Title V Air Operation Permit Renewal
Permit No. 0250014-032-AV

APPLICANT

The applicant for this project is CEMEX Construction Materials Florida, LLC. The applicant's responsible official and mailing address are: Luis G. Lopez, Plant Manager, CEMEX Construction Materials Florida, LLC, Miami Cement Plant, 1200 NW 137 Avenue, Miami, FL 33182.

FACILITY DESCRIPTION

The applicant operates the Miami Cement Plant, which is located at 1200 NW 137 Avenue, Miami, FL 33182.

This facility consists of the following emissions units:

ARMS E.U. ID No.	Brief Description
-001	Finish Mill System: Finish Mill No. 1
-002	Finish Mill System: Finish Mill No. 2
-003	Finish Mill System: Finish Mill No. 3
-004	Cement Handling System: (32) Bulk Cement Storage Silos
-005	Cement Handling System: Mortar Packhouse
-006	Cement Handling System: Cement Packhouse
-012	Finish Mill System: Finish Mill No. 4
-013	Finish Mill System: Finish Mill No. 5
-014	Stone Dryer & Soil Thermal Treatment Facility
-015	Cement Handling System: Cement Truck Loading
-016	Facility Wide Fugitive Emissions
-017	Cement Plant Raw Material Handling (Baghouses)
-018	In-Line Kiln/Raw Mill/Clinker Cooler
-019	Clinker Handling and Storage System
-020	Cement Plant Coal Handling System: Coal Mill System
-021	Sweetwater Concrete Block and Concrete Batch Plants
-022	Quarry Operations Subject to 40 CFR 60 Subpart OOO: Aggregate Plant Crushers
-023	Quarry Operations Subject to 40 CFR 60 Subpart OOO: Other Affected Screening Operations/Belt Conveyors
-025	Quarry Operations Not Subject to 40 CFR 60 Subpart OOO
-028	Finish Mill System: Finish Mill 6
-029	Two (2) Diesel Fuel Limited Use Reciprocating Internal Combustion Engines

This facility consists of the following: a dry-process kiln with pre-heater, precalciner and clinker cooler capable of producing approximately 1,300,000 tons per year of clinker, a limestone quarry and crushing system, material receiving facilities (both by rail and truck), open short-term material storage piles, a storage building for intermediate raw material and clinker storage, a stone dryer & soil thermal treatment plant, a raw mill system, six finish mills, two packhouses, thirty two cement silos, a rail and truck bulk loadout facility, and a liquid fuel tank farm. CEMEX also operates a concrete batch plant and a concrete block plant (Sweetwater). The plant is located on the adjacent property to the CEMEX, Miami Cement Plant.

Particulate matter emissions from most of the emissions units are controlled by baghouses. The stone dryer and soil thermal treatment (Emissions Unit 014) is equipped with a multi-cyclone, baghouse, and afterburner. Fugitive emissions are controlled by water sprinkler systems, chemical wetting agents, etc. Fuels used in the stone dryer soil thermal treatment are limited to used petroleum oil meeting the provisions of 40 CFR 266, Subpart E, propane, natural gas, No. 2 fuel oil for the dryer, on-specification used oil per 40 CFR 279.11, natural gas and propane for the afterburner. Fuels fired in the pyroprocessing system (Emissions Unit 018) do not exceed a total heat input rate

of 485 MMBtu/hr on a 24-hour average. Start-up fuels consist of bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, and on-specification and off-specification used oil. The pyroprocessing system utilizes continuous emissions monitors (CEMS) for compliance purposes for NO_X, SO_2, and Opacity.

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

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V Air Operation Permit for the above referenced facility. This project incorporates the terms and conditions of concurrently processed Air Construction Permit No. 0250014-041-AC for the above referenced facility. This construction permit is issued to remove the 30% heat input limit on alternate fuels used in the cement kiln, and supersedes previously issued air construction permit No. 0250014-035-AC. The construction permit also supersedes all conditions pertaining to alternate fuel heat input limits that are contained in previously issued air construction permits. The list of previously issued air construction permits that contain alternate fuel heat input limit conditions includes, but is not limited to the following:

Air Construction Permit No.	Specific Condition No.
0250014-002-AC	B.5
0250014-006-AC	B.5
0250014-007-AC	B.5
0250014-008-AC	B.5
0250014-016-AC	No. 6 of Section III

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal received March 15, 2010.
Additional Information Request dated May 14, 2010.
Additional Information Response received June 8, 2010.
Waiver of Permit Processing Time Clock Received August 31, 2010.
Amendment to Permit Application received October 14, 2010.
Waiver of Permit Processing Time Clock Received October 28, 2010.
Notice of Intent to Issue Air Permit issued December 8, 2010.
Public Notice Published January 10, 2011.
Request to Remove 30% Heat Input Limit from Permit received January 17, 2011.
Received application for a major source air pollution construction permit (No. 0250014-041-AC) March 29, 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.

