



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE

CEMEX Construction Materials Florida, LLC
Brooksville South Cement Plant
Portland Cement Line No. 2
10311 Cement Plant Road
Brooksville, Florida 34601

DEP No. 0530021-044-AC (PSD-FL-351E)
Permit Expires: December 31, 2015
Re-Permitting of Cement Line No. 2

Authorized Representative:
Jim Daniel, Cement Plant Manager

PROJECT AND LOCATION

The facility is owned by CEMEX Construction Materials Florida, LLC (CEMEX). The facility includes two Portland cement manufacturing lines (Cement Lines No. 1 and No. 2), a coal yard and all the required auxiliary equipment. The applicant operates this existing site as a single Title V facility. This facility is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). The facility is located approximately 20 kilometers (km) east of the Prevention of Significant Deterioration of Air Quality (PSD) Class I Chassahowitzka Wilderness Area. This facility is located in Hernando County at 10311 Cement Plant Road, Brooksville. UTM Coordinates are: Zone 17; 360.00 km East; and, 3162.50 km North.

This permit is organized into the following sections: Section 1 (General Information), Section 2 (Administrative Requirements), Section 3 (Emissions Unit Specific Conditions) and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection (Department) in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida
(*Electronic Signature*)

FINAL PERMIT

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Permit (including the Final Determination, Final Permit, and Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. James Daniel, Cement Plant Manager, CEMEX: jdaniel@cemexusa.com

Mr. George Townsend, CEMEX: gtownsend@cemexusa.com

Mr. John B. Koogler, Ph.D, P.E, Koogler and Associates, Inc.: jkoogler@kooglerassociates.com

Ms. Robert Wong, DEP SWD: robert.wong@dep.state.fl.us

Ms. Kathleen Forney, EPA Region 4: forney.kathleen@epa.gov

Ms. Heather Ceron, EPA Region 4: ceron.heather@epa.gov

Mr. David Langston, EPA Region 4: langston.david@epa.gov

Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us

Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on
this date, pursuant to Section 120.52(7), Florida Statutes,
with the designated agency clerk, receipt of which is
hereby acknowledged.
(*Electronic Signature*)

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The facility includes Cement Lines No. 1 and No. 2. Each line includes an in-line kiln/raw mills, clinker cooler, associated process equipment, all the required auxiliary equipment and a coal yard. Waste heat from the kilns is used to provide heat to the raw mills and the kiln preheaters, which is used to drive off moisture from or preheat the materials used for making clinker. Cement Line No. 2 also has a pre-calciner where the feed is calcined before entering the rotary kiln. Consequently, the kiln has only to raise the feed to sintering temperature increasing the overall efficiency of the process. All of the materials handling activities are controlled by baghouses, except for the Clinker Receiving/Handling Systems and the coal yard activities. For the Clinker Receiving/Handling Systems, the fugitive particulate matter emissions generated from the transfer of clinker from the receiving hoppers to the belt conveyors is controlled using atomized water sprays or an equivalent dust suppression system.

PROJECT DETAILS

This permitting action is to re-permit Portland Cement Line No. 2 (Cement Line No. 2) at the CEMEX Brooksville cement plant by incorporating the original PSD construction permit (PSD-FL-351) and all subsequent construction permit modifications pertaining to Cement Line No. 2 into a “clean” new construction permit. Obsolete and redundant permit conditions and emission limits will be removed with the most recent New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) emission limits incorporated into the permit, as applicable. Cement Line No. 2 includes a raw mill system, a dry process preheater/precalciner kiln system, clinker handling system, finish grinding operations, two cement loadout silos, and coal handling and grinding operations.

This permit is being issued in conjunction with the re-permitting of Cement Line No. 1 (draft permit 0530021-043-AC). In the re-permitting of Cement Line No. 1, any reference to the recently separated Central Power and Lime (CP&L) power plant which is now under the control of Florida Power Development, LLC was removed. The CP&L power plant was recently separated from Cement Line No. 1 by Air Construction Permit No. 0530380-001-AC (PSD-FL-090E). In that project, the power plant was authorized to convert from coal to biomass as its primary fuel, de-rate in power from 150 megawatts (MW) to approximately 80 MW and separated from Cement Line No. 1 into its own facility having its own facility ID number and enforceable permit requirements.

Cement Line No. 1 and the power plant were originally permitted under common ownership as a co-generation facility (Power Plant subject to PURPA definition of co-generating facility) that physically exhausted emissions through a common stack. Today, the Cement Line No.1 and the Power plant are under separate ownership and the two units will in the future exhaust to separate stacks. Further the co-generation definition no longer applies to the Power Plant. .

After the re-permitting of Cement Line No. 1, the line will share no commonality with the power plant and may have a new baghouse and stack. Based on the re-permitting of Cement Lines Nos. 1 and 2, a new Title V Air Operation permit will be issued for The CEMEX Brooksville South Cement Plant as a separate facility with no reference to the CP&L power plant. The power plant will be a separate facility and operate under its own separate Title V permit

Cement Line No. 2 consists of the following emission units (EU).

EU ID No.	Baghouse ID No.	Emissions Unit Description
Pyroprocessing System		
044	331.BF300	Kiln No.2, Pre-Heater, Pre-Calciner and Clinker Cooler No. 2
Raw Mill and Raw Meal Handling and Storage System		
045	331.BF640	Filter Dust Bin
	311.LS609	Filter Dust Bin Loadout Spout
046	341.BF400	Blend Silo

SECTION 1. GENERAL INFORMATION

EU ID No.	Baghouse ID No.	Emissions Unit Description
047	351.BF420	Kiln Feed Transport
	341.BF410	Blend Silo Discharge
	351.BF410	Kiln Feed Bin
Clinker Handling and Storage		
048	471.BF110	Clinker Transport
050	471.BF120	Clinker Storage Silo
	481.BF155	Clinker Silo Discharge 1
	481.BF165	Clinker Silo Discharge 2

Finish Mill System		
051	511.BF650	Finish Mill Additives
052	531.BF500	Finish Mill and Air Heater
054	531.BF020	Finish Mill Bucket Elevator
057	531.BF400	Finish Mill Cement Transport, Finish Mill Rejects Transport
Cement Silos and Loadout		
058	612.BF005	Cement Silo 5
	612.BF620	Cement Silo 5 Loading Bin
	622.LS140	Cement Silo 5 Loadout Spout N
	622.LS160	Cement Silo 5 Loadout Spout S
059	611.BF005	Multi Cell Cement Silo
	611.BF045	Multi Cell Cement Silo Alleviator
	611.BF610	Multi Cell Loadout Transport
	611.LS760	Multi Cell Loadout Spout
060	461.BF400	Coal Mill
061	461.BF560	Fine Coal Bin
062	641.BF150	Packing Plant
063		Emergency Generator
Shared Emission Unit - Cement Lines No. 1 and 2: Fugitive Emissions and Coal Yard		
042*	N/A	Coal Receiving, Handling and Transfer System (fugitives)

* The Coal Receiving, Handling and Transfer System (fugitives) emission unit is also permitted in Air Construction Permit No. 0530021-043-AC (PSD-FL-091K)) to support Cement Line No. 1 of this facility.

