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PERMITTEE

American Cement Company, LLC
Sumterville Cement Plant

Authorized Representative:
Mr. Cary O. Cohrs, President

Final Permit No. 1190042-009-AC/PSD-FL-361F
Permit Expires: November 22, 2017
Air Construction Permit

Project: Alternative Fuels & Production Rate Increase at the Existing Portland Cement Manufacturing Plant

Sumter County, Florida

PROJECT

This is the final air construction permit, which authorizes alternative fuels and a production rate increase at the existing Portland cement manufacturing plant (Project). This facility is an existing Portland cement manufacturing plant categorized under Standard Industrial Classification No. 3241. The existing Sumterville Cement Plant is located in Sumter County at 4750 E. CR 470 in Sumterville, Florida. The UTM coordinates Zone 17, 399.80 km East and 3181.90 km North.

This final permit is organized into the following sections: Section I (General Information), Section II (Requirements) and Section III (Emission(s) Unit(s) Specific Conditions); and, Section IV (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section IV of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft 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.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is <u>not</u> subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

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 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)

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for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

JFK/sa/sms

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) 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 persons listed below.

Mr. Cary O. Cohrs: ccohrs@americancementcompany.com
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Mr. John B. Koogler, Ph.D, P.E.: jkoogler@kooglerassociates.com
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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.

Lynn Scearce
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FACILITY DESCRIPTION

This existing facility consists of a Portland cement manufacturing plant and associated quarry, and raw material and cement handling operations.

The facility was originally proposed to be a nominal 1,150,000 tons per year (TPY) dry process Portland cement plant incorporating a dry process kiln with a preheater and calciner (PH/C). The facility includes a surface limestone mine. The manufacture of Portland cement primarily involves the crushing, grinding, and blending of limestone, clays, and other raw materials into a chemically proportioned mixture which is heated in a rotary kiln to extremely high temperature to produce clinker nodules. The clinker is cooled and ground with a small quantity of gypsum to produce finished cement.

Major equipment associated with the main components of the *existing* plant includes the following:

- A raw materials storage building (RMS);
- A primary crusher at the quarry and belt conveyors to RMS;
- Raw material piles stored inside of the RMS. The piles will include limestone, alumina sources (e.g. bauxite, clay, and coal ash), iron sources (e.g. mill scale, coal ash and iron ore), silica sources (e.g. sand), and additives (e.g. feldspar);
- Materials handling equipment including harrow and portal reclaimers, stackers, belt conveyors, conveyor from the RMS to the raw mill, control system/analyzer, etc.;
- An in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, and clinker cooler;
- A preheater/calciner (PH/C) capable of burning coal, petroleum coke, new No. 2 oil, on-specification used oil, whole and chipped used tires, and natural gas; with staged combustion and selective non-catalytic reduction (SNCR) system;
- An air heater, capable of firing No. 2 or No. 4 fuel oil, on-specification used fuel oil or natural gas, for use when additional drying capacity is required;
- A nominal 10,000 ton homogenizing (blending) silo;
- A nominal 18 TPH coal and petroleum coke grinding system with associated mill, storage facility, conveyors, including a fabric filter baghouse;
- A dry process preheater/calciner (PH/C) kiln capable of producing 3,250 short tons per day of clinker;
- An indirect-firing system with a low-NO_X main kiln burner capable of burning coal, petroleum coke, new No. 2 fuel oil, on-specification used oil, and natural gas;
- A whole tire kiln feeder system;
- A clinker cooler with reciprocating grates, cooling air fans, and hot air ducting to the kiln and PH/C;
- Clinker storage and grinding including a finish mill with air separator, clinker silos with metering device, limestone and gypsum piles, and associated conveyors; and
- A cement transfer and storage facility including truck loadout and packhouse.

The facility *currently* uses pulverized coal, petroleum coke, tires, No. 2 fuel oil, and on-specification used oil as fuel sources for the calciner/kiln system. The primary calciner/kiln operating fuel is pulverized coal. The air heater is fired with natural gas, No. 2 or No. 4 fuel oil, and on-specification used oil.

Nitrogen oxides (NOx) emissions are minimized by indirect firing in a low-NOx main kiln burner, and staged combustion and a selective non-catalytic reduction (SNCR) ammonia injection system in the preheater/calciner. Sulfur dioxide (SO_2) emissions are controlled by the use of inherently low sulfur raw materials and scrubbing by finely divided lime in the calciner. Carbon monoxide (CO) and volatile organic compound (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/PM_{10}) emissions from the PH/C, kiln, in-line raw mill, and clinker cooler

are controlled by a single large fabric filter main baghouse. Numerous other baghouses are included to control PM/PM_{10} emissions from materials conveyance, transfer, grinding, and handling. Fugitive PM/PM_{10} emissions from raw material piles, loading operations, transportation, etc. are controlled by reasonable precautions including paving, road sweeping, watering, planting grass, etc.

This plant is subject to the maximum achievable control technology (MACT) requirements in 40 CFR 63 Subpart LLL - National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry. In addition, the plant is subject to the Department's determination of best available control technology (BACT) for NOx, CO, SO_2, VOC and PM/PM_{10} and the associated BACT emission limitations for each of these air pollutants.

This facility includes continuous emissions monitoring systems (CEMS) for NOx, CO, SO_2, total hydrocarbons (THC)/VOC, opacity, carbon dioxide (CO_2) and mercury (Hg) on the PH/C kiln, in-line raw mill, and clinker cooler fabric filter baghouse exhaust stack.

Also included at the facility are miscellaneous unregulated/insignificant emissions units and/or activities.

