Florida Department of Environmental Protection

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PERMITTEE

Suwannee American Cement, LLC
Branford Cement Plant

Authorized Representative:
Mr. Tom Messer, Plant Manager

Final Permit No. 1210465-024-AC
Permit Expires: July 9, 2014
Air Construction Permit

Project: Rehabilitation & Adjustments to the Existing Natural Gas Systems for Cement Kiln No. 1

Suwannee County, Florida

PROJECT

This is the final air construction permit, which authorizes the rehabilitation & adjustments to the existing natural gas systems for Cement Kiln No. 1 (Project). This facility is an existing Portland cement manufacturing plant categorized under Standard Industrial Classification No. 3241. The existing Branford Cement Plant is located in Suwannee County at 5117 US Highway 27 in Branford, Florida. The UTM coordinates Zone 17, 321.4 km East and 3315.9 km North.

This final permit is organized into the following sections: Section I (General Information), Section II (Administrative 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 not 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
For the Division of Air Resource Management
(Electronic Signature)

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for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance

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. Tom Messer, Suwannee American Cement, LLC: tomm@suwanneecement.com
Mr. Krishna C. Cole, Suwannee American Cement, LLC: krishnac@suwanneecement.com
Mr. John B. Koogler, Ph.D, P.E.: jkoogler@kooglerassociates.com
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Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us (for reading file)

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)

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 plant combines raw materials and utilize a pre-heater/precalciner kiln with in-line raw mill to produce clinker. The clinker is milled and combined with gypsum to produce Portland cement. The plant has a permitted capacity of 210 tons per hour of material fed to the pre-heater (dry basis), 120 tons per hour of clinker production, and 150 tons per hour of Portland cement production. Annual production is limited (on a rolling 12-month basis) to 1,684,578 tons per year of material fed to the pre-heater (dry basis), 965,425 tons per year of clinker production, and 1,191,360 tons per year of Portland cement production. Fuels allowed to be used in the pyroprocessing system are natural gas, coal, and petroleum coke. The plant also includes a coal processing operation that will crush coal and petroleum coke and will have a monthly processing capacity of 13,360 tons of coal and petroleum coke.

This project will affect the following existing permitted emissions unit:

E.U. ID No.	Brief Description
004	Pyroprocessing System - In Line Kiln/Raw Mill

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 the rehabilitation and adjustments to the existing natural gas systems for Cement Kiln No. 1.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for Air Construction Permit received on May 4, 2012.

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 Northeast District Office (Compliance Authority) at 7825 Baymeadows Way, Suite 200-B, Jacksonville, FL 32256-7590.

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.]

This section of the permit addresses the following emissions unit:

E.U. ID No.	Brief Description
004	Pyroprocessing System - In Line Kiln/Raw Mill

The subject emissions unit is briefly described as the "Pyroprocessing System - In Line Kiln/Raw Mill" otherwise known as "Cement Kiln No. 1." Air pollution control technologies employed at Cement Kiln No. 1 include a selective non-catalytic reduction (SNCR) system for the control of NOx emissions, a hydrated lime injection system for the control of sulfur dioxide (SO_2) emissions, and an electrostatic precipitator (ESP) and baghouses for the control of particulate matter (PM) emissions.

Certified continuous emissions monitoring systems (CEMS) measure and record emissions of nitrogen oxides (NOx), SO_2 and total hydrocarbons (THC) (THC is a surrogate for volatile organic compounds (VOC)). 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 carbon monoxide (CO).

The original Permit No. 1210465-001-AC/PSD-FL-259 (2000) authorized the construction of Cement Kiln No. 1. The original AC/PSD permit for Cement Kiln No. 1 was modified in 2005 by Permit No. 1210465-011-AC/PSD-FL-259F, increasing production.