REGULATORY CLASSIFICATION

- The facility includes two Portland cement manufacturing lines (Cement Lines No. 1 and No. 2), a coal yard and all the required auxiliary equipment.
- The facility is a major source of hazardous air pollutants (HAP).
- The facility has emission units that are subject to the New Source Performance Standards (NSPS) under Section 111 of the Clean Air Act (CAA). Specifically, emission units are subject to 60 Subpart A, General Provisions, Subpart F, NSPS for Portland Cement Plants and Subpart Y NSPS for Coal Preparation Plants.

SECTION 1. GENERAL INFORMATION

- The facility has emission units that are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the CAA. Specifically, the facility is subject to 40 CFR 63, Subpart A, General Provisions and Subpart LLL, NESHAP for Portland Cement Manufacturing (Subpart LLL).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. (PSD)

These emissions units are also subject to the requirements of the state rules as indicated in this permit, particularly Rule 62-212.400, F.A.C., Prevention of Significant Deterioration.

PREVIOUS PERMITS

The permits listed below preceded this permit and pertain entirely or in part to Portland Cement Line No. 2. They are specifically related to this permitting action. These documents are on file with the Department.

- Original permit PSD-FL-351 for the construction of Cement Line No. 2 (July 6, 2005).
- PSD –FL-351A: allowed use tire injection system (September 10, 2009).
- PSD –FL-351B: allowed testing of whole tires as a supplemental fuel (August 30, 1991).
- PSD –FL-351C: reflecting the as built configuration of Cement Line No. 2 (February 10, 2010).
- PSD –FL-351D: increase production capacity of line (June 28, 2011).
- PSD –FL-351E: re-permitting of Cement Line No. 2.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

The following specific conditions apply to all emissions units at this facility addressed by this permit.

1. Permitting Authority: The Permitting Authority for this project is the Office of Permitting and Compliance (OPC) in the Division of Air Resource Management of the Department of Environmental Protection (Department). The mailing address for the OPC is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resource Section of the Department's Southwest District Office at: 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926 (Ph: 813-632-7600).
3. Appendices: The following Appendices are attached as a part of this permit and the permittee must comply with the requirement of the appendices:
 - a. Appendix CC: Common Conditions;
 - b. Appendix CF: Citation Formats and Glossary of Common Terms;
 - c. Appendix CTR: Common Testing Requirements;
 - d. Appendix F: NSPS Subpart F - Standards of Performance for Portland Cement Plants;
 - e. Appendix GC: General Conditions;
 - f. Appendix GP: Identification of General Provisions - NSPS 40 CFR 60, Subpart A and NESHAP 40 CFR 63, Subpart A
 - g. Appendix LLL: NESHAP, Subpart LLL - National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry; and,
 - h. Appendix Y: NSPS Subpart Y - for Coal Preparation and Processing Plants.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation:
 - (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable

SECTION 2. ADMINISTRATIVE REQUIREMENTS

limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. **Objectionable Odors Prohibited:** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]
{Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}
9. **Unconfined Emissions of Particulate Matter:** No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. Reasonable precautions include the following:
- (a) Paving and maintenance of roads, parking areas and yards;
 - (b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing;
 - (c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities;
 - (d) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne;
 - (e) Landscaping or planting of vegetation;
 - (f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter;
 - (g) Confining abrasive blasting where possible; and
 - (h) Enclosure or covering of conveyor systems.
 - (i) In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

Additional reasonable precautions applicable to this facility are:

- (a) All materials, except tires, coal and petroleum coke, at the plant shall be stored under roof on compacted clay or concrete, or in enclosed vessels.
- (b) Water supply lines, hoses and sprinklers shall be located near all materials, coal and petroleum coke stockpiles.
- (c) All plant operators shall be trained in basic environmental compliance and shall perform visual inspections of materials, coal and petroleum coke regularly and before handling. If the visual inspections indicate a lack of surface moisture, the materials, coal and petroleum coke shall be

SECTION 2. ADMINISTRATIVE REQUIREMENTS

wetted with sprinklers. Such wetting shall continue until the potential for unconfined particulate matter emissions are minimized.

- (d) Water spray shall be used to wet the materials and fuel if inherent moisture and moisture from wetting the storage piles are not sufficient to prevent unconfined particulate matter emissions.
- (e) The manufacturing area and the access roadways for the facility shall be paved with asphalt or concrete.
- (f) Vacuum Sweeper shall be used on paved roads.

[Rule 62-296.320(4)(c), F.A.C.]

10. Previous Permits: This permit supersedes and replaces all previous air construction permits and applicable conditions related to Cement Line No. 1 at the CEMEX South Brooksville Cement Plant. [Rules 62-4.070(3); 62-210.200(PTE); and 62-212.400 (PSD) F.A.C.]
11. Title V Permit for CEMEX Brooksville South Cement Plant: This air construction permit is being issued to separate the air permitting conditions for the CEMEX Brooksville South Cement Plant and the CP&L Power plant that were previously combined into the Title V permit (0530021-029-AV). The Cement Line No. 1 and the power plant were originally permitted under common ownership as a co-generation facility that physically exhausted emissions through a common stack. Today, the Cement Line No.1 and the Power plant are under separate ownership and the two units will in the future exhaust to separate stacks. This project separates the air permitting of these two units, and Cement Line No. 2 into separate facilities; Cement Lines No. 1 and No. 2 at the Brooksville Cement Plant and the Brooksville Power Plant. As a separate permitting action, a Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]
{Permitting Note: As a separate action, the current Title V Permit No. 0530021-029-AV will be revised accordingly to reflect the separation of Cement Line No. 1 from the power Plant that was accomplished in Air Construction Permit No. 0530021-043-AC (PSD-FL-091K). The revised Title V permit will reflect the operation of Cement Lines No. 1 and 2 at the CEMEX Cement Plant and will not include the operation of the Power Plant. The Power Plant will be issued a separate Title V permit for facility ID No. 0530380 reflecting its conversion to a 70 to 80 MW biomass fired facility.}
12. General Visible Emissions Standard: Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer, or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than 20 percent opacity. The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C. [Rule 62-296.320(4)(b)1, F.A.C.]
13. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All plant operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

14. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department's district office. The notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. [Rule 62-4.130, F.A.C.]
15. Circumvention: No person shall circumvent any air pollution control device or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]
16. Excess Emissions: The following excess emissions provisions cannot be used to vary any NSPS or NESHAP requirements from any subpart of 40 CFR 60 or 40 CFR 63. Unless otherwise specified in this permit, the following conditions apply.
Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. [Rule 62-210.700, F.A.C.]
17. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department, upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2., F.A.C.]
18. Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Department within one working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. [Rule 62-4.130, F.A.C.]
19. Excess Emissions Report - Malfunctions: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report. A quarterly written report is hereby requested by the Department for every quarter that the facility is in operation. If no malfunctions occurred during a quarter, a written report stating that no malfunctions occurred shall be submitted. [Rule 62-210.700(6), F.A.C.]
20. Annual Operating Report for Air Pollutant Emitting Facility The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by April 1st of each year. [Rule 62-210.370(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calciner and Clinker Cooler No. 2 (EU 044)

The following specific conditions apply to the following emissions units after construction:

