



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

October 12, 2005

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Hardy Johnson, President  
Tarmac America, LLC  
455 Fairway Drive  
Deerfield Beach, Florida 33441

Re: DEP File No: 0250020-017-AC  
Production Increase – Titan Florida Pennsuco Cement Plant

Dear Mr. Johnson:

Enclosed is one copy of the Air Construction Permit to increase production at the Titan Florida Pennsuco Cement Plant located at 11000 NW 121 Way, Medley, Miami-Dade County. The Department's Intent to Issue Air Construction Permit, the Technical Evaluation and Preliminary Determination, and the "Public Notice of Intent to Issue Air Construction Permit" are also included.

The "Public Notice" must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to the requirements of Chapter 50, Florida Statutes. Proof of publication, such as a newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in denial of the permit modification.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, Program Administrator, at the letterhead address. If you have any questions regarding this matter, please contact Mr. Linero at (850)921-9523.

Sincerely,

Trina Vielhauer, Chief  
Bureau of Air Regulation

TLV/aal

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

## WRITTEN NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

*In the Matter of an Application  
for Air Construction Permit by:*

Mr. Hardy Johnson, President Tarmac America, LLC 445 Fairway Drive Deerfield Beach, Florida 33441	DEP File No. 0250020-017-AC Titan Florida Pennsuco Cement Plant Production Increase Miami-Dade County, Florida
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**Applicant:** The applicant's name and business address are Tarmac America, LLC., 455 Fairway Drive, Deerfield Beach, Florida 33441.

**Facility Location:** 11000 NW 121 Way, Medley, Miami-Dade County, Florida.

**Project:** On April 18, 2005 (revised September 30) the applicant submitted an application for an air construction permit to increase long-term (annual) production while maintaining permitted short-term (daily) production at the Titan Florida Pennsuco Cement Plant. The project will be accomplished by removing restrictions on annual hours of operation on key equipment.

This facility is subject to applicable provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. Details of the project are provided in the application and in the enclosed "Technical Evaluation and Preliminary Determination".

**Permitting Authority:** Applications for processing air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, and 62-213 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an Air Construction Permit, pursuant to the Rules for the Prevention of Significant Deterioration of Air Quality (PSD) is required to increase production at the facility. The Department of Environmental Protection, Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination regarding this project. The Permitting Authority's physical address is: Florida Department of Environmental Protection, Bureau of Air Regulation, 111 South Magnolia Drive, Suite 4, Tallahassee, Florida, 32301. The Permitting Authority's mailing address is: Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, Mail Station #5505. The Permitting Authority's telephone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. Copies of the project file are also available at the following offices: Florida Department of Environmental Protection, Southeast District Office, 400 North Congress Avenue, West Palm Beach, Florida 33401. Telephone is 561/681-6774, facsimile is 561/681-6791. Miami-Dade County Department of Environmental Resources Management, Air Facilities Section, 33 SW 2<sup>nd</sup> Avenue, Suite 900. Telephone is 305/372-6925; facsimile is 305/372-6954.

**Notice of Intent to Issue Air Construction Permit:** The Permitting Authority gives notice of its intent to issue an Air Construction Permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact

air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Public Notice:** Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Air Construction Permit" (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within seven (7) days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

**Comments:** The Permitting Authority will accept written comments and requests for a public meeting concerning the proposed Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be provided to the Permitting Authority at the above address, e-mail or facsimile. Any written comments filed will be made available for public inspection. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within fourteen (14) days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.


A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of how and when the petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A

concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of intent. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

**Mediation:** Mediation is not available for this proceeding.

Executed in Tallahassee, Florida.

  
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Trina L. Vielhauer, Chief  
Bureau of Air Regulation

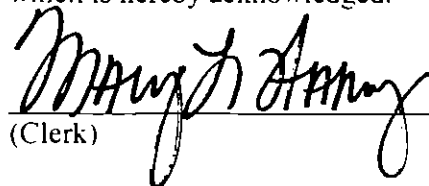
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this "Written Notice of Intent to Issue Air Construction Permit" package (including the "Technical Evaluation and Preliminary Determination", "DRAFT Air Construction Permit", and "Public Notice of Intent to Issue Air Construction Permit") was sent by certified mail (\*) and copies were mailed by U.S. Mail or electronic mail before the close of business on 10/14/05 to the persons listed below.

Hardy Johnson, Tarmac America\*  
Terry Lancaster, Titan America  
David A. Buff, P.E., Golder  
Patrick Wong, Miami-Dade DERM  
Darrel Graziani, DEP SED  
Jim Little, EPA Region 4  
John Bunyak, National Park Service

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.

  
\_\_\_\_\_  
(Clerk) 10/14/05  
(Date)

**TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION  
(INCLUDING DRAFT BACT DETERMINATION FOR CO)**

**TARMAC AMERICA LLC.  
TITAN FLORIDA PENNSUCO CEMENT PLANT  
MIAMI-DADE COUNTY, FLORIDA**

**Annual Production Increase  
From Modernized Dry Process Cement Plant**

DEP File No. 0250020-017-AC (PSD-FL-360)

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation

October 12, 2005

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

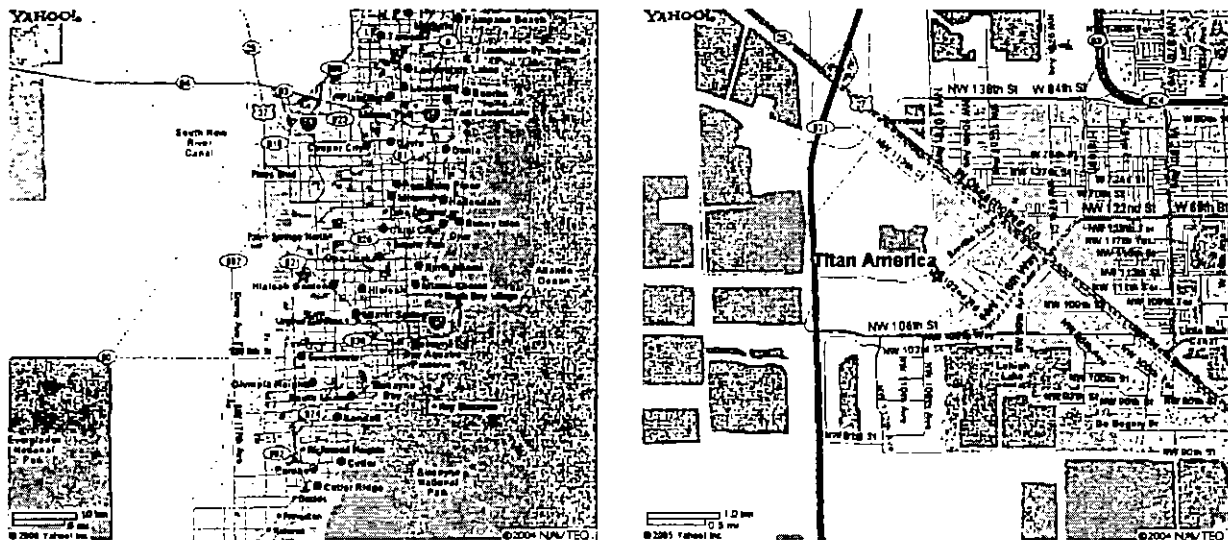
## I. APPLICANT NAME AND ADDRESS

Mr. Hardy Johnson, President  
Tarmac America, LLC, Florida Business  
445 Fairway Drive  
Deerfield Beach, Florida 33441

## II. FACILITY INFORMATION

### A. FACILITY LOCATION

Tarmac America LLC, a subsidiary of Titan America LLC, operates a cement and building materials facility at 11000 NW 121 Way, Medley, Miami-Dade County. The facility includes a quarry, cement plant, ready-mix plant, and block plant operated by Titan/Tarmac's Florida Business Unit that includes Titan Florida Aggregate, Titan Florida Cement, Tarmac Block and Tarmac Ready-Mix. Titan Florida's Pennsuco Cement Plant is located on the site.