This project will affect the following *existing* permitted emissions units:

E.U. ID No.	Brief Description
001	Raw Material Quarrying, Crushing, and Storage
002	Raw Materials Conveying, Storage, and Processing
003	Pyroprocessing System
004	Clinker and Additives Storage and Handling
005	Finish Mill
006	Cement Handling, Storage, Packing, and Loadout
007	Coal and Petroleum Coke Grinding System
008	Fugitive Dust from Storage Piles, Paved Roads, and Unpaved Roads

This project will involve the following *new* emissions unit:

E.U. ID No.	Brief Description
010	Alternative Fuels Processing System

FACILITY REGULATORY CLASSIFICATION

- This facility is a major source of hazardous air pollutants (HAP).
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

PROPOSED PROJECT

This project is for a minor source air construction permit. The minor source air construction permit is for alternative fuels and a production rate increase at the existing Portland cement manufacturing plant.

Specifically, this permit authorizes the following subprojects comprising the "project:"

1. A request for authorization to fire alternative fuels in the kiln system; and,
2. A clinker production rate increase for the plant of about 8.3%; bringing the permitted production rate to 3,250 short tons per day (TPD) and 1,186,250 short tons per year (TPY) with a corresponding production increase of finished cement to 1,300,000 short TPY.

This air construction permit was issued for the project to avoid the PSD BACT requirements of Rule 62-212.400(4) through (12), F.A.C., based in whole or in part on projected actual emissions. The projected actual emissions are shown in the table below. The baseline actual emissions from the *existing* emissions units were set at the permitted emissions (potential to emit).

Baseline Actual Emissions vs. Projected Actual Emissions Used under this Project

PSD-(Air) Pollutant	Baseline Actual Emissions, TPY (tons/year)	Projected Actual Emissions, TPY	Increase in Emissions, TPY	PSD SER, TPY	PSD SER exceeded?
PM	177.6	190.7	13.1	25	No
PM_{10}	149.5	152.2	2.7	15	No
$PM_{2.5}$	0	0.6	0.6	10	No
NOx	1,068	1,068	0	40	No
CO	1,588	1,588	0	100	No
VOC	65.7	65.7	0	40	No
SO_2	109.5	109.5	0	40	No
Hg	0.061	0.061	0	0.10	No

Emissions Unit ID No. 008, Fugitive Dust from Storage Piles, Paved Roads, and Unpaved Roads Projected Increases in Emissions vs. PSD SERs

PSD-(Air) Pollutant	Projected Increases in Emissions, TPY (tons/year)	PSD SER, TPY	PSD SER exceeded?
PM	13.1	25	No
PM_{10}	2.7	15	No
$PM_{2.5}$	0.6	10	No

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for Air Construction Permit received on July 12, 2012.

SECTION II. REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance 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 (Compliance Authority) at 13051 N. Telecom Parkway, Temple Terrace, Florida 33637-0926, Telephone: (813) 632-7600, Fax: (813) 632-7665.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Common Testing Requirements).

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 & 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. Construction and Expiration: The Department may extend the expiration date upon a satisfactory showing that an extension is justified. For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.]

6. 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.]

7. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be 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) & 62-212.300(1)(a), F.A.C.]

8. Source Obligation:
   (a) Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.
   (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 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
   (c) 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 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.]

10-YEAR EMISSIONS MONITORING

9. 10-Year Emissions Monitoring - PSD Avoidance Requirements:

a. Monitoring. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. The change (proposed project under Permit No. 1190042-009-AC/PSD-FL-361F) shall not increase the design capacity of any emissions unit or its potential to emit that PSD pollutant. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.

- The Department identified the following PSD pollutants that could increase from this project: **NOx, CO**, **VOC** (surrogate for THC & indicator of CO), **SO_2**, **PM** and **Hg**.
- The permittee shall use the same calculation methodology for emissions before and after the completed project under Permit No. 1190042-009-AC/PSD-FL-361F. In summary, the CEMS shall be used for emissions of **NOx, CO**, **VOC** (surrogate for THC & indicator of CO) and **SO_2**.

[Rule 62-212.300(1)(e)1., F.A.C.; and, Applicant Request.]

b. Reporting. The permittee shall report to the Department by March 1st based on the records required to be generated under subparagraph 62-212.300(1)(e)1., F.A.C., setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

(1) The name, address and telephone number of the owner or operator of the major stationary source;
(2) The specific dates for commencement of the project and completion of the project;
(3) The annual emissions as calculated pursuant to subparagraph 62-212.300(1)(e)1., F.A.C.;
(3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference;
(4) Any other information that the owner or operator wishes to include in the report;
(5) The baseline actual emissions to which the annual emissions were compared to; and,
(6) For the Department identified PSD pollutants: a statement indicating whether or not the applicable PSD significant emission rates (SERs) defined in Rule 62-210.200, F.A.C., were exceeded, specifically, 40 TPY for NOx and 40 TPY for VOC. If and when a PSD SER is exceeded, the permittee shall submit a PSD permit application with a BACT analysis or if the permittee determines that a PSD permit application with a BACT analysis is not required, the permittee shall provide specific citations as to why the project is exempt from a PSD permit application with a BACT analysis.

[Rule 62-212.300(1)(e)2., F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

c. Recordkeeping. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1. and 2., F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.
[Rule 62-212.300(1)(e)3., F.A.C.]

d. Source Obligation. 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 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)(c), F.A.C.]

This section of the permit addresses the following emissions units:

E.U. ID No.	Brief Description
001	Raw Material Quarrying, Crushing, and Storage
002	Raw Materials Conveying, Storage, and Processing
003	Pyroprocessing System
004	Clinker and Additives Storage and Handling
005	Finish Mill
006	Cement Handling, Storage, Packing, and Loadout
007	Coal and Petroleum Coke Grinding System
008	Fugitive Dust from Storage Piles, Paved Roads, and Unpaved Roads
010	Alternative Fuels Processing System

Air pollution control technologies & measures employed at the Portland cement manufacturing plant include:

A selective non-catalytic reduction (SNCR) system with ammonia injection in the preheater/calciner for the control of NOx emissions, combustion devices & techniques like low-NOx burners in the kiln, an indirect firing system by the burners in the kiln, staged combustion in the preheater/calciner;

Complete combustion in the kiln and calciner, and minimizing carbon and oily content of raw materials to minimize CO and VOC emissions;

Low sulfur content fuels and raw materials along with natural lime process scrubbing in the calciner for the control of SO_2 emissions; and,

A main baghouse, numerous other baghouses for the control of PM/PM_{10} emissions and employing reasonable precautions to minimize fugitive PM/PM_{10} emissions.