PREVIOUS APPLICABLE REQUIREMENTS

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

2. Fuels. Fuels fired in the pyroprocessing system (kiln and calciner) shall not exceed a total maximum heat input of 458 million Btu per hour (mmBtu/hr) and shall consist only of natural gas, coal and petroleum coke. [Rules 62-4.070(1)&(3), *Reasonable Assurance* and 62-210.200, *Definitions - Potential to Emit (PTE)*, F.A.C.; and, Permit No. 1210465-011-AC/PSD-FL-259F, Specific Condition B.1.]

AUTHORIZATION

3. Authorization: The permittee is authorized to rehabilitate & make adjustments to the existing natural gas systems for Cement Kiln No. 1. [Application No. 1210465-024-AC; 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 emissions unit 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.]

INITIAL COMPLIANCE DEMONSTRATION (TESTING) WHILE COMBUSTING NATURAL GAS

5. Initial Compliance Demonstration - COMS Data: Within 90 operational days of the commencement of the project an initial compliance demonstration while combusting natural gas in the kiln and calciner 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. 1210465-019-AV. The results shall be compared to the existing emission standards/limits. The periods of time in which the COMS data is collected shall be the same periods of time as when the NOx & THC emissions data is collected. A summary of the emissions data from the COMS while combusting natural gas in the kiln and calciner 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 in Permit No. 1210465-019-AV.

The test report shall include the rate (volumetric, MMcf/hr) at which natural gas in the kiln and calciner were combusted during testing. The test report shall also include the kiln feed rate and clinker production rate.

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

[Application No. 1210465-024-AC; 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.]

6. Initial Compliance Demonstration - CEMS Data: Within 90 operational days of the commencement of the project initial compliance demonstration while combusting natural gas in the kiln and calciner shall be performed for NOx and THC (surrogate for THC & indicator of CO) 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 while combusting natural gas in the kiln and calciner to demonstrate compliance with the NOx and THC emissions standards. The periods of time in which the NOx data is collected shall be the same periods of time as when the THC emissions data is 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. 1210465-019-AV. The results shall be compared to the existing emission standards/limits. A summary of the emissions data from the NOx and THC CEMS while combusting natural gas in the kiln and calciner 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 and THC emission standards/limits in Permit No. 1210465-019-AV.

   The test report shall include the rate (volumetric, MMcf/hr) at which natural gas in the kiln and calciner were combusted during testing. The test report shall also include the kiln feed rate and clinker production rate.

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

   [Application No. 1210465-024-AC; 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.]

7. Test Procedures: The test procedures specified in the current valid Title V air operation permit, Permit No. 1210465-019-AV shall be used for the initial compliance demonstration while combusting natural gas in the kiln and calciner. [Application No. 1210465-024-AC; 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.]

EMISSIONS MONITORING

8. Emissions Monitoring: Emissions from the kiln and calciner shall be monitored using the COMS & CEMS after the modifications, construction and changes associated with this project are complete. The permittee shall monitor emissions of opacity, NOx and THC (surrogate for VOC & indicator of CO) using the COMS & CEMS consistent with the averaging times specified in Permit No. 1210465-019-AV. [Application No. 1210465-024-AC; 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.]

5-YEAR EMISSIONS MONITORING

9. 5-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 5 years following resumption of regular operations after the change. The change (proposed project) 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** and **VOC** (surrogate for THC & indicator of CO).

- The permittee shall use the same calculation methodology for emissions before and after the completed project under Permit No. 1210465-024-AC. In summary, the CEMS shall be used for emissions of NOx and VOC (surrogate for THC & indicator of CO).

[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.]

RECORDKEEPING & RECORDS

10. Recordkeeping: The permittee shall record of the quantity of natural gas burned in the kiln and calciner. [Application No. 1210465-024-AC; 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.]

11. Records: The permittee shall keep records on-site of the total quantity of natural gas burned in the kiln and calciner on-site. [Application No. 1210465-024-AC; 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.]

12. Records Availability: All records shall be made available to the Department upon request. [Application No. 1210465-024-AC; 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.]