Title V Air Operation Permit Revision
Permit No. 1190042-028-AV

APPLICANT

The applicant for this project is Suwannee American Cement Company, LLC (SACC). The applicant's responsible official and mailing address are: Mr. Dirk Cox, Plant Manager, Sumterville Cement Plant, 4750 E County Road (C.R.) 470, Post Office Box 445, Sumterville, Florida 33585.

FACILITY DESCRIPTION

The applicant operates the existing Sumterville Cement Plant, which is in Sumter County at 4750 E C.R. 470, Sumterville, Florida.

The facility consists of a Portland cement manufacturing plant, an associated quarry, and raw material and cement handling operations. The facility is a nominal 1,186,250 tons per year (TPY) clinker 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 additives to produce finished cement.

The existing facility consists of the following emissions units. This facility also includes miscellaneous unregulated/insignificant emissions units and/or activities.

EMISSIONS UNIT IDENTIFICATION NUMBERS AND DESCRIPTIONS

EU No.	Brief Description
Regulated Emissions Units	
001	Raw Material Quarrying, Crushing, and Storage (includes raw material processing from quarry up to raw material storage, and additives handling from delivery to storage)
002	Raw Materials Conveying, Storage, and Processing (from raw material and additive storage to preheater - includes conveyance of raw materials and raw meal to and from raw mill, and homogenizing (blending) silo)
003	Pyroprocessing System (includes kiln, preheater/calciner, raw mill, air heater, and clinker cooler)
004	Clinker and Additives Storage and Handling (includes clinker handling from clinker cooler to clinker silo discharge, and clinker and additive handling from storage to the finish mill)
005	Finish Mill (Cement Grinding)
006	Cement Handling, Storage, Packing, and Loadout (includes cement conveyance to silos, cement silos, loadout to trucks from silos, and cement bagging operations)
007	Coal and Petroleum Coke Grinding System (includes coal/petroleum coke handling from truck and railcar unloading to the pulverized fuel bin)
010	Alternative Fuels Processing System
009	Kiln Emergency Generator Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE)
011	Loadout Backup Emergency Generator Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE)
Unregulated Emissions Units and Activities	
008	Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads

APPLICABLE REGULATIONS

Based on the Title V air operation permit revision application received on September 10, 2024, this facility is a major source of hazardous air pollutants (HAP). The existing facility is a prevention of significant deterioration

(PSD) major source of air pollutants in accordance with Rule 62-212.400, F.A.C. A summary of applicable regulations is shown in the following table:

Regulation	EU No(s).
Federal Rule Citations	
40 CFR 60, Subpart A - General Provisions*	001 through 007, 009, 011
40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants*	002 through 006
40 CFR 60, Subpart Y - Standards of Performance for Coal Preparation Plants *	007
40 CFR 60, Subpart OOO - Standards of Performance for Non-Metallic Mineral Processing Plants	001
40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	009, 011
40 CFR 63, Subpart A - General Provisions*	002 through 007
40 CFR 63, Subpart LLL - National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*	002 through 007
40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	011
State Rule Citations	
Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.	All
Rule 62-204.800(9)(f), F.A.C.*	003, 007

** At the time of issuance of this permit, the kiln (EU 003) and coal mill (EU 007) are subject to Rule 62-204.800(9)(f), F.A.C., which incorporates the requirements of DDDD, and not subject to LLL. If the permittee certifies that the kiln has not used any waste material for a period of six months and provides the appropriate advance notice to the Department, the permittee may revert back to compliance with LLL rather than DDDD, including performing all required initial compliance testing. If any material constituting waste were to be used, however, the kiln and coal mill would immediately be subject to the DDDD requirements. If the kiln is subject to DDDD, 40 CFR 60, Subpart F – Standards of Performance for Portland Cement Plants does not apply to the kiln. However, the cement plant (except the kiln) is always subject to Subpart F.*