In the main baghouse exhaust stack, certified continuous emissions monitoring systems (CEMS) measure and record emissions of NOx, SO_2, total hydrocarbons (THC) (THC is a surrogate for VOC), carbon dioxide (CO_2) and mercury (Hg). A certified continuous opacity monitoring system (COMS) measures and records the stack opacity as a surrogate for PM. Process monitors at select points in the cement manufacturing process/operations measure and record CO.

The original Permit No. 1190042-001-AC/PSD-FL-361 (2006) authorized the construction of the Portland Cement Manufacturing Plant.

ALTERNATIVE FUELS AUTHORIZATION

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

AUTHORIZATION - EQUIPMENT

2. New Equipment: The permittee is authorized to construct and operate the following permanent equipment for firing alternative fuels (AF) in the pyroprocessing kiln system. The permittee shall submit details of the final design once complete (e.g., design heat input rates and schematics).

a. *Mechanical and Pneumatic Handling and Feed Systems*. Each feed system shall be designed to handle alternative fuels with multiple points of injection to accommodate various AF particle size, density and heating value. The nominal feed rate of the total feed system is 32 tons of AF per hour.

(1) The mechanical feed system(s) for the calciner and kiln burners shall consist of mechanical feeder(s), weighing mechanism(s), load hopper(s) with required conveyors, storage bins, and other associated equipment.

(2) The pneumatic feed systems for the calciner and kiln burners shall consist of a system of mechanical feeder(s) and associated system of air movement equipment and related ductwork, weighing mechanism(s), loading hopper(s) with required conveyors, storage bins, and other associated equipment.

b. *Kiln and Calciner Burner, AF Handling and Firing Systems*. The permittee is authorized to replace the current kiln and/or calciner burner system with a multi-channel fuel burner(s) and/or other related feed equipment specifically designed for co-firing AF with authorized fuels in the kiln.

c. *Feed Systems.* To the extent practicable, components of the feed systems shall be substantially enclosed or covered to prevent the loss of any AF and fugitive dust emissions. Each feed system shall be integrated into the existing kiln data system. The AF feed rate shall be recorded along with the other fuel feed rates.

d. *Fuel Preparation Equipment*. The permittee is authorized to install grinding, shredding, screening, and sizing equipment to prepare the AF. This equipment will be powered by electric motors or diesel engines. In addition, the diesel engines shall comply with any applicable NSPS or NESHAP standards.

[Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; Rule 62-296.320, *General Pollutant Emission Limiting Standards*, and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

AUTHORIZED FUELS

3. Currently Approved Fuels: The facility is currently permitted to burn the following fuels: coal, petroleum coke, whole or chipped tires, natural gas, No. 2 fuel oil and on-specification used oil. [Permit No. 1190042-007-AV.]

4. Prohibited Materials: The permittee is prohibited from firing the following materials in the pyroprocessing system: hazardous waste as defined in 40 CFR 261, nuclear waste, and radioactive waste. The permittee shall not knowingly fire biomedical waste, asbestos-containing materials per 40 CFR 61 Subpart M, whole batteries, and unsorted municipal waste. These prohibited materials shall not be used to manufacture engineered fuels.

   If the permittee identifies delivered material that falls under specific condition 4, the supplier shall be contacted and the material shall be returned, disposed, or any other appropriate legal method of handling the material shall be employed. The permittee shall maintain records of delivery, sampling and analysis, and actions taken to correct abnormalities. Such records shall be stored onsite for at least five years and available for inspection upon request.

   [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

5. AF: Subject to the AF Acceptance Criteria, the permittee is authorized to co-fire authorized fuels within any of the following AF categories.

   a. *Tire-Derived Fuel (TDF)*, which includes whole and shredded tires with or without steel belt material including portions of tires such as tirefluff. The kiln is currently permitted to use whole tires using the existing tire injection mechanism system and to use chipped tires.

   b. *Plastics*, which includes materials such as polyethylene plastic used in agricultural and silvicultural operations. This may include incidental amounts of chlorinated plastics.

c. *Roofing Materials*, which consists of roofing shingles and related roofing materials with the bulk of the incombustible grit material separated and which is not subject to regulations as an asbestos-containing material per 40 CFR 61, Subpart M.

d. *Agricultural Biogenic Materials*, which includes materials such as peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding and other similar types of materials.

e. *Cellulosic Biomass - Untreated*, which includes materials such as untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chips scraps, wood scraps, wood slabs, wood millings, wood shavings and processed pellets made from wood or other forest residues.

f. *Cellulosic Biomass - Treated*, which includes preservative-treated wood that may contain treatments such as creosote, copper-chromium-arsenic (CCA), or alkaline copper quaternary (ACQ), painted wood, or resinated woods (plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and other sheet goods). The permittee shall not fire more than 1,000 lb/hour averaged on a 7-day block average basis of segregated streams of wood treated with copper-chromium-arsenic (CCA) compounds.

g. *Carpet-Derived Fuel*, which includes shredded new, reject or used carpet materials. This material may contain incidental related materials (e.g., tack-down strips, nails, etc.).

h. *Alternative Fuel Mix*, which includes a blended combination of two or more of any of the above materials.

i. *Biosolids*, which includes organic materials sanitized to meet EPA Class A sanitization standards and is derived from treatment processes of public treatment water systems.

j. *Engineered Fuel (EF)* is engineered to have targeted, consistent fuel properties such as: calorific value, moisture, particle size, ash content, and volatility. The specific targeted properties are established based on available alternative fuel material supply and are carefully controlled through blending of non-hazardous combustible materials or through separation of non-hazardous incombustible materials from combustible materials (mixes of any alternative fuels where the blending and processing may also include the addition of on-specification used oils or other non-hazardous liquids to ensure consistent and predictable fuel properties). EF is engineered largely from the above materials and could include, but not be limited to materials such as animal meal, automotive manufacturing byproducts, clean-up debris from natural disasters, processed municipal solid waste, dried/sanitized biosolids, paint filter cake, hospital materials (non-infectious), pharmaceuticals (expired prescriptions), cosmetics, and confiscated narcotics.

[Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

6. Receiving AF: For AF received at the plant, the permittee shall comply with the following requirements.

a. All AF materials received at the plant shall be in covered trucks and/or enclosed containers as needed to prevent fugitive emissions. When unloading and handing AF, the permittee shall take reasonable precautions to prevent fugitive dust emissions.

b. The permittee shall record the category/type and the amount of each AF received.

c. Each AF category received shall be sampled and analyzed in a manner consistently with industry standards for quality assurance and quality control to ensure that representative data is collected. The permittee shall obtain the analytical results of a representative sample of the AF category prior to the initial delivery, quarterly for the first year, and if the analysis meets permit requirements the frequency of sampling and analysis shall be annual every January thereafter, if that material is present. All records and results of the analysis will be maintained at the facility as required for currently permitted fuels.

d. *Fuel Analyses Parameters*: The following information shall be included when reporting the analytical results for an AF: higher heating value (Btu/lb) of AF; moisture, ash, sulfur and chlorine content (percent by weight); chromium, lead, and mercury contents (ppm). All concentrations are on a dry basis. Reject roofing shingles, combusted separately as item 5.c. (Roofing Materials) and if knowingly included in item 5.j. (Engineered Fuel) shall include a certification from the manufacturer to be made without

asbestos.

[Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

7. Processed/Prepared AF: The AF shall be stored:
   a. Under cover or in covered trailers, containers or buildings as needed to prevent fugitive emissions;
   b. On top of a paved or compacted clay surface; and,
   c. By Best Management Practices to promote containment and prevent contamination of air, water and soil. The permittee identified Best Management Practices in the air permit application.

   [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

EQUIPMENT SHAKEDOWN AND AF CATEGORY ASSESSMENTS

8. Shakedown of Equipment and AF Assessments: The permittee shall comply with the emissions standards and terms of all valid air permits during shakedown of the equipment allowed under Specific Condition 2. and AF category assessments.
   a. *Equipment Shakedown*: After completing the construction of each system listed in Specific Condition 2., the permittee is authorized 90 operational days irrespective of fuel fired to ensure proper installation as well as develop good operating practices for the AF resulting in steady operation of the kiln system.
   b. *AF Assessments*: For each category of AF, the permittee is authorized 60 operational days to introduce new AF into either the main kiln burner system or the precalciner/calciner to develop good operating practices for normal kiln system operation.

   The Division of Air Resource Management may approve a written request by the permittee for an additional shakedown and assessment periods due to specific extenuating circumstances.

   [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

PERFORMANCE REQUIREMENTS

9. Operation: Alternative fuels shall only be fired once the kiln has achieved normal operation, temperatures and production (i.e., when raw materials are introduced). [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]
   a. AF shall be introduced only in the high-temperature combustion zones of the main kiln burner, the precalciner burner or appropriate secondary firing points in the precalciner/preheater.
   b. The permittee shall make every effort during the shakedown and assessment periods to promote efficient combustion and minimize emissions impacts.

   Operators shall discontinue firing AF if one of the CEMS, COMS or other continuous monitors indicates a non-compliance issue related to alternative fuels until the issue is corrected. [Rule 62-204.800, F.A.C. and 40 CFR 60 Appendix A; and 40 CFR 63.1349, 1350 and 1354]

10. Biosolids - NESHAP 40 CFR 61 Requirements - Subpart A: When combusting biosolids the permittee shall comply with all applicable requirements of 40 CFR 61, Subpart A, General Provisions, which have been adopted by reference in Rule 62-204.800(10)(d), F.A.C., except for 40 CFR 61.08 and except that the Secretary is not the Administrator for the purposes of 40 CFR 61.04, 40 CFR 61.11, and 40 CFR 61.18. In lieu of the process set forth in 40 CFR 61.08, the Department will follow the permit processing procedures of Rule 62-4.055, F.A.C. [Rule 62-204.800(10)(d), F.A.C.]

11. Mercury Emissions from Biosolids: The permitted maximum allowable emission rate for mercury is 7.1 pounds per 24-hour period. [Rule 62-204.800(10)(d), F.A.C. and 40 CFR 61.52]

    {Permitting note: The permittee will remain subject to the current Title V air operation permit limitation of 122 pounds per year of Hg, based on material analysis. If the plant runs at least 50 percent of the time, the

effective maximum permitted 24-hour emissions would average 0.7 pound/24-hour. This value (0.7 pound/24-hour period) is less than 10 percent of the allowed Hg emissions of 40 CFR 61.52. As such the permittee is not expected to come near this limit. The compliance requirements for the mercury emissions from biosolids in Specific Condition 21. may be satisfied with the sampling requirements of Specific Condition 20.}

12. Test Procedures: The test procedures specified in the current valid Title V air operation permit, Permit No. 1190042-007-AV shall be used for the initial compliance demonstration while combusting each alternative fuel category in the kiln and calciner. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

MONITORING REQUIREMENTS

13. CEMS/COMS: The permittee shall continuously monitor the following with data collected by CEMS/COMS to demonstrate compliance with the emissions standards and limitations in this permit:
    a. NOx;
    b. CO;
    c. VOC (as THC);
    d. SO_2; and,
    e. Opacity.

    Mercury emissions shall be determined by sampling/analysis and material balance as specified in the Title V air operation permit. The default value for the mercury content of tires and TDF shall be 0.0081 µg/g; no additional sampling/analysis is required.