EU ID No.	Emissions Unit Description
044	<p><u>Kiln No.2, Pre-Heater, Pre-Calciner and Clinker Cooler</u>: Portland Cement Line 2 has a maximum cement clinker production rate of 156 tons per hour (TPH) on an hourly basis and 146 TPH on a 24 hour average. This clinker is ground with a small amount of gypsum to produce Portland cement at the rate of 240 TPH. The in-line kiln/raw mill and clinker cooler vent through a single baghouse system into the ambient air. Waste heat from the kiln is used to provide heat to the raw mill and the kiln preheater, which is used to drive off moisture from or preheat the materials used for making clinker. Cement Line No. 2 also has a pre-calciner where the feed is calcined before entering the rotary kiln. Consequently, the kiln has only to raise the feed to sintering temperature increasing the overall efficiency of the process.</p> <p>The kiln is allowed to fire coal, petroleum coke, natural gas, flyash, propane, distillate fuel oil, on-specification oil and whole tires. Nitrogen oxide (NO_x) emissions are controlled by the use of Selective Non-catalytic Reduction (SNCR) technology. Sulfur dioxide (SO₂) emissions are controlled by use of low sulfur raw materials and inherent scrubbing by finely divided lime in the calciner and limestone in the raw mill. Carbon monoxide (CO) and volatile organic compounds (VOC) emissions are controlled by promoting complete combustion in the kiln and calciner and minimizing carbon and oily content of raw materials. Particulate matter (PM) and PM with a mean diameter of 10 microns or less (PM₁₀) from the pyroprocessing system and the clinker cooler are controlled by a large fabric filter baghouse. Mercury (Hg) emissions are controlled by material balance. Continuous emission monitors (CEMS) are currently operated for NO_x, SO₂, THC and CO. A continuous opacity monitor (COMS) is operated to measure visible emissions (VE). Diluent monitors are operated to measure carbon dioxide (CO₂) and oxygen (O₂) while flow is also measured.</p> <p>In the future, CEMS to measure the emissions of mercury (Hg) and hydrogen chloride (HCl) must be installed to meet the most recent NESHAP 40 CFR 63, Subpart LLL for the Portland Cement Manufacturing Industry.</p>

POLLUTION CONTROL TECHNOLOGIES

1. SNCR and MSC: Cement Line No. 2 is equipped with a selective noncatalytic reduction (SNCR) system and with a multistage combustion (MSC) system. The SNCR system shall be and utilized as needed to supplement the MSC system. The owner or operator shall use MSC and/or SNCR for control of NO_x emissions to the level specified in this subsection. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]
2. Good Combustion Practices (GCP): The owner or operator shall control emissions of CO and VOC through control of the combustion process utilizing GCP to the levels specified in this subsection. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]
3. SO₂ Control: The owner or operator shall control emissions of SO₂ through the control of the clinker production process. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]
4. Baghouse: The owner or operator shall control emissions of PM/PM₁₀ from the kiln/raw mill/clinker cooler of Cement Line No. 2 utilizing a baghouse to meet the emission limits specified in this subsection. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calcliner and Clinker Cooler No. 2 (EU 044)

NSPS AND NESHAP APPLICABILITY

5. NSPS Subpart F and NESHAP Subpart LLL: Cement Line No. 2 is an affected facility subject to the provisions of 40 CFR 60, Subpart F - NSPS for Portland Cement Plants. However, this affected facility is also subject to 40 CFR 63, Subpart LLL - NESHAP for the Portland Cement Manufacturing Industry. If an affected facility subject to 40 CFR 63, Subpart LLL has a different emission limit or requirement for the same pollutant under another regulation in title 40, in this case Subpart F, the owner or operator of the affected facility must comply with the most stringent emission limit or requirement and is exempt from the less stringent requirement. NSPS Subpart F and NESHAP Subpart LLL (final version dated September 9, 2010) are contained in Appendices F and LLL of this permit. [Rule 62-204.800, F.A.C.; 40 CFR 63, Subpart LLL; and 40 CFR 60, Subpart F]
- {Permitting Note: On July 18, 2012, the EPA proposed changes to the Final NESHAP Subpart LLL (dated September 9, 2010). The **major** changes are: (1) adjust the way cement kiln owner's measure and monitor particulate matter emissions, i.e., the removal of the PM CEMS requirement and allowing stack testing in its place; (2) extend the deadline by two years – from September 9, 2013 to September 9, 2015 – for existing cement kilns to comply with the 2010 rule; and (3) raise the allowable emissions levels for particulates.}*
6. NSPS Subpart A and NESHAP Subpart A: These emissions units are subject to the General Provisions of NSPS Subpart A and NESHAP Subpart A. [40 CFR 60, Subpart A and 40 CFR 63, Subpart A]

PERFORMANCE AND OPERATIONAL RESTRICTIONS

7. Hours of Operation: This emission unit may operate continuously, i.e., 8,760 hours per year. [Rule 62-210.200, F.A.C., Definitions -- potential to emit (PTE)]
8. Allowable Fuels:
- Fuels fired in the pyroprocessing system (kiln and calciner) shall consist only of natural gas, coal, distillate oil, petroleum coke, flyash, on-spec oil, and whole tires. Propane may be fired and shall not exceed a maximum hourly rate of 5,200 gallons/hr.
 - Whole tires may be fired directly in the pyroprocessing system. Whole tires shall be fed into the kiln system near the hot side near where the clinker exits the kiln at the transition section between the base of the precalciner and the point where gases exit the kiln; or anywhere in the calciner. The tire feeder mechanisms at the upper end near where the fed from the calciner enters the kiln and at the locations in the calciner shall be designed with a double airlock.
- [Rules 62-4.070(3) and 62-210.200, F.A.C., Definitions -- potential to emit (PTE), F.A.C., and Applicant request, application received 12/20/04 and Permit Modifications 0530021-012-AC and 0530021-015-AC]
9. Fuels and Materials Not Allowed: The owner or operator shall not introduce hazardous wastes, petroleum contaminated soil or materials, used oil, oil fuels, or solid fuels other than those allowed by this permit. [Rule 62-4.070(3), F.A.C.]
10. Process Rate Limitations: The kiln shall not produce more than 156 tons of clinker per hour, and 3,500 tons in any 24-hr period (146 tons per hour, 24 hour average). Production rates shall be further limited to 1,277,500 tons of clinker in any consecutive 12-month period (3,500 tons/day).

The clinker production rate identified in the above paragraph shall be determined by the following equation:

$$\text{Clinker Production} = [(\text{Feed})(\text{Kiln Feed LOI Factor}) + (\text{Fly Ash Injection})(\text{Fly Ash LOI Factor})]$$

Where:

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calciner and Clinker Cooler No. 2 (EU 044)

- Fly ash is determined from the rotary feed system or equivalent.
- LOI for the kiln feed and fly ash is based on a monthly average determined from daily measurements.

[Rule 62-210.200, F.A.C., Definitions -- potential to emit (PTE)]

11. **Cement Kiln Dust:** Cement kiln dust shall be recirculated in the process and shall not be directly discharged from process or emission control equipment unless authorized by the Department. Cement kiln dust removed from process equipment during maintenance and repair shall be confined and controlled at all times and shall be managed in accordance with the applicable provisions of 40 CFR 261. [Rule 62-4.070(3), F.A.C.]

