

## Title V Federal Operating Permit Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Roanoke Cement Company	Registration Number:	20232
Facility Name:	Roanoke Cement Company	AFS ID Number:	51-023-0003
Facility Location:	555 Catawba Road Botetourt County, Virginia	Permit Number:	VA-20232

<u>January 1, 2004</u>
Effective Date
<u>March 26, 2008</u>
Amended Date
<u>December 31, 2008</u>
Expiration Date

<u>Steven A. Dietrich, P.E.</u>	<u>Signature Date</u>
Regional Director	

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## I. Facility Information

**Permittee**

Roanoke Cement  
6071 Catawba Road  
Troutville, Virginia 24175

**Responsible Official**

Kevin Baird  
Plant Manager

**Facility**

Roanoke Cement  
6071 Catawba Road  
Botetourt County, Virginia

**Contact Person**

Lance Clark  
Environmental Manager  
(540) 966-6854

**Registration Number:** 20232

**AFS Identification Number:** 51-023-0003

**Facility Description:** SIC Code 3241 – Establishments primarily engaged in manufacturing hydraulic cement, including portland, natural, masonry, and pozzolana cements

The facility quarries raw material, high grade limestone, low grade limestone (referred to as shale) and clay onsite. The rock is crushed at the crushing plants and then layered in the stacker reclaim building where a small amount of screened clay is added. The stacking produces a homogeneous blend when it is reclaimed and sent to the raw mills. Only small adjustments to the mix are required to produce quality cement. The raw mills then pulverize the stone. The pulverized stone is sintered in a 6 stage preheater/precalciner dry process kiln which is direct fired primarily with pulverized coal. The clinker from the kiln is then cooled in the clinker cooler for handling. The clinker is ground in the finish mills and mixed with other additives, such as gypsum. Most of the finished product is shipped by rail car. The remainder is either bulk loaded onto trucks or bagged at the packing plant and shipped out.

## II. Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Fuel Burning Equipment - NA.</b>							
<b>Raw Material Processing</b>							
B01-B17	B04, B-5, B12, B13, B16, Q1a & Q1b	Limestone crushing & screening	900 tph	Sly 141 type 360 Micropul Sly 158 type 360 Micropul 1215-10-20 Micropul GE Energy GE Energy	2220, 2025, 2240, 2250, 101155, Q1aBH & Q1bBH	PM & PM <sub>10</sub>	10/26/2007
B25-B36	B29, B30 & B35	Shale crushing plant	500 tph	Micropul 78-360 Micropul Micropul	3660, 3543 & 3585	PM & PM <sub>10</sub>	10/26/2007
<b>Kiln Feed System &amp; Recycle Dust</b>							
C01-C16	C09, C11, C15, 30, 32, 31A & 36	Rock Sampling	60 tph	Micropul 100S-8-20 Micropul 25S-8-30 Micropul 100S-8-30 Micropul 55S-8-55 Micropul 23S-8-105 Micropul 55-8-55 Micropul 25S-6-30	101956, 101960, 101979, 101980, 101287 & 101995	PM & PM <sub>10</sub>	10/26/2007
C21-C37		Limestone & additives storage/transfer	800 tph			PM & PM <sub>10</sub>	10/26/2007
C41-C47	C41 & C45	Raw mix blending, stacker reclaim	900 tph	Micropul Micropul	101186 & 102122	PM & PM <sub>10</sub>	10/26/2007

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
D01-D48	D03, D42, D47 & D48	Raw meal feed/proportioning	400 tph	Micropul 80-F-2 Micropul 80-F-3 Micropul 80-F-3 Micropul 100S-8-20	102944, 104908, 103908 & 102926	PM & PM <sub>10</sub>	10/26/2007
RS		Raw Silos Nos. 1 - 13	165 tph			PM & PM <sub>10</sub>	10/26/2007
F04-H12	G10, G11, 73, 75, G12B, H02 & 63A	Homogenizing & kiln feed	320 tph	Micropul 64S-8-20 Micropul Micropul 144S-6-20 Micropul 100S-6-20 BHA ROABAB002 Micropul  DCE DLM-V10/10F1	104968, 104967, 110002, 110990,  503205 & 63A	PM & PM <sub>10</sub>	10/26/2007
<b>No. 5 Kiln System (alkyli bypass &amp; inline raw mills)</b>							
E1	Main	Raw mill No. 1	250 tph	Environmental Elements (ESP)	E04	PM, SO <sub>2</sub> , CO, NO <sub>x</sub> & VOC	10/26/2007
E2	Main	Raw mill No. 2	250 tph	Environmental Elements (ESP)	E54	PM, SO <sub>2</sub> , CO, NO <sub>x</sub> & VOC	10/26/2007
K	Main	No. 5 precalciner Kiln	184 tph	Solios Environmental SONAIR Pulse-jet	K34 13853	PM, SO <sub>2</sub> , CO, NO <sub>x</sub> & VOC	10/26/2007
<b>Clinker Cooler</b>							
C	K43	Clinker cooler	184 tph	Airpol Inc. IF400/H2P/340- I88130/IT/K/L2D	505300	PM & PM <sub>10</sub>	10/26/2007

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Coal/Coke Grinding &amp; Handling</b>							
S01-S86, CBP1 & CBP2	S23, S63, S27, S67, 110, 113, CBP1, CBP2	Coal/Coke grinding & handling (including coal mill air heater)	30 tph	Micropul Micropul Micropul Micropul Micropul 100S-8-20 Micropul36S- Bin Vent Bin Vent	504240, 504340, 504265, 504365, 205912 & 504182	PM & PM <sub>10</sub>	10/26/2007
<b>Clinker Storage &amp; Conveying</b>							
L01-M52	L02, L27, L31, M55 & M57	Clinker Storage & conveying	184 tph	Micropul Micropul 80S-12-20A Micropul Dalimatic V45/15M  Micropul 64S-6-20	506107, 520196, 506112, 506125 & 506165	PM & PM <sub>10</sub>	10/26/2007
<b>Clinker Grinding</b>							
FM5	501 & 502	Finish grinding mill No. 5	20 tph	Norfelt HE14-6 Norfelt HE5-6	426111 & 426110	PM & PM <sub>10</sub>	10/26/2007
FM6	601 & 602	Finish grinding mill No. 6	20 tph	Norfelt HE13-6 Norfelt HE5-6	427111 & 427110	PM & PM <sub>10</sub>	10/26/2007
FM9	150A, 154 & 156	Finish grinding mill No. 9	20 tph	Griffen JV-36-9X Envirotech HE-5-6 Envirotech HE-18-6	507160, 507963 & 507965	PM & PM <sub>10</sub>	10/26/2007