    [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

14. Operations and Emissions: The permittee shall continuously monitor the: fuel feed rates, kiln feed rate, clinker production rate and baghouse inlet temperature in accordance with the current Title V air operation permit, Permit No. 1190042-007-AV. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

15. Compliance Stack Tests: The permittee shall continue to conduct stack tests in accordance with the methods and requirements in current Title V air operation permit to demonstrate compliance with the emission standards and limitations. The required stack tests for PM and dioxins/furans shall be conducted while firing an AF category that has completed the AF assessment period. [Rule 62-297.310(7)(a)4, F.A.C.]

16. Operating Rate During Testing: Testing of emissions shall be conducted with the emission units operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

SAMPLING AND ANALYSIS

17. Sampling Criteria: Each AF material received shall be sampled and analyzed in a manner consistent with industry standards for quality assurance and quality control to ensure that representative data is collected. At a minimum, the frequency of sampling and analysis shall be consistent with the frequency of sampling and analysis of coal. All records and results of the analysis shall be maintained at the facility as required for currently permitted fuels. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

18. AF Assessment and Analytical Methods: The permittee shall use the following analytical methods to determine the composition of the AF.

Parameter	Analytical Methods
Moisture, Volatiles, Ash and Fixed Carbon	Proximate Analysis appropriate for given fuel
Carbon, Hydrogen, Nitrogen Sulfur and Oxygen	Ultimate Analysis appropriate for given fuel
Heating Value	ASTM E711 - 87(2004) Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, or ASTM D5468 - 02(2007) Standard Test Method for Gross Calorific and Ash Value of Waste Materials, or Proximate Analysis appropriate for given fuel
Chlorine	EPA SW-846 or EPA Method 9056
Mercury	EPA 7470A/7471A
Other Metals	EPA SW-846 or EPA Method 6010B

Other equivalent methods may be used with prior written approval of the Division of Air Resource Management. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

19. Sampling/Analysis by Permittee: For each AF category assessment, the permittee shall obtain analytical results of the AF as required in Condition 6., the operator shall take a representative as-fired sample of the AF and have it analyzed for the parameters listed in specific condition 6.d. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

20. Material Balance Records of Mercury: The permittee shall demonstrate compliance with the mercury throughput limitation, as required by the current Title V air operation permit, Permit No. 1190042-007-AV. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

21. Testing of Biosolids for Mercury: The permittee shall test biosolids unless a waiver of emission testing is obtained under 40 CFR 61.13 from the Department. Such tests shall be conducted in accordance with the procedures set forth in 40 CFR 61 Subpart E as follows.
    a. The emission or sampling test shall be performed within 90 days of startup of firing biosolids per Method 101A or 105 in Appendix B to 40 CFR 61 Subpart E. A total of three composite samples or as necessary shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.
    b. The Department shall be notified at least 30 days prior to an emission or sampling test.
    c. The permittee shall take samples over such a period or periods as are necessary to determine accurately the maximum emissions which will occur in a 24-hour period. No changes shall be made in the operation which would potentially increase emissions above the level determined by the most recent stack test, until the new emission level has been estimated by calculation and the results reported to the Department.
    d. All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack or sampling test. Each determination shall be reported to the Department by a registered letter within 15 calendar days following the date such determination is completed. Records of emission test results and other data needed to determine total emissions shall be retained at the source and shall be made available, for inspection by the Department, for a minimum of **5** years.
    e. The maximum 24-hour period biosolids firing rate shall be determined by use of a flow rate measurement device that can measure the mass rate of biosolids charged to the incinerator or dryer with an accuracy of ±5 percent over its operating range. Other methods of measuring biosolids mass charging rates may be used if they have received prior approval by the Department.

f. If sampling is used, mercury emissions shall be determined by use of the following equation.

$$E_{Hg} = \frac{MQ\ F_{sm(avg)}}{1000}$$ where:

E_{Hg} = Mercury emissions, g/day.

M = Mercury concentration of biosolids on a dry solids basis, µg/g.

Q = Biosolids changing rate, kg/day.

F_{sm} = Weight fraction of solids in the collected biosolids after mixing.

1000 = Conversion factor, kg µg/g^2.

g. No changes in the operation of a plant shall be made after a biosolids test has been conducted which would potentially increase emissions above the level determined by the most recent biosolids test, until the new emission level has been estimated by calculation and the results reported to the Department.

h. If mercury emissions exceed 3.5 pound per 24-hour period, demonstrated either by stack sampling according to 40 CFR 61.53 or biosolids sampling, the permittee shall monitor mercury emissions at intervals of at least once per year. The results of monitoring shall be reported and retained as indicated in Specific Condition 21.d.

[Rule 62-204.800(10)(d), F.A.C. and 40 CFR 61.53, 53, 54, and 55]

{Permitting note: The sampling requirements of this specific condition may be satisfied with the sampling requirements of Specific Condition 20.}

22. AF Target Levels: Targets levels are the desired AF properties for as-fired fuel in the system. Target Levels are not enforceable.

Parameter	Target Levels[a]
Higher Heating Value	> 5,000 Btu/lb
Arsenic	< 2,000 ppm by weight
Beryllium	< 20 ppm by weight
Cadmium	< 200 ppm by weight
Chromium	< 200 ppmw (mg/kg)
Lead	< 1,000 ppmw (mg/kg)
Mercury	< 0.3 ppm by weight

* Heating value is on dry basis. All concentrations are dry basis.