EMISSIONS STANDARDS

12. **Emission Standards:** This emission unit has one emission point, the stack of the Cement Line No. 2. *[Permitting Note: The emission limits for particulate matter and visible emissions imposed by Rule 62-212.400 and BACT are as stringent as or more stringent than the limits imposed by the applicable NSPS or NESHAP rules. However, the BACT requirements do not waive or vary any monitoring or record keeping requirements of the NSPS and NESHAP rules.]*

Emissions from this unit shall not exceed the following:

Poll. ¹	Unit ²	Units ³						Method of Comp. ⁴	Basis
		lb/ton-f	lb/hr	lb/ton-c	lb/Mt-c	ng/dscm TEQ	ppmvd		
PM	KC&M	0.112	28.8	0.185	---	---	---	ST (3 hr) ⁵	BACT ⁶
	C	---	---	0.04 ⁷	---	---	---	CEMS ⁸	LLL ⁹
	KM	---	---	0.04 ⁷	---	---	---	CEMS ⁸	LLL ⁹
PM ₁₀	KC&M	0.097	25.0	0.160	---	---	---	ST (3 hr) ⁵	BACT ⁶
SO ₂	KC&M	---	28.8	0.185	---	---	---	CEMS (24 hr) ¹⁰	BACT ⁶
NO _x	KC&M	---	227	1.56	---	---	---	CEMS (30 day) ¹¹	BACT ⁶
CO	KC&M	---	450.0	2.88	---	---	---	CEMS (24 hr) ¹²	BACT ⁶
VOC	KC&M	---	15.0	0.096	---	---	---	CEMS (30 day) ¹³	BACT ⁶
D/F	KM	---	---	---	---	0.2 ¹⁴	---	ST	LLL ^{9, 15}
Hg	KM	---	---	---	55 ¹⁶	---	---	SBT or CEMS ¹⁷	LLL ^{9, 15}
		41 µg/dscm						ST	LLL ¹⁸
		122 lb/yr						Annual	Avoid PSD ¹⁹
THC	KM	---	---	---	---	---	24 ²⁰	CEMS	LLL ^{9, 15}
HCl	KM	---	---	---	---	---	3 ²¹	CEMS	LLL ^{9, 15}
Opacity	KC&M	10 percent ²²						COMS	BACT ⁶

1. Pollutant: PM = particulate matter; PM10 = PM with a mean diameter of 10 micron or less; SO₂ = sulfur dioxide; NO_x = nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compounds; D/F = dioxin and furans; Hg = mercury; THC = total hydrocarbons; and HCl = hydrogen chloride. PSD-FL-351E replaces all previous PSD permits and represents latest BACT, NSPS and NESHAP emission limits and compliance methods.

2. Emission subunit: K = kiln; C = clinker cooler; and M = raw mill.

3. Units of emission limits: lb/ton-f = pounds per ton of preheater feed; lb/hr = pounds per hour; lb/ton-c = pounds per ton of clinker; lb/Mt-c = pounds per million tons of clinker; ng/dscm TEQ = nanograms per dry standard cubic meter, toxic

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calcliner and Clinker Cooler No. 2 (EU 044)

- equivalents; ppmvd = parts per million volume dry.
4. Comp. = method of compliance: ST = annual stack test; CEMS – continuous emission monitor system; SBT = sorbent trap CEMS; COMS = continuous opacity monitoring system.
 5. The averaging time for PM and PM₁₀ correspond to the required length of sampling for initial and subsequent emission stack tests.
 6. Best Available Control Technology determination (PSD-FL-351 and PSD-FL-351D).
 7. Proposed NESHAP Subpart LLL (dated July 18, 2012) limit is 0.07 lbs/ton clinker with effective date of September 9, 2015. Final and proposed NESHAP Subpart LLL startup/shutdown limits are 0.04 grains per dry standard cubic foot (gr/dscf).
 8. Proposed NESHAP Subpart LLL allows stack testing for compliance in lieu of PM CEMS.
 9. Final NESHAP Subpart LLL (dated September 9, 2010), **compliance with emission limits by September 9, 2013** (Proposed compliance date is September 9, 2015).
 10. The averaging time for SO₂ shall be a rolling average that shall be recomputed every hour from the individual hourly averages for the current hour and the preceding 23 hours.
 11. NO_x emissions shall not exceed 227 lbs/hr (30-day rolling average) or 1.56 pounds per ton of clinker.
 12. CO limits are a 24-hour limit. The averaging time for CO shall be a rolling average that shall be recomputed every hour from the individual hourly averages for the current hour and the preceding 23 hours.
 13. The averaging time for VOC shall be a 30-day block average specified in 40 CFR 63.1350(h).
 14. If the average temperature at the inlet to the first PM control device during the D/F performance test is 400 °F or less this limit is changed to 0.40 ng/dscm.
 15. Proposed NESHAP LLL (dated July 18, 2012), **compliance with emission limits by September 9, 2015**.
 16. Final and proposed NESHAP Subpart LLL Hg emission limit during startup/shutdown is 10 ng/dscm. The emission limit is based on 30 kiln operating days. When NESHAP 55 lb/Mt- c Hg limit become applicable the 41 µg/dscm and 122 lb/yr Hg limits become obsolete.
 17. Hg CEMS can be used in lieu of sorbent trap CEMS to show compliance.
 18. Micrograms per dry standard cubic meter (µg/dscm) @ 7 % O₂ per December 20, 2006 amendment to NESHAP Subpart LLL.
 19. Yearly limit to stay below Florida PSD threshold for Hg of 200 lb/yr.
 20. Measured as propane. Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 12 ppmvd for total organic HAP. The emission limit is based on 30 kiln operating days.
 21. Per Final NESHAP Subpart LLL, if the kiln does not have an HCl CEMS, the emissions limit is zero. In proposed NESHAP Subpart LLL, §63.1350(l)(3), if the source is equipped with a wet or dry scrubber or tray tower, and you choose to monitor SO₂ emissions, monitor SO₂ emissions continuously according to the requirements of § 60.63(e) through (f) of part 60 subpart F of this chapter. The emission limit is based on 30 kiln operating days.
 22. Meeting 10 percent opacity requirement for kiln, raw mill and clinker cooler fulfills all BACT and NESHAP requirements.

These emission limits, along with annual production limits, effectively limit annual emissions to: PM - 117.6; PM₁₀ - 102.3; SO₂ - 117.6; NO_x - 996.7; CO - 1,840; and VOC - 61.3 tons per year. These emission limits are based on 3,500 tons per day and 1,277,500 tons per year of clinker production.