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
FM10	136, 138, 140, 142A, 143, 145, 147, 147A, 148A & 148B	Finish grinding mill No. 10	182 tph	Fuller 640S8 DCE DLM V45/15F10 DCE DLM V45/15F10 ZZ Conv. 13008-20-TA Fuller 224C10 Fuller 6Z128 Fuller 18Z128 ZZ C.CF42-39(37)-20 Donaldson/Day232RF12  3606-20TRD BV	520144, 520150, 520157, 506195, 520182, 520257, 520270, 520301, 304700 & 1488	PM & PM <sub>10</sub>	10/26/2007
FM11	1101, 1102, 1103, 104, FAS, LS & PS	Finish grinding mill No. 11	100 tph	Fuller 390512 Fuller 2M690512 Fuller 100C10 Fuller 100C10 Sly SBR-45-8 Sly SBR-45-8 Sly SBR 48	1101, 1102, 1103, 104, FAS, LS & PS	PM & PM <sub>10</sub>	10/26/2007
<b>Cement Storage</b>							
SG1	159 & 161	Finish silos group No. 1	200 tph	Sly SBR-78-10-BV Sly SBR-78-10-BV	634110 & 634120	PM & PM <sub>10</sub>	10/26/2007
SG2	164	Finish silos group No. 2	200 tph	Sly STJ-1011-10	635050	PM & PM <sub>10</sub>	10/26/2007
SG3	168	Finish silos group No. 3	200 tph	Sly STJ-1011-10	637030	PM & PM <sub>10</sub>	10/26/2007
SG4	172 & 174	Finish silos group No. 4	200 tph	Micropul 100S-10-20 Micropul 100S-10	637030 & 637110	PM & PM <sub>10</sub>	10/26/2007
SG5	179, 181, 183 & 186	Finish silos group No. 5	600 tph	Micropul 100S-8-20 Micropul 100S-8-20 Micropul 100S-8-20 (See CBL)	709114, 709115, 709116	PM & PM <sub>10</sub>	10/26/2007
<b>Cement Bulk Load Out</b>							
CBL	186, 188, 190 & 191B	Rail/ truck loading (Group 5 silos & dribble bin)	640 tph	Midwest MCP8-2.0 Midwest MCP8-2.0 Midwest MCP8-2.0 Fuller 87-20080-336	751002, 751003, 751004 & 750020	PM & PM <sub>10</sub>	10/26/2007

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Cement Bagging/Packing</b>							
PH	PH1, PH2 & PH3	Cement Packing	113 tph	Sly STJ-1311-10 Sly STJ-1311-10 Sly STJ-1311-10	BPH1, BPH2 & BPH3	PM & PM <sub>10</sub>	10/26/2007
<b>Waste Dust Storage &amp; Handling</b>							
K26-K72	K61, 70A, K66 & K73		150 tph	Micropul 48S-8-20 Micropul 80S-8-20 Micropul 48S-8-20 Micropul 81S-8	505087, 506106, 503777 & 121280	PM & PM <sub>10</sub>	10/26/2007

\*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement.

### **III. Fuel Burning Equipment Requirements – NA**

### **IV. Process Equipment Requirements – Raw Material processing**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. A current copy of 40 CFR Part 60 Subpart OOO has been attached. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.671.

#### **A. Limitations**

1. Particulate emissions from the Raw Material Processing System shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)

2. Unless otherwise specified, dust emission controls shall include the following or equivalent as a minimum:
- a. Dust from drills, shot piles, material handling, screens, crushers, load-outs and traffic areas shall be controlled by wet suppression or equivalent (as approved by the DEQ). There shall be no exemption from this requirement due to cold weather. The wet suppression spray systems shall be operated at optimum design, and pressure gauges or flow meters shall be installed (with adequate access for inspection of the measuring device) to indicate system operating pressures or flow rates.
  - b. All material being stockpiled outside shall be kept moist to control dust during storage and handling or covered at all times to minimize emissions.
  - c. Haul roads shall be controlled by wet suppression.

(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 16 of 10/26/2007 PSD permit as amended)

3. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-80-110, 9 VAC 5-170-160 & Condition 51 of 10/26/2007 PSD permit as amended)

4. Emissions from the operation of the Raw Material Processing System from primary crushing through feed to the raw mills, shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	5.47 lbs/hr	23.9 tons/yr
PM-10	0.005 gr/acf	5.19 lbs/hr	22.8 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 40 of 10/26/2007 PSD permit as amended)

5. The hourly and annual throughputs of the Raw Material Processing System (limestone and shale crushing) shall not exceed 2,300 tons per hour and 4,200,200 tons per year, respectively, calculated monthly as the sum of each consecutive 12 month period.

(9 VAC 5-80-1180, 9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 21 of 10/26/2007 PSD permit as amended)

6. The existing limestone crushing and screening system (B01-B17) shall be replaced with a new limestone crushing and screening system. The old system may be retained as a back-up system. Sustained simultaneous use of both systems may require a permit.

(9 VAC 5-80-1180, 9 VAC 5-50-390, 9 VAC 5-80-110 & Condition 19 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

### **C. Recordkeeping (See Facility Wide Conditions)**

### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

### **E. Reporting (See General Conditions)**

## **V. Process Equipment Requirements – Kiln Feed System & Recycle Dust**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. A current copy of 40 CFR Part 60 Subpart F has been attached. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F, 9 VAC 5-80-110 & Condition 36 of 10/26/2007 PSD permit as amended)
2. Particulate emissions from the No. 5 Kiln Feed and Storage System shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.

(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)

3. The annual throughput of the Kiln Feed System from the raw mills to the No. 5 kiln, including recycle dust, shall not exceed 2,258,932 tons, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 22 of 10/26/2007 PSD permit as amended)
4. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)
5. Emissions from the operation of the Kiln Feed System, including reactivation of thirteen old silos refr. RS, shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	1.44 lbs/hr	6.3 tons/yr
PM-10	0.005 gr/acf	1.37 lbs/hr	5.98 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 41 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

#### **C. Recordkeeping (See Facility Wide Conditions)**

#### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

#### **E. Reporting (See General Conditions)**

### **VI. Process Equipment Requirements – No. 5 Kiln System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants and 40 CFR Part 63 Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry. Current copies of 40 CFR Part 60 Subpart F and 40 CFR Part 63 Subpart LLL have been attached. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61, or 40 CFR 63.2 and 40 CFR 63.1341, as applicable.

#### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable National Emissions Standards for Hazardous Air Pollutants for Source Categories; Portland Cement Manufacturing Industry (40 CFR Part 63 Subpart LLL), in accordance with the compliance schedule set forth under these standards. The facility

- has determined that it is considered an area source and the facility is required to obtain a Title V permit. Under this determination, only the No. 5 Kiln is considered an affected facility per 40 CFR Part 63 Subpart LLL. Should the facility's area source status change, then the facility will need to comply with the major source requirements and submit an application to amend this permit.  
(9 VAC 5-50-260, 9 VAC 5-60-70, 9 VAC 5-80-110 & Condition 39 of 10/26/2007 PSD permit as amended)
2. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F)  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended)
  3. Particulate emissions from the No. 5 Kiln System, raw mills, and alkali bypass (main stack) shall be controlled by electrostatic precipitators or fabric filters. The electrostatic precipitators shall be provided with adequate access for inspection. Water spray gas conditioning systems shall be operated as needed by the ESPs to meet the opacity and particulate emission limits, especially when one or both raw mills are off-line, by ensuring optimum gas conditions for the ESPs such as approximately equivalent gas conditioning as normally achieved when both raw mills are on-line. Each electrostatic precipitator shall be equipped with devices to continuously measure the temperature, voltage and current to the electrostatic precipitators. The fabric filters shall be equipped with devices to continuously measure the differential pressure drop across the fabric filters. The measuring devices shall be installed in accessible locations and shall be maintained by the permittee such that the devices are in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 3 of 10/26/2007 PSD permit as amended)
  4. SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO emissions from the No. 5 Kiln System shall be controlled by process control, to include proper operation and maintenance of the Kiln and pollution control devices controlling Kiln emissions.  
(9 VAC 5-80-1180 D and 9 VAC 5-50-260, 9 VAC 5-80-110 & Conditions 4, 5, 6 & 7 of 10/26/2007 PSD permit as amended)
  5. SO<sub>2</sub> shall also be controlled by the operation of a process lime injection system as needed to help meet the SO<sub>2</sub> emission limits. This is mainly to be used when one or both raw mills are off-line, and should be operated to provide approximately equivalent SO<sub>2</sub> control as normally achieved when both raw mills are on-line.  
(9 VAC 5-80-1180 D and 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 4 of 10/26/2007 PSD permit as amended)
  6. Particulate/opacity, SO<sub>2</sub>, NO<sub>x</sub>, and VOC emissions from the No. 5 Kiln System shall be controlled, when normal controls are not adequate, by reducing production as

- much as needed to achieve compliance with the emission limits for the No. 5 kiln system (main stack).  
(9 VAC 5-80-1180 D, 9 VAC 5-170-160, 9 VAC 5-20-30, 9 VAC 5-80-110 & Condition 8 of 10/26/2007 PSD permit as amended)
7. The approved fuels for the No. 5 kiln are: (a) coal, (b) petroleum coke substituting for up to 50% of the coal Btu (typically 0.9107 tons of petroleum coke per ton of coal, at typical 12,750 Btu/lb for coal and typical 14,000 Btu/lb for petroleum coke), (c) synthetic fuel (Synfuel) substituting for up to 25% of the coal, (d) No. 2 fuel oil primarily for heat-up and flame stabilization and (e) natural gas primarily for heat-up, flame stabilization, and as an alternate fuel. The petroleum coke fuel approval is subject to additional restrictions in this permit: see conditions VI.A.8, 9, 12 & 13 below. A change in the fuels may require a permit to modify and operate.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 28 of 10/26/2007 PSD permit as amended)
  8. Petroleum coke fuel in the No. 5 kiln shall be fired in the hot end of the kiln; no petroleum coke shall be fired in the precalciner portion of the kiln.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 29 of 10/26/2007 PSD permit as amended)
  9. The No. 5 kiln shall consume no more than 162,500 tons of coal per year, 73,996 tons of petroleum coke per year, and no more than 162,500 tons per year of coal plus petroleum coke combined per year and no more than 40,625 tons of synthetic coal (Synfuel) per year, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 30 of 10/26/2007 PSD permit as amended)
  10. The sulfur content of the coal to be burned in the No. 5 kiln shall not exceed 2.0 percent by weight per shipment and 1.5 percent by weight annual average, calculated monthly as the average of each consecutive 12 month period. The permittee shall maintain records (supplier fuel analysis) of all coal shipments purchased. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 31 of 10/26/2007 PSD permit as amended)
  11. As an option to Roanoke Cement Co., coal with a higher sulfur content than the typical 1.0% sulfur content coal for the No. 5 kiln is permit approved, subject to DEQ agreement, if a representative comparison demonstration of SO<sub>2</sub> emissions from the main stack verifies that there is "no statistically significant increase" of SO<sub>2</sub> emissions to the atmosphere when burning the higher sulfur coal (currently approved for 1.5% annual average and 2.0% maximum per shipment). The comparison demonstration shall use this plant's modified No. 5 kiln system, typical raw material/additives, standard formulations, and each fuel. The details of the comparison demonstration

- shall be arranged with the Director, West Central Regional Office. Limited trial burns with the higher sulfur coal to establish the process before a comparison demonstration may be arranged with the Director, West Central Regional Office. (9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 32 of 10/26/2007 PSD permit as amended)
12. The sulfur content of the petroleum coke to be burned in the No. 5 kiln shall not exceed 4.0 percent by weight per shipment and 3.5 percent by weight annual average, calculated monthly as the average of each consecutive 12 month period. The permittee shall maintain records (supplier fuel analysis) of all coke shipments purchased. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 33 of 10/26/2007 PSD permit as amended)
  13. Before petroleum coke with a higher sulfur content than permitted for coal may be used as fuel for the No. 5 kiln system, a representative comparison demonstration of SO<sub>2</sub> emissions from the main stack shall be measured, using this plant's modified kiln, typical raw material/additives, standard formulations and each fuel, to verify that there is "no statistically significant increase" of SO<sub>2</sub> emissions to the atmosphere when burning petroleum coke. The details of the comparison demonstration shall be arranged with the Director, West Central Regional Office. Limited trial burns with petroleum coke to establish the process before a comparison demonstration may be arranged with the Director, West Central Regional Office.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 34 of 10/26/2007 PSD permit as amended)
  14. The approved fuel for the raw mills is No. 2 fuel oil and natural gas. A change in the fuels may require a permit to modify and operate. (The raw mills will normally be heated by the No. 5 kiln exhaust.)  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 35 of 10/26/2007 PSD permit as amended)
  15. The annual throughput of the No. 5 Kiln System shall not exceed 1,300,000 tons of clinker produced, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 23 of 10/26/2007 PSD permit as amended)
  16. No hazardous, solid or regulated medical (infectious) waste may be processed through the No. 5 Kiln System without being approved through the DEQ permitting process including a public comment period/public hearing. This permit does not allow for the processing/use of these materials.

The permittee shall notify the Director, West Central Regional Office of any proposed change in materials to be processed through the No. 5 Kiln System prior to

the change to determine if a permit may be required. Notification shall include identification of the material and the constituents of the material, identification as to its classification as a waste by VDEQ-Waste Division or Federal EPA, the proposed first day of use, the anticipated maximum hourly and yearly throughput, calculations of the predicted maximum hourly and yearly emissions of the constituents and their derivatives, MSDS data and ACGIH Handbook references. Also describe the unloading, storage, handling, any processing, emission controls, and the maximum hourly and yearly throughputs and emissions from these operations. Additional information may be required.

