUST COLLECTORS		
20 **TOOLS REQUIRED**		
1. SAFETY LOCK 2. DUST MASK 3. EYE PROTECTION 4. PERSONAL TOOLS		
30 **SAFETY HAZZARDS**		
1. DUST 2. FANS & SCREWS MAY START REMOTELY		
40 **POWER ON INSPECTION**		
1) DIFFERENTIAL PRESSURE _____ IN 2) MANIFOLD AIR PRESSURE _____ PSI 3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES) SEQUENCE: 1,3,5,2,4,6,8, 4) DIAPHRAGMS HITTING _____ (IF NOT, WHICH ONES) 5) FAN VIBRATION _____ (GOOD.POOR,OK,ETC.) 6) BEARINGS HOT OR NOISY? _____ 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL _____ 8) CHECK FAN EXPANTION JOINT _____ 9) CHECK FAN GUARD CONDITION _____ 10 CHECK FOR MATERIAL IN HOPPER _____ 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED _____ 12)CHECK PICKUP PIPES FOR HOLES _____ 13)CHECK WALLS FOR CRACKS _____ 14)VISABLE OPACITY _____ 15)COMMENTS		
50 **POWER OFF INSPECTION**		
**** WHEN COLLECTOR IS OFF ****  1) CHECK FOR DUST BUILDUP ON TUBE SHEET 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.) 3) INSPECT HOPPER FOR BUILDUP 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE 7) BLOW OUT MAGNEHELIC LINES 8) CLEAN FAN RUNNER *** BE SURE TO ***** AND CHECK FOR CRACKS OR DAMAGE *** LOCK OUT FAN ***** 9) CHECK CAGE VENTURIES FOR WEAR HOLES 10)CHECK BLOWPIPE HOLES FOR WEAR		

27211

55 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS  
 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
 DIRECTLY OVER CENTER OF VENTURI  
 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*  
 NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_  
 70 NOTIFY CONTROL ROOM WHEN INSPECTION IS  
 COMPLETE

Date Completed

Completed By

Problem Cause:

Problem Remedy:

Remarks:

## APPENDIX B: EXAMPLE STANDARD OPERATING PROCEDURE

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**B. EXAMPLE STANDARD OPERATING PROCEDURE**

## Davenport Plant

Title:	<b>HOMOGENIZING SILO – NORMAL OPERATION</b>
--------	---

**Safety Considerations:**

- All guards are in place
- Aisle and walkways are clear of obstructions
- Handrails and Floor gratings are in place
- All areas are lighted sufficiently
- All PPE required for task are in place

**Environmental Considerations:**

Where applicable, consider the following environmental issues when carrying out your job assignment:

1. Report abnormal dust emissions from vents, haul roads, or equipment
2. Monitor and record any visible emissions from emission points periodically, as required
3. Remove outdoor material piles that might cause fugitive emissions
4. Report leaks or spills of lubricants, hydraulic oil, water, or dry material for cleanup and/or repair
  - Report any fugitive dust that can cause air pollutants.
  - Report any ground contamination (i.e., oil spills).
  - Report any water contamination.

**Job Site Preparation:**

- Check for any unusual noises or vibrations.
- Report any equipment malfunctions.
- Ensure all switches are in remote operating mode.

**Environmental Operating Guidelines:**

1. Ensure the homogenizing silo is receiving an adequate amount of aeration from the aeration blowers (538, 536, 537, 539).
2. Operate air distribution valves (400-02, 400-03) as necessary to distribute air to the homogenizing silo.
3. Ensure dust collection system (404, 403, 405, 402) is energized and functioning properly.
4. Ensure pneumatic conveyor (413) is operating normally.
5. Check that airslide distribution system (410, 411, 408-01, 408-02, 408-03, 408-04, 408-05, 408-06, 408-07, 408-08, 408-09, 408-10, 406) is operating within normal parameters.

**Suggestion or comments:**

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CHECK ACHIEVER PLUS PROGRAM FOR UPDATED GUIDELINES

**Davenport Plant**

In order to improve this document, make any notes for corrections and give them to your immediate supervisor, generate a Document Change Request [DCR], or notify the author of this document.

**This copy printed on 3/26/02**

**CHECK ACHIEVER PLUS PROGRAM FOR UPDATED GUIDELINES**

## APPENDIX C: BLANK METHOD 22 VISUAL EMISSIONS DATA LOG SHEETS

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# EPA VISIBLE EMISSION OBSERVATION FORM 1

Form Number								Page	Of
Continued on VEO Form Number									

Method Used (Circle One)			
Method 9	203A	203B	Other: _____

Company Name		
Facility Name		
Street Address		
City	State	Zip

Process	Unit #	Operating Mode
Control Equipment	Operating Mode	

Describe Emission Point			
Height of Emiss. Pt.		Height of Emiss. Pt. Rel. to Observer	
Start	End	Start	End
Distance to Emiss. Pt.		Direction to Emiss. Pt. (Degrees)	
Start	End	Start	End

Vertical Angle to Obs. Pt.		Direction to Obs. Pt. (Degrees)	
Start	End	Start	End
Distance and Direction to Observation Point from Emission Point			
Start	End		

Describe Emissions				
Start		End		
Emission Color		Water Droplet Plume		
Start	End	Attached <input type="checkbox"/>	Detached <input type="checkbox"/>	None <input type="checkbox"/>

Describe Plume Background			
Start		End	
Background Color		Sky Conditions	
Start	End	Start	End
Wind Speed		Wind Direction	
Start	End	Start	End
Ambient Temp.		Wet Bulb Temp.	RH Percent
Start	End		

Source Layout Sketch

Draw North Arrow

TN  MN

FEET

FEET

Side View

Stack With Plume

Sun

Wind

Longitude	Latitude	Declination
-----------	----------	-------------

Additional Information	

Sec Min	Time Zone				Start Time	End Time	Comments
	0	15	30	45			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
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27							
28							
29							
30							

Observer's Name (Print)	
Observer's Signature	Date
Organization	
Certified By	Date

## APPENDIX D: BLANK METHOD 9 OPACITY OBSERVATION DATA LOG SHEETS

---

# EPA VISIBLE EMISSION OBSERVATION FORM 1

Form Number						Page	Of
Continued on VEO Form Number							

Method Used (Circle One)			
Method 9	203A	2038	Other: _____

Company Name		
Facility Name		
Street Address		
City	State	Zip

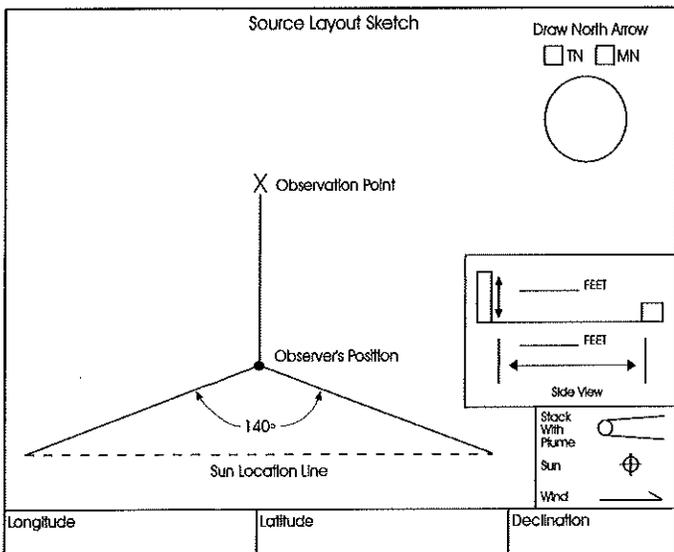
Process	Unit #	Operating Mode
Control Equipment		Operating Mode

Describe Emission Point			
Height of Emiss. Pt.		Height of Emiss. Pt. Rel. to Observer	
Start	End	Start	End
Distance to Emiss. Pt.		Direction to Emiss. Pt. (Degrees)	
Start	End	Start	End

Vertical Angle to Obs. Pt.		Direction to Obs. Pt. (Degrees)	
Start	End	Start	End
Distance and Direction to Observation Point from Emission Point			
Start		End	

Describe Emissions			
Start		End	
Emission Color		Water Droplet Plume	
Start	End	Attached <input type="checkbox"/>	Detached <input type="checkbox"/>
		None <input type="checkbox"/>	

Describe Plume Background			
Start		End	
Background Color		Sky Conditions	
Start	End	Start	End
Wind Speed		Wind Direction	
Start	End	Start	End
Ambient Temp.		Wet Bulb Temp.	RH Percent
Start	End		



Additional Information	

Observation Date		Time Zone				Start Time	End Time
Min	Sec	0	15	30	45	Comments	
	1						
2							
3							
4							
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28							
29							
30							

Observer's Name (Print)	
Observer's Signature	Date
Organization	
Certified By	Date

VEOF1.1

kk1

180

Final Permit # 04-TV-007R2, 11/09/17

## APPENDIX E: PREVENTIVE MAINTENANCE WORK ORDERS

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**E. PREVENTIVE MAINTENANCE WORK ORDERS**

38065

Work Order: 38066  
REVERSE AIR DC 466 & 594

Location: DAV315DC01  
594 COLLECTOR,DUST ALKY BYPASS

Operations

Measurement

Date

1

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\* ROLLER MILL BAGHOUSE P.M. CHECKS

\*\*\*\*\*

\*\*\*\*\*

\*\*\*

\*\*\*\*\* TOOLS REQUIRED \*\*\*\*\*

- 1. SAFETY LOCK
- 2. DUST AND GAS PROTECTION
- 3. EYE PROTECTION
- 4. PERSONAL TOOLS

\*\*\*\*\* SAFETY HAZARDS \*\*\*\*\*

- 1. SULFER GASSES
- 2. DUST
- 3. FANS AND SCREWS MAY START REMOTELY

\*TUNNEL WALK THROUGH\*

- 1) CHECK THAT ALL COILS ARE ON ALL SOLENOIDS
- ALL CYLINDERS ARE CONNECTED TO DAMPER SHAFTS
- ALL LOCKOUT BARS ARE SECURED AND OUT OF THE WAY
- LOOK FOR STUCK CYLINDERS
- CHECK CLEANING CYCLE SEQUENCE
- OFFLINE
- DWELL TIME \_\_\_\_\_ SEC.
- REPRESSURIZING TIME \_\_\_\_\_ SEC.
- SETTLE TIME \_\_\_\_\_ SEC.
- REINFLATION TIME \_\_\_\_\_ SEC.
- TIME FROM OFFLINE TO ONLINE \_\_\_\_\_ SEC.
- CHECK CYLINDERS FOR AIR LEAKS
- CHECK SOLENOIDS FOR AIR LEAKS
- CHECK DOOR GASKETS FOR LEAKS
- OIL CYLINDERS MONTHLY ( MARVEL MYSTERY OIL INTO LINE )
- CHECK COALESSING FILTER INDICATOR

2) REPRESSURIZING FAN

- ARE BEARINGS HOT ? \_\_\_\_\_
- CHECK FOR VIBRATION \_\_\_\_\_
- ANY PEDISTAL CRACKS ? \_\_\_\_\_
- ACCESS DOOR LEAKS ? \_\_\_\_\_
- BELTS TENTIONED PROPERLY ? \_\_\_\_\_
- EXPANTION JOINT CONDITION \_\_\_\_\_
- FAN HOUSING SECURE ? \_\_\_\_\_