**Figure 1. Titan Florida Pennsuco Cement Plant in Medley, Miami-Dade County**

This site is approximately 30 kilometers from the Everglades National Park, a Prevention of Significant Deterioration (PSD), Class I Area, and is within an ozone (O<sub>3</sub>) maintenance area in Miami-Dade County.

### B. FACILITY CLASSIFICATION CODE (SIC)

Major Group No. 32, Clay, Glass, and Concrete Products  
Industry Group No. 324 Cement, Hydraulic  
Industry No. 3241 Cement, Hydraulic

### C. FACILITY CATEGORY

The Titan Florida Pennsuco Cement Plant (Titan) directly emits more than 100 TPY of several regulated air pollutants and has the potential to emit at least 10 TPY of at least one hazardous air pollutant (HAP) or 25 TPY of all HAPs. Therefore it is classified as a "Major Source of Air Pollution or Title V Source," per the definitions in Rule 62-212.200, F.A.C.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

This industry is listed in Table 212.400-1, "Major Facilities Categories", Rule 62-212.400, F.A.C., PSD. Stack and fugitive emissions of over 100 TPY of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), or particulate matter (PM/PM<sub>10</sub>) characterize the existing installation as a Major Facility per the definitions in Rule 62-210.200, F.A.C.

Per Table 212.400-2, "Regulated Air Pollutants – Significant Emission Rates" (SER's), modifications at Major Facilities resulting in emissions increases greater than 40 TPY of NO<sub>x</sub> or SO<sub>2</sub>, 7 TPY of sulfuric acid mist (SAM), 25/15 TPY of PM/PM<sub>10</sub>, 3 TPY of fluorides, 1200 pounds per year (lb/yr) of lead or 200 lb/yr of mercury require review pursuant to the PSD rules. Pollutants triggering the mentioned SER's require a determination of Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

A previously approved modernization project was not subject to PSD and BACT because the differences between emission increases from the new line and emission reductions due to shutdown of the old wet process lines were less than the SER's. This is primarily due to the lower fuel requirements per unit of product characteristic of the dry processes, better particulate control equipment, and inherent dry scrubbing of sulfur dioxide in the calciner.

### **III. MODERNIZATION PROJECT**

The Miami-Dade Department of Environmental Resources Management (DERM) issued a permit to Titan on May 1, 2001 to modernize the plant by replacing the wet process pyroprocessing lines with modern dry process technology including a preheater and calciner (PH/C). The 2001 permit was actually a modification and re-issuance of a permit issued in 1999 for a modernization project that was smaller in scope.

The dry process PH/C kiln is one of the most fuel-efficient cement pyroprocessing technologies currently available. Thermal efficiencies are superior with the PH/C kiln and the amount of fuel combusted per ton of clinker produced is greatly reduced in comparison with the wet process.

The modernized cement plant was permitted to produce up to 250 tons per hour (TPH) of clinker and an annual (12-month) production rate of 1,642,500 TPY of clinker. The major equipment at the plant includes a PH/C kiln, a clinker cooler, raw mill, finish mills, silos, conveyers, and particulate control/dust collection. The cement product is stored in silos and shipped in bags or in bulk by rail or truck.

A description of the modernization project was provided in the Technical Evaluation and Preliminary Determination prepared by DERM and dated April 28, 1999. Titan completed basic construction of the dry process kiln line in June of 2004. Compliance tests were conducted in October and November 2004. The Department of Environmental Protection (Department) issued Air Construction Permit 0250014-016-AC on May 31, 2005 to reflect the final physical configuration of the modernization project.

The Department is presently reviewing a Title V Operation Permit Renewal Application that incorporates past changes at the facility other than the modernization project, other previously approved projects at the facility and which anticipates issuance of the present Air Construction Permit Application.

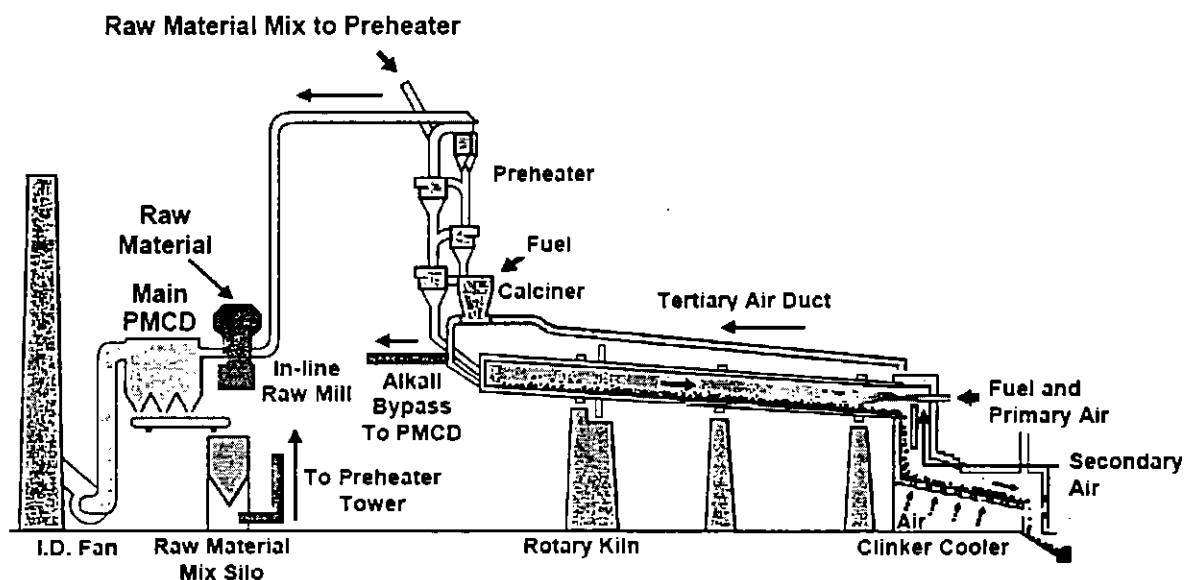
**IV. EMISSIONS UNIT SYSTEM PROCESS DESCRIPTIONS**

**Raw Material Handling Unit System**

Raw materials used in the cement production process include mineral aggregates (ash, bauxite, gypsum, etc.) and limestone. The Pennsuco facility includes a limestone quarry with a primary crusher (Allis Chalmers) and a secondary crusher (FFE Minerals). The quarry produces approximately 10,000,000 TPY of which over 2,000,000 TPY are conveyed to the cement plant materials storage building via 1.2 mile conveyor system. The materials storage building is a 95-foot A-frame structure and occupies an area of 18 acres. Stockpiled limestone is reclaimed by means of a continuous pile reclaimer, and then transferred to the Limestone Feed Bins.

The mineral aggregates and fuels such as bauxite, mill scale, coal, and petroleum coke are delivered to the site by means of truck or railcar, and are stored in temporary piles. The materials are reclaimed via front-end loader and then dropped into a choke feed hopper. From the feed hopper, the materials are conveyed into the materials storage building. The mineral aggregates are then reclaimed by means of a continuous pile reclaimer, and then transferred via a 1,500 foot conveyor to the mineral aggregates feed bins. PM emissions from the limestone and mineral aggregates feed bins and conveying system are controlled by a single baghouse (Equipment ID No. 311.BF650).

