FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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TALLAHASSEE, FLORIDA 32399-2400

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SECRETARY

PERMITTEE

Suwannee American Cement, LLC
5117 U.S. Highway 27
Branford, Florida 32008

Authorized Representative:
Mr. Tom Messer, Plant Manager

Air Permit No. 1210465-026-AC
Permit Expires: September 30, 2015
Minor Air Construction Permit

Branford Cement Plant
Bottom Ash Use and Baghouse Dust Transfer

PROJECT

This is the final air construction permit, which authorizes: the use of coal power plant bottom ash as a raw material; removal and transfer of kiln baghouse dust to the finish mill system; and, associated pneumatic conveyance equipment, bins and silos. The proposed work will be conducted at the existing Branford Cement plant, which is categorized under Standard Industrial Classification Code No. 3241. The existing Branford Cement Plant is located in Suwannee County at 5117 U.S. 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 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions).

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. 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.

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

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 with 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.

Tom Messer, Suwannee American Cement, LLC: tomm@vcsmc.com
Max Lee, Ph.D., P.E., Koogler and Associates: mlee@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.
(Electronic Signature)

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FACILITY DESCRIPTION

The existing facility consists of a portland cement manufacturing plant, the associated quarry, and raw material and cement handling operations. The plant combines raw materials and utilizes a preheater/calciner kiln system with in-line raw mill to produce cement clinker. The clinker is milled and combined with gypsum and limestone to produce portland cement. The existing plant has a capacity of 210 tons per hour of dry preheater feed materials, 120 tons per hour of clinker production, and 150 tons per hour of portland cement production. Annual production is limited to the following 12-month rolling totals: 1,648,578 tons per year of dry preheater feed materials; 965,425 tons per year of clinker production; and 1,191,360 tons per year of portland cement production.

The main stack is equipped with continuous emission monitoring systems (CEMS) for volatile organic compounds (VOC), total hydrocarbons (THC), nitrogen oxides (NO_X), sulfur dioxide (SO_2), a process monitor for carbon monoxide (CO) and a continuous opacity monitoring system (COMS) for visible emissions.

The facility is comprised of the following permitted emissions units (EU).

EU No.	Emissions unit Description
001	1,000 TPH primary crusher and associated unenclosed belt conveyors to raw material storage – fugitive emissions
002	Raw material processing operations controlled by baghouses
003	Raw material processing – unenclosed conveyor transfer points – D conveyors
004	In line kiln/raw mill controlled by baghouse – main stack
005	Clinker cooler controlled by Electrostatic Precipitator (ESP)
006	Clinker and cement processing operations controlled by baghouses
007	Clinker and cement processing – unenclosed conveyor transfer points – M conveyors
008	Coal mill and coal transfer system controlled by baghouses
009	Unenclosed coal conveying equipment – S conveyors
010	Natural gas fired emergency generator set

PROJECT DESCRIPTION

This permit affects EU's 002, 003 and 004. The project is to install and operate equipment to use bottom ash as a raw material in the process and to transfer and add small amounts of the in-line raw mill/kiln baghouse dust to the finished cement product.

The bottom ash will be used in the same manner as the presently used fly ash to substitute for other sources of silica, iron and aluminum (such as sand, clay and bauxite).

A temporary VOC annual cap will apply until the final raw material mix is determined that will optimize product quality and ensure compliance with the existing permits and applicable regulations. Thereafter, a revised THC emission standard of 20 parts per million, by volume, dry at 7 percent (ppmvd @7% O_2) will replace the VOC emission standard of 0.12 pounds per ton of clinker (lb/ton).

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- 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.

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SECTION 2. ADMINISTRATIVE 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 is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Air Resource Section of the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200-B, Jacksonville, Florida 32256-7590.
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 at 7825 Baymeadows Way, Suite 200-B, Jacksonville, Florida 32256-7590.
3. 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.
4. 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.]
5. 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. A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted in writing before the expiration of the permit. Upon timely submittal of a request for extension, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
6. 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 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.]
7. Application for Title V Air Operation Permit Revision: This permit authorizes modification of the permitted emissions units (EU's); specifically to use bottom ash as a raw material and to allow additional temporary VOC emissions from the in-line raw mill/kiln (EU 004). A Title V air operation permit revision is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit revision at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and resuming normal operation to include any new methods of operation authorized by this

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project. To apply for a Title V air operation permit revision, 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 & 62-213.420, F.A.C.]

8. Future Monitoring, Reporting and Recordkeeping of Projected Actual Emissions: This construction permit avoids the requirements of subsections 62-212.400(4) through (12), F.A.C., for certain pollutants based in whole or in part on projected actual emissions calculations. In accordance with Rule 62-212.300(1)(e), F.A.C., monitoring, reporting and recordkeeping provisions shall apply to emissions of such pollutants as described in Section 3, Specific Condition 10.