Target levels are based on USGS data of coal samples, (http://pubs.usgs.gov/of/2010/11961)

[Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

{Permitting note: The current Title V air operation permit, Permit No. 11190042-007-AV requires all fuel materials be analyzed for mercury content to determine compliance with an input limit of 122 pounds of mercury per 12-month period.}

NOTIFICATIONS, RECORDS AND REPORTS

23. Shakedown Notifications: Within 15 (fifteen) days of completing construction, the permittee shall notify the Compliance Authority and provide a schedule for shakedown and the initial AF category assessment. The Compliance Authority may waive this deadline. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

24. AF Assessment Notifications: At least five days prior to firing each new category of AF material listed in Specific Condition 5., the permittee shall notify the Compliance Authority with a proposed schedule. The Compliance Authority may waive this deadline. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

25. Records of Fuels and Heat Input: The permittee shall record the fuel-firing rate continuously. The permittee shall maintain records of the quantity and representative analysis of fuels purchased, and such records shall include the parameters listed in Specific Condition 6.d. The permittee 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 by the end of the day following the day the fuel was fired. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

26. Reports for Shakedown and AF Assessments: During periods of authorized shakedowns and AF category assessments, the permittee shall document the shakedown and/or AF category assessment period. These periods may end early when the operator is confident that good operating practices have been defined for the AF category that results in steady kiln system operation. Within 90 days of completing a shakedown and/or assessment of each AF category listed in Specific Condition 5., the permittee shall provide a written report summarizing the following information collected from the shakedown and/or AF category assessment period.

    a. For a 24-hour period representing good operating practices and steady kiln operation, report: the representative analysis of the AF fired; hourly AF and fossil fuel firing rates; hourly clinker production; hourly CO, NOx, SO_2 and THC emissions data from the CEMS; the 6-minute block averages from the COMS; and the inlet temperature to main kiln baghouse (3-hour average). Identify the good operating practices resulting in steady kiln operation.

    b. The AF category assessments may occur over several years. Emissions from the initial AF category assessment of a new fuel may be excluded from the report requiring a comparison of actual-to-baseline emissions (Rules 62-212.300(1)(e) and 62-210.370, F.A.C.) since operators are still establishing good operating practices and the AF will not have been available for the full calendar year. To exclude emissions data collected during an authorized shakedown and/or AF category assessment period from this report, the permittee shall submit the following information for: total clinker production; fossil fuel fired; AF fired; total CO, NOx, SO_2 and THC emissions (tons). Excluded data shall be replaced with data estimated from: the actual clinker production rate; and an emissions factor based on the average emission rates from the rest of the year (i.e., all periods except the shakedown and/or AF assessment periods).

    [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

27. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The permittee shall use the most accurate of the approaches below to compute the emissions of a pollutant.

    a. If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the permittee shall use the CEMS to compute the emissions of the pollutant.

    b. If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be calculated using the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the permittee shall use that methodology, unless the permittee demonstrates to the Department that an alternative approach is more accurate.

    c. If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the permittee shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the permittee demonstrates to the Department that an alternative approach is more accurate.

[Rules 62-210.370 and 62-297.310(8), F.A.C.]

28. Records Availability: All records shall be made available to the Department upon request. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

This section of the permit addresses the following emissions units:

E.U. ID No.	Brief Description
001	Raw Material Quarrying, Crushing, and Storage
002	Raw Materials Conveying, Storage, and Processing
003	Pyroprocessing System
004	Clinker and Additives Storage and Handling
005	Finish Mill
006	Cement Handling, Storage, Packing, and Loadout
007	Coal and Petroleum Coke Grinding System
008	Fugitive Dust from Storage Piles, Paved Roads, and Unpaved Roads
010	Alternative Fuels Processing System

Air pollution control technologies & measures employed at the Portland cement manufacturing plant include:

A selective non-catalytic reduction (SNCR) system with ammonia injection in the preheater/calciner for the control of NOx emissions, combustion devices & techniques like low-NOx burners in the kiln, an indirect firing system by the burners in the kiln, staged combustion in the preheater/calciner;

Complete combustion in the kiln and calciner, and minimizing carbon and oily content of raw materials to minimize CO and VOC emissions;

Low sulfur content fuels and raw materials along with natural lime process scrubbing in the calciner for the control of SO_2 emissions; and,

A main baghouse, numerous other baghouses for the control of PM/PM_{10} emissions and employing reasonable precautions to minimize fugitive PM/PM_{10} emissions.

In the main baghouse exhaust stack, certified continuous emissions monitoring systems (CEMS) measure and record emissions of NOx, SO_2, total hydrocarbons (THC) (THC is a surrogate for VOC), carbon dioxide (CO_2) and mercury (Hg). A certified continuous opacity monitoring system (COMS) measures and records the stack opacity as a surrogate for PM. Process monitors at select points in the cement manufacturing process/operations measure and record CO.

The original Permit No. 1190042-001-AC/PSD-FL-361 (2006) authorized the construction of the existing Sumterville Portland cement manufacturing plant. The original AC/PSD permit authorized a clinker production rate of 1,095,000 short tons per year (TPY) and 125 short tons per hour (TPH), equivalent to 3,000 tons per day (TPD) plant. The original nominal cement production was 1,150,000 short TPY.

This permit authorizes an increase in production rate to the Sumterville plant's designed and built in capacity. The new clinker production rate is 1,186,250 short TPY and 135.42 short TPH, equivalent to a 3,250 TPD plant. The new nominal cement production is 1,300,000 short TPY.

PRODUCTION RATE INCREASE

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations for these emissions units. The production rate limitation (Specific Condition III.B.2.) of this permit supersedes all previously issued air construction permits for these emissions units. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

AUTHORIZATION

2. Production Rate Limitations: The clinker production rate of the kiln shall not exceed 135.42 tons per hour (24-hour rolling average) and 1,186,250 tons during any consecutive 12 month period. Kiln preheater feed rate shall be monitored and recorded for purposes of determining clinker production. The clinker production rate shall be determined using kiln feed and kiln feed loss on ignition (LOI) factors. The feed rates and kiln feed LOI shall be based on a 30 operating-day block average of daily measurements. For purposes of this requirement, an operating day is any day that the kiln produces clinker or burns fuel. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

3. Physical Changes at the Plant: There shall be no physical modifications (changes) to the Sumterville Cement Plant to accomplish the production rate increases authorized by this permit. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

4. Operating Rate During Testing: Testing of emissions shall be conducted with the emission units operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

EMISSION STANDARDS & LIMITATIONS

5. E.U. ID No. 003, Pyroprocessing System: The emission standards & limitations in this specific condition replace those in Specific Condition III.C.13. of Permit No. 1190042-001-AC/PSD-FL-361 in their entirety.