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

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 014, and 018. The facility currently has a CAM Plan in its Title V Permit, and this CAM Plan will be incorporated into this Title V Renewal. Incorporation of the CAM Plan, Appendix CAM, for each pollutant specific emission unit (PSEU) subject to the CAM Rule (40 CFR 64), are as follows:

a. The in-line kiln/raw mill/clinker cooler, EU-018, is subject to a specific PM emissions limit (0.10 lb/ton kiln feed) pursuant to 40 CFR 63 Subpart LLL. However, this EU is also subject to a PM emissions limitation (0.152 lb/ton of kiln feed) through Permit No. 0250014-016-AC/PSD-FL-324A. The facility uses a baghouse control device to achieve compliance, and has potential pre-control emissions equal to or in excess of the major source threshold of 100 TPY.
b. The soil thermal treatment facility, EU-014, has a VOC emissions limit of 22.8 lb/hr, uses an afterburner control device to achieve compliance, and has potential pre-control emissions equal to or in excess of the major source threshold of 100 TPY.

PROJECT REVIEW

Specific changes were made to the previous Title V Air Operation Permit No. 0250014-030-AV, and are in this FINAL Title V Air Operational Permit Renewal. Such changes include FDEP reformatting, replacement of TV-6 with new Appendix TV, streamlining of EU sections by moving common conditions to the new appendices, etc..

Items numbered 1-13 below represent the changes to the previous Title V Air Operation Permit. Underline text indicates additions. .

1. Changes in Section I – Subsection B, Summary of Emissions Units. The emissions unit description table was updated to include the facility's two (2) limited use diesel fuel generators as unregulated emissions unit 029 as follows:

EU No.	Brief Description
Unregulated Emissions Units	
029	Two (2) Diesel Fuel Limited Use Reciprocating Internal Combustion Engines

2. Changes in Section III – Subsection A, Emissions Unit Specific Conditions – Emissions Unit 017 – Cement Plant Raw Material Handling System. The emissions unit description table was updated to include an accurate description of the control equipment as follows:

ARMS Emissions Unit No.	Brief Description of Emissions Unit
017	Cement Plant Raw Material Handling System

Raw Materials Handling operations are controlled by the following baghouses:

Emission Point ID	Description of Emissions Points
K21-BF1	Additive Transfer
K21-BF2	Additive Transfer (Vents Indoors)
K22-BF1	Soil/Ash Transfer
K22-BF2	Soil/Ash Transfer
K51-BF1	Slag/Soil Elevator (Vents Indoors)
391-BF1	Raw Meal Transfer Elevator
391-BF2	Raw Meal Silo
391-BF3	Dust Bin

431-BF1	Kiln Feed Transfer
431-BF2	Kiln Feed Transfer Return

3. Changes in Section III – Subsection B, Emissions Unit Specific Conditions. The incorporation of air construction permit No. 0250014-041-AC required that Emissions Unit 018 – Cement Plant Pyroprocessing & Raw Mill System emissions unit description be updated as follows:

ARMS E.U. ID No.	**Brief Description**
-018	In-Line Kiln, Raw Mill , Clinker Cooler, and Tire Injection Mechanism System (TIMS)

The pyroprocessing system & raw mill system is controlled by the following baghouse:

Emission Point	**Descriptions of Emissions Points**
421-BF1	Main Stack with dust collector for preheater/precalciner/raw mill/kiln/clinker cooler

4. Changes in Section III – Subsection B, Emissions Unit Specific Conditions. The incorporation of air construction permit No. 0250014-041-AC required that the following Specific Conditions be added to Emissions Unit 018 as follows:

B.3. Maximum Whole Tire Feed Rate: The whole tire feed rate shall not exceed 2.50 tons per hour, or 77.55 mmBtu/hr based on a 24-hour average.
[Rule 62-4.070(3), F.A.C.; Permit No. 0250014-041-AC]

B.6. Whole Tire Storage: Whole Tires shall be received and stored in containers, or on an impervious surface under roof outside the Northwest Wellfield Protection Area.
[Miami-Dade County Environmental Quality Control Board Order 99-55 dated December 9, 1999; Permit No. 0250014-041-AC]