Following is a very simplified process flow diagram of a preheater/calcliner kiln that is useful for discussing the details of the Titan Florida Pennsuco Plant. The figure was borrowed from an excellent study (Greer 2005 for PCA) assessing how pollution control strategies for a given pollutants influence (increase or decrease) emissions of other pollutants.



**Figure 2. Process Diagram of Dry Process Preheater/Calcliner Pyroprocessing System**

Three baghouses control PM emissions from the conveying system located between the raw materials feed bins (not shown) and the raw mill (Equipment ID Nos. 311.BF750, 321.BF470, and 311.BF950).

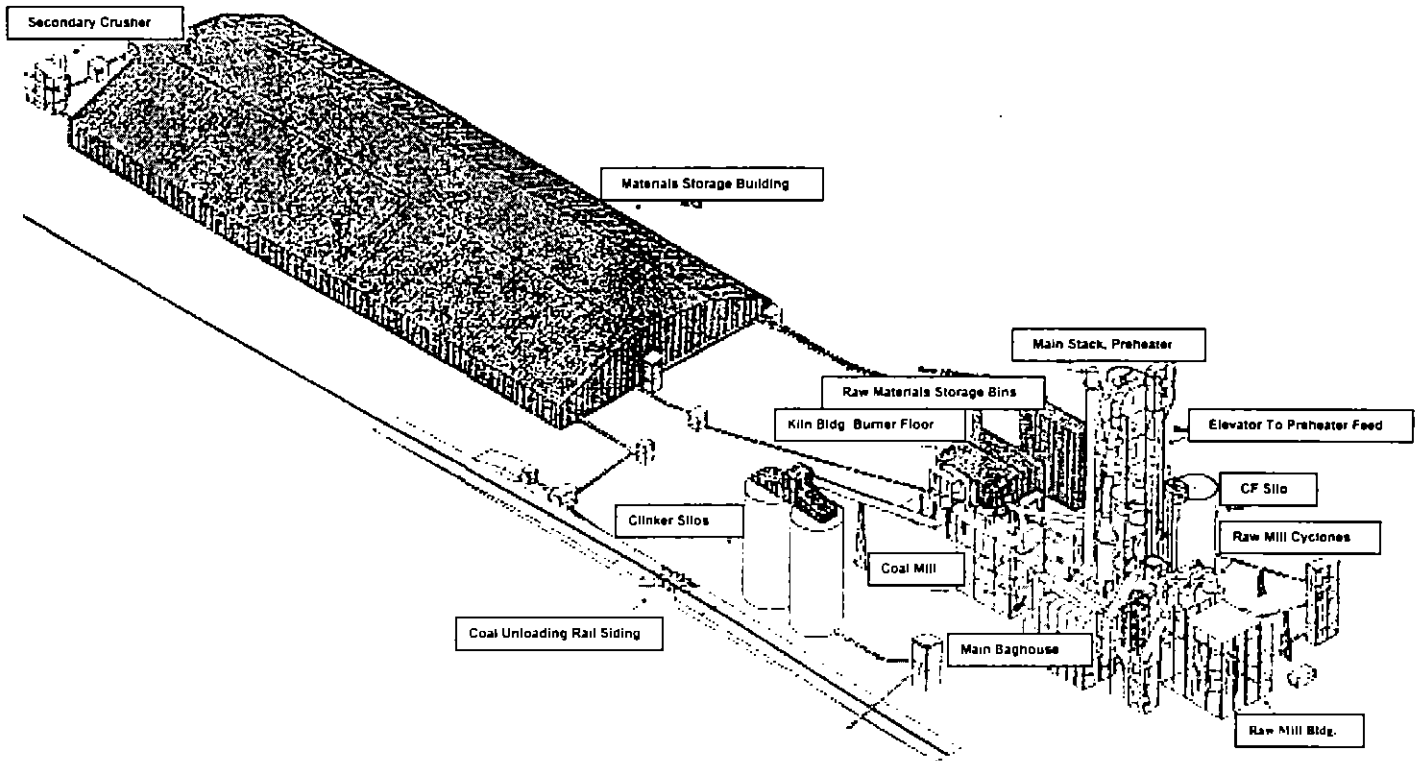


# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## Pyroprocessing System

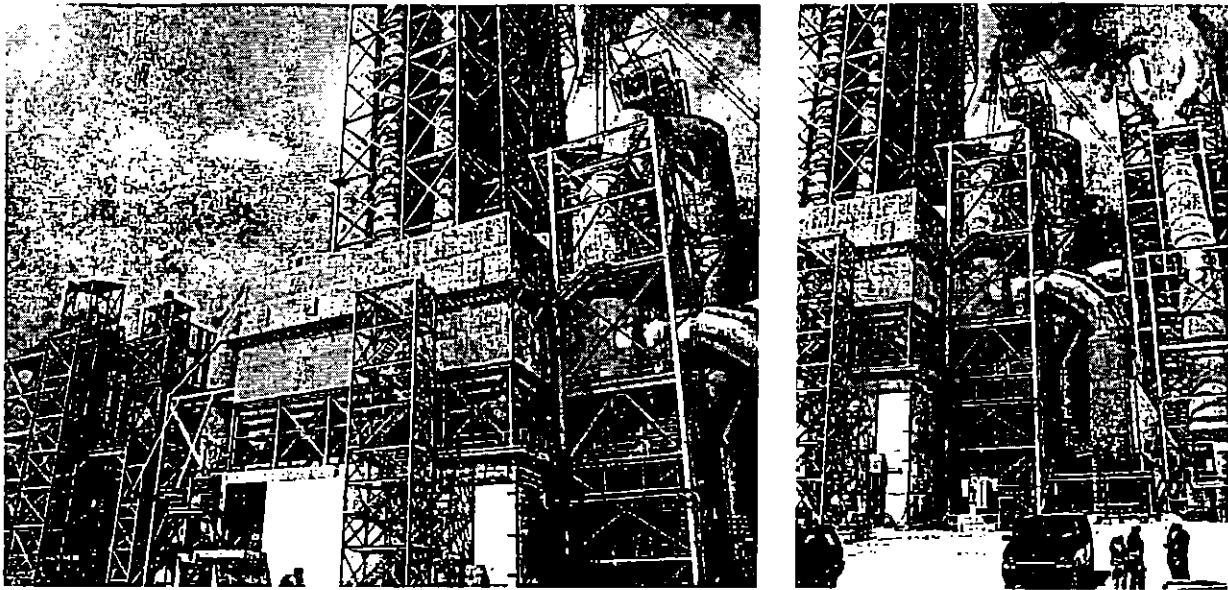
Pyroprocessing includes all of components that emit through the main stack shown on the left hand side of the above diagram. The emissions unit consists of the coal mill (not shown), raw mill, feed silo, preheater, calciner, kiln, clinker cooler, and the kiln dust system. The Titan Florida Pennsuco Plant does not have an alkali bypass.

Raw materials from the limestone and mineral aggregates feed bins enter the 400 TPH (F.L. Smidth) raw mill, where the material is ground to size and the moisture content is reduced. Heat for drying within the raw mill is supplied from the calciner/kiln exhaust gas after passing through the preheater. From the Raw mill, the material is blown to a series of mechanical cyclones that recover most of the material. The cyclones are visible on the right hand side of the figure shown below.



**Figure 3. Titan Florida Pennsuco Cement Plant. Medley, Miami-Dade County**

The exhaust from the cyclones passes through the main particulate matter control device (PMCD) which is the main stack baghouse (Equipment ID No. 331.BF200). The gases are drawn through the induced draft fan and discharged to the 410-foot main stack that is adjacent to the preheater as shown in the above diagram. When the raw mill is off, exhaust gas leaving the preheater is bypassed to a conditioning tower that cools the gases and then to the main baghouse. Pictures of the main stack baghouse and the raw mill building are shown in the figure on the following page.