[Rules 62-4.070(3); 62-4.160(2); 62-210.200(PTE); and 62-212.400 (BACT), F.A.C.; and NESHAP Subpart LLL]

13. Mercury (Hg) into the Pyroprocessing System Limited: The total mass of mercury compounds introduced into the pyroprocessing system, expressed as Hg, in raw mill feed and fuels shall not exceed 122 pounds in any consecutive 12-month period (see **Specific Condition 31** of this subsection regarding compliance demonstration). [62-4.070(3), F.A.C.]
14. Performance Testing: The owner or operator shall notify the Department prior to initiating any significant change in the feed or fuel used in the most recent compliant performance test for D/F or PM. For purposes of this condition, significant means any of the following: a physical or chemical change in the feed or fuel; the use of a raw material not previously used; a change in the LOI of the flyash; a change between non-beneficiated flyash and beneficiated flyash. Based on the information provided, the Department will promptly determine if performance testing pursuant to 40 CFR 63.1349 will be required for the new feed or fuel. A significant change shall not include switching to a feed/fuel mix for which the permittee already tested in compliance with the dioxin/furan and PM emission limits. [62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calcliner and Clinker Cooler No. 2 (EU 044)

15. Malfunction of the SNCR System: Malfunction of the SNCR System is defined as any unavoidable mechanical and/or electrical failure that prevents introduction of ammonia based solutions into the kiln system. In accordance with the limits **Specific Condition 12** of this subsection, the exclusion of NO_x data collected during periods of malfunction and/or repair of the SNCR system is allowed when demonstrating compliance with the 30-day NO_x standard. No more than six hours per calendar day and no more than 30 hours in any 30-day operating block may be excluded. Within one working day of the occurrence, the permittee shall notify the Department's Southwest District of any malfunction of the SNCR system. [Rules 62-4.070(3); 62-4.160(2); 62-210.200(PTE); and 62-212.400 (BACT), F.A.C.]
16. Data Exclusion for CO: In accordance with the limits in **Specific Condition 12** of this subsection, the exclusion of CO data collected during periods of startup, shutdown, and malfunction of the kiln system is allowed when demonstrating compliance with the 24-hour lb/ton CO standard after the initial 180 day period after initial startup. No more than seven hours per calendar day and no more than 28 hours in any calendar month may be excluded. Within one working day of the occurrence, the permittee shall notify the Department's Southwest District of any startup, shutdown, or malfunction of the system which an exclusion of data will occur. [Rules 62-4.070(3), F.A.C.]
17. NSPS Particulate Matter and Visible Emissions Standards: No owner or operator of a Portland Cement kiln shall cause, permit, or allow the emission of particulate matter in excess of 0.30 pounds per ton to the kiln (dry basis, excluding fuel), or visible emissions the density of which is greater than 20 percent opacity. [Rule 62-296.407, F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

18. NO_x, SO₂, CO and VOC CEMS: The owner or operator shall install, calibrate, maintain, and operate CEMS in the in-line kiln/raw mill stack to measure and record the emissions of NO_x, SO₂, CO and VOC from the in-line kiln/raw mill, in a manner sufficient to demonstrate compliance with the emission limits given in **Specific Condition 12** of this subsection. Compliance with the emission limit for NO_x shall be based on a 30-day calendar rolling average that shall be recomputed daily from the individual hourly averages. Compliance with the emission limits for SO₂ and CO shall be based on a rolling 24-hour average that shall be recomputed every hour from the individual hourly averages for the current hour and the preceding 23 hours. Hourly averages shall be computed according to 40 CFR 60.13. Compliance with the 30-day emission limit for VOC shall be based on a 30-day block average that shall be computed from a minimum of one measurement every minute. The CEMS system shall express the results in units of pounds per ton of clinker produced, and pounds per hour. [Rule 62-4.070(3), F.A.C., and BACT]

The selection, installation, calibration, maintenance, operation, record keeping, and reporting of the CEMS shall comply with the requirements of 40 CFR 60.7 and 60.13; 40 CFR 60 Appendix B, Performance Specifications; and, Appendix F, Quality Assurance Procedures.

Permitting Note: The "30-day rolling average NO_x emission rate" is the arithmetic average of all valid hourly NO_x emission data measured by the continuous emission monitoring equipment (converted to lb/ton of clinker and lb/hr) for a given operating day and the twenty-nine unit operating days immediately preceding that unit operating day. Pursuant to 40 CFR 60, Subpart F, an operating day includes all valid data obtained in any daily 24-hour period during which the kiln operates and excludes any measurements made during the daily 24-hour period when the kiln was not operating.

A new 30-day average is calculated each unit operating day as the average of all hourly NO_x emissions rates for the preceding 30 unit operating days if a valid NO_x emission rate is obtained for at least 75 percent of all operating hours. Zero emissions from non-unit operating days shall not be included in the averaging period in order to show compliance with the emissions limits. }

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calciner and Clinker Cooler No. 2 (EU 044)

[Rules 62-4.070(3), 62-210.800 and 62-297.520, F.A.C., and BACT]

19. **PM CEMS:** For a kiln and clinker cooler subject to an emissions limitation on PM emissions in §63.1343(b) and using a PM CEMS, the permittee shall install and operate a continuous emissions monitor in accordance with Performance Specification 11 of appendix B and Procedure 2 of appendix F to 40 CFR part 60. The performance test method and the correlation test method for Performance Specification 11 must be Method 5 or Method 5i of appendix A to 40 CFR part 60. The permittee shall also develop an emissions monitoring plan in accordance with paragraphs (o)(1) through (o)(4) of §63.1350. Compliance with the NESHAP PM limit given in **Specific Condition 12** of this subsection shall be shown by September 9, 2013 (Proposed compliance date is September 9, 2015). [NESHAP 40 CFR 63, Subpart LLL, Final September 9, 2010]
{Permitting Note: the proposed NESHAP Subpart LLL, dated July 18, 2012 allows stack testing for PM compliance in lieu of a PM CEMS. The compliance date in the proposed NESHAP is September 9, 2015}
20. **THC CEMS:** The permittee shall operate a THC CEMS in accordance with the requirements in §63.1350(i). For the purposes of conducting the accuracy and quality assurance evaluations for the CEMS, the THC span value (as propane) is 50 ppmvd and the reference method (RM) is Method 25A of appendix A to part 60. The permittee shall install, operate, and maintain a THC continuous emission monitoring system in accordance with Performance Specification 8A of appendix B to part 60 and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A. The permittee shall operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in part 60. Compliance with the NESHAP THC limit given in **Specific Condition 12** of this subsection and the THC CEMS requirements of this Condition shall be shown by September 9, 2013 (Proposed compliance date is September 9, 2015). [NESHAP 40 CFR 63, Subpart LLL, Final September 9, 2010]
21. **HCl CEMS:** The permittee shall operate an HCl CEMS in accordance with the requirements in §63.1350(l). The permittee shall show compliance with the HCl emissions limit by operating an HCl CEMS in accordance with Performance Specification 15 (PS 15) of appendix B to part 60, or, upon promulgation, in accordance with any other performance specification for HCl CEMS in appendix B to part 60. The permittee shall operate, maintain and quality assure an HCl CEMS installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to part 60 except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. If the permittee installs and operates an HCl CEMS in accordance with any other performance specification for HCl CEMS in appendix B to part 60, the permittee must operate, maintain and quality assure the HCl CEMS using the procedure of appendix F to part 60 applicable to the performance specification. The permittee shall use Method 321 of appendix A to part 63 as the reference test method for conducting relative accuracy testing. The span value and calibration requirements in paragraphs §63.1350(l)(1)(i) and §63.1350(l)(1)(ii) apply to HCl CEMS other than those installed and certified under PS 15. Compliance with the NESHAP HCl limit given in **Specific Condition 12** of this subsection and the HCl CEMS requirements of this Condition shall be shown by September 9, 2013 (Proposed compliance date is September 9, 2015). [NESHAP 40 CFR 63, Subpart LLL, Final September 9, 2010]
22. **Hg CEMS or Sorbent Trap:** The permittee must operate a mercury CEMS or sorbent trap EMS in accordance with the requirements of §63.1350(k). The mercury CEMS shall be installed and operated in accordance with Performance Specification 12A (PS 12A) of appendix B to part 60 or a sorbent trap-based integrated monitoring system in accordance with Performance Specification 12B (PS 12B) of appendix B to part 60. The permittee shall continuously monitor mercury according to