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EU's 002, 003, 004 and 006

This section of the permit addresses the following emissions units.

E.U. ID No.	Emission Unit Description
002	Raw material processing operations controlled by baghouses
003	Raw material processing – unenclosed conveyor transfer points – D conveyors
004	In line kiln/raw mill controlled by baghouse - main stack
006	Clinker and cement processing operations controlled by baghouses

COMPLIANCE WITH EXISTING PERMIT CONDITIONS

1. Existing Permits: This permit supplements all existing valid air construction permits. The permittee shall continue to comply with all applicable conditions from valid air construction permits (as incorporated into the current Title V air operation permit No. 1210465-019-AV), except as modified by this permit. [Rule 62-4.070, F.A.C. and Air Construction Permit No. 1210465-001-AC (PSD-FL-259), including all modifications thereof]

PORTLAND CEMENT NESHAP

2. Portland Cement NESHAP: The facility is subject to the applicable provisions contained in 40 Code of Federal Regulations (CFR), Part 63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants (NESHAP) From the Portland Cement Manufacturing Industry.

   {The facility was constructed in accordance with NESHAP, Subpart LLL applicable to new Portland cement plants constructed after 1998. The facility is also an existing affected source subject to NESHAP, Subpart LLL promulgated on September 9, 2010 and revised in 2013.

EQUIPMENT

3. New Equipment: The permittee is authorized to construct and operate the following permanent equipment to store, process and introduce bottom ash into the pyroprocessing system and to transport a portion of the dust captured in the in-line kiln/raw mill baghouse (EU 004) to the exhaust side of the finish mill (within EU 006):

   a. A bottom ash screening and conveyance system within the EU 002, Raw Material Processing Operations. The bottom ash will be stored in Emission Point U-02-01 of EU 002. Bottom ash will be conveyed to EU 004 by the existing EU 003, Raw Materials Processing conveyers and transfer points.

   b. A fully enclosed dust conveyance system from Emissions Point E-21 of EU 004 to Emission Point N-91 (dust collector) of EU 006.

   [Application No. 1210465-026-AC]

RAW MATERIALS AND PROCESS LIMITS

{The following condition revises the original Air Construction Permit No. 1210465-001-AC (PSD-FL-259), Section III, Subsection B., Condition 4 as modified by Air Construction Permit No. 1210465-011-AC (PSD-FL-259F). Changes are shown in ~~strikeout~~ and double-underlined format.}

4. Process Rate Limitations: The kiln shall not process more than 210 tons per hour of dry preheater feed, bottom ash and dry fly ash fed directly to the calciner and shall not produce more than 120 tons of clinker per hour. The facility shall not produce more than 150 tons of cement per hour. Process and production rates shall be further limited to 1,684,578 tons of dry preheater feed, bottom ash and dry fly ash in any consecutive 12-month period, 965,425 tons of clinker in any consecutive 12-month period, and 1,191,360 tons of portland cement in any consecutive 12-month period.

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

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Clinker Production = [(Feed) (Kiln Feed LOI Factor) + (Fly Ash Injection) (Fly Ash LOI Factor) + (Bottom Ash Injection) (Bottom Ash LOI Factor)]

Where:

- Kiln feed is determined by the Poldos control system.
- Fly ash is determined from the rotary feed system or equivalent.
- Bottom ash is determined from the rotary feed system or equivalent.
- Loss on Ignition (LOI) for the kiln feed, bottom ash and fly ash is 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 fires fuel.

[Application No. 1210465-026-AC; Rule 62-210.200, F.A.C., Definitions - potential to emit (PTE); Permit Nos. 1210465-001-AC (PSD-FL-259), 1210465-011-AC (PSD-FL-259F)

EMISSION LIMITATIONS AND PERFORMANCE STANDARDS

5. VOC: The applicable VOC emission limits (0.12 pounds per ton of clinker and 14.4 pounds per hour) contained in Condition III.B.15 of Permit No. 1210465-011 shall be replaced and superseded by the following emission standards:

   a. 50 parts per million by volume, dry at 7 percent oxygen (ppmvd @7% O_2), (THC reported as propane), beginning on the date of initial use of bottom ash following issuance of this permit;

   b. 58 tons per 12-calendar month period, rolled monthly, (THC reported as propane), within the 180 operating days beginning with the first use of bottom ash after issuance of this permit. Methane and ethane emissions may be measured and subtracted to calculate this value.

   c. 20 ppmvd @7% O_2, (THC reported as propane), beginning 181 operating days after the date of initial use of bottom ash following issuance of this permit, but no later than September 9, 2015.