For the purpose of this condition, use of the following substances are acceptable without further review provided they have not been contaminated to the extent they qualify as a hazardous waste, solid waste or regulated medical waste by VDEQ-Waste Division or Federal EPA regulations:

- a. Naturally occurring: limestone, shale, cement rock and equivalent raw materials,
- b. Naturally occurring: sand and equivalent high silica substances,
- c. Gypsum, and naturally occurring: high calcium limestone and equivalent high calcium substances,
- d. Steel mill scale (iron oxide) from carbon steel mill facilities and equivalent naturally occurring high iron/iron oxide ores,
- e. Naturally occurring: bauxite and equivalent high alumina substances,
- f. Bottom ash and fly ash,
- g. Other raw materials/additives that DEQ determines are exempt from review, including toxic emissions evaluation,
- h. Specific fuels as listed elsewhere in this permit.
- i. Granulated iron/pig iron blast furnace slag glass.
- j. Spent foundry sand, containing no greater toxic concentrations than represented by the November 1997 permit application for spent foundry sand from the Graham-White foundry in Salem.

(9 VAC 5-170-160, 9 VAC 5-50-200, 9 VAC 5-80-110 & Condition 2 of 10/26/2007 PSD permit as amended)

17. Visible emissions from the No. 5 kiln system/raw mills/alkali bypass (main stack) shall not exceed twenty percent (20%) opacity as determined by the required

continuous opacity monitor. This condition applies at all times except during startup, shutdown and malfunction.

(9 VAC 5-170-160, 9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-50-400, 40 CFR 60.62(a)(2), 9 VAC 5-80-110 & Condition 52 of 10/26/2007 PSD permit as amended)

18. Emissions from the operation of the No. 5 Kiln System including the kiln hot end/preheater/precalciner, raw mill pulverizers and alkali bypass (main stack) shall not exceed the limits specified below:

Total Suspended Particulate	0.30 lbs/ton kiln feed	83.9 lbs/hr	297.5 tons/yr
PM-10	0.255 lbs/ton kiln feed	71.31 lbs/hr	252.8 tons/yr
Sulfur Dioxide		950. lbs/hr	3,104.4 tons/yr
Nitrogen Oxides (as NO <sub>2</sub> )		962. lbs/hr	2,850 tons/yr
Carbon Monoxide		600. lbs/hr	1,950 tons/yr
Volatile Organic Compounds		126.35 lbs/hr	493. tons/yr
Lead		0.13 lbs/hr	0.46 tons/yr
Fluorides		0.17 lbs/hr	0.6 tons/yr
Sulfuric Acid Mist		10.0 lbs/hr	35.5 tons/yr
Hydrogen Chloride		4.89 lbs/hr	N.A. tons/yr

The sulfur dioxide pound per hour emission limit is averaged over 3 hours and the nitrogen oxide and carbon monoxide pound per hour emission limits are averaged over 24 hours. Annual emission limits are based on 1,300,000 tons per year clinker produced. The corresponding kiln feed is based on a combined total of 2,258,932 tons per year raw materials plus recycle dust.

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-1605, 9 VAC 5-50-400, 9 VAC 5-80-110 & Condition 42 of 10/26/2007 PSD permit as amended)

19. Dioxin/Furan emissions from the No. 5 kiln system/raw mills/alkali bypass (main stack) shall not exceed:

a.  $8.7 \times 10^{-11}$  grains per dscf (TEQ) corrected to seven percent oxygen; or

- b.  $1.7 \times 10^{-10}$  grains per dscf (TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device (PMCD) is 400 degrees Fahrenheit or less.  
(40 CFR 63.1343(d) & 9 VAC 5-80-110)
20. The kiln system must implement good combustion practices (GCP) designed to minimize THC from fuel combustion. GCP include training all operators and supervisors to operate and maintain the kiln and calciner, and the pollution control systems in accordance with good engineering practices. The training shall include methods for minimizing excess emissions.  
(40 CFR 63.1344(f) & 9 VAC 5-80-110)
21. The kiln system shall not use fly ash as a raw material or fuel unless:
  - a. Each shipment of fly ash is accompanied by a certification from the supplier stating that the fly ash was derived from a source that does not use activated carbon or any other sorbent, as a method of emissions control for mercury. The certification shall include the name of the supplier and a signed statement from the supplier confirming that the fly ash was not derived from a source using carbon or other sorbent as a method of mercury emission control.  
(40 CFR 63.1350(o))
  - b. If the facility uses fly ash from a source that does use activated carbon, or other sorbent for the control of mercury emissions, the facility must demonstrate that the use of this material does not increase mercury emissions from the kiln system. The facility must obtain daily fly ash samples, composites monthly and analyze the samples for mercury content.  
(40 CFR 63.1350(p))  
  
(40 CFR 63.1344(g), 40 CFR 63.1350 & 9 VAC 5-80-110)
22. The kiln system must remove (i.e. not recycle to the kiln) from the kiln system sufficient cement kiln dust to maintain the desired product quality.  
(40 CFR 63.1344(h) & 9 VAC 5-80-110)

## **B. Monitoring**

1. A continuous emission monitor shall be installed to measure and record opacity from the No. 5 kiln system/raw mills/alkali bypass system (main stack). The monitor shall be located on the main stack. This opacity monitor shall be a "compliance" monitor. The monitor shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Director, West Central Regional Office.  
(Completed in 1997.)

- (9 VAC 5-50-40 F, 9 VAC 5-80-110, 40 CFR 60.63 & Condition 61 of 10/26/2007 PSD permit as amended)
2. A continuous emission monitor shall be installed to measure and record the emission of sulfur dioxide from the No. 5 kiln system/raw mills/alkali bypass system (main stack). The monitor shall be located on the main stack. This sulfur dioxide monitor shall be a "compliance" monitor. The monitor shall be co-located with a cfm, CO<sub>2</sub> or O<sub>2</sub> monitor. The monitor shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Director, West Central Regional Office.  
(Completed in 1997.)  
(9 VAC 5-50-40 F, 9 VAC 5-80-110, 9 VAC 5-170-160 & Condition 62 of 10/26/2007 PSD permit as amended)
  3. Continuous emission monitors shall be installed to measure and record the emissions of carbon monoxide, nitrogen oxides and volatile organic compounds or total hydrocarbons from the No. 5 kiln system/raw mills/alkali bypass system (main stack). (The CO CEM is a 2003 new requirement). The type of monitor proposed for measurement of volatile organic compounds shall be approved by the Director, West Central Regional Office. The monitors shall be located on the main stack. Exceedance of the emission limits stated in this permit may subject Roanoke Cement Company to a request from DEQ to re-test these stack emissions. Each monitor shall be co-located with a flow, cfm, CO<sub>2</sub> or O<sub>2</sub> monitor. The monitors shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Director, West Central Regional Office. [Already operational in 1997.]In accordance with 40 CFR 60.13, a Relative Accuracy Test Audit (RATA) shall be performed, and demonstrate compliance, on the CO Continuous Emission Monitoring System (CEMS) on the No. 5 kiln system within 60 days after achieving the maximum production rate at which the No. 5 kiln system will be operated, but not later than 180 days after issuance of the 2003 CO PSD permit. The details of the tests are to be arranged with the Director, West Central Regional Office. The permittee shall submit a test protocol at least thirty (30) days prior to testing. Three (3) copies of the test results shall be submitted to the Director, West Central Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit. One copy of the test results shall be submitted to EPA within 45 days of test completion.  
(9 VAC 5-50-40 F, 9 VAC 5-80-110, 9 VAC 5-170-160 & Condition 63 of 10/26/2007 PSD permit as amended)
  4. Process instruments to continuously measure and record oxygen and temperature shall be installed near the outlet of the kiln's precalciner. Although not required to meet any specific air pollution control regulatory requirements, these are considered to be normal plant process instruments which assist the plant in determining the

preferred operating parameters for process control of NO<sub>x</sub> and VOC. Stack continuous emission monitors are already required for NO<sub>x</sub> and VOC, as stated in Condition 3.