**Figure 4. Lower Preheater, Main Stack Baghouse, Ducting From Raw Mill Cyclones**

The properly milled and sized raw material is pneumatically conveyed to the preheater feed silo, which is controlled by a baghouse (Equipment ID No. 341.BF350). Material from the feed silo, known as raw meal, is then conveyed to and introduced at the five-stage preheater tower. The conveying system is controlled by two baghouses (Equipment ID Nos. 351.BF440 and 351.BF470).

The raw meal passes through the preheater/calculator/kiln system. Initially, fixed moisture is released from the raw meal. Then the raw meal is calcined (conversion of limestone fraction to lime). Finally the calcined meal is sintered in the kiln to produce clinker nodules. The kiln is a two-pier, 65 meter horizontally oriented cylinder and is 5 meters in diameter.

Coal/petcoke is fed to both the medium temperature calciner burner and the high temperature kiln burner to provide heat for the process. Hot air from the kiln hood and clinker cooler provides secondary combustion air to the main kiln burner and tertiary air to the calciner to support calcination and complete burnout.

Kiln dust captured in the main stack baghouse (331.BF740) is conveyed to a storage bin. From the storage bin, the kiln dust is returned to the process in an enclosed system or is loaded out to truck. The conveying operation and the storage bin are controlled by a baghouse (Equipment ID No. 331.BF740). The truck loadout operation is also controlled by a baghouse Equipment ID No. 331.BF645).

### **Clinker Handling and Storage Unit System**

Clinker leaving the kiln is cooled in an F.L. Smidth 4x5 cross bar cooler. The cooled clinker is transferred to one of two clinker storage silos. PM emissions from the conveying and transfer operations are controlled by two baghouses (Equipment ID Nos. 441.BF540 and 481.BF140). Any off-specification clinker is stored in the off-spec clinker silo, which is controlled by a baghouse (Equipment ID No. 481.BF330).

## **TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

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The clinker is then transferred to one of twelve clinker storage silos that were associated with the previous wet process cement plant. These transfer and storage operations are controlled by a total of six baghouses (Equipment ID Nos. 481.BF330, 481.BF540, 481.BF640, 481.BF740, 481.BF930, and F633).

### **Finish Mill Unit System**

The Finish Mills Nos. 1, 3, 4 and 6 include a number of conveyors used to transfer clinker and gypsum in and out of one or a series of ball mills. The ground clinker from the ball mills is transferred to cement separators for sizing of the product, using an air classification system. The processed clinker, now in a granular or powdered form, may then be cooled or sent directly to storage.

A total of ten (10) baghouses are used to control PM emissions from the conveyor systems and from the grinding operations (Equipment ID Nos. F113, F130, F313, F330, 533.BF340, F432, F430, F728, 536.BF500 and 536.BF340). Three of the baghouses (533.BF340, F728, and 536.BF340) are part of the O'Sepa separator systems, and act as product conveyance/collection devices.

### **Cement Storage, Loadout and Packhouse Unit System**

Cement from the finish mills is sent to storage silos. From the storage silos, the cement is transferred to one of several operations for delivery, including a combination rail/truck loadout, two truck-only loadouts, or a bagging operation (packhouse).

PM emissions from the cement storage silos (12) are controlled by five baghouses (Equipment ID Nos. F511, F512, F513, F514, and F515). Rail/truck Loadout Unit #1 is controlled by a baghouse (Equipment ID No. B110); Truck Loadout Unit #2 is controlled by a baghouse (Equipment ID No. B210); Truck Loadout Unit #31 is controlled by three baghouses (Equipment ID Nos. B372, B374, and B382); and the packhouse is controlled by three baghouses (Equipment ID Nos. BF120, BF205, and BF400).

### **Coal Handling Unit System**

Two solid fuels, coal and petroleum coke (petcoke), are utilized in the new cement plant at Titan Florida Pennsuco Cement Plant. These fuels are delivered by rail and transferred from the railcars using a bottom-dump system, where they are gravity fed into an underground hopper and onto a belt conveyor. Two additional conveyor-to-conveyor transfer points exist between the railcar unloading operation and the materials storage building. Each of these transfer points is enclosed. Inside the materials storage building, coal and petcoke are transferred from the conveyor belt entering the building to an automatic stacker, where the fuel is transferred onto the storage piles inside the building.

Coal or petcoke are reclaimed from the storage pile using an automatic reclaimer and transferred by belt conveyor to the coal and petcoke feed bins. These transfer points and the coal/petcoke feed bins are controlled using two baghouses (Equipment ID Nos. 461.BF130 and 461.BF230).

Occasionally, when the materials storage building is at capacity, coal/pet coke is temporarily stored on the ground. A front-end loader is used to move the coal from a separate railcar unloading operation to a storage pile. As capacity is available in the materials storage building, the front-end loader is used to reclaim coal from the pile and transfer it to railcars where it is processed normally (bottom-dumped from railcar and transferred to the materials storage building). Up to one-third of the total coal throughput could be handled in this way.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

From the feed bins, coal and petcoke are transferred to the coal mill for grinding. PM emissions from the transfer points of the feed bins to the coal mill are controlled by using a baghouse (Equipment ID No. 461.BF350). In the coal mill, the coal/pet coke is ground, and is then blown to a baghouse (Equipment ID No. 461.BF300), which acts as a product separator. Exhaust gases from the baghouse are vented to the plant main stack.

The ground coal/pet coke collected in the coal mill baghouse is transferred to a coal surge bin or a petcoke surge bin. PM emissions from this transfer operation are controlled using two identical baghouses (Equipment ID Nos. 461.BF650 and 461.BF750). These surge bins are used to feed the kiln and preheater/calcliner.

### V. APPLICANT'S REQUEST

DEP received an application (0250014-017-AC) from Titan on April 18, 2005 to increase annual production rates and operating hours approved under previous construction permits related to the modernization project.

Titan application (since modified) requested the following changes:

- Increase annual production of clinker from 1,642,500 tons per year (TPY) to 2,190,000 TPY.
- Increase annual cement (i.e. clinker plus interground material such as gypsum) from 1,800,000 TPY to 2,400,000 TPY.
- Remove restrictions on annual hours of operation from sources as necessary to achieve the target annual clinker and cement production.
- Finalize reconfiguration of the finish mill baghouses from 12 to 10.
- Reduce short-term particulate matter (PM/PM<sub>10</sub>) emission limits from the preheater/calcliner/kiln/raw mill (pyroprocessing system) emanating from the main stack.
- Reduce short-term PM/PM<sub>10</sub> emission limits from various baghouses serving finish mills and material transfer points.
- Replace short-term NO<sub>x</sub>, CO, SO<sub>2</sub>, and VOC pyroprocessing emission limitations in terms of lb/ton of clinker with lower long-term values while avoiding net significant emissions increase compared with emissions from the old wet process. (Not able to avoid for CO)
- Reconcile and adjust visible emission standards and mass emission rate limits originating from several previous permits, 40 CFR 63 Subpart LLL, and the Department's rule for opacity testing in lieu of mass emissions testing.

No changes to the permitted 250 TPH maximum 24-hr clinker production rate are requested. The final configuration for the finish mill and cement packhouse baghouses is reflected in the application.