   [Application No. 1210465-026-AC; Rules 62-4.070(Reasonable Assurance), 62-210.200(Definitions) and 62-212.300, F.A.C.; NESHAP, Subpart LLL; Permit Nos. 1210465-001-AC (PSD-FL-259), 1210465-004-AC (PSD-FL-259C), 1210465-FL-008 (PSD-FL-259D), 1210465-011-AC (PSD-FL-259F)]

   {The THC emission standard of 20 ppmvd @7% O_2 is equivalent to the original VOC emission standard of 0.12 lb/ton of clinker and is more stringent than the value of 24 ppmvd @7% O2 pursuant to NESHAP, Subpart LLL and subject to a compliance date of September 9, 2015}

COMPLIANCE MONITORING AND TESTING REQUIREMENTS

{The following condition revises original Air Construction Permit No. 1210465-001-AC (PSD-FL-259), Section III, Subsection B., Condition 4 as modified by Air Construction Permit No. 1210465-008-AC (PSD-FL-259D). Changes are shown in ~~strikeout~~ and double-underlined format.}

6. Material Balance Records of Mercury: The owner or operator shall demonstrate compliance with the mercury throughput limitation of 97 pounds per consecutive 12-month period 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, any baghouse dust transferred to the finish mill, coal, petroleum coke, alternative fuels, tires and tire derived fuel, 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 net 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 minus the product of the mercury content during the month. The consecutive 12-month record shall be determined from the individual monthly records for the current month and the preceding eleven months and

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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. To determine the mercury content of the feed material and fuels to be used in the monthly calculation, sampling and analysis shall be performed in accordance with the following schedule:

i. For the first quarter of the operation of the plant, sample for each month of the quarter and analyze each month's composite sample.

ii. For the next three quarters, sample for one month of each quarter and analyze that month's composite sample.

iii. For each year thereafter, sample for one month of each year and analyze that month's composite sample, except as follows.

   a. If there is a change in feed material or fuels utilized from those previously sampled and analyzed, the frequency shall revert to ii, above, for the next three quarters.

   b. If the monthly composite analysis shows a total net monthly mercury throughput of greater than 6.2 pounds per month of mercury introduced into the pyroprocessing system, the frequency shall revert to ii, above, for the next three quarters or until the net monthly throughput is less than or equal to 6.2 pounds per month, whichever is longer.

[Application No. 1210465-026-AC; Rule 62-4.070(3), F.A.C.; Permit Nos. 1210465-001-AC (PSD-FL-259), 1210465-008-AC (PSD-FL-259D) and 120465-023-AC]

7. CEMS/COMS: The permittee shall continuously monitor the following with data collected by CEMS/COMS to demonstrate compliance with the existing emissions standards (as required by applicable air construction permits and reflected in the current Title V air operation permit), and with the modified emissions standards for VOC and THC specified in Condition 5 above:

   a. CO (process monitor for reasonable reassurance)

   b. NO_X

   c. SO_2

   d. THC (for VOC)

   e. CO_2

   f. Opacity

   The applicable methods and performance specifications are reflected in the current Title V air operation permit as established by air construction permits referenced below.

   [Application No. 1210465-026-AC; Rule 62-4.070(3); Permit Nos. 1210465-001-AC (PSD-FL-259), 1210465-004-AC (PSD-FL-259C), 1210465-FL-008 (PSD-FL-259D), 1210465-011-AC (PSD-FL-259F), 120465-023-AC]

8. 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. [Application; Rule 62-4.070(3), F.A.C. No. 1210465-019-AV]

9. Compliance Stack Tests: The permittee shall continue to conduct stack tests in accordance with the methods and requirements reflected in the current Title V air operation permit to demonstrate compliance with the emissions standards. The first required stack tests for CO and dioxins/furans conducted after first use of bottom ash shall be conducted while using bottom ash. [Rule 62-297.310(7)(a)4, F.A.C.]

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10. Future Monitoring, Reporting and Recordkeeping of Projected Actual Emissions: This construction permit avoids the requirements of subsections 62-212.400(4) through (12), F.A.C., for certain pollutants based in whole or in part on projected actual emissions calculations. In accordance with Rule 62-212.300(1)(e), F.A.C., the following monitoring, reporting and recordkeeping provisions shall apply to emissions of such pollutants:
    1. The permittee shall monitor the emissions of CO and VOC from the In-Line Kiln/Raw Mill system (EU-004) 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 (2013 through 2017) following resumption of regular operations after the change. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.
    2. The permittee shall report to the Department within 60 days after the end of each year during which records must 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:
        a. The name, address and telephone number of the owner or operator of the major stationary source;
        b. The annual emissions as calculated pursuant to subparagraph 62-212.300(1)(e)1., F.A.C.;
        c. If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
        d. Any other information that the owner or operator wishes to include in the report.
    3. 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.

    [Rules 62-4.070 and 62-212.300(1)(e), F.A.C.]

    {Permitting Note: Refer to the Technical Evaluation issued February 1, 2013 that contains baseline actual emissions, past production rates, projected annual emissions, and projected future production when performing the calculations described in paragraph 2.c. above.}

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