38065

- TUNNEL ACCESS DOORS LEAKING ? \_\_\_\_\_

3) OUTSIDE CHECKS

- ANY COMPARTMENT DOORS LEAKING ? \_\_\_\_\_

4) SCREW CHECKS

- ALL COMPARTMENT INLET DAMPERS OPEN ? \_\_\_\_\_

- ALL HOPPER SCREWS RUNNING ? \_\_\_\_\_

- ANY BAD HOPPER BEARINGS ? \_\_\_\_\_

- ANY HOPPER SEALS LEAKING ? \_\_\_\_\_

- ALL BELTS ON ALL SCREWS ? \_\_\_\_\_

- ANY MATERIAL ON THE FLOOR  
INDICATING HOPPER TO WALL BREAKS ? \_\_\_\_\_

- ALL MAGNEHELICS READING ? \_\_\_\_\_

5) CHECK ALL CYCLONE TIPPERS

NAME/S \_\_\_\_\_ DATE \_\_\_\_\_

Sub-Work Order: 38067  
REVERSE AIR DC 466 & 594

Location: DAV314DC01  
466 BAGHOUSE RAW/KILN

Observations

Measurement

Date

1

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\* ROLLER MILL BAGHOUSE P.M. CHECKS

\*\*\*\*\*

\*\*\*\*\*

\*\*\*

\*\*\*\*\* TOOLS REQUIRED \*\*\*\*\*

1. SAFETY LOCK

2. DUST AND GAS PROTECTION

3. EYE PROTECTION

4. PERSONAL TOOLS

\*\*\*\*\* SAFETY HAZZARDS \*\*\*\*\*

1. SULFER GASSES

2. DUST

3. FANS AND SCREWS MAY START REMOTELY

\*TUNNEL WALK THROUGH\*

1) CHECK THAT ALL COILS ARE ON ALL SOLENOIDS

- ALL CYLINDERS ARE CONNECTED TO DAMPER SHAFTS

- ALL LOCKOUT BARS ARE SECURED AND OUT OF THE WAY

- LOOK FOR STUCK CYLINDERS

38065

- CHECK CLEANING CYCLE SEQUENCE OFFLINE
- DWELL TIME \_\_\_\_\_ SEC.
- REPRESSURIZING TIME \_\_\_\_\_ SEC.
- SETTLE TIME \_\_\_\_\_ SEC.
- REINFLATION TIME \_\_\_\_\_ SEC.
- TIME FROM OFFLINE TO ONLINE \_\_\_\_\_ SEC.
- CHECK CYLINDERS FOR AIR LEAKS
- CHECK SOLENOIDS FOR AIR LEAKS
- CHECK DOOR GASKETS FOR LEAKS
- OIL CYLINDERS MONTHLY ( MARVEL MYSTERY OIL INTO LINE )
- CHECK COALESSING FILTER INDICATOR

2) REPRESSURIZING FAN

- ARE BEARINGS HOT ? \_\_\_\_\_
- CHECK FOR VIBRATION \_\_\_\_\_
- ANY PEDISTAL CRACKS ? \_\_\_\_\_
- ACCESS DOOR LEAKS ? \_\_\_\_\_
- BELTS TENTIONED PROPERLY ? \_\_\_\_\_
- EXPANTION JOINT CONDITION \_\_\_\_\_
- FAN HOUSING SECURE ? \_\_\_\_\_
- TUNNEL ACCESS DOORS LEAKING ? \_\_\_\_\_

3) OUTSIDE CHECKS

- ANY COMPARTMENT DOORS LEAKING ? \_\_\_\_\_

4) SCREW CHECKS

- ALL COMPARTMENT INLET DAMPERS OPEN ? \_\_\_\_\_
- ALL HOPPER SCREWS RUNNING ? \_\_\_\_\_
- ANY BAD HOPPER BEARINGS ? \_\_\_\_\_
- ANY HOPPER SEALS LEAKING ? \_\_\_\_\_
- ALL BELTS ON ALL SCREWS ? \_\_\_\_\_
- ANY MATERIAL ON THE FLOOR
- INDICATING HOPPER TO WALL BREAKS ? \_\_\_\_\_
- ALL MAGNEHELICS READING ? \_\_\_\_\_

5) CHECK ALL CYCLONE TIPPERS

NAME/S \_\_\_\_\_ DATE \_\_\_\_\_

\_\_\_\_\_  
Date Completed

\_\_\_\_\_  
Completed By

\_\_\_\_\_  
Problem Cause:

\_\_\_\_\_  
Problem Remedy:

Operations

Measurement

Date

1 ( PM INSPECTION FOR PULSE JET DUST COLLECTORS

20 \*\*TOOLS REQUIRED\*\*

1. SAFETY LOCK
2. DUST MASK
3. EYE PROTECTION
4. PERSONAL TOOLS

30 \*\*SAFETY HAZZARDS\*\*

1. DUST
2. FANS & SCREWS MAY START REMOTELY

40 \*\*POWER ON INSPECTION\*\*

- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_ IN
  - 2) MANIFOLD AIR PRESSURE \_\_\_\_\_ PSI
  - 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)
- SEQUENCE: 1,3,5,2,4,6,8,

4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)

5) FAN VIBRATION \_\_\_\_\_ (GOOD,POOR,OK,ETC.)

6) BEARINGS HOT OR NOISY? \_\_\_\_\_

7) HOLES OR CRACKS IN HOUSING

OR PEDISTAL \_\_\_\_\_

8) CHECK FAN EXPANTION JOINT \_\_\_\_\_

9) CHECK FAN GUARD CONDITION \_\_\_\_\_

10) CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_

11) TIPPING VALVES FUNCTIONING

FREELY AND LUBRICATED \_\_\_\_\_

12) CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_

13) CHECK WALLS FOR CRACKS \_\_\_\_\_

14) VISABLE OPACITY \_\_\_\_\_

15) COMMENTS

50 \*\*POWER OFF INSPECTION\*\*

\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\*

1) CHECK FOR DUST BUILDUP ON TUBE SHEET

2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)

3) INSPECT HOPPER FOR BUILDUP

4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS

5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT

6) CHECK DOOR SEALS CONDITION AND PERFORMANCE

7) BLOW OUT MAGNEHELIC LINES

8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*

AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*

9) CHECK CAGE VENTURIES FOR WEAR HOLES

10) CHECK BLOWPIPE HOLES FOR WEAR

11) CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS

12) CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS

DIRECTLY OVER CENTER OF VENTURI

55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*

NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_

70 NOTIFY CONTROL ROOM WHEN INSPECTION IS

COMPLETE

38937

Sub-Work Order: 38938  
clinker & coal handling, - 611, 743, 70

Location: DAV318DC01  
611 COLLECTOR,DUST COOLER DUCTWORK

Operations	Measurement	Date
------------	-------------	------

1 PM INSPECTION FOR PULSE JET DUST COLLECTORS

20 \*\*TOOLS REQUIRED\*\*

- 1. SAFETY LOCK
- 2. DUST MASK
- 3. EYE PROTECTION
- 4. PERSONAL TOOLS

30 \*\*SAFETY HAZZARDS\*\*

- 1. DUST
- 2. FANS & SCREWS MAY START REMOTELY

40 \*\*POWER ON INSPECTION\*\*

- 1) DIFFERENTIAL PRESSURE \_\_\_\_\_ IN
- 2) MANIFOLD AIR PRESSURE \_\_\_\_\_ PSI
- 3) SOLENOIDS ENERGIZING \_\_\_\_\_ (IF NOT, WHICH ONES)
- SEQUENCE: 1,3,5,2,4,6,8,
- 4) DIAPHRAGMS HITTING \_\_\_\_\_ (IF NOT, WHICH ONES)
- 5) FAN VIBRATION \_\_\_\_\_ (GOOD,POOR,OK,ETC.)
- 6) BEARINGS HOT OR NOISY? \_\_\_\_\_
- 7) HOLES OR CRACKS IN HOUSING  
OR PEDISTAL \_\_\_\_\_
- 8) CHECK FAN EXPANTION JOINT \_\_\_\_\_
- 9) CHECK FAN GUARD CONDITION \_\_\_\_\_
- 10) CHECK FOR MATERIAL IN HOPPER \_\_\_\_\_
- 11)TIPPING VALVES FUNCTIONING  
FREELY AND LUBRICATED \_\_\_\_\_
- 12)CHECK PICKUP PIPES FOR HOLES \_\_\_\_\_
- 13)CHECK WALLS FOR CRACKS \_\_\_\_\_
- 14)VISABLE OPACITY \_\_\_\_\_
- 15)COMMENTS

50 \*\*POWER OFF INSPECTION\*\*

\*\*\*\*\* WHEN COLLECTOR IS OFF \*\*\*\*\*

- 1) CHECK FOR DUST BUILDUP ON TUBE SHEET
- 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.)
- 3) INSPECT HOPPER FOR BUILDUP
- 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS
- 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT
- 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE
- 7) BLOW OUT MAGNEHELIC LINES
- 8) CLEAN FAN RUNNER \*\*\* BE SURE TO \*\*\*\*\*
- AND CHECK FOR CRACKS OR DAMAGE \*\*\* LOCK OUT FAN \*\*\*\*\*
- 9) CHECK CAGE VENTURIES FOR WEAR HOLES
- 10)CHECK BLOWPIPE HOLES FOR WEAR

38937

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- 11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS
  - 12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS DIRECTLY OVER CENTER OF VENTURI
- 55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*

NAME/S: \_\_\_\_\_ DATE \_\_\_\_\_

70 NOTIFY CONTROL ROOM WHEN INSPECTION IS COMPLETE

---

W Order: 38963 Finish Mill & Belt DC, - 817, 822, 811, 889, 906,  
/ 926, & 826.

Status Code: APPR	Scheduled Start Date: 22-OCT-2002	Parent:
Reported Date: 17-Oct-2002	Scheduled Comp Date:	Sequence:
Problem Code:	Reported By: VBUKER	Originating WO:
	Labor Group: MECH	Crew ID:
		Supervisor STALDERR

Location: DAV416: Grinding System,Cement Grinding L1 /  
Equipment: : /  
Old Eq #:

Lead Craft	Work Type	Priority
	PM	4

Labor Code	Quantity	Planned Hours
MEMM Maintenance Mechanic	1	8.00

Item Number	Description	Planned Quantity	Bin
-------------	-------------	------------------	-----

Job Plan:	Tool Number	Planned Quantity	Description
PM-M-8HR MECH 8 hr Job Plan /			

Operations	Measurement	Date
10 Notify control room of work to be done if required		
20 Follow equipment LOTO procedure		
30 Be aware of potential hazards around your work site		
40 Complete required repair work		
50 Return equipment to operational condition at completion of work		
60 Notify control room when equipment is available for operation		
70 Remove any spare parts (used/unused) and restock or dispose of them		
80 Clean up work site (Rags, grease, used parts, etc.)		