### VI. PERMITTED EMISSIONS, PRODUCTION RATES AND COMPLIANCE TESTS

The following table is a summary of the key emission limits and production rates presently applicable to the dry process line when operating at 250 TPH. The values are from the 2001 Air Construction Permit issued for the modernization project. Certain long-term limits that are not shown also apply and are presented in subsequent sections.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

**Table 1. Emission and Production Limits Applicable to Pyroprocessing Line Main Stack**

Pollutant	Emission Limits (production basis)	Emission or Production Limits (mass per time basis)	Emissions or Production (Tons per Year)
PM	0.125 lb/ton kiln <sub>ph</sub> feed	53.1 lb/hr	175
PM <sub>10</sub>	0.105 lb/ton kiln <sub>ph</sub> feed	42.0 lb/hr	147
SO <sub>2</sub> (24-hr)	1.28 lb/ton clinker	320 lb/hr	806
NO <sub>x</sub> (24-hr)	2.88 lb/ton clinker	720 lb/hr	1,953
CO (24-hr)	2.3 lb/ton clinker	576 lb/hr	1,457
VOC (24-hr)	0.16 lb/ton clinker	40 lb/hr	155
H <sub>2</sub> SO <sub>4</sub>	0.09 lb/ton clinker	2.24 lb/hr	8.68
Mercury (Hg)			229 lb/yr (base + 199 lb/yr)
Dioxin/furan	Per Subpart LLL		
Lead (Pb)			1,293 lb/yr (base+1,199 lb/yr)
Clinker (24-hr)		250 TPH	1,642,500
Coal/Petcoke		30 TPH	
Petcoke		20 TPH	

During the periods October 20-22, November 4-5, and November 16-19, 2004 Titan conducted the initial emission in-stack tests as required by their air construction permit and other applicable regulations. Typically, for new cement plants, these tests are conducted under conditions representative of the manufacturer performance guarantees and under its supervision. The table on the following page is a summary of the emission tests conducted in October and November 2004 while producing 222.2 TPH of clinker.

All of the in-stack tests indicated compliance with the permitted limits. Following are some items of note:

- PM/PM<sub>10</sub> is extremely low especially considering that the plant configuration treats kiln and cooler emissions together rather than through separate stacks.
- NO<sub>x</sub> emissions are very low. For example, they are approximately equal to emissions at Suwannee American Cement where NO<sub>x</sub> emissions are controlled by a selective non-catalytic reduction (SNCR) system.
- SO<sub>2</sub> emissions were significant prior to the modernization, but are now virtually zero due to the effective dry scrubbing mechanism in the calciner.
- CO emissions are very low especially for a process that depends on an aggressive reducing atmosphere to control NO<sub>x</sub> emissions. This is due to the long retention calciner time to complete char combustion and burn out CO.
- The dioxin/furan results are the lowest measured to date.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

**Table 2. Results of Emission Tests conducted on Pyroprocessing Line Main Stack. (2004)**

Pollutant	Permit Limit	Result
PM/PM <sub>10</sub> (Raw Mill Up)	0.125/0.105 lb/ton ph kiln feed	0.028 lb/ton ph kiln feed
PM/PM <sub>10</sub> (Raw Mill Down)	0.125/0.105 lb/ton ph kiln feed	0.021 lb/ton ph kiln feed
NO <sub>x</sub>	2.88 lb/ton clinker	2.00 lb/ton clinker
SO <sub>2</sub>	1.28 lb/ton clinker	~ 0
CO	2.3 lb/ton clinker	0.51 lb/ton clinker
VOC	0.16 lb/ton clinker	0.12 lb/ton clinker
H <sub>2</sub> SO <sub>4</sub>	0.009 lb/ton clinker	0.005 lb/ton clinker
Lead (Pb)	1,293 lb/yr	~ 96 lb/yr (at measured rate)
Mercury (Hg)	229 lb/yr	~ 52 lb/yr (at measured rate)
Dioxin/Furan (Raw Mill up)	0.4 ng/dscm @7% O <sub>2</sub> *	0.013 ng TEQ/dscm @7% O <sub>2</sub>
Dioxin/Furan (Raw Mill Down)	0.2 ng/dscm @7% O <sub>2</sub> +	0.010 ng TEQ/dscm @7% O <sub>2</sub>

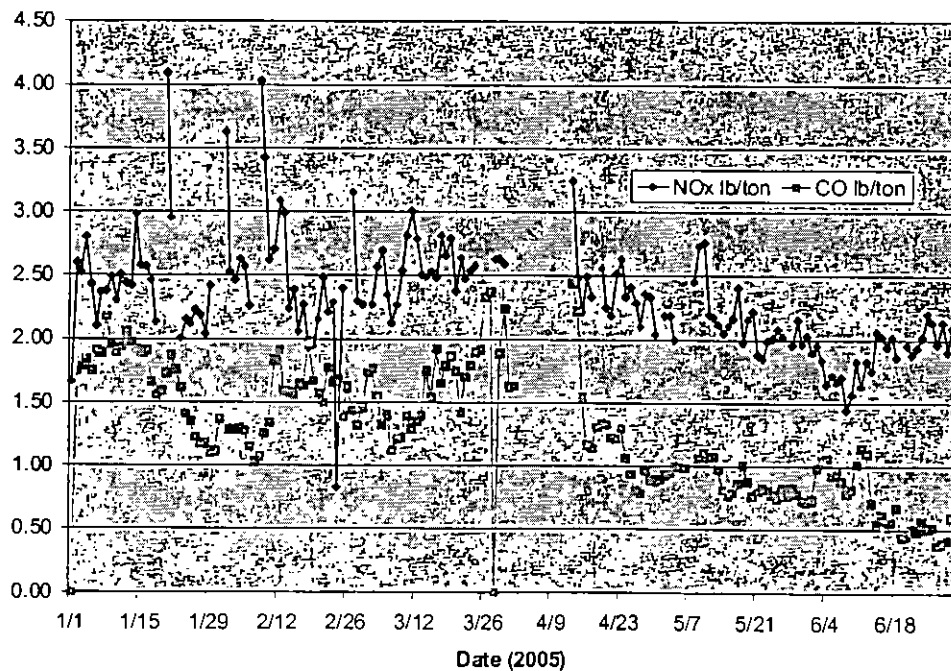
\* Standard Baghouse Inlet Temperature < 400 F<sup>0</sup>

+ Standard Baghouse Inlet Temperature > 400 F<sup>0</sup>

## VII. DATA FROM CONTINUOUS EMISSIONS MONITORING SYSTEMS (CEMS)

The following chart is a summary of NO<sub>x</sub> and CO CEMS emission data in terms of pounds per ton of clinker (lb/ton) for the first six months of 2005.