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calcliner and Clinker Cooler No. 2 (EU 044)

paragraphs §63.1350 (k)(1) through §63.1350 (k)(5). The permittee shall also develop an emissions monitoring plan in accordance with paragraphs §63.1350 (p)(1) through §63.1350 (p)(4). Compliance with the NESHAP Hg limit given in **Specific Condition 12** of this subsection and the Hg CEMS/sorbent trap requirements of this Condition shall be shown by September 9, 2013 (Proposed compliance date is September 9, 2015). [NESHAP Subpart LLL, Final and Proposed]

23. **COMS**: The permittee shall operate and maintain continuous monitoring device for the kiln/raw mill/cooler stack exhaust for opacity to demonstrate compliance with the visible emissions limits, in **Specific Condition 12** of this subsection. Continuous opacity monitor (COM) systems shall be installed, operated, and maintained at the kiln/raw mill baghouse stack pursuant to 40 CFR 63.1350. If the permittee installs a PM CEMS in accordance with **Specific Condition 19** of this subsection, the requirement to operate and maintain the COMS required by this Condition no longer applies after September 9, 2013 (Proposed compliance date is September 9, 2015). [NESHAP Subpart LLL, Final and Proposed]
24. **Temperature Monitor**: A continuous monitor for the temperature at the inlet to the in-line kiln/raw mill baghouse is required pursuant to 40 CFR 63.1349 and 63.1350. [NESHAP Subpart LLL, Final and Proposed]

TESTING AND MONITORING REQUIREMENTS

25. **O&M Plan for Baghouses and ESP**: The owner or operator shall prepare an operation and maintenance plan (O&M plan). The O&M plan shall address the schedule for inspection of this equipment and required preventive maintenance and shall require records of the condition of the equipment upon each inspection and any maintenance activities performed. The O&M plan shall be submitted to the Department's Southwest District office prior to expiration of this permit. [Rule 62-4.070(3), F.A.C.]
26. **Whole Tire Management**: Tires and tire derived fuel shall be stored, handled and managed in accordance with the provisions of Chapter 62-711, F.A.C. [Rule 62-4.070(3), F.A.C.]
27. **Test Methods**: Required tests shall be performed in accordance with 40 CFR 63, Subpart LLL and the following reference method.

Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content <i>{Notes: Methods shall be performed as necessary to support other methods.}</i>
5	Particulate Matter (PM), assuming all PM measured is PM ₁₀
6 or 6C	Sulfur Dioxide (SO ₂) or SO ₂ - Instrumental
7 or 7E	Nitrogen Oxide (NO _x) or NO _x - Instrumental
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10 or 10A	Carbon Monoxide (NDIR) or CO for Certifying CEMS
23	Dioxin and Furan
25 or 25A	Gaseous Nonmethane Organic Emissions or Gaseous Organic Concentration (Flame Ionization) - for THC
29 or ASTM D6784-02	Metals Emissions from Stationary Sources or Ontario Hydro Method *

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calcliner and Clinker Cooler No. 2 (EU 044)

Method	Description of Method and Comments
321	Gaseous HCl Emissions at Portland Cement Kilns by FTIR

* Stack test methods to show compliance with the December 20, 2006 Subpart LLL Hg limit of 41 µg/dscm.

The above methods are described in Appendix A of 40 CFR 60 which is included as Appendix GP of this permit and as adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department.

[Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

- 28. PM Stack Tests: In addition to the continuous monitoring requirements of this permit, the owner or operator shall demonstrate compliance with the PM/PM₁₀ emission limits of **Specific Condition 12** of this subsection by conduction annual stack tests.
- 29. D/F Stack Tests: Required D/F stack tests shall be performed in accordance with the reference method(s) specified in the applicable NESHAP 40 CFR 63 Subpart LLL. [NESHAP 40 CFR 63, Subpart LLL]
- 30. Hg Stack Tests: Required Hg stack tests to show compliance with the 41 µg/dscm emission limit shall be performed in accordance with the reference method(s) specified in the December 20, 2006 amendment to NSPS Subpart LLL. [NESHAP 40 CFR 63, Subpart LLL (December 20, 2001)]
*{Permitting Note: Upon the compliance date for the Hg emission limit in 40 CFR 63, Subpart LLL (dated September 8, 2010 or July 18, 2012) coming into force, annual stack testing to show compliance with the 41 µg/dscm Hg emission limit given in **Specific Condition 12** of this subsection is no longer required and this condition becomes obsolete. Compliance subsequently shall be by CEMS.}*
- 31. Emissions Tests and Fuel Scenarios: Emission tests for this emission unit shall be conducted for the pollutants in **Specific Condition 12** of this subsection upon initial operation under the fuel scenario representing the highest potential for generating emissions:

Primary Fuel	Secondary Fuel
Coal	Whole tires directly into the pyroprocessing system, petroleum coke, and flyash

Subsequent annual testing under this fuel firing scenario is not required for any firing scenario that is used for less than 400 hours in the previous year, as documented by fuel firing records.

If all of the secondary fuels listed above are not available at the time of testing, the tests shall be based on the fuels that are available. If another secondary fuel becomes available in the future, additional tests shall be conducted with that fuel, if such tests are deemed necessary by the Department, within 60 days of firing the secondary fuel.

- 32. Long-Term Mercury Emissions Determination: Materials Balance testing shall be used to determine mercury emissions. The owner or operator shall demonstrate compliance with the mercury throughput limitation by material balance and making and maintaining records of monthly and rolling 12-month mercury throughput. The owner or operator shall, for each month of sampling required by this condition, perform daily sampling of the raw mill feed, power plant ash, coal, petroleum coke, and tires, and shall composite the daily samples each month, and shall analyze the monthly composite sample to determine mercury content of these materials for the month. The owner or operator shall determine the mass of mercury introduced into the pyroprocessing system (in units of pounds per month) from the total of the product of the mercury content from the monthly composite analysis and the mass of each material or fuel used during the month. The consecutive 12-month record shall be determined from the individual monthly records for the current month and the preceding eleven

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln No.2, Pre-Heater, Pre-Calciner and Clinker Cooler No. 2 (EU 044)

months and shall be expressed in units of pounds of mercury per consecutive 12-month period. Such records shall be completed no later than 25 days following the month of the records.

The permittee shall have the option of collecting, compositing, analyzing and calculating the Hg leaving the process via the dust permanently withdrawn from the pyroprocessing system. If the Hg concentration is below the detectable limit or limits of quantification, a value of zero will be assumed for the concentration in the dust.