(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 9 of 10/26/2007 PSD permit as amended)

5. Prepare a written operations and maintenance plan. The plan shall be submitted to DEQ and EPA for approval. The plan shall include the procedures for the proper operation and maintenance of the affected source and control devices in order to meet the emission limits and operating limits of A.19 and 40 CFR 63.1343(d). The maintenance plan shall include an annual inspection of the combustion system components of each in-line kiln/raw mill and establish the procedures to be used during the inspection. Failure to comply with any provision of the operations and maintenance plan developed in accordance with this condition and 40 CFR 63.1350(a) shall be a violation of the standard.

(40 CFR 63.1350(a), 40 CFR 63.1350(a)(1) & (a)(3) & 40 CFR 63.1350(b) & 9 VAC 5-80-110)

6. Install, calibrate, maintain and continuously operate a continuous monitor to record the temperature at the inlet to, or upstream of, the in-line kiln/raw mill and the alkali bypass particulate matter control devices in accordance with 40 CFR 63.1350 (f).
  - a. The recorder response range must include zero and 1.5 times either of the average temperatures established according to the requirements of 40 CFR 63.1344 and 40 CFR 63.1349(b)(3)(iv).
  - b. The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or approved alternate. Calibration shall be verified quarterly.
  - c. The owner or operator shall monitor and continuously record the temperature of the exhaust gases from the in-line kiln/raw mill and/or alkali bypass particulate matter control device. The three hour rolling average temperature shall be calculated in accordance with 40 CFR 63.1350(f)(3), (4) & (5).
  - d. The calibration of the thermocouples and other temperature sensors shall be verified at least once every three months.

(40 CFR 63.1350(f)(1) through (6) & 9 VAC 5-80-110)

7. Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

### **C. Recordkeeping (See Facility Wide Conditions)**

### **D. Testing**

1. Periodic performance tests shall be conducted for particulate emissions from the No. 5 kiln system/raw mills/alkali bypass (main stack) to determine compliance with the particulate emission limits contained in Condition A.18 The tests shall be performed, and demonstrate compliance, once every other calendar year. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 of State Regulations, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Director, West Central Regional Office. The permittee shall submit a test protocol at least thirty (30) days prior to testing. Three (3) copies of the test results shall be submitted to the Director, West Central Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit. (9 VAC 5-50-30, 9 VAC 5-80-1180 D, 9 VAC 5-80-110, 9 VAC 5-170-160 & Condition 57 of 10/26/2007 PSD permit as amended)

2. Initial performance tests for D/F specified in 40 CFR 63.1349(b)(3) shall be repeated every 30 months or within 90 days of initiating any significant change in the feed or fuel from that used in the previous performance test.  
(40 CFR 63.1349(d) & (e) and 9 VAC 5-80-110)
3. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
4. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

**E. Reporting (See General Conditions)**

**VII. Process Equipment Requirements – Clinker Cooler**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. A current copy of 40 CFR Part 60 Subpart F has been attached. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61

**A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended)
2. Particulate emissions from the Clinker Cooler shall be controlled by an electrostatic precipitator or fabric filter. The electrostatic precipitator shall be provided with adequate access for inspection. The electrostatic precipitator shall be equipped with devices to continuously measure the temperature and the voltages and currents to the electrostatic precipitator. The fabric filter shall be provided with adequate access for inspection. The fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The devices shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 10 of 10/26/2007 PSD permit as amended)

3. The annual throughput of the Clinker Cooler shall not exceed 1,300,000 tons of clinker produced, calculated monthly as the sum of each consecutive twelve (12) month period.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 23 of 10/26/2007 PSD permit as amended)
4. Visible emissions from the Clinker Cooler stack shall not exceed ten percent (10%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-50-400, 9 VAC 5-170-160, 40 CFR 60.62(b)(2), 9 VAC 5-80-110 & Condition 53 of 10/26/2007 PSD permit as amended)
5. Emissions from the operation of the Clinker Cooler shall not exceed the limits specified below:

Total Suspended Particulate	0.0473 lbs/ton	13.23 lbs/hr	46.9 tons/yr
	kiln feed annual avg.		
PM-10	0.0402 lbs/ton	11.24 lbs/hr	39.9 tons/yr
	kiln feed annual avg.		

Annual emission limits are based on 1,300,000 tons per year of clinker produced. The corresponding kiln feed is based on a combined total of 2,258,932 tons per year raw materials plus recycle dust.  
(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-1605, 9 VAC 5-50-400, 9 VAC 5-80-110 & Condition 43 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

1. The electrostatic precipitator shall be equipped with devices to continuously measure the temperature, and the voltage and current to the electrostatic precipitator. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260 and Condition 10 of 10/26/2007 PSD permit as amended)
2. A continuous emission monitor shall be installed to measure and record opacity of the clinker cooler. The opacity monitor shall be located on the clinker cooler stack. The monitor shall be a "compliance" monitor. The monitor shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Director, West Central Regional Office. (Completed in 1997.)  
(9 VAC 5-50-40 F, 9 VAC 5-80-110, 40 CFR 60.63 & Condition 64 of 10/26/2007 PSD permit as amended)

3. Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:
- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
  - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
  - c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
  - d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
  - e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

**C. Recordkeeping (See Facility Wide Conditions)**

**D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

**E. Reporting (See General Conditions)**

## VIII. Process Equipment Requirements – Coal/Coke Grinding & Handling System

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart Y – Standards of Performance for Coal Preparation Plants. A current copy of 40 CFR Part 60 Subpart Y has been attached. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.251

### A. Limitations

1. The permittee shall operate all affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart Y). (Finish Mill 9 is not subject to this requirement.) (9 VAC 5-50-410, 40 CFR 60 Subpart Y & Condition 37 of 10/26/2007 PSD permit as amended))
2. Particulate emissions from the Coal/Coke Grinding System shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)
3. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.252(c) & Condition 51 of 10/26/2007 PSD permit as amended)
4. Emissions from the operation of the Coal/Coke Grinding and Handling System shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	1.80 lbs/hr	7.9 tons/yr
PM-10	0.005 gr/acf	1.71 lbs/hr	7.5 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 44 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