38963

Sub-Work Order: 38964  
 Finish Mill & Belt DC, - 817, 822, 811,

Location: DAV416DC01  
 817 COLLECTOR,DUST FINISH MILL

Operations	Measurement	Date
1	PM INSPECTION FOR PULSE JET DUST COLLECTORS	
20	**TOOLS REQUIRED** 1. SAFETY LOCK 2. DUST MASK 3. EYE PROTECTION 4. PERSONAL TOOLS	
30	**SAFETY HAZZARDS** 1. DUST 2. FANS & SCREWS MAY START REMOTELY	
40	**POWER ON INSPECTION** 1) DIFFERENTIAL PRESSURE _____ IN 2) MANIFOLD AIR PRESSURE _____ PSI 3) SOLENOIDS ENERGIZING _____ (IF NOT, WHICH ONES) SEQUENCE: 1,3,5,2,4,6,8, 4) DIAPHRAGMS HITTING _____ (IF NOT, WHICH ONES) 5) FAN VIBRATION _____ (GOOD.POOR,OK,ETC.) 6) BEARINGS HOT OR NOISY? _____ 7) HOLES OR CRACKS IN HOUSING OR PEDISTAL _____ 8) CHECK FAN EXPANTION JOINT _____ 9) CHECK FAN GUARD CONDITION _____ 10 CHECK FOR MATERIAL IN HOPPER _____ 11)TIPPING VALVES FUNCTIONING FREELY AND LUBRICATED _____ 12)CHECK PICKUP PIPES FOR HOLES _____ 13)CHECK WALLS FOR CRACKS _____ 14)VISABLE OPACITY _____ 15)COMMENTS _____	
50	**POWER OFF INSPECTION** ***** WHEN COLLECTOR IS OFF *****  1) CHECK FOR DUST BUILDUP ON TUBE SHEET 2) CHECK BAG CONDITION ( DUST CAKE, HARD CRUST,HOLES ETC.) 3) INSPECT HOPPER FOR BUILDUP 4) CHECK SHEAVES AND BELTS FOR WEAR OR CRACKS 5) INSPECT SCREW, HANGER BEARINGS AND GUDION SHAFT 6) CHECK DOOR SEALS CONDITION AND PERFORMANCE 7) BLOW OUT MAGNEHELIC LINES 8) CLEAN FAN RUNNER *** BE SURE TO ***** AND CHECK FOR CRACKS OR DAMAGE *** LOCK OUT FAN ***** 9) CHECK CAGE VENTURIES FOR WEAR HOLES 10)CHECK BLOWPIPE HOLES FOR WEAR	

38963

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11)CHECK BLOWPIPE PINS, CLAMPS OR NUTS FOR LOOSENESS

12)CHECK THAT BLOWPIPE IS FLAT AND AIR HOLE IS  
DIRECTLY OVER CENTER OF VENTURI

55 RETURN EQUIPMENT TO OPERATIONAL CONDITION

60 \*\*SIGN-OFF\*\*

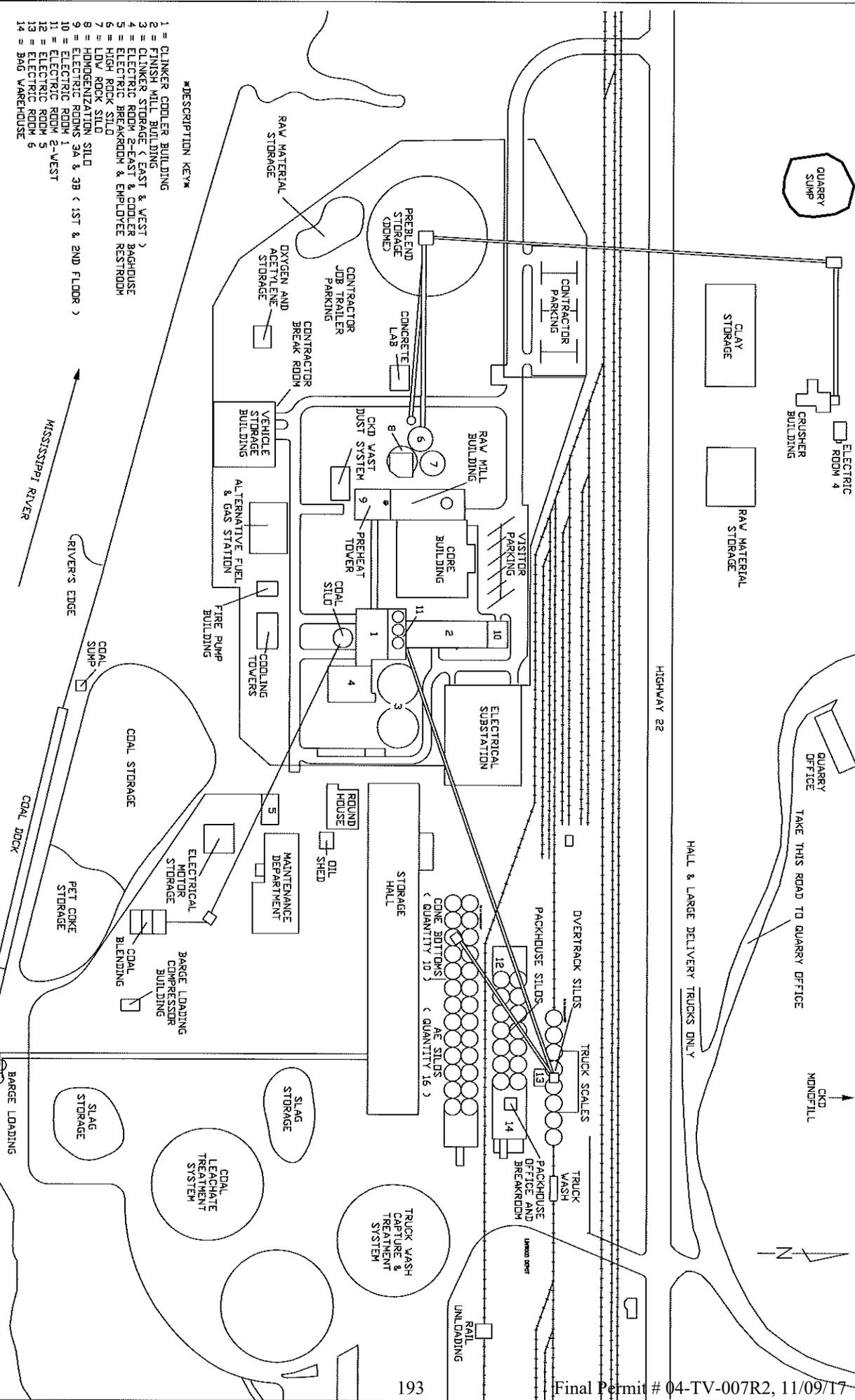
NAME/S; \_\_\_\_\_ DATE \_\_\_\_\_

70 NOTIFY CONTROL ROOM WHEN INSPECTION IS  
COMPLETE

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## APPENDIX F: PROCESS FLOW DIAGRAMS

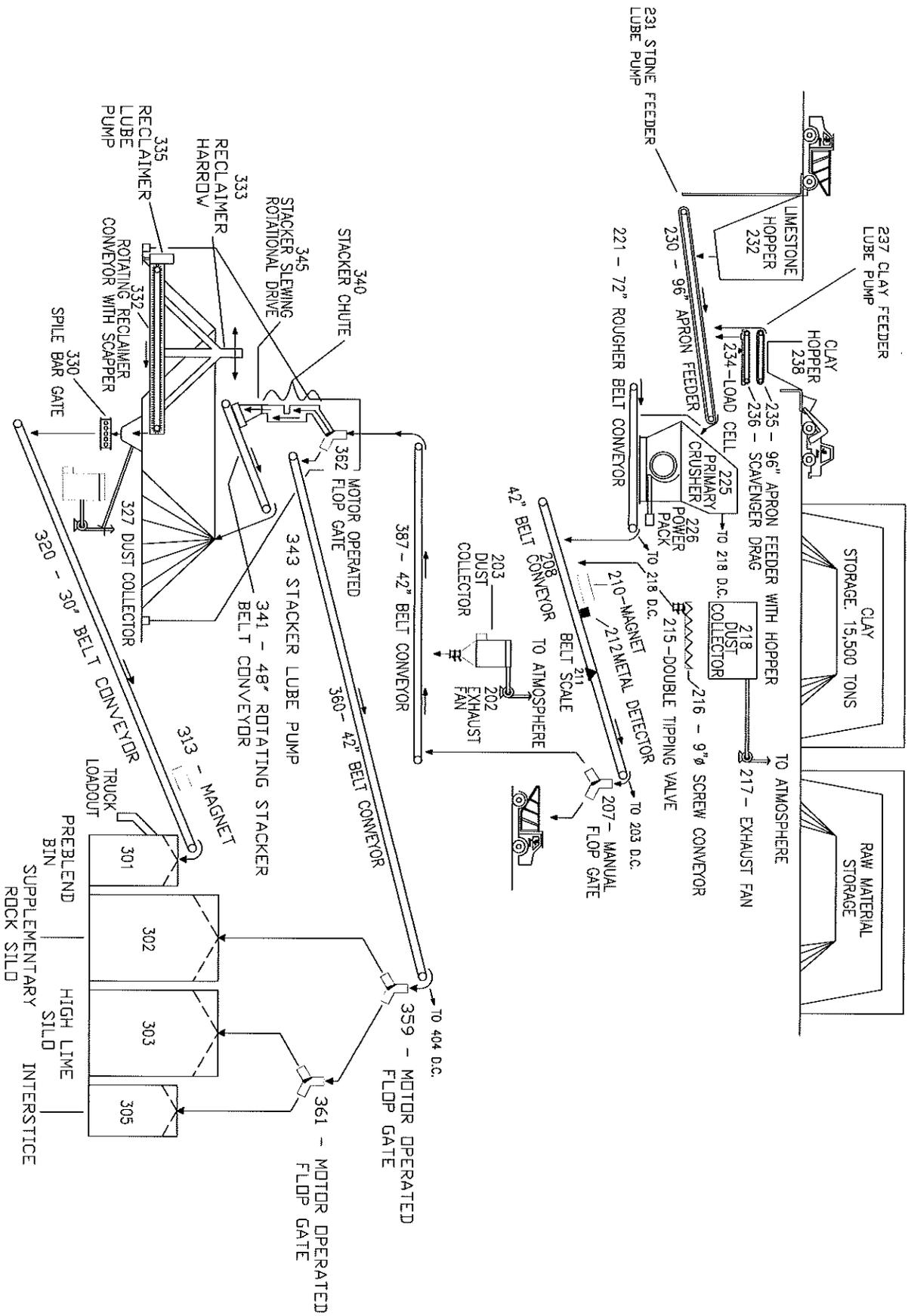
---



\*DESCRIPTION KEY\*

- 1 = CLINKER COOLER BUILDING
- 2 = FINISER MILL BUILDING
- 3 = FINISER STORAGE (EAST & WEST)
- 4 = ELECTRIC ROOM (EAST & FINISER BARRACKS)
- 5 = ELECTRIC BREAKDOWN & EMPLOYEE RESTROOM
- 6 = HIGH ROCK SILENCE BUILDING
- 7 = LDV ROCK SILENCE BUILDING
- 8 = HOMOGENIZATION SILENCE BUILDING
- 9 = ELECTRIC ROOMS 3A & 3B (1ST & 2ND FLOOR)
- 10 = ELECTRIC ROOM 2-WEST
- 11 = ELECTRIC ROOM 5
- 12 = ELECTRIC ROOM 6
- 14 = BAG WAREHOUSE