{Permitting Note (for informational purposes only): The facility is subject to the federal requirements of the Greenhouse Gas Reporting Program codified at 40 CFR 98. This reporting rule is not a requirement of the State of Florida.}

PROJECT DESCRIPTION

The purpose of this permitting project is to revise the existing Title V permit for the above referenced facility. This revision incorporates the concurrently processed Permit No. 1190042-027-AC (PSD-FL-361H), which authorized a new crusher for alternative raw material and revised Permit No. 1190042-001-AC (PSD-FL-361) for conditions related to unconfined particulate matter and restrictions on the firing of tire derived fuel (TDF) in the kiln system. The revision also adds a permitting note related to "charging rate" and the applicability of 40 CFR 60, Subpart DDDD.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Revision received	**[September 10, 2024]**
Draft Concurrent AC Permit and Draft Title V Permit Revision issued	**[November 20, 2024]**
Final AC Permit issued	**[December 13, 2024]**
Proposed Title V Permit Revision issued	**[January 6, 2025]**
Final Title V Permit Revision issued	**[Month day, 2025]**

PRIMARY REGULATORY REQUIREMENTS

Standard Industrial Classification (SIC) Code: 3241 – Cement, Hydraulic.

North American Industry Classification System (NAICS): 327310 – Cement Manufacturing.

HAP: The facility is identified as a major source of hazardous air pollutants (HAP).

Title IV: The facility does not operate units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

GHG: The facility is identified as a major source of greenhouse gas (GHG) pollutants.

PROJECT REVIEW

Changes to the permit made as part of this revision are shown in ~~strike-through~~ format for deletions and in double underline format for additions. For ease of identification, all changes have also been highlighted in yellow within the permit document. The revisions shown below are the only portions of the permit that are open for public comment or challenge. Comments received related to the remainder of the permit will not be addressed during this permitting action.

1. Permit No. 1190042-027-AC (PSD-FL-361H) authorized a new crusher for processing alternative raw material (ARM) in the form of cement board (and similar material). The new crusher is subject to the applicable requirements of 40 CFR 60 Subpart OOO. Subsection III.A of the permit is revised as follows to incorporate the applicable requirements of Permit No. 1190042-027-AC and Subpart OOO. Additional revisions are made to the subsection to differentiate requirements for the existing "primary crusher" under EU 001 and the new ARM crusher. When new conditions are added, the numbering of the subsection is adjusted accordingly. SACC will perform an initial performance test pursuant to Subpart OOO for the ARM crusher under the provisions of Permit No. 1190042-027-AC; the ongoing 5-year testing requirement condition will be revised to include the ARM crusher.

   This emissions unit consists of raw material processing from quarry up to raw material storage, and additives handling from delivery to storage. Equipment includes a primary crusher at the quarry, an alternative raw materials crusher, and two raw materials storage buildings (RMS). Belt conveyors (Belts BO-3, BO-2, and BO-1) convey the crushed limestone between the crusher and the RMS. Raw material piles created via a Tripper Belt and stored inside of the RMS include limestone, alumina sources (e.g., bauxite, clay and coal ash), iron sources (e.g., mill scale and iron ore), silica sources (e.g., sand), and additives (e.g., feldspar). Other materials handling equipment includes harrow and portal reclaimers, stackers, hoppers, belt conveyors, a conveyor from the RMS to the raw mill, and a control system/analyzer.

   Raw material quarrying, crushing, and storage contains the following emissions points:

   - Primary crusher and all belt conveyors (Belts BO-3, BO-2, and BO-1)
   - Belt conveyor transfer points to raw material storage building [Crusher to Belt BO-3; Belt BO-3 to Belt BO-2; Belt BO-2 to Belt BO-1; Belt BO-1 to Tripper Belt; and Tripper Belt to Limestone Pile (located inside RMS)].
   - All conveyors and hoppers associated with additives handling and storage.
   - Alternative raw materials (ARM) crusher.