## **C. Recordkeeping (See Facility Wide Conditions)**

## **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

## **E. Reporting (See General Conditions)**

## **IX. Process Equipment Requirements – Clinker Handling & Storage System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended)
2. Particulate emissions from the Clinker Handling and Storage System shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)
3. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)
4. Emissions from the operation of the Clinker Storage and Handling System, including adding a third 25,000 ton silo controlled by the existing fabric filter with no emissions increase, shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	1.36 lbs/hr	6.0 tons/yr
PM-10	0.005 gr/acf	1.29 lbs/hr	5.7 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 46 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

## **C. Recordkeeping (See Facility Wide Conditions)**

## **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

## **E. Reporting (See General Conditions)**

## **X. Process Equipment Requirements – Clinker Grinding System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F) (9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended))
2. Particulate emissions from the Clinker Grinding System shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)
3. Particulate emissions from the storage and handling of fly ash shall be controlled by enclosing all storage of fly ash and by fabric filtration (or DEQ approved equivalent) of all emissions from storing and handling fly ash. No outside stockpiles shall be used for storage of fly ash. The fabric filters shall be provided with adequate access for inspection. The fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 12 of 10/26/2007 PSD permit as amended)
4. Operations at the Gypsum Unloading Bin and the Gypsum Storage Bin shall not exceed 16 hours per day and 5839 hours per year, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 27 of 10/26/2007 PSD permit as amended)
5. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)

6. Emissions from the operation of the Clinker Grinding Systems, including addition of large finish mill 11 (refr. FM11) and reactivation of small finish mills 5 and 6 (refr. FM5 and FM6), shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	17.83 lbs/hr	76.3 tons/yr
PM-10	0.005 gr/acf	16.94 lbs/hr	72.5 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-1605, 9 VAC 5-50-400, 9 VAC 5-80-110 & Condition 47 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

## **C. Recordkeeping (See Facility Wide Conditions)**

#### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

#### **E. Reporting (See General Conditions)**

### **XI. Process Equipment Requirements – Cement Storage Silo System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

#### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended)
2. Particulate emissions from the Cement Silos shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)
3. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-

160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)

4. Emissions from the operation of the Cement Silos shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	1.76 lbs/hr	7.7 tons/yr
PM-10	0.005 gr/acf	1.67 lbs/hr	7.3 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 48 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

**C. Recordkeeping (See Facility Wide Conditions)**

**D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

**E. Reporting (See General Conditions)**

**XII. Process Equipment Requirements – Cement Bulk Loadout System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

**A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended))
2. Particulate emissions from Cement Bulk Loadout shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)
3. Particulate emissions from the Cement Bulk Loadout to rail and trucks shall be controlled by loadout through the No. 5 cement silo group loadout station with retractable chute which shall be controlled by a fabric filter collector or through the Dribble Bin loadout station with retractable chute which shall be controlled by a fabric filter collector.

(9 VAC 5-80-1180 D and 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 13 of 10/26/2007 PSD permit as amended)

4. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)
5. Emissions from the operation of the Cement Bulk Loadout System (rail and truck), including the Dribble Bin, shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	0.36 lbs/hr	1.44 tons/yr
PM-10	0.005 gr/acf	0.35 lbs/h	1.37 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 49 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

#### **C. Recordkeeping (See Facility Wide Conditions)**

#### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

#### **E. Reporting (See General Conditions)**

### **XIII. Process Equipment Requirements – Cement Bagging/Packing System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

#### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended))
2. Particulate emissions from the Cement Bagging/Packing Systems shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.

(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)

3. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)
4. Emissions from the operation of the Cement Bagging/Packing System shall not exceed the limits specified below:

Total Suspended			
Particulate	0.005 gr/acf	2.29 lbs/hr	6.69 tons/yr
PM-10	0.005 gr/acf	2.18 lbs/hr	6.35 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 50 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

### **C. Recordkeeping (See Facility Wide Conditions)**

### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

### **E. Reporting (See General Conditions)**

## **XIV. Process Equipment Requirements – Waste Dust Storage and Handling System**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended)
2. Particulate emissions from the Waste Dust Storage and Handling System shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it

is in proper working order at all times.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 11 of 10/26/2007 PSD permit as amended)

3. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)
4. Emissions from the operation of the Waste Dust Storage and Handling System shall not exceed the limits specified below:

Total Suspended Particulate	0.005 gr/acf	0.34 lbs/hr	1.5 tons/yr
PM-10	0.005 gr/acf	0.33 lbs/hr	1.4 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180, 9 VAC 5-80-110 & Condition 45 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

### **C. Recordkeeping (See Facility Wide Conditions)**

### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

### **E. Reporting (See General Conditions)**

## **XV. Process Equipment Requirements – Storage Gallery**

This section of the permit contains terms and conditions from 40 CFR Part 60 Subpart F – Standards of Performance for Portland Cement Plants. As used in this section, all terms shall have the meaning as defined in 40 CFR 60.2 and 40 CFR 60.61.

### **A. Limitations**

1. The permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards; Standards of Performance for Portland Cement Plants (40 CFR Part 60 Subpart F).  
(9 VAC 5-50-410, 40 CFR 60 Subpart F & Condition 36 of 10/26/2007 PSD permit as amended)
2. Particulate emissions from the clinker stored in the Storage Gallery shall be controlled by use of the existing gallery for storage of cement clinker only during malfunctions involving the Clinker Handling and Storage System. Enclosed bin systems in the Storage Gallery with all emissions controlled by fabric filters are exempt from this condition.

(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 14 of 10/26/2007 PSD permit as amended)

3. The annual throughput of clinker through the Storage Gallery, as storage during malfunctions involving the Clinker Handling and Storage System, shall not exceed 20,000 tons of clinker per year, calculated monthly as the sum of each consecutive 12 month period. Enclosed bin systems in the Storage Gallery with all emissions controlled by fabric filters are exempt from this condition and do not contribute to 20,000 ton per year limit on storage.  
(9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 25 of 10/26/2007 PSD permit as amended)
4. Visible emissions from the Storage Gallery shall not exceed ten percent (10%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 54 of 10/26/2007 PSD permit as amended)
5. Visible emissions from the fabric filter exhaust stacks shall not exceed 3% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity.  
(9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, 9 VAC 5-170-160, 9 VAC 5-80-110, 40 CFR 60.62(c) & Condition 51 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.
- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

- d. Train operators in the proper operation of all air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-80-110 F & K, 9 VAC 5-40-20E, 9 VAC 5-50-20E & Condition 70 of 10/26/2007 PSD permit as amended)

### **C. Recordkeeping (See Facility Wide Conditions)**

### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)

### **E. Reporting (See General Conditions)**

## **XVI. Facility Wide Conditions**

### **A. Limitations**

1. Any dusty material being transported in bulk form shall be transported into or out of the plant only in enclosed tanker trucks or rail cars, or equivalent totally enclosed trucks, rail cars or containers, or DEQ-Air Division approved equivalent. Dusty materials include cement product, waste dust and fly ash.  
(9 VAC 5-80-1180 D, 9 VAC 5-50-260, 9 VAC 5-80-110 & Condition 15 of 10/26/2007 PSD permit as amended)
2. Visible emissions from other process fugitive emission points shall not exceed ten percent (10%) opacity.  
(9 VAC 5-20-110, 9 VAC 5-50-20, 9 VAC 5-50-400, 9 VAC 5-80-110 & Condition 55 of 10/26/2007 PSD permit as amended)