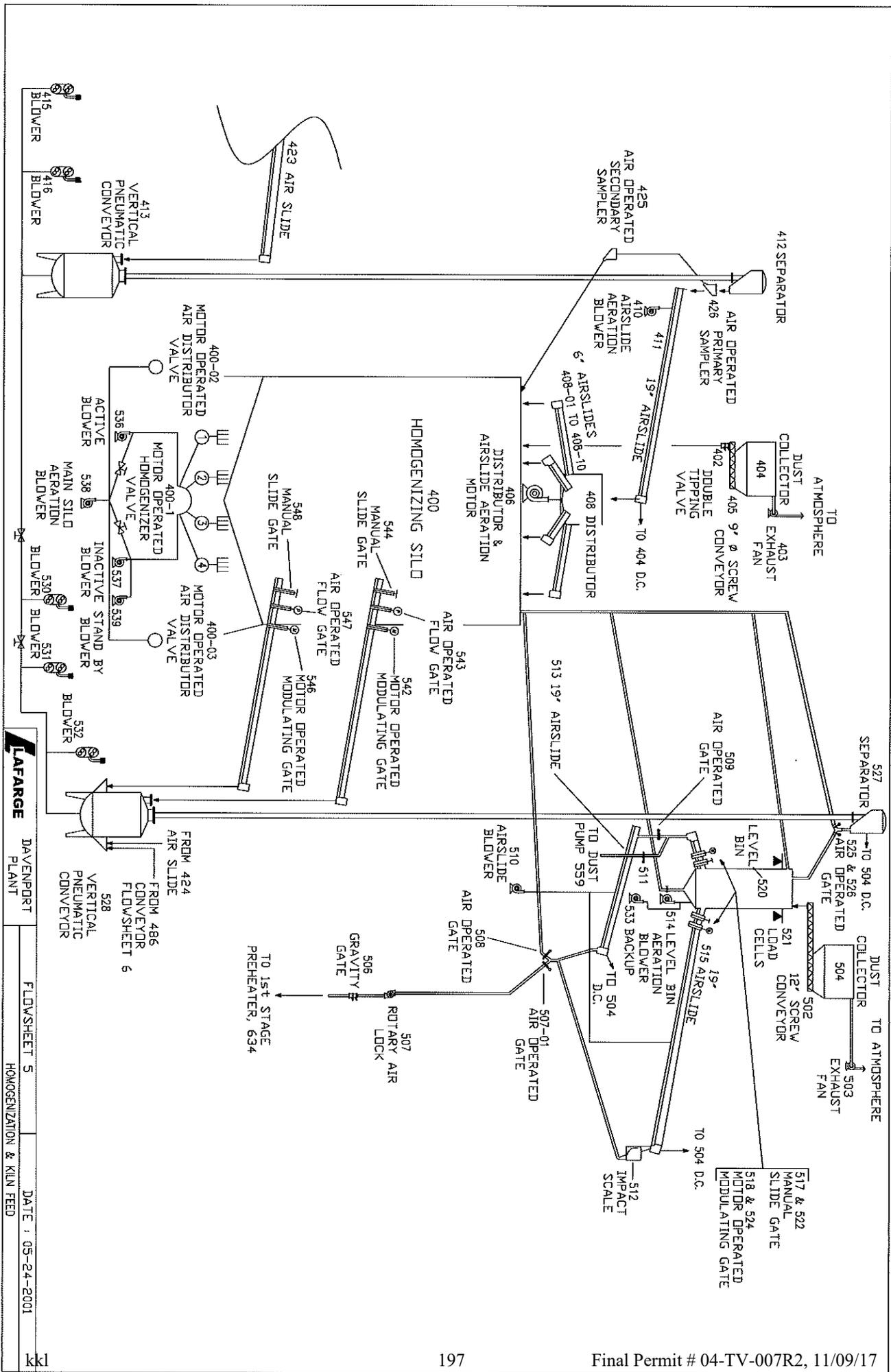




**LAFARGE** DAVENPORT PLANT FLOWSHEET 3 DATE: 05-24-2001  
 RAW MATERIAL CRUSHING AND STORAGE

kl





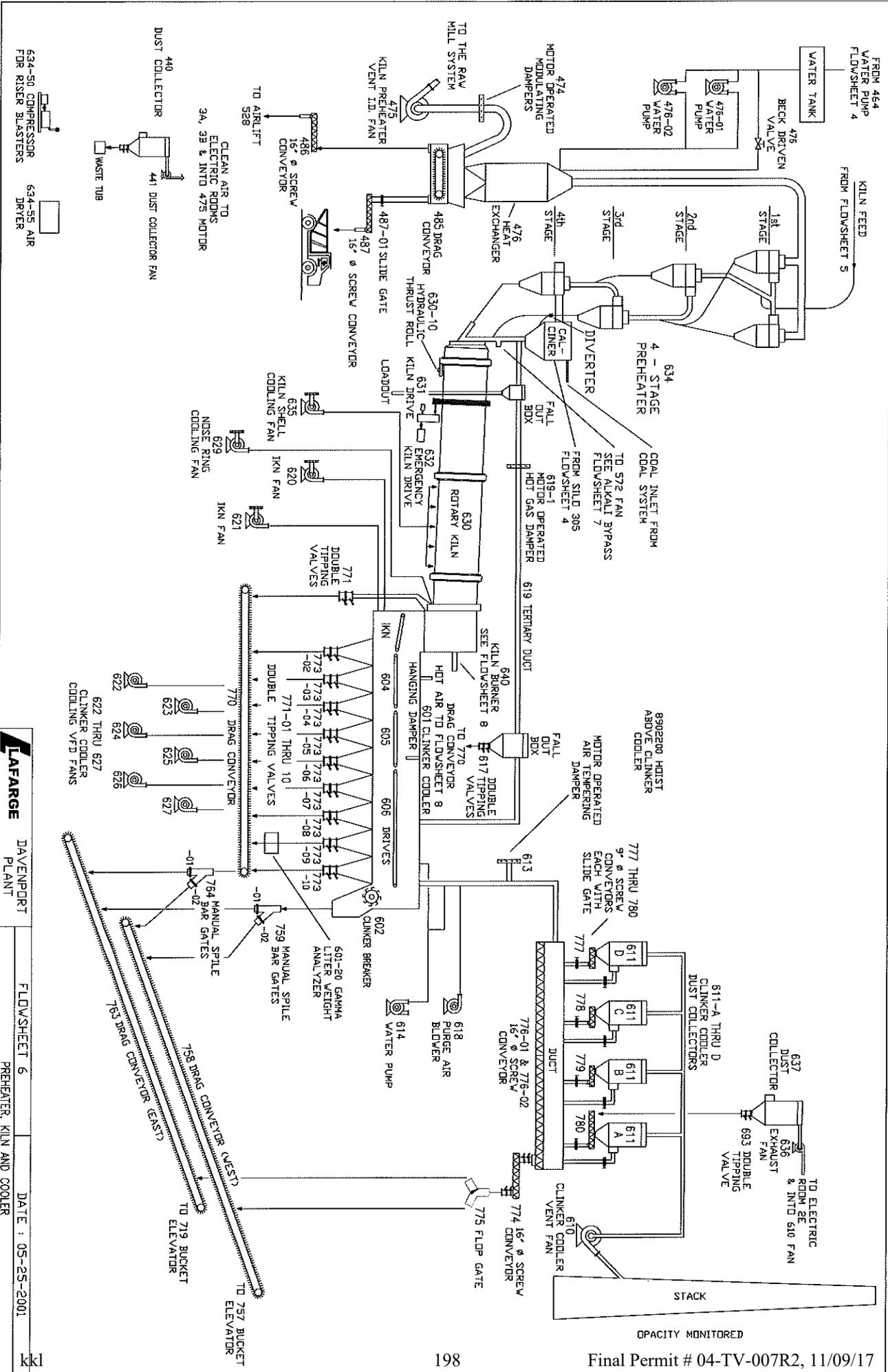
DAVENPORT PLANT

FLWSHEET 5

HOMOGENIZATION & KILN FEED

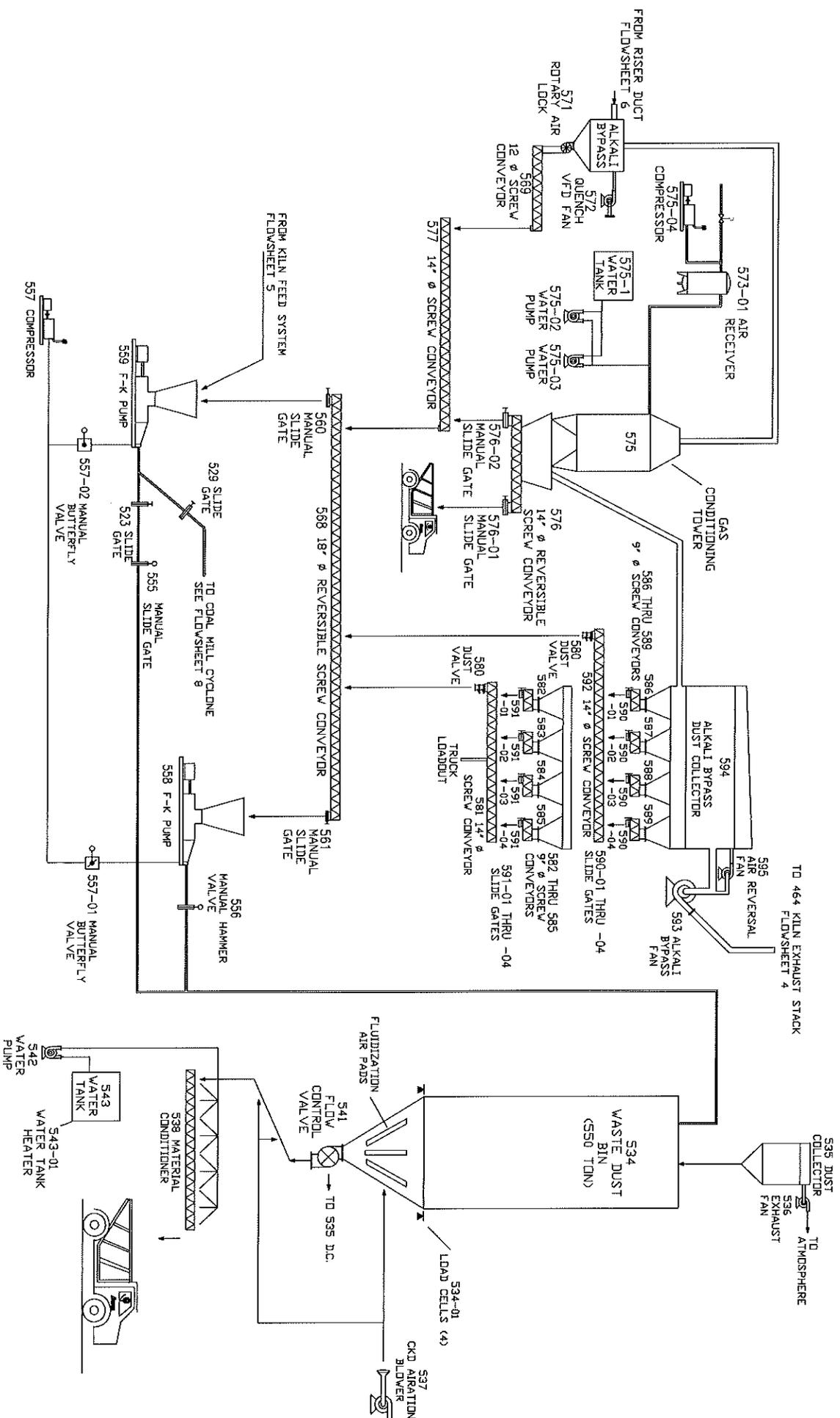
DATE: 05-24-2001

kk1



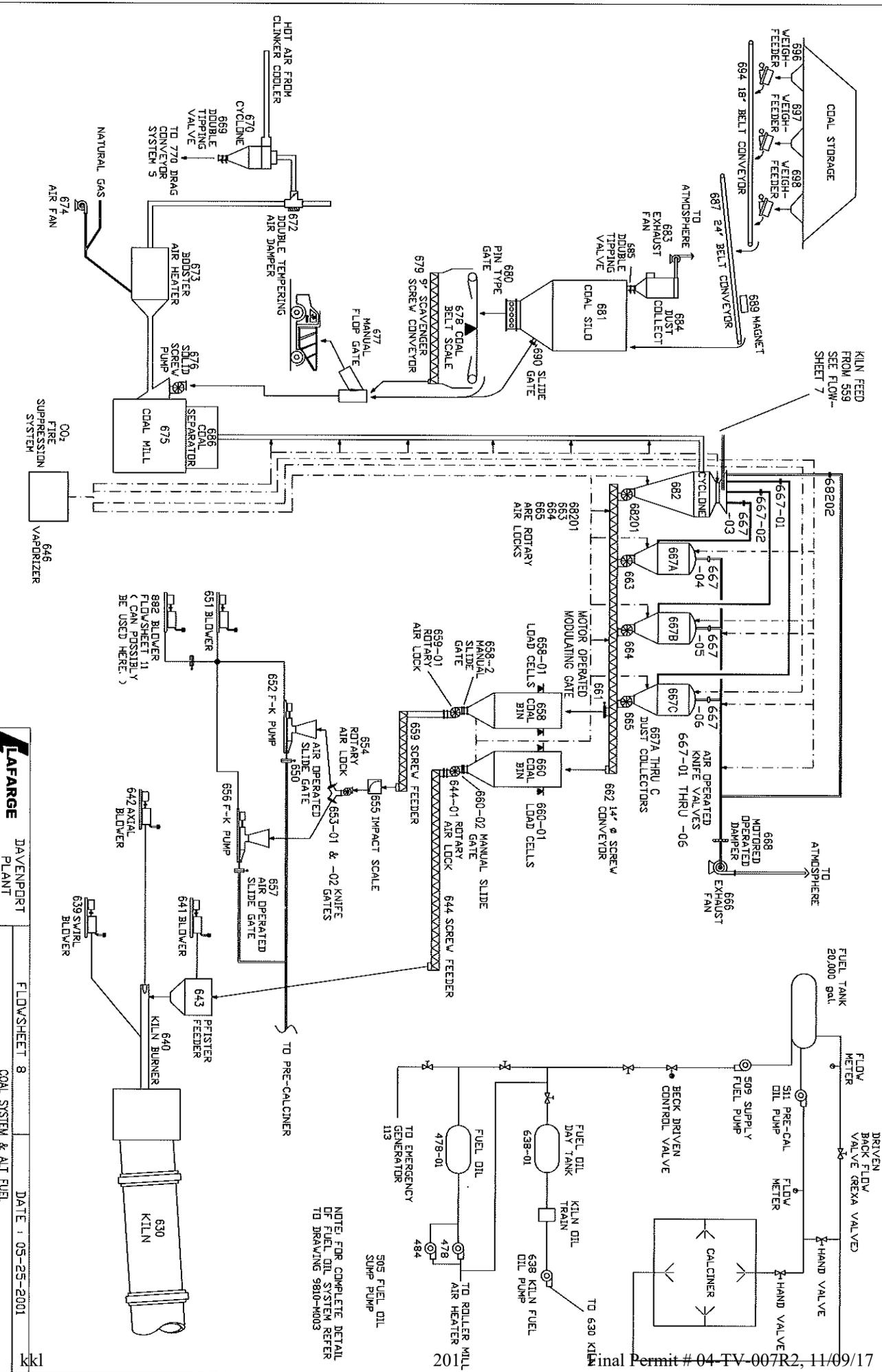
**LAFARGE** DAVENPORT PLANT FLOWSHEET 6 PREHEATER, KILN AND COOLER DATE: 05-25-2001  
 kkl