**Figure 5. NO<sub>x</sub> and CO Emissions (lb/ton) from Pyroprocessing Line (Jan. – June 2005)**

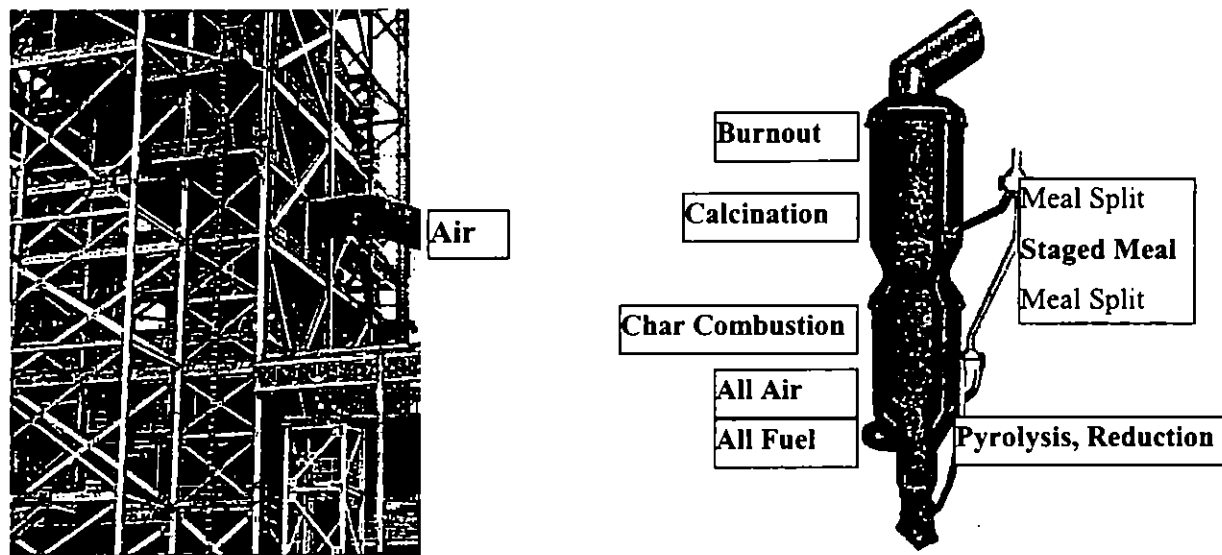


## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

During the first quarter of 2005, NO<sub>x</sub> and CO emissions were greater than they were during the compliance/acceptance testing conducted in October 2004. During the second quarter of 2005 there was progressive improvement in NO<sub>x</sub> and CO emission characteristics. By the end of June 2005, Titan demonstrated that it can operate the pyroprocessing line at the low long-term emissions rate needed to obtain the requested annual production increase without necessarily triggering PSD and at emission rates similar to those obtained during the initial compliance/acceptance tests performed in October 2005.

It is commonly believed that NO<sub>x</sub> and CO are inversely related for many processes. However it is possible to operate certain kinds of kilns such that both NO<sub>x</sub> and CO can be reduced simultaneously to a point. This typically involves creation of a relatively high temperature reducing atmosphere in the lower calciner and a high temperature oxidizing atmosphere higher in the calciner. The arrangement at Titan Florida Pennsuco is shown in the following figure.

**Figure 6.** Titan Florida Pennsuco - Sequenced Fuel, Air, and Meal (FLS Low NO<sub>x</sub>) Calciner

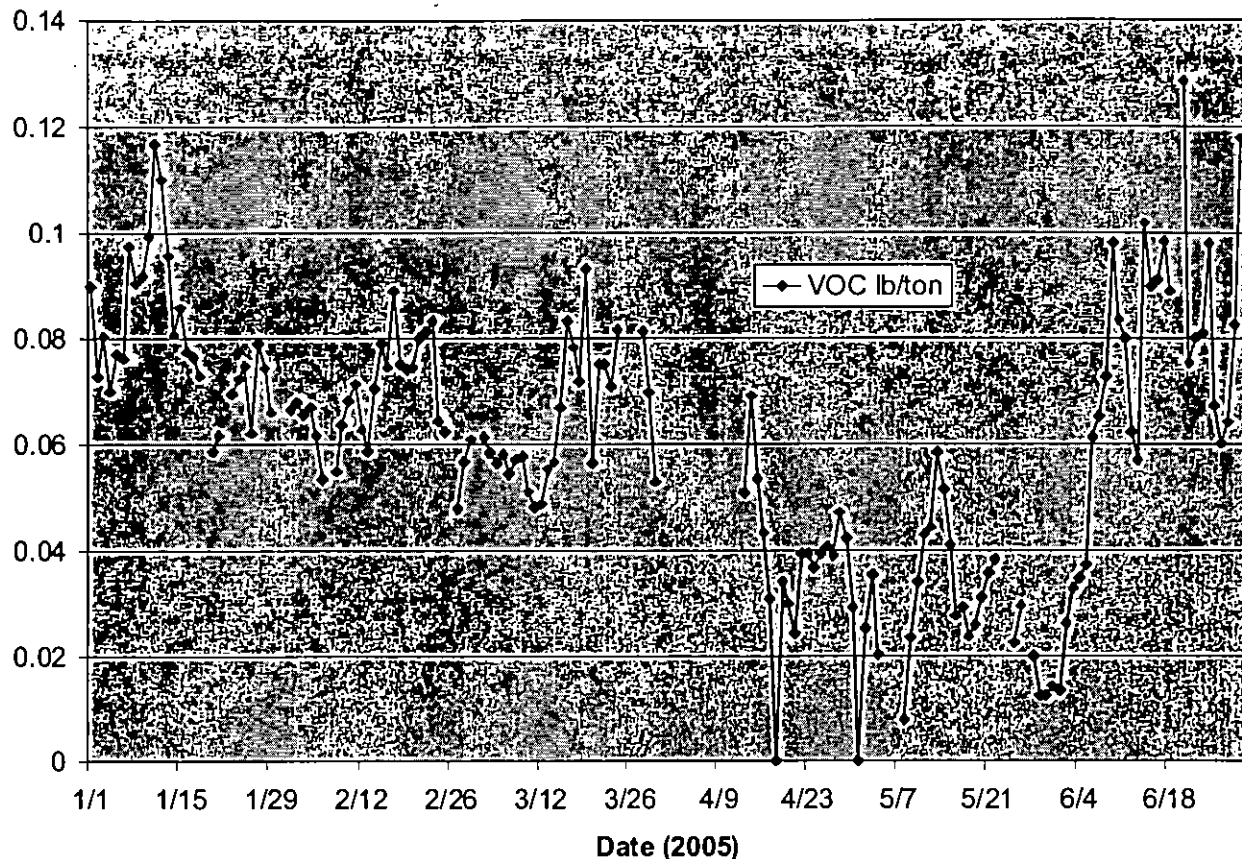


The necessary conditions are achieved by the manner in which fuel, air, and meal are introduced into the calciner. All fuel is introduced into the riser duct, then all hot tertiary air is introduced into the lower calciner. Raw meal is split and introduced in a staged manner. This provides for the temperature control and raw meal catalysis to maximize NO<sub>x</sub> destruction and then promote char burnout and CO oxidation.

According to Titan representatives, they have been making slight changes to the pre-heater to allow material to flow smoother. They have worked on the (meal) splitter and made more C3S cement and less C2S (thus requiring less intense burning). The operators have learned to handle the system more smoothly, which makes it run better.

The following chart is a summary of VOC emissions over the same period. The pattern is similar to those of NO<sub>x</sub> and CO until June when an increase is apparent. In general, VOC emissions from preheater/calciner kilns are caused by organic matter present in raw materials. VOC emissions did not exceed the permitted limit that are in-turn substantially less than the maximum achievable control technology (MACT) standard of approximately 0.3 to 0.4 lb THC/ton allowed by 40 CFR 63, Subpart LLL from new kilns at greenfield sites.

Figure 6. VOC Emissions (lb/ton clinker) from Pyroprocessing Line (January – June 2005)



SO<sub>2</sub> data were also made available to the Department, but are too low to plot in a meaningful manner. The reason is that virtually all fuel sulfur is scrubbed out in the calciner and there is virtually no sulfur in the raw materials that could otherwise be roasted off in the preheater.

**VIII. PROPOSED EMISSION, PRODUCTION LIMITS FROM PYROPROCESSING**

The table on the following page is a list of the emission and production limits proposed by Titan for the pyroprocessing system. They reflect the revisions submitted on September 30 to reflect selection of 2002-2003 as the baseline period by the Department and PSD applicability for CO.

The key changes compared with existing requirements are replacement of higher short-term lb/ton limits with lower 12-month averaged emission limits for NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC, while keeping the existing 24-hour lb/hr values. Compliance would be demonstrated using the continuous emission monitoring system (CEMS) for NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC. The other key change is lower PM/PM<sub>10</sub> limits.