3. The disposal of collected particulate matter shall be performed in a manner which minimizes the introduction of air contaminants to the ambient air.  
(9 VAC 5-80-1180, 9 VAC 5-170-160, 9 VAC 5-80-110 & Condition 18 of 10/26/2007 PSD permit as amended)
4. The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.  
(9 VAC 5-20-180 I, 9 VAC 5-80-110 & Condition 73 of 10/26/2007 PSD permit as amended)

## **B. Monitoring**

1. Visible Emissions: - Each emissions unit with a visible emissions requirement in this permit that does not have a continuous opacity monitor meeting the requirements of 40 CFR 60 Appendix A, shall be observed visually at least once each calendar month in which the emissions unit operates. Observations shall be performed more frequently if requested by the DEQ or EPA. The visual observations shall be conducted using 40 CFR 60 Appendix A Method 22 techniques (condensed water vapor/steam is not a visible emission) for at least one minute to only identify the presence of visible emissions. Each emissions unit in the Method 22 technique observation having visible emissions shall be evaluated by conducting a 40 CFR 60 Appendix A Method 9 visible emissions evaluation (VEE) for at least six (6) minutes; the VEE must begin within one hour of the Method 22 test. 40 CFR 60 Appendix A Method 9 requires the observer to have a Method 9 certification that is current at the time of the VEE. If any of these six (6) minute VEE averages exceed the unit's opacity limitation, a VEE shall be conducted on these emissions for at least 3 six minute periods (at least 18 minutes). All visible emission observations, VEE results, and corrective actions taken shall be recorded.  
(9 VAC 5-50-30 G, 9 VAC 5-80-110 E & 40 CFR 63.1350)
2. Upon request by the DEQ, the permittee shall conduct visible emission evaluations from any fabric filter exhausting to atmosphere, the No. 5 kiln system main stack, the Clinker Cooler stack, the Clinker Gallery, and/or any process fugitive emission points to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, West Central Regional Office.  
(9 VAC 5-50-30 G & 9 VAC 5-80-110 E & Condition 60 of 10/26/2007 PSD permit as amended)

## **C. Recordkeeping**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such

records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

1. Annual throughput of the following, calculated monthly as the sum of each consecutive twelve (12) month period.
  - a. Primary/secondary crushing overall process throughput,
  - b. No. 5 Kiln feed material throughput, including recycle dust,
  - c. No. 5 Kiln/Clinker Cooler clinker produced,
  - d. Clinker Grinding System cement produced,
  - e. Storage Gallery clinker throughput,
  - f. Waste Dust Storage and Handling System throughput.
2. The annual consumption of coal, and petroleum coke by the No. 5 kiln system, calculated monthly as the sum of each consecutive twelve (12) month period.
3. The annual overall consumption of No. 2 fuel oil and natural gas by the plant, calculated monthly as the sum of each consecutive twelve (12) month period.
4. Coal and petroleum coke shipments purchased, indicating sulfur content per shipment.
5. Continuous emissions monitors and process monitor data/records.
6. The annual emissions of SO<sub>2</sub>, NO<sub>x</sub> and VOC for the No. 5 kiln system (main stack), calculated monthly as the sum of each consecutive twelve (12) month period.
7. Operating hours for the Gypsum Unloading Bin and Gypsum Storage Bin.
8. Scheduled and unscheduled maintenance and operator training.
9. Results of all stack tests, visible emission evaluations, thermocouple calibrations and performance evaluations.
10. Fly ash supplier certifications and/or fly ash sample/testing results.
11. Annual records of cement kiln dust removed from the kiln system and disposed or otherwise used outside the kiln system.
12. Records of the amount of cement kiln dust recycled on an hourly basis.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-50, 9 VAC 5-80-110, 40 CFR 63.1355 & Condition 66 of 10/26/2007 PSD permit as amended)

#### **D. Testing**

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F, 9 VAC 5-80-110 & Condition 17 of 10/26/2007 PSD permit as amended)
2. If testing is conducted for compliance purposes, in addition to the monitoring specified in this permit, the permittee shall use test methods in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)
3. Upon request by the DEQ or the EPA, the permittee shall conduct performance tests for particulate matter and/or PM-10 from the Raw Material Processing System, the Kiln Feed System, the Clinker Cooler, the Coal/Coke Grinding and Handling System, the Waste Dust Storage and Handling System, the Clinker Storage and Handling System, the Clinker Grinding Systems, the Cement Silos, the Cement Bulk Loadout System, and/or the Cement Bagging/Packing System to demonstrate compliance with the emission limits and control efficiency requirements contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, West Central Regional Office.  
(9 VAC 5-50-30 G, 9 VAC 5-80-110 & Condition 58 of 10/26/2007 PSD permit as amended)
4. Upon request by the DEQ, the permittee shall conduct performance tests for particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, lead, fluorides, sulfuric acid mist, and/or hydrogen chloride from the No. 5 Kiln System to demonstrate compliance with the emission limits and control efficiency requirements contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, West Central Regional Office.  
(9 VAC 5-50-30 G, 9 VAC 5-80-110 & Condition 59 of 10/26/2007 PSD permit as amended)

#### **E. Reporting (See General Conditions)**

## **XVII. Insignificant Emission Units**

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation <sup>1</sup>	Pollutant(s) Emitted	Rated Capacity
001-001	Cleaver Brooks ng fired boiler	9 VAC 5-80-720 C	NO <sub>x</sub> , CO	6 mm Btu/hr
G-1	Diesel Emergency generator for Kiln drive	9 VAC 5-80-720 B	PM, NO <sub>x</sub> , CO, SO <sub>2</sub>	300 HP
G-2	Diesel emergency process water pump	9 VAC 5-80-720 B	PM, NO <sub>x</sub> , CO, SO <sub>2</sub>	300 HP
G-3	Portable diesel water pump	9 VAC 5-80-720 B	PM, NO <sub>x</sub> , CO, SO <sub>2</sub>	60 HP
G-4	Steam jenny propane engine	9 VAC 5-80-720 B	NO <sub>x</sub> , CO	6 HP
SK	Safety-Kleen cold solvent cleaning units (7)	9 VAC 5-80-720 B	VOC	30 gal each
T-1	Raw Mill, No. 2 fuel oil tank	9 VAC 5-80-720 B	VOC	20,000 gal
T-2	Em gen. diesel fuel tank	9 VAC 5-80-720 B	VOC	275 gal
T-4A	Gasoline tank & dispensing	9 VAC 5-80-720 B	VOC	2,000 gal
T-4B	Diesel fuel tank & dispensing	9 VAC 5-80-720 B	VOC	2,000 gal
T-5	Oil house lubricant storage	9 VAC 5-80-720 B	VOC	4,000 gal total multiple containers
T-6	Diesel fuel tank & dispensing	9 VAC 5-80-720 B	VOC	20,000 gal
T-9	Diesel fuel tank, emergency water pump	9 VAC 5-80-720 B	VOC	275 gal
T-11	Lubricant Storage, Mill building	9 VAC 5-80-720 B	VOC	2,000 gal total multiple containers
T-12	Grinding aid tank	9 VAC 5-80-720 B	VOC	10,000 gal
T-13	Grinding aid-blend tank	9 VAC 5-80-720 B	VOC	5,000 gal
T-14	Lubricant storage, quarry shop	9 VAC 5-80-720 B	VOC	2,500 gal total multiple containers