   Emissions from the pyroprocessing system (including the air heater) main stack shall not exceed the following emission standards and limitations shown in the following table. Unless otherwise noted, emission standards and limitations apply during all periods of operation (including startup, shutdown and malfunction).

Air Pollutant	Emission Standards & Limitations	Averaging Time	Compliance Method	Basis
Carbon Monoxide (CO)	2.67 lb/ton of clinker	30-day rolling	CEMS	BACT & Avoid PSD BACT
	362.5 lb/hr			
Nitrogen Oxides (NO_X)	1.80 lb/ton of clinker	30-day rolling	CEMS	BACT & Avoid PSD BACT
	243.8 lb/hr			
Sulfur Dioxide (SO_2)	0.185 lb/ton of clinker	24-hr rolling	CEMS	BACT & Avoid PSD BACT
	25.0 lb/hr			
Volatile Organic Compounds (VOC) [a]	0.110 lb/ton of clinker	30-day block	CEMS	BACT & Avoid PSD BACT
	15.0 lb/hr			
Total Hydro-carbons (THC)	20 ppmvd [d] (as propane) @ 7% O_2 (effective until 09/08/13[e])	1-hour block average	CEMS	NESHAP Subpart LLL (12/20/06 FR) [e]

	24 ppmvd [d] (as propane) @7% O_2* (*no O_2 correction during startup & shutdown) (effective on and after 09/09/13)	30-day rolling (7-day rolling for startup& shutdown)	CEMS	NESHAP Subpart LLL (09/09/10 FR)
Particulate Matter (PM/PM_{10}) [b]	0.140 lb/ton of clinker	Three 1-hr runs	3-Run Stack Test	BACT & Avoid PSD BACT
	19.13 lb/hr			
	10 % opacity	6-minute block	COMS	BACT
	0.30 lb/ton kiln feed (dry basis) (effective until 09/08/13[e])	Three 1-hr runs	3-Run Stack Test	NESHAP Subpart LLL (12/20/06 FR) [e]
	Normal operation: 0.04 lb/ton clinker (effective on and after 09/09/13)	30-day rolling	PM CEMS	NESHAP Subpart LLL (09/09/10 FR) [f]
	Startup and Shutdown: 0.004 gr/dscf (effective on and after 09/09/13)	7-day rolling		
Dioxins/ Furans (D/F) [c]	0.20 ng/dscm (TEQ) @ 7% O_2	Three 3-hr runs	3-Run Test & Temperature Monitor	NESHAP Subpart LLL [c]
	0.40 ng/dscm (TEQ) @ 7% O_2			
Mercury (Hg)	122 lb/12-month period	12-month rolling	CEMS or Mass Balance	Avoid PSD
	41 ug/dscm	Three 2-hr runs	3-run Stack Test	NESHAP Subpart LLL (12/20/06 FR) [e]
	Normal operation: 55 lb/MM tons clinker (effective on and after 09/09/13)	30-day rolling	CEMS	NESHAP Subpart LLL (09/09/10 FR) [f]
	Startup and Shutdown: 10 ug/dscm (effective on and after 09/09/13)	7-day rolling		
Hydrochloric Acid (HCl)	3 ppmvd @ 7% O_2* (*no O_2 correction during startup & shutdown) (effective on and after 09/09/13)	30-day rolling (7-day rolling for startup &shutdown)	CEMS	NESHAP Subpart LLL (09/09/10 FR) [f]

Notes:

a. Compliance shall be demonstrated by THC CEMS. VOC emissions shall be measured as total hydrocarbons (THC) and expressed as "propane" for the mass emissions rate.

b. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT standard for PM is equivalent to approximately 0.09 lb per ton of preheater feed material. The emissions limits for particulate matter and visible emissions imposed by Rule 62-212.400 (BACT) are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions of NESHAP Subpart LLL, as amended in the 12/20/06 Federal Register. *(Subpart LLL Note – The BACT PM/PM10 limits are less stringent than the PM limits in Subpart LLL as amended in the 09/09/10 Federal Register. These more stringent Subpart LLL PM limits have a compliance date of 09/09/13.)* The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.

c. Dioxin/furans shall not exceed 0.20 ng/dscm (TEQ) @ 7% oxygen when the average of the performance test run temperatures at the inlet to the particulate matter control device is 204° C (400° F) or more and shall not exceed 0.40 ng/dscm (TEQ) @ 7% oxygen when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less. (*Subpart LLL Note - The D/F limits are the same in Subpart LLL as amended in the 12/20/06 and 09/09/10 Federal Registers.)*

d. Construction permit 1190042-001-AC (PSD-FL-161) referenced the THC limit as 50 ppmvd with NESHAP Subpart LLL as the reference. In accordance with Subpart LLL 63.1343(c)(4), as amended in the 12/20/06 Federal Register,

the THC limit should have been 20 ppmvd since the pyroprocessing system did not commence construction until after December 2, 2005. Subpart LLL, as amended in the 09/09/10 Federal Register, in 63.1343, Table 1, revised the THC limit for new and existing kilns to 24 ppmvd. The applicable THC limit (through 09/08/13) therefore, is 20 ppmvd. On and after 09/09/13, the THC limit will be 24 ppmvd. *(Note - The initial performance stack test conducted on 03/31/10 showed THC emissions of 6.2 ppmvd.)*

e. This limitation from NESHAP 40 CFR 63 Subpart LLL, as amended in the 12/20/06 Federal Register is effective until 09/08/2013 (40 CFR 63.1351(b)).

f. Compliance with this limitation from NESHAP 40 CFR 63 Subpart LLL, as amended in the 09/09/10 Federal Register, must be demonstrated no later than 09/09/13 (40 CFR 63.1351(b)).