**LAFARGE**  
DAVENPORT PLANT

FLOW SHEET 7  
ALKALI BYPASS AND DUST HANDLING  
DATE: 10-25-99



KILN FEED  
FROM 559  
SEE FLOW-  
SHEET 7

NATURAL GAS  
674  
AIR FAN

TO PRE-CALCINER

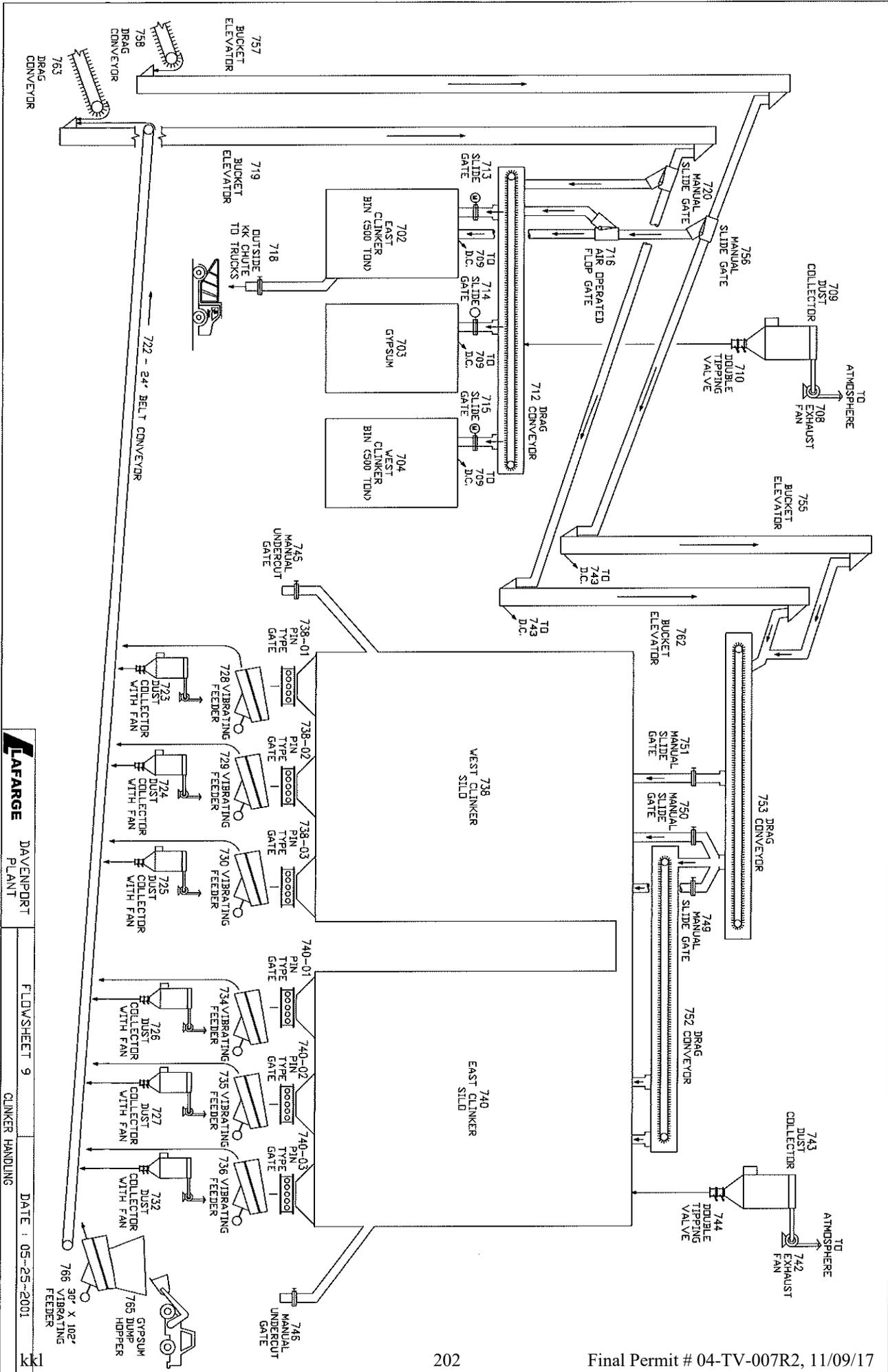
TO ROLLER MILL

**LAFARGE** DAVENPORT PLANT FLOW SHEET 8 COAL SYSTEM & ALT FUEL DATE: 05-25-2001

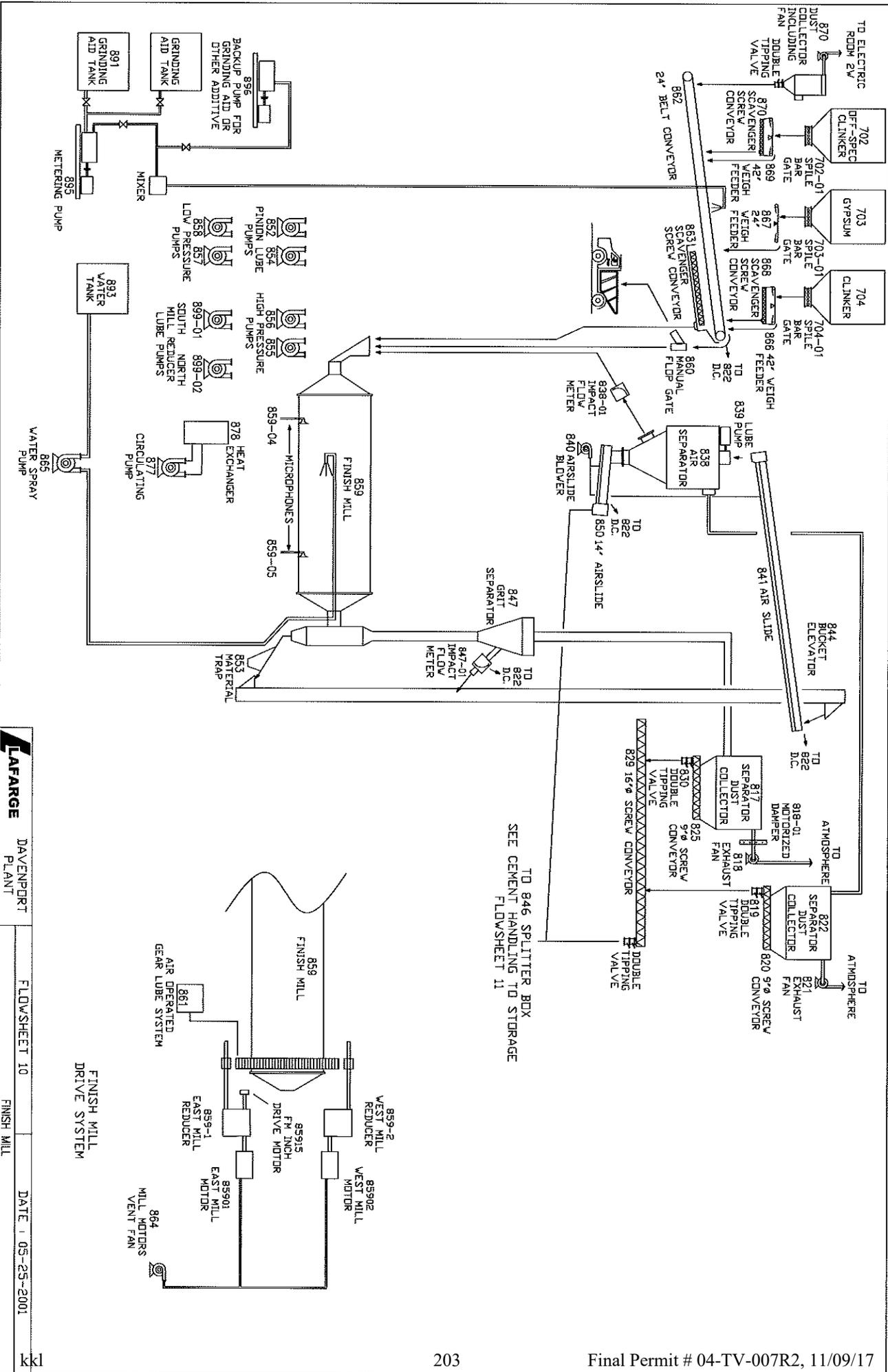
NOTE: FOR COMPLETE DETAIL OF FUEL DIL. SYSTEM REFER TO DRAWING 9810-M003

201

Final Permit # 04 TV-007R2, 11/09/17



**LAFARGE** DAVENPORT PLANT FLOWSHEET 9 CLINKER HANDLING DATE: 05-25-2001

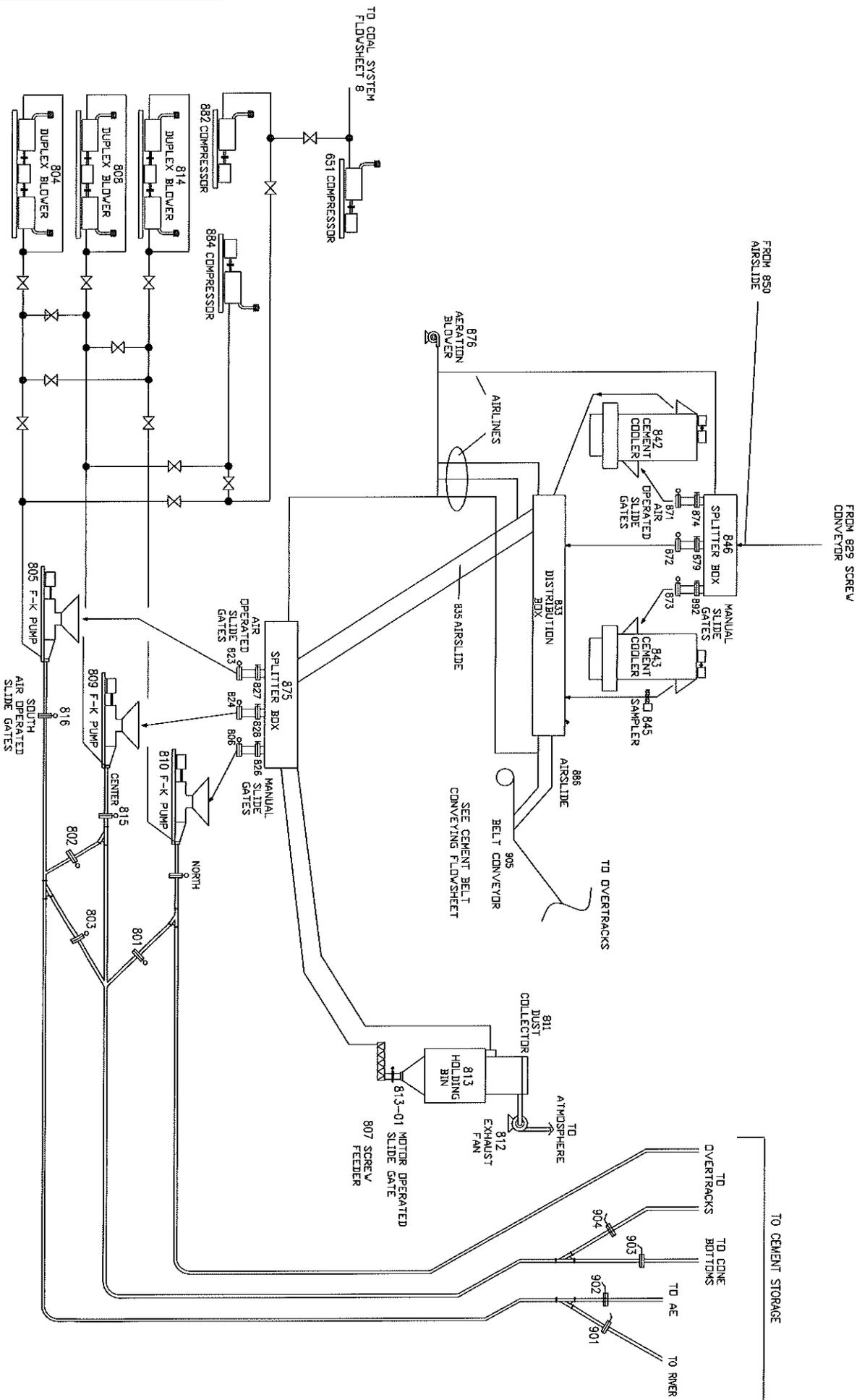


**LAFARGE**  
DAVENPORT PLANT

FLOW SHEET 10  
FINISH MILL

DATE: 05-25-2001

kk1

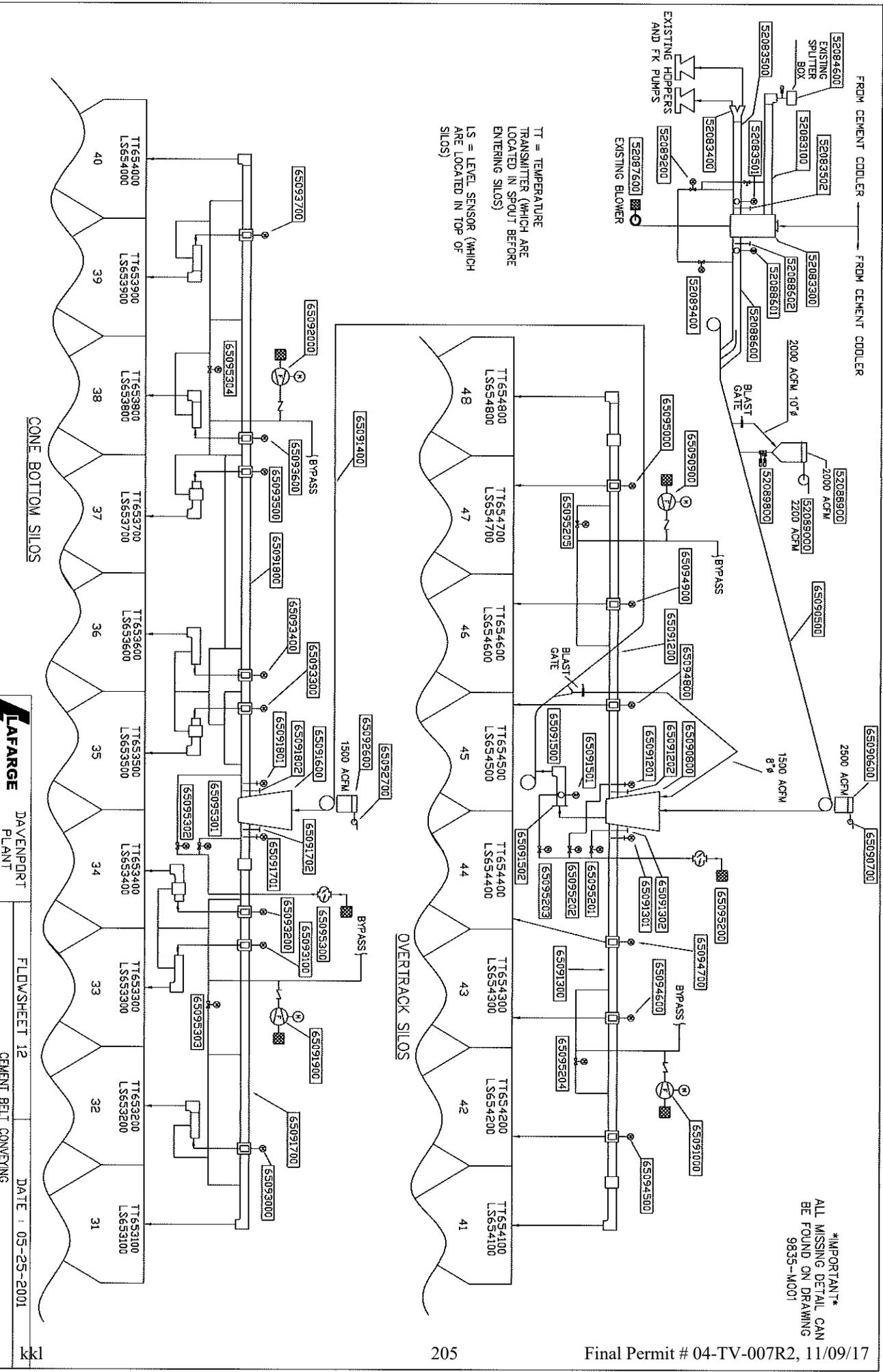


**LAFARGE** DAVENPORT PLANT

FLOW SHEET 11 DATE : 05-25-2001

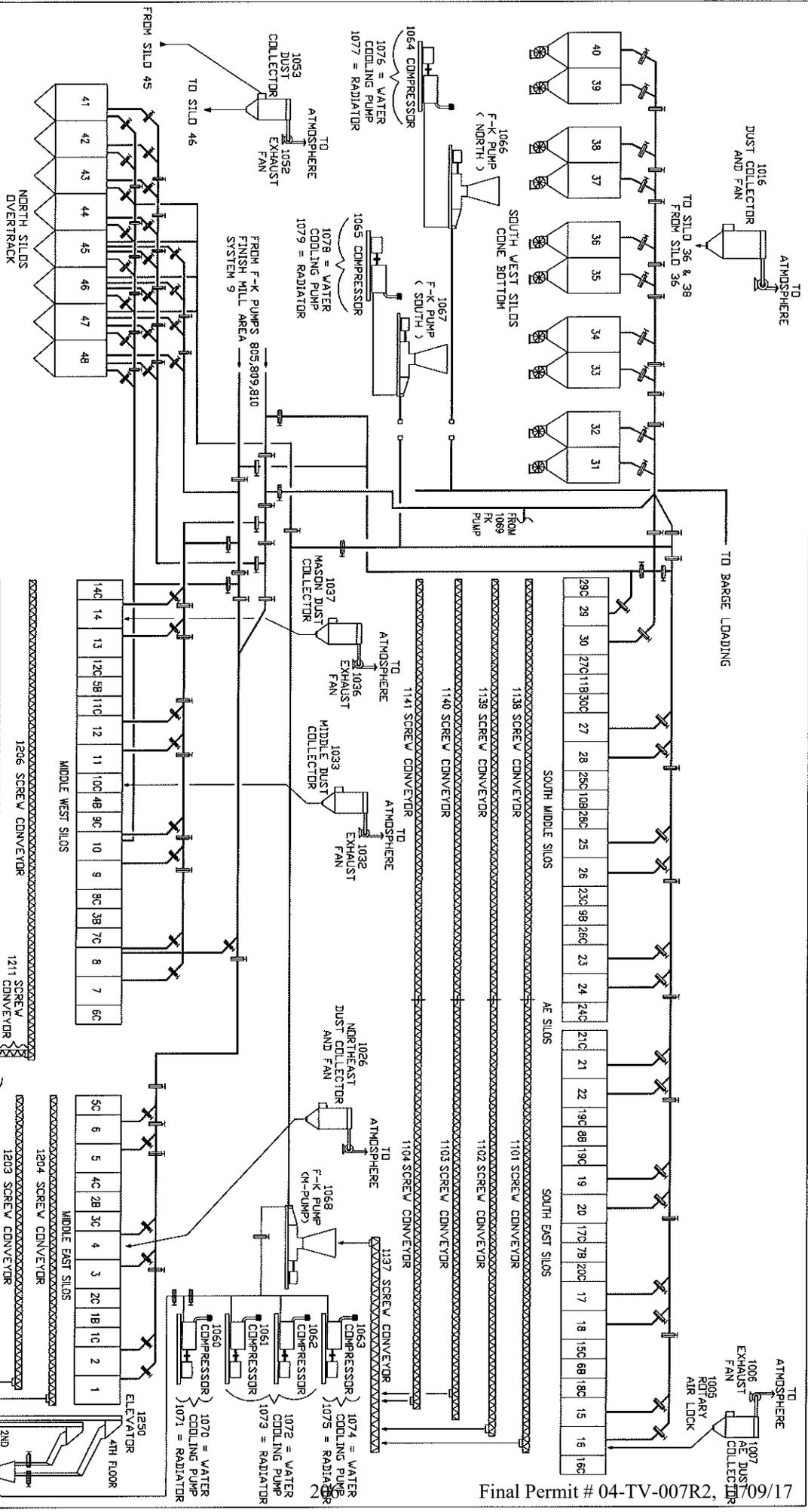
CEMENT HANDLING TO STORAGE

kk



TT = TEMPERATURE TRANSMITTER (WHICH ARE LOCATED IN SPOUT BEFORE ENTERING SILOS)  
 LS = LEVEL SENSOR (WHICH ARE LOCATED IN TOP OF SILOS)

\*IMPORTANT\*  
 ALL MISSING DETAIL CAN BE FOUND ON DRAWING 9835-M001

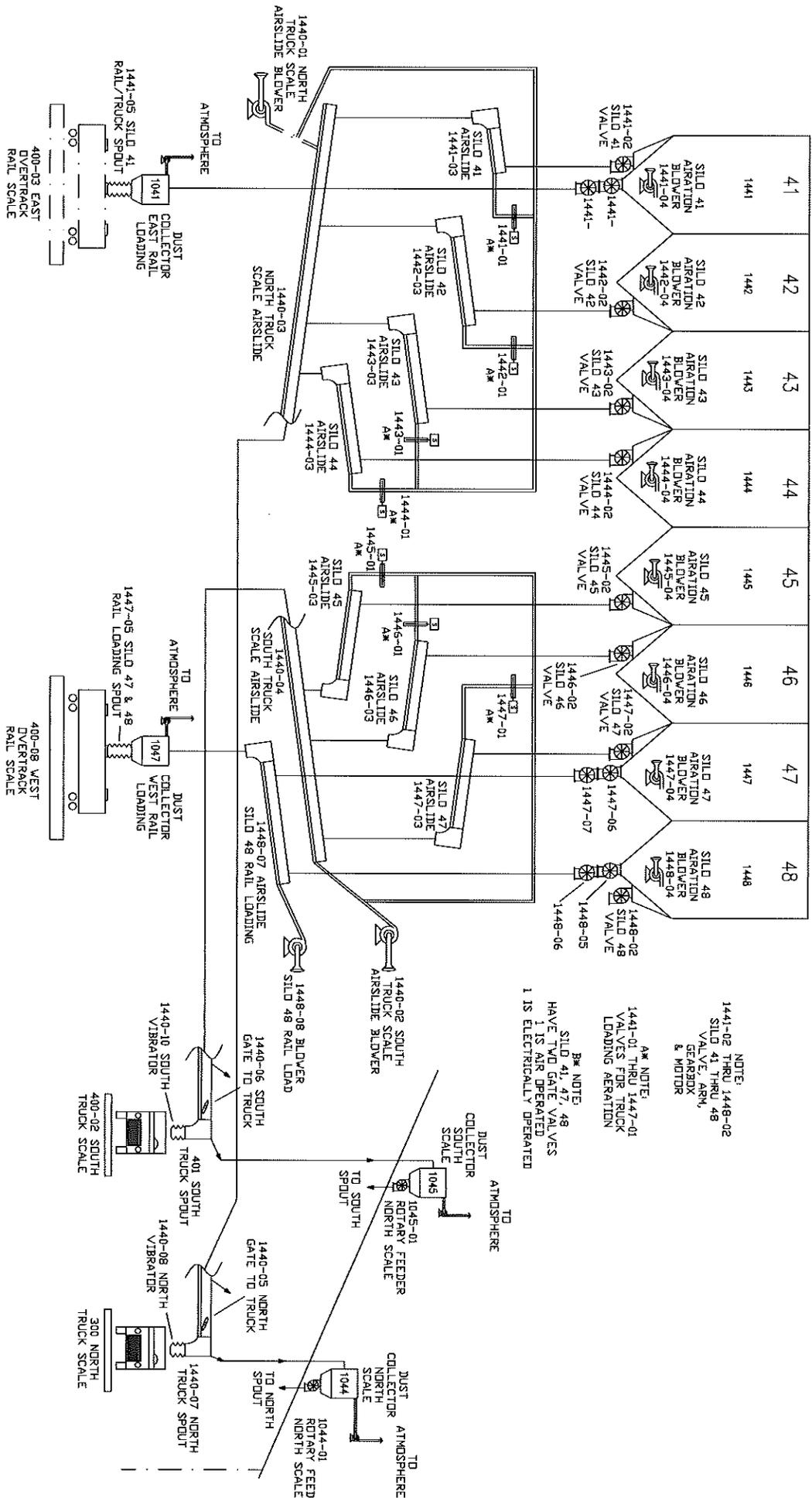


**LAFARGE** DAVENPORT PLANT

FLWSHEET 13 DATE: 05-25-2001

CEMENT STORAGE AND RECLAIM

NORTH SILDS  
DIVERTRACK



NOTE:  
1441-02 THRU 1448-02  
SILD 41 THRU 48  
VALVE, APV,  
GEARBOX  
& MOTOR

AW NOTE:  
1441-01 THRU 1447-01  
VALVES FOR TRUCK  
LOADING AERATION

BW NOTE:  
SILD 41, 47, 48  
HAVE TD GATE VALVES  
1 IS AIR OPERATED  
1 IS ELECTRICALLY OPERATED



# Appendix C: CAM Plans

## CAM Plan for 0218-1, 0218-0 and 0218-C Baghouse

### Emissions Unit

Emission Unit: Primary Crusher (0218-1)  
 Facility: Continental Cement Company  
 Pollutant: Opacity, PM<sub>10</sub> & PM  
 Emission Control Technique: Baghouse  
 Control Device Identification Number: 0218-C  