Comparison of the proposed emission limits in Table 3 with the stack test results in Table 2 and the CEMS data in Figures 4 and 6 indicates that the proposed emission rates can be attained with varying margins of safety.



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

**Table 3. Applicant's Revised Emission and Production Limits From Pyroprocessing**

Pollutant	Emission Limits (production basis)	Emission or Production Limits (mass per time basis)	Emissions or Production (Tons per Year)
PM	0.067 lb/ton kiln <sub>ph</sub> feed	28.5 lb/hour	125
PM <sub>10</sub>	0.056 lb/ton kiln <sub>ph</sub> feed	23.9 lb/hr	105
SO <sub>2</sub> (24-hr)		320 lb/hr	
SO <sub>2</sub> (12-mon)	0.50 lb/ton clinker		548
NO <sub>x</sub> (24-hr)		720 lb/hr	
NO <sub>x</sub> (12-mon)	2.17 lb/ton clinker		2,376
CO (24-hr)		576 lb/hr	
CO (30-day)	2.0 lb/ton clinker		2,190
VOC (24-hr)		40 lb/hr	
VOC (12-mon)	0.16 lb/ton clinker		175
H <sub>2</sub> SO <sub>4</sub>	0.011 lb/ton clinker	2.7 lb/hr	12
Mercury (Hg)			229 lb/yr (base + 199 lb/yr)
Dioxin/furan	Per Subpart LLL		
Lead (Pb)			1,293 lb/yr (base+1,199 lb/yr)
Clinker (24-hr)		250 TPH	2,190,000
Coal/petcoke		30 TPH	
Petcoke		20 TPH	

## IX. RULE APPLICABILITY

This facility is located in Miami-Dade County, which is an area presently in attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C. While in attainment with the ozone (O<sub>3</sub>) ambient air quality standard, the area is a "maintenance area" for this pollutant.

The project as originally proposed was not subject to a PSD review and BACT determination pursuant to Rule 62-212.400 F.A.C. because the estimated net emission increases for each pollutant did not exceed the significance emission rates given in Table 62-212.400-2, F.A.C. Titan subsequently requested PSD review and a BACT determination because the Department determined that the annual CO emissions estimated by Titan do result in a net significant emission increase of CO as described in sections below.

This facility is subject to the Maximum Achievable Control Technology (MACT) for Hazardous Air Pollutants (HAPs) requirements that are listed in 40 CFR 63, Subpart LLL. The kiln is considered to be a new kiln at a brownfield site.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

This facility shall comply with all applicable provisions of the following regulations:

40 CFR 50	National Primary and Secondary Ambient Air Quality Standards
40 CFR 51, Subpart Y	Standards of Performance for Coal Preparation Plants
40 CFR 60, Subpart A	General Provisions
40 CFR 60 Subpart F	Standards of Performance for Portland Cement Plants
40 CFR 63, Subpart A	General Provisions
40 CFR 63 Subpart LLL	National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry – Major Sources
40 CFR 64	Compliance Assurance Monitoring Rule

The emission units affected by this modification shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Chapter 62-4	Permits.
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.260	Prevention of Significant Deterioration Increments
Rule 62-204.360	Designation of Prevention of Significant Deterioration Areas
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-212.400	Prevention of Significant Deterioration
Chapter 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-297.570	Test Reports
Rule 62-297.520	EPA Continuous Monitor Performance Specifications
Rule 62-297.701	Portland Cement Plants

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## X. METHOD OF ESTIMATING EMISSION INCREASES AND DECREASES

As a major source, a physical modification or change in method of operation of this facility resulting in no significant net emissions increases is not subject to PSD review and does not require a BACT determination. It is clear that the production increase is a physical change or change in method of operation because it involves relaxation of a federally enforceable annual production limit that can cause increases in annual emissions.

Significant net emissions increase is defined in Rule 62-212.400, F.A.C as follows:

*Significant Net Emissions Increase – A significant net emissions increase of a pollutant regulated under the Act is a net emissions increase equal to or greater than the applicable significant emission rate listed in Table 212.400-2, Regulated Air Pollutants – Significant Emission Rates.*

The significant emission rates (SER) are included in Table 4 on the following page. The meaning of a net emissions increase is given in Rule 62-212.400, F.A.C. as:

*Net Emissions Increase – A modification to a facility results in a net emissions increase when, for a pollutant regulated under the Act, the sum of all of the contemporaneous creditable increases and decreases in the actual emissions of the facility, including the increase in emissions of the modification itself and any increases and decreases in quantifiable fugitive emissions, is greater than zero.*

Contemporaneous emissions increases and decreases are described in the following definition:

*Contemporaneous Emissions Changes – An increase or decrease in the actual emissions or in the quantifiable fugitive emissions of a facility is contemporaneous with a particular modification if it occurs within the period beginning five years prior to the date on which the owner or operator of the facility submits a complete application for a permit to modify the facility and ending on the date on which the owner or operator of the modified facility projects the new or modified emissions unit(s) to begin operation. The date on which any increase in the actual emissions or in the quantifiable fugitive emissions of the facility occurs is the date on which the owner or operator of the facility begins, or projects to begin, operation of the emissions unit(s) resulting in the increase. The date on which any decrease in the actual emissions or in the quantifiable fugitive emissions of the facility occurs is the date on which the owner or operator of the facility completes, or is committed to complete through a federally enforceable permit condition, a physical change in or change in the method of operation of the facility resulting in the decrease.*

The definition of actual emissions is given in Rule 62-210.200, F.A.C. (definitions) as follows:

*Actual Emissions – The actual rate of emission of a pollutant from an emissions unit as determined in accordance with the following provisions:*

- (a) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a two year period which precedes the particular date and which is representative of the normal operation of the emissions unit. The Department may allow the use of a different time period upon a determination that it is more representative of the normal operation of the emissions unit. Actual emissions shall be calculated using the emissions unit's actual operating hours, production rates and types of materials processed, stored, or combusted during the selected time period.*

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The contemporaneous creditable emissions changes are given in the following table. The primary basis of creditable reductions is the shutdown of the wet process pyroprocessing lines in 2004 (basis 2002-2003). The primary basis of the creditable increases is the startup (2004) of the dry process line as modified by the present (2005) request to increase annual production.

**Table 4. Net Emissions Increases and Decreases, Comparisons with Respective PSD SER**

Pollutant	Increases Dry Process at Proposed Capacity (TPY)	Decreases Slag Dryer & Wet Process Shutdown Actual Emissions (TPY)	Net Increases and (Decreases) (TPY)	PSD Significant Emission Rate (TPY)
PM	355	385	(30)	25
PM <sub>10</sub>	321	307	14	15
SO <sub>2</sub>	548	514	34	40
NO <sub>x</sub>	2,376	2,344	32	40
CO	2,190	1,323	867	100
VOC	175	145	30	40
H <sub>2</sub> SO <sub>4</sub> (SAM)	12	19	(7)	7
Hg	229 lb/yr	30 lb/yr	199 lb/yr	200 lb/yr
Pb	1,293 lb/yr	94 lb/yr	1,199 lb/yr	1,200

Source: Titan America's information received in April 2005 and July

The increases shown from the dry process include: the contemporaneous increases caused by the modernization that started up in 2004; the additional increases caused by the proposed production increase project; and the increases caused by relocation and expansion of a 32 million block per year grey block plant to an 85 million block per year plant.

Actual SO<sub>2</sub> emissions from the modernized plant are likely to be much lower (near zero) based on the emission test results discussed in the previous section. It will be necessary to comply with an emission rate of 0.50 lb SO<sub>2</sub>/ton of clinker to avoid triggering PSD. This will be very easy to accomplish given previous technical discussion given above. In fact, typical SO<sub>2</sub> emissions will be less than 0.10 lb SO<sub>2</sub>/ton of clinker.