[Rules 62-4.070(3), 62-296.701(4)(a), (c) and (d), and 62-297.310(7), F.A.C. and BACT]

*{Permitting Note: Upon the compliance date for the Hg emission limit in 40 CFR 63, Subpart LLL (dated September 8, 2010 or July 18, 2012) coming into force, the material balance analysis for mercury to show compliance with the 122 lb/yr Hg emission limit in **Specific Condition 12** of this subsection is no longer required and this condition becomes obsolete. Compliance subsequently will be by CEMS.}*

NOTIFICATIONS, RECORDS AND REPORTS

33. Records of Process and Production Rates: The owner or operator shall make and maintain records of the process rate of dry preheater feed in units of tons per hour and tons per consecutive 12-month period, and the production rate of clinker and cement in units of tons per hour and tons per consecutive 12-month period. The owner or operator shall make and maintain records of the production of Portland cement in units of tons per consecutive 12-month period. Records in units of tons per hour shall be based on either hourly averages or daily averages and shall be completed no later than the day following the day of the record. Records in units of tons per consecutive 12-month period shall be made from monthly records of process and production rates for the past 12 months, and shall be completed no later than the 10th day of each following month. [Rule 62-4.070(3), F.A.C. and BACT]
34. Records of Fuels and Heat Input: The owner or operator shall record the fuel firing rate continuously. The owner or operator shall maintain records of the quantity and representative analysis of fuels purchased, and such records shall include the sulfur content, and heat content of the fuel for coal, petroleum coke, natural gas, fuel oil, propane, flyash, and whole tires. The records also shall include proximate and ultimate analyses.
- The owner or operator shall make and maintain records of heat input to the pyroprocessing system on a block-hour basis, starting at the beginning of each hour, by multiplying the hourly average fuel firing rate by the heating value representative of that fuel from the records of fuel analysis. Such records shall be completed for each block-hour, within 15 minutes of the end of each block-hour. [Rule 62-4.070(3), F.A.C.]
35. Records of Startup, Shutdown and Malfunction: The owner or operator shall make and maintain records of periods of startup, shutdown and malfunction. These records shall show the dates, times and duration of these episodes and shall document suspected cause of each episode, corrective actions taken by the owner or operator and actions taken to reduce excess emissions. [Rule 62-4.070(3), F.A.C.]
36. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(8), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Finish Mill and Material Handling Equipment (EU 045, 046, 047, 048, 050, 051, 052, 054, 057, 058, 059 and 062)

The following specific conditions apply to the following emissions units:

Emissions Unit No.	Baghouse ID No.	Emissions unit Description
Raw Mix and Raw Meal Handling and Storage System		
045	331.BF640	Filter Dust Bin
	311.LS609	Filter Dust Bin Loadout Spout
046	341.BF400	Blend Silo
047	351.BF420	Kiln Feed Transport
	341.BF410	Blend Silo Discharge
	351.BF410	Kiln Feed Bin
Clinker Handling and Storage		
048	471.BF110	Clinker Transport
050	471.BF120	Clinker Storage Silo
	481.BF155	Clinker Silo Discharge 1
	481.BF165	Clinker Silo Discharge 2
Finish Mill System		
051	511.BF650	Finish Mill Additives
052	531.BF500	Finish Mill and Air Heater
054	531.BF020	Finish Mill Bucket Elevator
057	531.BF400	Finish Mill Cement Transport
	531.BF290	Finish Mill Rejects Transport
Cement Silos & Loadout		
058	612.BF005	Cement Silo 5
	612.BF620	Cement Silo 5 Loading Bin
	622.LS140	Cement Silo 5 Loadout Spout N
	622.LS160	Cement Silo 5 Loadout Spout S
059	611.BF005	Multi Cell Cement Silo
	611.BF045	Multi Cell Cement Silo Alleviator
	611.BF610	Multi Cell Loadout Transport
	611.LS760	Multi Cell Loadout Spout
062	641.BF150	Packing Plant

POLLUTION CONTROL TECHNOLOGIES

1. Baghouses: The owner or operator shall control emissions of PM/PM₁₀ from these emission units utilizing baghouses to meet the emission limits specified in this subsection. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]

NSPS AND NESHAP APPLICABILITY

2. NSPS Subpart F and NESHAP Subpart LLL: These emission units are subject to the provisions of 40 CFR 60, Subpart F - NSPS for Portland Cement Plants. However, this affected facility is also subject to 40 CFR 63, Subpart LLL - NESHAP for the Portland Cement Manufacturing Industry. If an affected facility subject to 40 CFR 63, Subpart LLL has a different emission limit or requirement for the same pollutant under another regulation in title 40, in this case Subpart F, the owner or operator of the affected facility must comply with the most stringent emission limit or requirement and is exempt

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Finish Mill and Material Handling Equipment (EU 045, 046, 047, 048, 050, 051, 052, 054, 057, 058, 059 and 062)

from the less stringent requirement. NSPS Subpart F and NESHAP Subpart LLL (final version dated September 9, 2010) are contained in Appendices F and LLL of this permit. [Rule 62-204.800, F.A.C.; 40 CFR 63, Subpart LLL; and 40 CFR 60, Subpart F]

*{Permitting Note: On July 18, 2012, the EPA proposed changes to the Final NESHAP Subpart LLL (dated September 9, 2010). The **major** changes are: (1) adjust the way cement kiln owner's measure and monitor particulate matter emissions, i.e., the removal of the PM CEMS requirement and allowing stack testing in its place; (2) extend the deadline by two years – from September 9, 2013 to September 9, 2015 – for existing cement kilns to comply with the 2010 rule; and (3) raise the allowable emissions levels for particulates.}*

3. NSPS Subpart A and NESHAP Subpart A: These emissions units are subject to the General Provisions of NSPS Subpart A and NESHAP Subpart A. [40 CFR 60, Subpart A and 40 CFR 63, Subpart A]

PERFORMANCE RESTRICTIONS

4. Hours of Operation: These emissions units may operate continuously, i.e., 8,760 hours per year. [Rule 62-210.200, F.A.C., Definitions -- potential to emit (PTE)]
5. Process Rate Limitation: The finish mill (EU 052) shall not process more than 240 tons per hour of finish mill feed ($feed_{FM}$) and 1,800,000 tons annually. [Rule 62-210.200, F.A.C., Definitions -- potential to emit (PTE)]
6. Air Heater: The permittee may install an air heater associated with the Finish Mill at Emissions Unit 052.
 - a. The maximum heat input of the air heater shall be limited to 45 MMBtu/hr.
 - b. The operation of the air heater shall be limited to 2,500 hours per year.
 - c. The air heater may be fired only with propane and distillate fuel oil with a maximum sulfur content of 0.05% by weight.[Application and Rule 62-212.400, F.A.C. (BACT)]

EMISSIONS STANDARDS

7. Emission Limits for Material Handling Operations: Particulate matter emissions from each of the emissions units in this subsection (except EU -052, see **Specific Condition 8** of this subsection) shall be controlled by a baghouse which shall be installed, operated and maintained to meet a design specification of 0.01 grains/dscf for PM and 0.007 grains/dscf for PM_{10} emissions. Visible emissions from the material handling emissions units shall not exceed 5% opacity (no visible emissions). [Rules 62-4.070(3), 62-210.700(5) and 62-212.400, F.A.C., and BACT]
{Permitting Note: The applicant advised that the baghouses are designed to control PM/ PM_{10} to 0.01 grains/dry standard cubic foot (gr/dscf) and 0.007 gr/dscf, respectively. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/ PM_{10} for all these emission unit systems will be less than 66.5/46.5 TPY, respectively. This annual emission estimate is the proposed PM/ PM_{10} for all these units and there is a reduction from the particulate matter potential emissions of the "as built" configuration project reviewed under permit No. 0530021-018-AC (PSD-FL-351C) (issued February 18, 2010). Exceedance of the 5% opacity limit shall be deemed an exceedance of the allowed BACT limit condition set in the original 2005 PSD-FL-351 permit (No. 0530021-009-AC) and so long as the opacity does not exceed 10% is not an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