 Emission Egress Point Identification Number: 0218-0

### Applicable Requirements:

Pollutant: PM<sub>10</sub>  
 Emission Limit(s): 5.59 lb/hr  
 Authority for Requirement: DNR Construction Permit 78-A-218-S7

Pollutant: Particulate Matter (PM)  
 Emission Limit(s): 0.1 gr/dscf  
 Authority for Requirement: DNR Construction Permit 78-A-218-S7  
 567 IAC 23.3(2)"a"

### Monitoring Approach:

Applicable Requirements	PM Limits	Opacity
General Monitoring Approach	Pressure drop readings	Visible emissions observations
Daily	Check dust collector differential Pressure	
Weekly		Method 22 visible emissions observations are performed to ensure no visible emissions during the material handling operations of this unit
Monthly		Inspect cleaning sequence, air delivery system, and hopper functions to insure equipment is operating properly.
Quarterly		Inspect bags for leaks and wear.
Semi-Annually		All baghouse components are inspected every 6 months to insure proper operation.

<b>Applicable Requirements</b>	<b>PM Limits</b>	<b>Opacity</b>
Indicator Range/Source	Pressure Range: 4 to 5 inches of water column.	Presence of visible emissions.
Data Collection Frequency	Daily: Pressure range observations  Quarterly and Semiannually: Equipment inspections.	Monthly: Visible emissions observations.  Quarterly and Semiannually: Equipment inspections.

Recordkeeping	<p>Daily logs of differential pressure readings.</p> <p>Weekly logs of emissions observations.</p> <p>All daily, monthly, and quarterly and semi-annually required inspections and maintenance. The date, time and the location of the bag in relationship to the other bags must document bag replacement.</p> <p>All corrective actions resulting from compliance indicators and inspections and maintenance.</p> <p>Excursion, indicator opacity exceedence, and excess emissions reports.</p> <p>Maintenance and inspection records will be kept for at least five (5) years and be available to the IDNR upon request.</p>