B.7. Hazardous Waste Burning: The permittee is not allowed to burn any type of hazardous waste in the kiln.
[Miami-Dade County Environmental Quality Control Board Order 99-55 dated December 9, 1999; Permit No. 0250014-041-AC]

B.5.2.c Equipment: A tire injection mechanism system (TIMS) that consists of a door (portal) located externally on the left front face of the kiln burner hood, centered horizontally between the west burner hood wall and the burner pipe. It also has a tire feed belt, and a tire injection mechanism. The TIMS uses an automated "pitching" device to shoot a tire, one at a time, into the kiln. A single gate valve opens for a few seconds every time a tire is fed to the front of the kiln.
[Rule 62-4.070(3), F.A.C., and Permit No. 0250014-041-AC]

B.26. PSD Pollutant Emissions Monitoring, Reporting and Recordkeeping: The permittee shall monitor the emissions of any PSD pollutant that the DERM 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 five (5) years following

resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations if the change increases the design capacity of that emissions unit or its potential to emit that PSD pollutant. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.
[Rule 62-212.300(1)(e)1, F.A.C., and Permit No. 0250014-041-AC]

B.27. Additional PSD Pollutant Record Keeping & Reporting: The permittee shall report to the DERM within sixty (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.
d. Any other information that the owner or operator wishes to include in the report.

[Rule 62-212.300(1)(e)2, F.A.C., and Permit No. 0250014-041-AC]

5. Changes in Section III – Subsection B, Emissions Unit Specific Conditions. Specific Condition B.12. regarding Compliance Assurance Monitoring (CAM) is added to follow the new Title V format as follows:

B.12. CAM Plan: This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(b), F.A.C.
[40 CFR 64; Rules 62-204.800 and 62-213.440(1)(b)1.2., F.A.C.]

6. Changes in Section III – Subsection B, Emissions Unit Specific Conditions. The incorporation of air construction permit No. 0250014-041-AC required that the following Specific Conditions from Emissions Unit 018 be removed or modified as follows:

B.52.b. Before initiating the burning of whole tires, the gases exiting the kiln shall reach a minimum temperature of 1,400 degrees F for one hour and the oxygen level in the kiln, as measured at the cement plant induced draft fan, shall reach at least 3 percent (1-hour average). Upon reaching steady state conditions, and within 6 hours, gases exiting the kiln shall be maintained at an outlet temperature of at least 1,750 degrees F.
[Permit Nos. 0250014-002-AC, and 0250014-041-AC]

7. Changes in Section III – Subsection B, Emissions Unit Specific Conditions. The Table listed under Specific Condition B.11. that addresses test methods and monitoring procedures has been revised to remove obsolete language, and correctly address applicable requirements of Rule 62-297.310, F.A.C. as follows:

Description	Pollutant Name or parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Time Frequency	Compliance Test Duration	CMS * Compliance

Kiln/Cooler/ Raw Mill	PM/PM_{10}	Oil/Coal/Gas/ WTDF	5 or 201/201A	annual [8]	3 one-hr runs	No
Kiln/Cooler/ Raw Mill	VE/Opacity	Oil/Coal/Gas/ WTDF	9/COMS	annual/COMS	One-hr/ Continuous	Yes [4]
Kiln/Cooler/ Raw Mill	SO_2	Oil/Coal/Gas/ WTDF	CEMS	Daily average	Continuous	Yes [6]
Kiln/Cooler/ Raw Mill	NO_X	Oil/Coal/Gas/ WTDF	CEMS	Daily average	Continuous	Yes [3]
Kiln/Cooler/ Raw Mill	CO	Oil/Coal/Gas/ WTDF	10/CMS	annual/CMS	3 one-hr runs/	No [5]
Kiln/Cooler/ Raw Mill	VOC/THC	Oil/Coal/Gas/ WTDF	25 or 25A/CMS	annual/CMS	3 one-hr runs/ Continuous	No [2]
Kiln/Cooler/ Raw Mill	H_2SO_4 mist	Oil/Coal/Gas/ WTDF	8	Prior to Renewal	3 one-hr runs	No
Kiln/Cooler/ Raw Mill	Pb	Oil/Coal/Gas/ WTDF	29	Prior to Renewal	3 one-hr runs	No
Kiln/Cooler/ Raw Mill	Hg	Oil/Coal/Gas/ WTDF	29 + Materials Balance/CEMS	[7]	[7]	[7]
Kiln/Cooler/ Raw Mill	Dioxins/Furans	Oil/Coal/Gas/ WTDF	23	Initial/every 30 months	3 three-hr runs	No

B.21. Whole Tire Burning: In order to document compliance with whole tire fuel usage limits, the following records shall be established and maintained**:**

(1) A log shall to document the hours per day, number of days per month, and number of hours per month that whole tires were introduced into the kiln.