<sup>1</sup>The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

These insignificant emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

## **XVIII. Compliance Plan - NA**

## **XIX. Permit Shield & Inapplicable Requirements**

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
-None Identified-		

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.  
 (9 VAC 5-80-140)

**XX. General Conditions**

**A. Federal Enforceability**

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.  
 (9 VAC 5-80-110 N)

**B. Permit Expiration**

This permit has a fixed term of five years. The expiration date shall be the date five years from the effective date of this permit. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, has been submitted, to the West Central Regional Office of the DEQ, by the owner, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.

3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80 B, C & F, 9 VAC 5-80-110 D & 9 VAC 5-80-170 B)

### **C. Recordkeeping and Reporting**

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
  - a. The date, place as defined in the permit, and time of sampling or measurements.
  - b. The date(s) analyses were performed.
  - c. The company or entity that performed the analyses.
  - d. The analytical techniques or methods used.
  - e. The results of such analyses.
  - f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G. (Note that much of the recordkeeping required by this permit also serves as required periodic monitoring to determine emissions compliance and therefore needs to be addressed in the periodic reports.) The details of the reports are to be arranged with the Director, West Central Regional Office. The reports shall include:
  - a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
  - b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
    - (1) Exceedance of emissions limitations or operational restrictions;
    - (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,
    - (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
  - c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that “no deviations from permit requirements occurred during this semi-annual reporting period.”
  - d. The report shall be sent to the following address:

Director, West Central Regional Office  
Attn: Air Compliance Manager  
Virginia DEQ  
3019 Peters Creek Road  
Roanoke, VA 24019

(9 VAC 5-80-110 F)

#### **D. Annual Compliance Certification**

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and to DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall

comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
2. The identification of each term or condition of the permit that is the basis of the certification.
3. The compliance status.
4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
6. Such other facts as the permit may require to determine the compliance status of the source.

This annual compliance certification shall be sent to the following addresses:

Director, West Central Regional Office  
ATTN: Air Compliance Manager  
Virginia DEQ  
3019 Peters Creek Road  
Roanoke, VA 24019

Clean Air Act Title V Compliance Certification (3AP00)  
U. S. Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

#### **E. Permit Deviation Reporting**

The permittee shall notify the Director, West Central Regional Office, within four (4) daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit

deviation. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition XX.C.3 of this permit.  
(9 VAC 5-80-110 F.2 & 9 VAC 5-80-250)

## **F. Failure/Malfunction Reporting**

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the Director, West Central Regional Office, by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, West Central Region.

1. The emission units that have continuous monitors subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not subject to the 14 day written notification.
2. The emission units subject to the reporting and the procedure requirements of 9 VAC 5-40-50 C and the procedures of 9 VAC 5-50-50 C are listed below:
  - a. Inline Kiln/ Raw Mill System (Main Stack)
  - b. Clinker Cooler
3. Each owner required to install a continuous monitoring system subject to 9 VAC 5-40-41 or 9 VAC 5-50-410 shall submit a written report of excess emissions (as defined in the applicable emission standard) to the board for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter and shall include, but are not limited to the following information:
  - a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9 VAC 5-40-41 B 6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;
  - b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;

- c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and
  - d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.
4. All malfunctions of emission units not subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C require written reports within 14 days of the discovery of the malfunction.

(9 VAC 5-20-180 C, 9 VAC 5-40-50, 9 VAC 5-50-50 & 9 VAC 5-80-250)

### **G. Startup, Shutdown, and Malfunction**

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20 E, 9 VAC 5-40-20 E)

### **H. Malfunction as an Affirmative Defense**

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements of paragraph 2 of this condition are met.
2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
  - a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
  - b. The permitted facility was at the time being properly operated.
  - c. During the period of malfunction, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.

- d. The permittee notified the board of the malfunction within two working days following the time when the emissions limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. The notice fulfills the requirement of 9 VAC 5-80-110 F.2. b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirements under 9 VAC 5-20-180 C.
3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.
4. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.  
(9 VAC 5-80-250)

#### **I. Fugitive Dust Emission Standards**

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,
5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.  
(9 VAC 5-40-90 & 9 VAC 5-50-90)

#### **J. Severability**

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.  
(9 VAC 5-80-110 G.1)

#### **K. Duty to Comply**

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.  
(9 VAC 5-80-110 G.2)

#### **L. Need to Halt or Reduce Activity not a Defense**

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 this permit.  
(9 VAC 5-80-110 G.3)

#### **M. Permit Modification**

A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.  
(9 VAC 5-80-190 & 9 VAC 5-80-260)

#### **N. Property Rights**

The permit does not convey any property rights of any sort, or any exclusive privilege.  
(9 VAC 5-80-110 G.5)

#### **O. Duty to Submit Information**

1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along

with a claim of confidentiality.  
(9 VAC 5-80-110 G.6)

2. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.  
(9 VAC 5-80-110 K.1)

#### **P. Duty to Pay Permit Fees**

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by **April 15** of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.  
(9 VAC 5-80-110 H & 9 VAC 5-80-340 C)

#### **Q. Alternative Operating Scenarios**

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.  
(9 VAC 5-80-110 J)

#### **R. Inspection and Entry Requirements**

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
2. Have access to and copy, at reasonable times, any records that must be kept under the terms and 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.

4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

#### **S. Reopening For Cause**

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is 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 has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

#### **T. Permit Availability**

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.

(9 VAC 5-80-150 E)

#### **U. Transfer of Permits**

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.  
(9 VAC 5-80-160)
2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall

comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)

3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)

#### **V. Permit Revocation or Termination for Cause**

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.  
(9 VAC 5-80-190 C & 9 VAC 5-80-260)

#### **W. Duty to Supplement or Correct Application**

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.  
(9 VAC 5-80-80 E)

#### **X. Stratospheric Ozone Protection**

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.  
(40 CFR Part 82, Subparts A-F)

## **Y. Asbestos Requirements**

The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).

(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)

## **Z. Accidental Release Prevention**

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.

(40 CFR Part 68)

## **AA. Changes to Permits for Emissions Trading**

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(9 VAC 5-80-110 I)

## **BB. Emissions Trading**

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

## **XXI. State-Only Enforceable Requirements**

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Amended: March 26, 2008

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The following terms and conditions are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9 VAC 5-80-290 concerning review of proposed permits by EPA and draft permits by affected states.

None Identified

(9 VAC 5-80-110 N & 9 VAC 5-80-300)