QA/QC	<p>The baghouse and monitoring equipment will be operated and maintained according to manufacturer's recommendations and/or as outlined in the above requirements.</p> <p>Continental Cement Company will maintain an adequate inventory of spare parts.</p> <p>Visible emissions observer trainer per Method 22.</p>

**CAM Plan for 0466-1, 0466-2, 0466-C, and 0594-C Baghouses**

**Emissions Unit**

Emission Unit: Preheater/Precalciner/Kiln/Raw Mill System (0466-1) and Alkali Bypass (0466-2)  
 Facility: Continental Cement Company  
 Pollutant: Opacity, PM<sub>10</sub> & PM  
 Emission Control Technique: Baghouses  
 Control Device Identification Numbers: 0466-C and 0594-C  
 Emission Egress Point Identification Number: 0466-0

**Applicable Requirements:**

Pollutant: PM<sub>10</sub>  
 Emission Limit(s): 0.516 lb/ton clinker  
 Authority for Requirement: DNR Construction Permit 99-A-579-P6

Pollutant: Particulate Matter (PM)  
 Emission Limit(s): 0.516 lb/ton clinker  
 Authority for Requirement: DNR Construction Permit 99-A-579-P6  
 567 IAC 23.3(2)"a"

**Monitoring Approach:**

<b>Applicable Requirements</b>	<b>PM Limits</b>	<b>Opacity</b>
General Monitoring Approach	Pressure drop readings	Visible emissions observations
Daily	Check dust collector differential Pressure	
Weekly		Method 22 visible emissions observations are performed to ensure no visible emissions during the material handling operations of this unit
Monthly		Inspect cleaning sequence, air delivery system, and hopper functions to insure equipment is operating properly.
Quarterly		Inspect bags for leaks and wear.
Semi-Annually		All baghouse components are inspected every 6 months to insure proper operation.