(2) A log indicating the whole tire utilization rate in tons per hour.

(3) A log that includes the date of all whole tire deliveries to the facility, and the quantity of whole tires received (in tons) in each delivery.

[Permit No. 0250014-041-AC]

8. Changes in Section III – Subsection G, Emissions Unit Specific Conditions. Specific Condition G.1. regarding reasonable precautions for emissions of unconfined particulate matter is removed since this requirement is addressed in Section II. Facility – Wide Condition FW5.

9. Changes in Section III – Subsection H, Emissions Unit Specific Conditions. Specific Condition H.10. regarding visible emissions tests is revised to remove obsolete language as follows:

H.10. Visible Emissions Test Required: The owner or operator shall have a formal compliance test for visible emissions conducted in the calendar year prior to renewal of the operating permit by EPA Method 9 and the procedures in 60.11, with the following additions:

1. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

2. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

[40 CFR 60.675(c)(1)(i)&(ii) ; Rules 62-297.310(7)(a)4 and 62-297.401(9) F.A.C.; Permit No. 0250014-015-AC]

10. Changes in Section III – Subsection I, Emissions Unit Specific Conditions. Specific Condition I.4. regarding frequency of testing is revised to remove obsolete language as follows:

I.4. Frequency of Testing: The owner or operator of any concrete batching plant operating under the authority of an air construction permit or air operation permit shall have a performance test conducted for visible emissions for each dust collector exhaust point prior to submitting the application for an air operation permit, and annually thereafter.
[Rule 62-296.414(4)(b), F.A.C.; Permit No. 0250014-026-AC]

11. Changes in Section III – Subsection J, Emissions Unit Specific Conditions. Specific Condition J.9. regarding Compliance Assurance Monitoring (CAM) is added to follow the new Title V format as follows:

J.9. CAM Plan: This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(b), F.A.C.
[40 CFR 64; Rules 62-204.800 and 62-213.440(1)(b)1.2., F.A.C.]

11. Changes in Section III – Subsection J, Emissions Unit Specific Conditions. Specific Condition J.12. regarding compliance testing for the fugitive baghouse is updated to remove a portion of the condition that is not applicable as follows:

J.13. The maximum permitted allowable particulate emission rate (gr/dscf) from the fugitives baghouse are as stated in J.8.b.2. The permittee shall demonstrate compliance by adhering to an opacity limit of 5% in lieu of particulate stack tests.
[Rule 62-297.620(4), F.A.C.]

12. Changes in Section III – Subsection J, Emissions Unit Specific Conditions. The Table listed under Specific Condition J.14. that addresses test methods and monitoring procedures has been revised to remove obsolete language, and correctly address applicable requirements of Rule 62-297.310, F.A.C. as follows:

Pollutant Name or Parameter	Allowable Emissions	Basis	EPA/Reference Method/CMS *	Time Frequency	Compliance Test Duration
CO	100 PPM	Rule 62-296.415, F.A.C.	10/CEMS	Continuous	Continuous
PM (dryer)	0.04 gr/dscf (3.3 lb/hr)	Rule 62-296.415, F.A.C.	5	Annual	3 one-hr runs

PM (fugitives baghouse)	0.02 gr/dscf (0.5 lb/hr)	Rule 62-296.415, F.A.C.	5	Annual	3 one-hr runs
VE	5% Opacity	Rule 62-296.415, F.A.C.	9	Annual	30-minute test
VOC	22.8 lb/hr	Permit No. AC 13-187599A	25A	Prior to Renewal	3 one-hr runs
SO_2	1.1 lb/MMBtu	Miami-Dade County Ordinance	6	Prior to Renewal	3 one-hr runs
Pb	0.13 lb/hr	Permit No. AC 13-	29	Prior to Renewal	3 one-hr runs
PCB	154 lbs/year	Permit No. AC 13-187599A	Materials Balance	Consecutive 12-month	(Refer to Condition J.19.)

13. Other changes include minor corrections to typographical errors, renumbering of specific conditions due to the addition or removal of some specific conditions, numbering or renumbering of certain tables, and correction to permit citations.

CONCLUSION

This project renews Title V air operation permit No. 0250014-030-AV, which was issued on April 19, 2010. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.