{Permitting Note: This emissions unit is regulated under 40 CFR 60, Subpart A (General Provisions) and 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) adopted by reference in Rule 62-204.800(8)(b), F.A.C. For the purposes of Subpart OOO emission limits, ~~this facility~~ the primary crusher is considered an affected facility (as defined in §§60.670 and 60.671) which commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008 (construction of components of this emission unit were commenced on or before October 18, 2007). As indicated in the Title V renewal application received on September 15, 2020, this emission unit conducts wet material mining operations and wet material processing operation (wet screening) as defined in §60.671 of Subpart OOO. As such, only the crusher operations are subject to the visible emission limits of Subpart OOO. Any changes in operations or modifications of equipment may change the applicable provisions of Subpart OOO. Issuance of Permit No. 1190042-024-AC did not alter the "existing" status of the primary crusher. The ARM crusher authorized by Permit No. 1190042-027-AC is considered an affected facility under Subpart OOO that commenced construction after April 22, 2008.

…

A.2. Process Rate Limitations. The primary crusher may process up to 540,000 tons (dry basis) per month of limestone feed to the kiln on monthly average basis. No more than 1,482,000 tons (dry basis) of limestone feed to the kiln shall be processed in the primary crusher during any consecutive 12-month period. No more than 550,000 tons (dry basis) of limestone feed to the finish mill shall be processed in the primary crusher during any consecutive 12-month period. *(See **Specific Condition A.8.** for recordkeeping requirements associated with these process rate limitations and related testing provisions in Appendix TR, Facility-wide Testing Requirements for operating rate limitation after testing.)* [Rule 62-210.200 (Definition of Potential to Emit), F.A.C.; Permit No. 1190042-024-AC]

A.3. ARM Crusher. The ARM crusher shall not process more than 50,000 tons of material in any consecutive 12-month period. [Rule 62-210.200(PTE), F.A.C.; and Permit No. 1190042-027-AC]

A.~~3~~4. Visible Emission Standards. Visible emissions (VE) shall not exceed the following limits.

a. Fugitive emissions from the primary crusher shall not exceed 15% opacity.

b. Fugitive emissions from the ARM crusher shall not exceed 12% opacity.

~~b~~c. The following equipment up to the first crusher and in the production line after the first crusher, grinding mill or storage bin are exempt from the requirements of NSPS Subpart OOO. However, visible emissions from these operations shall not exceed 20% opacity. This facility-wide opacity limit of 20% per 62-296.320(4)(b)1. F.A.C. does not require VE testing.

…

[40 CFR 60.670-671; and Rule 62-296.320(4)(b)1. F.A.C.]

…

A.~~5~~6. Visible Emissions Test Required. Except as provided in subparagraph 62-297.310(8)(b)3., F.A.C. (see condition TR7.b.(3) in Appendix TR – Facility-wide Testing Requirements), compliance tests shall be performed prior to obtaining a renewed operation permit to demonstrate compliance with the visible emission limits for the crushers contained in **Specific Conditions A.~~3~~4.a** and **A.4.b**. [Rules 62-210.300(2)(a) and 62-297.310(8)(b), F.A.C.]

A.~~6~~7. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit, as well as the applicable provisions of NSPS Subpart OOO 40 CFR 60.675 (for crushers only). [Rule 62-297.310, F.A.C. and Permit Nos. 1190042-001-AC (PSD-FL-361) and 1190042-027-AC (PSD-FL-361H)]

…

A.~~8~~9. Crusher Process Rate Records. In order to document compliance with the crusher process rate limitations of **Specific Condition**s **A.2.** and **A.3.**, the permittee shall maintain the following records of the monthly crusher processing rate:

…

b. The primary crusher processing rate (tons dry basis) for each month of limestone feed to the kiln; ~~and~~

c. ~~t~~The total tons (dry basis) processed through the primary crusher in the most recent 12 consecutive month period (stated as tons (dry basis) per 12 consecutive month period) of limestone feed to the kiln and limestone feed to the finish mill~~.~~;

d. The ARM crusher processing rate for each month (tons); and

e. The total tons of material processed through the ARM crusher in the most recent consecutive 12-month period.

