Initial Title V Air Operation Permit
Permit No. 1190042-007-AV

APPLICANT

The applicant for this project is American Cement Company, LLC. The applicant's responsible official and mailing address are: Mr. Cary O. Cohrs, President, American Cement Company, LLC, 4750 E. CR 470, P.O. Box 445, Sumterville, FL 33585.

FACILITY DESCRIPTION

The applicant operates the Sumterville Cement Plant which is located at 4750 E. CR 470, in Sumterville, Florida.

The facility consists of a nominal 1,150,000 tons per year dry process Portland cement manufacturing plant and a surface limestone mine. The plant equipment includes: a primary limestone crusher and conveyance equipment to transport limestone to raw material storage; a raw material storage building for limestone and materials containing silica, iron, and additives; stackers, reclaimers, and conveyance equipment to raw materials storage, drying and milling; an in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, and clinker cooler; an air heater for use when additional drying capacity is required; a homogenizing (blending) silo; a coal and petroleum coke mill; a dry process preheater/calciner (PH/C) kiln capable of producing 3,000 tons per day of clinker; whole tire kiln feeder system; a reciprocating clinker cooler; conveyance equipment to cement clinker storage; conveyance equipment to the cement finish mill; cement storage silos and a truck loadout area; and a packhouse. The plant uses coal, whole scrap tires, diesel fuel and on-specification used oil as fuel source for the kiln system. The primary kiln operating fuel is pulverized coal. The air heater is fired with natural gas, distillate fuel oil, and on-specification used oil.

Nitrogen oxides (NOx) emissions are minimized by indirect firing in a low-NOx main kiln burner, staged combustion in the calciner, and a selective non-catalytic reduction (SNCR) ammonia injection system. 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}) from the PH/C kiln, in-line raw mill, and clinker cooler are controlled by a single large fabric filter main baghouse. Numerous baghouses are included to control PM/PM_{10} dust 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, and mercury (Hg) on the PH/C kiln, in-line raw mill, and clinker cooler fabric filter main baghouse exhaust stack.

Also included in this permit are miscellaneous insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is issuance of an initial Title V air operation permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Initial air construction permit for this facility, Construction Permit 1190042-001-AC (PSD-FL-361), issued February 13, 2006

Construction permit modification, Construction Permit 1190042-002-AC (PSD-FL-361A), issued July 7, 2007

Construction permit modification, Construction Permit 1190042-003-AC (PSD-FL-361B), issued March 11, 2008

Application for initial Title V Air Operation Permit received August 11, 2010

Department Request for Additional Information dated October 8, 2010

Additional Information Response received January 6, 2011

Notice of Intent to Issue Air Permit issued April 5, 2011

Public Notice Published August 18, 2011

PRIMARY REGULATORY REQUIREMENTS

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

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 does operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60 (Subparts F, Y, OOO, and IIII).

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

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) applies to Emissions Unit (EU) No. 003 (Pyroprocessing System) for the regulated emissions of particulate matter, which are controlled by a baghouse (Emission Point/Baghouse ID E-19). The other fabric filter baghouses at the facility are not subject to CAM either because the baghouse is considered as an inherent part of the process (baghouses for the Finish Mill Air Separator (EU No. 005, Emission Point/Baghouse ID N-93) and the Coal/Pet Coke Mill (EU No. 007, Emission Point/Baghouse ID S-22), or the affected emissions units do not have particulate matter emission limits (this is the case for all of the remaining baghouses). EU No. 003 is the only emissions unit to have an emission control device other in addition to a baghouse. It has a SNCR system to control NOx emissions, but the exhaust stack is equipped with a NOx CEMS which is the continuous compliance determination method for the EU No. 003 NOx emission limit and therefore CAM does not apply.

PROJECT REVIEW

This project is the initial Title V operation permit for this facility. It will incorporate the provisions of the initial air construction permit for this facility, Construction Permit 1190042-001-AC (PSD-FL-361), which authorized the construction of a Portland cement manufacturing facility, and subsequent amendments made in Construction Permits 1190042-002-AC (PSD-FL-361A) and 1190042-003-AC (PSD-FL-361B).

CONCLUSION

This project is for the initial Title V air operation permit. This initial Title V air operation permit is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.