<b>Applicable Requirements</b>	<b>PM Limits</b>	<b>Opacity</b>
Indicator Range/Source	Pressure Range: 4 to 5 inches of water column.	Presence of visible emissions.
Data Collection Frequency	Daily: Pressure range observations  Quarterly and Semiannually: Equipment inspections.	Monthly: Visible emissions observations.  Quarterly and Semiannually: Equipment inspections.

Recordkeeping	<p>Daily logs of differential pressure readings.</p> <p>Weekly logs of emissions observations.</p> <p>All daily, monthly, and quarterly and semi-annually required inspections and maintenance. The date, time and the location of the bag in relationship to the other bags must document bag replacement.</p> <p>All corrective actions resulting from compliance indicators and inspections and maintenance.</p> <p>Excursion, indicator opacity exceedence, and excess emissions reports.</p> <p>Maintenance and inspection records will be kept for at least five (5) years and be available to the IDNR upon request.</p>
QA/QC	<p>The baghouse and monitoring equipment will be operated and maintained according to manufacturer's recommendations and/or as outlined in the above requirements.</p> <p>Continental Cement Company will maintain an adequate inventory of spare parts.</p> <p>Visible emissions observer trainer per Method 22.</p>

**CAM Plan for 0535-1, 0535-0 and 0535-C Baghouse**

**Emissions Unit**

Emission Unit: CKD Handling System (0535-1)  
 Facility: Continental Cement Company  
 Pollutant: Opacity, PM<sub>10</sub> & PM  
 Emission Control Technique: Baghouse  
 Control Device Identification Number: 0535-C  
 Emission Egress Point Identification Number: 0535-0

**Applicable Requirements:**

Pollutant: PM<sub>10</sub>  
 Emission Limit(s): 0.55 lb/hr  
 Authority for Requirement: DNR Construction Permit 97-A-789-S2

Pollutant: Particulate Matter (PM)  
 Emission Limit(s): 0.1 gr/dscf  
 Authority for Requirement: DNR Construction Permit 97-A-789-S2  
 567 IAC 23.3(2)"a"

**Monitoring Approach:**

<b>Applicable Requirements</b>	<b>PM Limits</b>	<b>Opacity</b>
General Monitoring Approach	Pressure drop readings	Visible emissions observations
Daily	Check dust collector differential Pressure	
Weekly		Method 22 visible emissions observations are performed to ensure no visible emissions during the material handling operations of this unit
Monthly		Inspect cleaning sequence, air delivery system, and hopper functions to insure equipment is operating properly.
Quarterly		Inspect bags for leaks and wear.
Semi-Annually		All baghouse components are inspected every 6 months to insure proper operation.

<b>Applicable Requirements</b>	<b>PM Limits</b>	<b>Opacity</b>
Indicator Range/Source	Pressure Range: 4 to 5 inches of water column.	Presence of visible emissions.
Data Collection Frequency	Daily: Pressure range observations  Quarterly and Semiannually: Equipment inspections.	Monthly: Visible emissions observations.  Quarterly and Semiannually: Equipment inspections.

Recordkeeping	<p>Daily logs of differential pressure readings.</p> <p>Weekly logs of emissions observations.</p> <p>All daily, monthly, and quarterly and semi-annually required inspections and maintenance. The date, time and the location of the bag in relationship to the other bags must document bag replacement.</p> <p>All corrective actions resulting from compliance indicators and inspections and maintenance.</p> <p>Excursion, indicator opacity exceedence, and excess emissions reports.</p> <p>Maintenance and inspection records will be kept for at least five (5) years and be available to the IDNR upon request.</p>
QA/QC	<p>The baghouse and monitoring equipment will be operated and maintained according to manufacturer's recommendations and/or as outlined in the above requirements.</p> <p>Continental Cement Company will maintain an adequate inventory of spare parts.</p> <p>Visible emissions observer trainer per Method 22.</p>

**CAM Plan for 0667-1, 0667-0 and 0667-C Baghouse**

**Emissions Unit**

Emission Unit: Coal Mill (0667-1)  
 Facility: Continental Cement Company  
 Pollutant: Opacity, PM<sub>10</sub> & PM  
 Emission Control Technique: Baghouse  
 Control Device Identification Number: 0667-C  
 Emission Egress Point Identification Number: 0667-0

**Applicable Requirements:**

Pollutant: PM<sub>10</sub>  
 Emission Limit(s): 5.76 lb/hr  
 Authority for Requirement: DNR Construction Permit 78-A-232-S3

Pollutant: Particulate Matter (PM)  
 Emission Limit(s): 0.1 gr/dscf  
 Authority for Requirement: DNR Construction Permit 78-A-232-S3  
 567 IAC 23.3(2)"a"

**Monitoring Approach:**

<b>Applicable Requirements</b>	<b>PM Limits</b>	<b>Opacity</b>
General Monitoring Approach	Pressure drop readings	Visible emissions observations
Daily	Check dust collector differential Pressure	
Weekly		Method 22 visible emissions observations are performed to ensure no visible emissions during the material handling operations of this unit
Monthly		Inspect cleaning sequence, air delivery system, and hopper functions to insure equipment is operating properly.
Quarterly		Inspect bags for leaks and wear.
Semi-Annually		All baghouse components are inspected every 6 months to insure proper operation.

Applicable Requirements	PM Limits	Opacity
Indicator Range/Source	Pressure Range: 4 to 5 inches of water column.	Presence of visible emissions.
Data Collection Frequency	Daily: Pressure range observations  Quarterly and Semiannually: Equipment inspections.	Monthly: Visible emissions observations.  Quarterly and Semiannually: Equipment inspections.

Recordkeeping	<p>Daily logs of differential pressure readings.</p> <p>Weekly logs of emissions observations.</p> <p>All daily, monthly, and quarterly and semi-annually required inspections and maintenance. The date, time and the location of the bag in relationship to the other bags must document bag replacement.</p> <p>All corrective actions resulting from compliance indicators and inspections and maintenance.</p> <p>Excursion, indicator opacity exceedence, and excess emissions reports.</p> <p>Maintenance and inspection records will be kept for at least five (5) years and be available to the IDNR upon request.</p>
QA/QC	<p>The baghouse and monitoring equipment will be operated and maintained according to manufacturer's recommendations and/or as outlined in the above requirements.</p> <p>Continental Cement Company will maintain an adequate inventory of spare parts.</p> <p>Visible emissions observer trainer per Method 22.</p>

## Appendix D: 40 CFR Part 60 Subpart DDDD Emission Limitations and Compliance Demonstration Methods

**Table 8 to Subpart DDDD of Part 60—Model Rule—Emission Limitations That Apply to Waste-Burning Kilns After May 20, 2011 [Date to be specified in state plan.]<sup>1</sup>**

For the air pollutant	You must meet this emission limitation <sup>2</sup>	Using this averaging time	And determining compliance using this method <sup>4</sup>
Cadmium	0.0014 milligrams per dry standard cubic meter <sup>3</sup>	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Performance test (Method 29 at 40 CFR part 60, appendix A-8).
Carbon monoxide	110 (long kilns)/790 (preheater/precalciner) parts per million dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at 40 CFR part 60, appendix A-4).
Dioxins/furans (total mass basis)	1.3 nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Dioxins/furans (toxic equivalency basis)	0.075 nanograms per dry standard cubic meter <sup>3</sup>	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Hydrogen chloride	3.0 parts per million dry volume <sup>3</sup>	3-run average (collect a minimum volume of 1 dry standard cubic meter) or 30-day rolling average if HCl CEMS is being used	Performance test (Method 321 at 40 CFR part 63, appendix A of this part) or HCl CEMS if a wet scrubber or dry scrubber is not used, as specified in §60.2710(j).
Lead	0.014 milligrams per dry standard cubic meter <sup>3</sup>	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Performance test (Method 29 at 40 CFR part 60, appendix A-8).
Mercury	0.011 milligrams per dry standard cubic meter	30-day rolling average	Mercury CEMS or sorbent trap monitoring system (performance specification 12A or 12B, respectively, of appendix B of this part), as specified in §60.2710(j).

Oxides of nitrogen	630 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A-4).
Particulate matter filterable	13.5 milligrams per dry standard cubic meter	30-day rolling average	PM CPMS (as specified in §60.2710(x)).
Sulfur dioxide	600 parts per million dry volume	3-run average (for Method 6, collect a minimum of 20 liters; for Method 6C, 1 hour minimum sample time per run)	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A-4).

<sup>1</sup>The date specified in the state plan can be no later than 3 years after the effective date of approval of a revised state plan or February 7, 2018.

<sup>2</sup>All emission limitations are measured at 7 percent oxygen (except for CEMS data during startup and shutdown), dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit.

<sup>3</sup>If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §60.2720 if all of the other provisions of §60.2720 are met. For all other pollutants that do not contain a footnote “3”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing, with the exception of annual performance tests to certify a CEMS or PM CPMS.

<sup>4</sup>Alkali bypass and in-line coal mill stacks are subject to performance testing only, as specified in 60.2710(y)(3). They are not be subject to the CEMS, sorbent trap or CPMS requirements that otherwise may apply to the main kiln exhaust.

## Appendix E: Weblinks to Standards

- A. 40 CFR Part 60 Subpart A-*General Provisions*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.a>
- B. 40 CFR Part 60 Subpart F-*Standards of Performance for Portland Cement Plants*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.f>
- C. 40 CFR Part 60 Subpart Y-*Standards of Performance for Coal Preparation Plants*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.y>
- D. 40 CFR Part 60 Subpart DDDD-*Standards of Performance for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.dddd>
- F. 40 CFR Part 61 Subpart E - *National Emission Standards for Hazardous Air Pollutants for Mercury*  
<https://www.ecfr.gov/cgi-bin/text-idx?SID=b24e38c2e97db4baec982828e8929d3a&mc=true&node=sp40.10.61.e&rgn=div6>
- G. 40 CFR Part 63 Subpart A-*General Provisions*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.10.63.a>
- H. 40 CFR Part 63 Subpart LLL-*National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.12.63.lll>
- I. 40 CFR Part 63 Subpart ZZZZ-*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.14.63.zzzz>
- J. 40 CFR Part 63 Subpart DDDDD- *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, And Institutional Boilers and Process Heaters*  
<https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=&mc=true&r=PART&n=pt40.15.63#sp40.15.63.ddddd>