…

[Rule 62-213.440(1)(b), F.A.C., Permit No~~s~~. 1190042-024-AC and 1190042-027-AC (PSD-FL-361H)]

2. Pursuant to Permit No. 1190042-027-AC, paragraph k of Facility-Wide Condition FW5 is revised as follows:

k. All raw materials on plant property shall be stored under roof or cover. Materials, other than quarried materials, shall be stored on compacted clay or concrete, or in enclosed vessels;

3. SACC requested a permitting note that clarifies that "charge rate" with respect to 40 CFR 60 Subpart DDDD is not applicable to the kiln (EU 003) because the kiln is fed with raw material continuously instead of charged with batches of solid waste as originally envisioned in Subpart DDDD. SACC will continue to maintain records in accordance with the requirements of the Title V air operation permit, which requires monitoring kiln preheater feed rate, fuel firing rate, clinker production rate, etc. Since these parameters are functionally equivalent to the "charge rate" under Subpart DDDD, the requirements of Subpart DDDD are met by the kiln. The following permitting note will be inserted following Specific Conditions C.38, C.44, and C.50.

{Permitting Note: Charge rate is not applicable to the kiln system; kiln preheater feed rate and fuel firing rate records are maintained in accordance with Specific Condition C.29.}

4. Permit No. 1190042-027-AC (PSD-FL-361H) revised the original condition related to the firing of tire derived fuel (TDF) in the kiln. To incorporate the changes of that permit, Subsection C is revised as follows.

C.10. Tire Derived Fuel (TDF) Usage Limitations and Requirements. The use of ~~whole or chipped~~ tire derived fuel (TDF) in the pyroprocessing system is limited by the following requirements:

a. ~~The maximum heat input rate from firing TDF is limited according to the following requirements shall not exceed 60 MMBtu per hour and/or 15% of the total pyroprocessing system kiln and calciner heat input rate (the remaining 85% of the total pyroprocessing heat input rate shall be from the firing of other authorized fuels);~~ Tire derived fuel (TDF) 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 as follows:

(1) TDF, as finely ground tires, may be fed directly into the main kiln burner.

(2) TDF, as whole and/or chipped tires, shall be directly fed into the kiln system at the transition section between the base of the calciner and the point where gases exit the kiln. The tire feed mechanism shall be operated with an airlock/gate system~~.~~;

(3) TDF, as a component of engineered fuels, may be fed directly into the precalciner.

b~~e~~. Tires shall be stored, handled and managed in accordance with the provisions of Chapter 62-711, F.A.C.

*~~(See **Specific Condition C.32** for recordkeeping requirements associated with the limitations of a. and b. above.)~~*

[Rule 62-210. 200 (Definition of Potential to Emit), F.A.C.; Permit Nos. 1190042-001-AC (PSD-FL-361) and 027-AC (PSD-FL-361H)]

…

~~**C.32.** TDF Heat Input Rate Records. In order to demonstrate compliance with the whole or chipped TDF heat input rate limitations specified in Specific Condition C.10., the permittee shall keep the following hourly records of pyroprocessing system TDF heat input rate:~~

~~a. the total pyroprocessing system TDF heat input rate (TDF MMBtu/hour);~~

~~b. the total pyroprocessing system heat input rate from all fuels (Total MMBtu/hour);~~

~~c. the percentage of the total pyroprocessing rate heat input rate provided by TDF, based on a. and b. above (Divide a by b then multiply by 100)~~

~~[Permit No. 1190042-001-AC (PSD-FL-361)]~~

CONCLUSION

This project revises Title V Air Operation Permit No. 1190042-023-AV, which was effective on March 11, 2021. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210, and 62-213, F.A.C.