On 07/18/2012, U.S. EPA proposed to extend the compliance date by 2 years, from 09/09/2013 to 09/09/2015 (see Federal Register at http://www.gpo.gov/fdsys/pkg/FR-2012-07-18/pdf/2012-16166.pdf).

{Permitting Note on Annual PTE: In combination with the permitted annual clinker production limitation of 1,186,250 tons per year, the revised BACT emissions standards effectively limit annual potential emissions from this unit to: 1,588 tons/year of CO; 1,068 tons/year of NO_X; 83.8 tons/year of PM/PM_{10} ($PMPM_{10}$ potential emissions will be 21.9 TPY with new Subpart LLL(09/09/10 FR) limit which has a compliance date of 09/09/13); 110 tons/year of SO_2; and 66 tons/year of VOC.}

[Rules 62-4.070(1)&(3); 62-204.800(11); 62-210.200 (PTE); 62-212.400 (Best Available Control Technology (BACT)), F.A.C.; NESHAP 40 CFR 63, Subpart LLL (as amended in the 12/20/06 FR, and the 09/09/10 FR); as partially established in Permit No. 1190042-001-AC/PSD-FL-361; and, Application No. 1190042-009-AC/PSD-FL-361F.]

6. E.U. ID Nos. 001, 002 & 004 - 008: The specific emission standards & limitations for E.U. ID Nos. 001, 002 & 004 - 008 at the facility were not changed under this project. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

INITIAL COMPLIANCE DEMONSTRATION (TESTING) AT HIGHER PRODUCTION RATE

7. E.U. ID No. 003, Pyroprocessing System - Initial Compliance Demonstration - COMS Data: Within 90 operational days of the completion of the project, an initial compliance demonstration at the higher production rate shall be performed for visible emissions (VE) using COMS data. The COMS data shall serve as an indicator of PM emissions; no initial PM test is required. The emissions data shall be reduced to the averaging time(s) as specified in the current valid Title V air operation permit, Permit No. 11190042-007-AV. The results shall be compared to the emission standards/limits of this permit. The periods of time in which the COMS data is collected shall be the same periods of time as when the NOx, THC, SO_2 and Hg emissions data are collected. A summary of the emissions data from the COMS at the higher production rate shall be submitted in a test report to the permitting and compliance authorities within 45 days of completion of the project. The permittee shall include in the report a statement whether or not the emissions unit is in compliance with the specific VE emission standards/limits of this permit.

   The test report shall include the clinker production rate (TPH, tons per hour) during testing.

   The baghouse inlet temperature during VE testing shall be included in the test report.

   [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

8. E.U. ID No. 003, Pyroprocessing System - Initial Compliance Demonstration - CEMS Data: Within 90 operational days of the completion of the project, initial compliance demonstration at the higher production rate shall be performed for NOx, THC (surrogate for THC & indicator of CO), SO_2 and Hg using CEMS data. The THC CEMS data shall serve as an indicator of CO emissions; no initial CO test is required. CEMS data shall be collected at the higher production rate to demonstrate compliance with the NOx, THC and SO_2 emissions standards. The periods of time in which the NOx data is collected shall be the same periods of time as when the THC and SO_2 emissions data is are collected. The emissions data shall be reduced to the averaging time(s) as specified in the current valid Title V air operation permit, Permit No. 11190042-007-AV. The results shall be compared to the emission standards/limits of this permit. A summary of the

emissions data from the NOx, THC, SO_2 and Hg CEMS at the higher production rate shall be submitted in a test report to the permitting and compliance authorities within 45 days of completion of the project. The permittee shall include in the report a statement whether or not the emissions unit is in compliance with the specific NOx, THC, SO_2 and Hg emission standards/limits of this permit. As an option, emission measurements, consisting of three 1-hour test runs conducted in accordance with EPA Method 29 can be used for compliance demonstration.

The test report shall include the clinker production rate (TPH, tons per hour) during testing.

The ammonia injection rate during NOx testing shall be included in the test report.

[Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210,*Construction Permits*, F.A.C.]

9. E.U. ID Nos. 001, 002 & 004 - 008: Within 90 operational days of the completion of the project, initial compliance demonstration at the higher production rate shall be performed by E.U. ID Nos. 001, 002 & 004 - 008. Initial compliance shall be performed for the specific emission standards & limitations under the current valid Title V air operation permit, Permit No. 11190042-007-AV. The results shall be compared to the existing emission standards/limits. A summary of the emissions data at the higher production rate shall be submitted in a test report to the permitting and compliance authorities within 45 days of completion of the project. The permittee shall include in the report a statement whether or not the emissions unit is in compliance with the specific emission standards & limitations.

   The test report shall include the clinker production rate (TPH, tons per hour) during testing.

   [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-210.200, *Definitions - PTE*, F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

10. Test Procedures: The test procedures specified in the current valid Title V air operation permit, Permit No. 1190042-007-AV shall be used for the initial compliance demonstration at the higher production rate. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

MONITORING REQUIREMENTS

11. E.U. ID No. 003, Pyroprocessing System - CEMS/COMS: The permittee shall continuously monitor the following with data collected by CEMS/COMS to demonstrate compliance with the emissions standards and limitations in this permit:

    a. NOx;

    b. CO;

    c. VOC (as THC);

    d. SO_2; and,

    e. Opacity.

    Mercury emissions shall be determined by sampling/analysis and material balance as specified in the Title V air operation permit. The default value for the mercury content of tires and TDF shall be 0.0081 µg/g; no additional sampling/analysis is required.

[Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

NOTIFICATIONS AND RECORDS

12. Notification: Within 15 (fifteen) days of initiating the higher production rate, the permittee shall notify the Compliance Authority and Permitting Authority. [Application No. 1190042-009-AC/PSD-FL-361F; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

13. Records Availability: All records shall be made available to the Department upon request. [Application No. 1190042-009-AC/PSD-FL-361F; Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]