**B. Finish Mill and Material Handling Equipment
(EU 045, 046, 047, 048, 050, 051, 052, 054, 057, 058, 059 and 062)**

8. Emission Limits for Finish Mill and Air Heater – Emissions Unit 052:

This emissions unit shall comply with the following emission limits:

Mode	Pollutant				
	SO ₂	NO _x	CO	PM/PM ₁₀	Opacity
	Units				
	lb/hr	lb/hr	lb/hr	lb/ton feed _{FM}	(%)
Air Heater On	2.1	5.40	1.50	0.029/0.020	5%
Air Heater Off	Not applicable	Not Applicable	Not Applicable	0.029/0.020	5%

[Rules 62-4.070 (3) and 62-212.400, F.A.C. (BACT)]

TESTING AND MONITORING REQUIREMENTS

9. Visible Emission Stack Tests Required: The owner or operator shall demonstrate compliance with the visible emission limits of this subsection for each baghouse annually, using Method 9. [Rule 62-297.310(7)(a)4.a., F.A.C.]

10. Finish Mill and Air Heater Testing Requirements: The finish mill shall be stack tested with the air heater (if installed) once every five years to demonstrate compliance with the emission standards for CO, PM/PM₁₀, and NO_x. Compliance testing for visible emissions shall be conducted initially and annually, thereafter. Compliance with the SO₂ limit shall be demonstrated by compliance with the maximum 0.05% sulfur fuel limitation. [Rules 62-4.070(3), 62-210.700(5) and 62-212.400, F.A.C., and BACT]

11. Fuel Oil Sulfur Limit: Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur and including the value with annual test reports. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, or D4294-90. More recent versions of these methods may be used. For the initial and each subsequent fuel delivery, the permittee shall maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor. [Rules 62-4.070(3), 62-210.700(5) and 62-212.400, F.A.C., and BACT]

12. Test Methods: Required tests shall be performed in accordance with the following reference method.

Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content <i>{Notes: Methods shall be performed as necessary to support other methods.}</i>
5	Particulate Matter (PM), assuming all PM measured is PM ₁₀
6 or 6C	Sulfur Dioxide (SO ₂) or SO ₂ – Instrumental
7 or 7E	Nitrogen Oxide (NO _x) or NO _x – Instrumental
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10 or 10A	Carbon Monoxide (NDIR) or CO for Certifying CEMS

The above method is described in Appendix A of 40 CFR 60 which is included as Appendix GP of this permit and as adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Finish Mill and Material Handling Equipment (EU 045, 046, 047, 048, 050, 051, 052, 054, 057, 058, 059 and 062)

unless prior written approval is received from the Department.

[Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

13. **O&M Plan for Baghouses:** Particulate matter emissions from each emission unit shall be controlled by a baghouse. The owner or operator shall prepare an operation and maintenance plan (O&M Plan) for these emissions units in accordance with 40 CFR 63, Subpart LLL. The O&M plan shall address the schedule for inspection of this equipment and required preventive maintenance and shall require records of the condition of the equipment upon each inspection and any maintenance activities performed. The O&M plan shall be submitted to the Department's Southwest District office as part of the Title V permit renewal review. [Rule 62-4.070(3), F.A.C. and 40 CFR 63.1350, Monitoring Requirements]

NOTIFICATIONS, RECORDS AND REPORTS

14. **Test Reports:** The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(8), F.A.C.]
15. **Notification, Recordkeeping and Reporting Requirements:** The permittee shall maintain records of the amount of oil and propane used in the finish mill air heater. [Application and Rules 62-212.400, (BACT), 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Coal Mill and Fine Coal Bin (EU 060 and 061)

The following specific conditions apply to the following emissions units after construction:

EU ID No.	Emissions Unit Description
Coal Mill Handling and Grinding System	
060	Coal Mill
061	Fine Coal Bin

POLLUTION CONTROL TECHNOLOGIES

1. Baghouse: The owner or operator shall control emissions of PM/PM₁₀ from the coal mill (EU 060) by a baghouse to meet the emission limits specified in this subsection. The outlet flow from the baghouse discharges through the Cement Line No.2 kiln/raw mill/clinker cooler stack. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]

NSPS APPLICABILITY

2. NSPS Subpart Y: These emissions units are subject to the Provisions of NSPS Subpart Y - NSPS for Coal Preparation Plants and Processing Plants. NSPS Subpart Y is contained in Appendix Y of this permit. [40 CFR 60, NSPS Subpart Y]
3. NSPS Subpart A: These emissions units are subject to the General Provisions of NSPS Subpart A. [40 CFR 60, Subpart A]

PERFORMANCE RESTRICTIONS

4. Hours of Operation: These emissions units may operate continuously, i.e., 8,760 hours per year. [Rule 62-210.200, F.A.C., Definitions -- potential to emit (PTE)]
5. Process Rate Limitation: The coal mill shall not crush more than 20.0 tons per hour of coal and/or petroleum coke, 30-day average. The coal mill shall not crush more than 172,200 tons annually. [Rule 62-210.200, F.A.C., Definitions -- potential to emit (PTE)]

EMISSIONS STANDARDS

6. Emissions Limits: The emissions units (and corresponding points) shall not exceed the following emission limits:

EU ID No.	Emission Point	Description	Opacity Limit
060	461.BF400	Coal Mill	10%
061	461.BF560	Fine Coal Bin	5%

Particulate matter emissions from these emissions units shall be controlled by baghouses which shall be installed, operated and maintained to meet a design specification of 0.01 grains/dscf for PM and 0.007 grains/dscf for PM₁₀ emissions.

[Rules 62-4.070(3), 62-210.700(5), 62-212.400, and BACT]

TESTING AND MONITORING REQUIREMENTS

7. O&M Plan for Baghouses: The owner or operator shall prepare an operation and maintenance plan (O&M Plan) for emissions unit 060. The O&M plan shall address the schedule for inspection of this equipment and required preventive maintenance and shall require records of the condition of the equipment upon each inspection and any maintenance activities performed. The O&M plan shall be submitted to the Department's Southwest District office prior to expiration of this permit. [Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Coal Mill and Fine Coal Bin (EU 060 and 061)

8. Emission Tests Required: The owner or operator shall demonstrate compliance with the visible emissions standard for emissions units 060 and 061 annually using EPA Method 9, as described in 40 CFR 60 Appendix A. Should subsequent particulate matter (PM) testing be required for both emissions units, compliance shall be demonstrated using EPA Method 5.
[Rules 62-4.070(3), 62-297.310 and 62-297.620(4), F.A.C. and BACT]

NOTIFICATIONS, RECORDS AND REPORTS

9. Records of Process Rates: The owner or operator shall make and maintain records showing the monthly processing rate of coal and petroleum coke crushed in the coal mill. Records of the processing rate for each month shall be completed no later than 10 days following the end of the month. [Rule 62-4.070(3), F.A.C.]
10. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit.
[Rule 62-297.310(8), F.A.C.]