Given the inherent scrubbing of SO<sub>2</sub> in the calciner, the potential for SAM formation is minimal. Almost all possible SAM escaping the preheater would be scrubbed by very finely divided limestone in the moist environment of the raw mill.

Although Titan requested a limit based on future emissions of 12 TPY, they demonstrated emissions equivalent to 5.5 TPY and a likely *reduction* of about 13 rather than the 7 TPY value in the table. These factors and the expectation of *lower* emissions from the dry process are sufficient to provide reasonable assurance that SAM annual emissions will not trigger PSD for SAM. No emission limit will be included for SAM. There is no expectation of significant SAM emission increases.

PM/PM<sub>10</sub> emissions measured from the main kiln stack were less than half of the proposed limit. Past PM pyroprocessing emissions were estimated by actual stack measurements. PM<sub>10</sub> emissions were estimated to be 84% of PM. However in the future, total PM compliance will be determined by meeting the PM<sub>10</sub> limitation. For example, measured PM will be demonstrated annually to be less

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

than the proposed limit of 0.067 lb PM/ton kiln<sub>ph</sub> feed *and* less than the proposed PM<sub>10</sub> limit of 0.056 lb PM<sub>10</sub>/ton kiln<sub>ph</sub> feed.

By adhering to the PM<sub>10</sub> limit (rather than conducting separate tests for PM and PM<sub>10</sub>) emissions of PM will actually be controlled to 105 TPY or less (rather than 125 TPY per Table 3). Consequently PM<sub>10</sub> emissions will be controlled to a value even lower than 105 TPY.

The maximum values for Hg and Pb emission increases from the dry process were presumed to be 199 and 1,199 lb/yr respectively. They were included in the present permit to insure PSD is not triggered. The emissions tests conducted in late 2004 equate to annual total Hg and Pb emissions of 60 and 108 lb/yr respectively. Extrapolation to annual emissions estimates suggests an increase in Hg of only 30 lb/yr and only 15 lb/yr of Pb, compared with the past actual emissions of 30 and 94 lb/yr. The increases are substantially less than the SER's for Hg and Pb of 199 and 1,199 lb/yr respectively.

Despite the low Hg emissions, the Department will keep an emission limitation for Hg because of its variable nature in fuels and raw materials. Hg builds up within the preheater and is ultimately emitted via the main stack. No limit is necessary for Pb because emissions are low, it is effectively removed by the baghouse, and it is incorporated into the clinker to a high degree.

NO<sub>x</sub> emissions are likely to be close to the proposed emission limits needed to avoid triggering PSD. The proposed long term emission rate is 2.17 lb NO<sub>x</sub>/ton of clinker. This level was achieved based on operation during June 2005 and during the compliance/acceptance testing conducted October 2004. There is likely sufficient flexibility based on the calciner design to allow for continuous long-term operation to meet this rate on a 12-month basis.

The Department concluded that there will be a net significant emission increase only for CO. After discussions with Titan representatives, they requested that the Department conduct a PSD review and a determination of best available control technology (BACT) in lieu of further downward adjustment of the CO limit. The analysis is provided in the following section.

### **XI. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REVIEW FOR CO**

Best Available Control Technology is defined at Paragraph 62-210.200 (Definitions), F.A.C. as:

*"Best Available Control Technology" or "BACT" - An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.*

- (a) If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation.*
- (b) Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.*

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Paragraph 62-212.400(6), F.A.C., describes the manner by which the Department conducts its BACT determinations as follows:

- (a) *BACT Determination. Following receipt of a complete application for a permit to construct an emissions unit or facility which requires a determination of Best Available Control Technology (BACT), the Department shall make a determination of Best Available Control Technology during the permitting process. In making the BACT determination, the Department shall give consideration to:*
- 1. Any Environmental Protection Agency determination of BACT pursuant to Section 169 of the Clean Air Act, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).*
  - 2. All scientific, engineering, and technical material and other information available to the Department.*
  - 3. The emission limiting standards or BACT determination of any other state.*
  - 4. The social and economic impact of the application of such technology.*

For reference, the U.S. EPA requires that BACT determinations conducted by its own offices and by states delegated to conduct BACT determinations under its PSD rules at 40 CFR 52.21 must be determined using the "top-down" approach. The Department is not required to use this methodology because it has an EPA-approved State Implementation Plan (SIP) at 40 CFR 52, Subpart K that includes the BACT definition and procedure described above. However the Department's BACT definition and determination process generally achieve the same outcome and do not preclude Top/Down methodology.

Under the Top/Down approach, available control technologies are ranked in order of control effectiveness for the emissions unit under review. The most stringent alternative is evaluated first. That alternative is selected as BACT unless the alternative is found to not be achievable based on technical considerations or energy, environmental or economic impacts. If this alternative is eliminated for these reasons, the next most stringent alternative is considered. This Top/Down approach is continued until BACT is determined. In general EPA has identified five key steps in the Top/Down BACT process:

1. Identify alternative control technologies;
2. Eliminate technically infeasible options;
3. Rank remaining control technologies by control effectiveness;
4. Evaluate most effective controls; and
5. Select BACT.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

A BACT determination cannot result in a selection of a control technology which would not meet any applicable emission limitation under 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants). This project is subject to such standards as described above. Neither of the key standards applicable to portland cement plants (40 CFR 60, Subpart F and 40 CFR 63, Subpart LLL) includes a limitation on CO emissions.

CO is a pollutant formed by the incomplete combustion of carbon in the fuels fired during pyroprocessing or by partial combustion of carbonaceous fractions in raw materials (such as fly ash) in the preheater. Emissions of CO are generally controlled by:

1. Relatively low carbonaceous matter in the raw materials;
2. Good combustion at the main kiln burner and calciner;
3. Addition of tertiary air from the kiln hood and clinker cooler; and
4. Varying degrees of calciner sizes and duct lengths to complete burnout.

The lowest CO value in any cement plant permit (~ 0.37 lb/ton) is believed to be for the TXI Midlothian Plant. A \$17,500,000 regenerative thermal oxidation system (RTO) was installed to deal with inherently and unusually high carbonaceous matter in the limestone and to avoid PSD. The system consists of 11 RTO modules and covers an area equal to a "football field". Natural gas is used to heat the system. The RTO destroys VOC as well and is considered the "Top" control.

TXI recently applied to the Texas Environmental Quality Board to turn off the RTO system outside of the ozone season. A settlement was reached with petitioners opposed to the TXI request and requires that the RTO system be used year-round. However the tentative applicable CO and VOC limits will be revised as follows:

**Table 5. Agreement Regarding RTO and CO, VOC Limits at TXI Midlothian Plant**

ELEMENTS OF AGREEMENT			
	Existing permit	TXI's Request	Agreed-upon permit
Total hydrocarbons	44 TPY	603 TPY	< 84 TPY
Carbon monoxide	370 TPY	7,743 TPY	2,190 TPY

SOURCE: Mediated agreement with TXI, Blue Skies Alliance, Downwinders At Risk and 22 Midlothian residents

According to the agreement, the effective CO limits at the TXI project will be equivalent to 1.56 lb CO/ton clinker as an annual tonnage factor (2,190 TPY) rather than a technological limit. The VOC limit (as total hydrocarbons – THC) is equivalent to an impressive 0.06 lb VOC/ton of although it was doubled. For reference, the company would have increased annual VOC emissions nearly 14-fold by turning off the RTO system half of the time.

An RTO system at Titan would be far too costly on the basis of total capital costs and cost per ton of CO removed. It would actually be less expensive to implement control on raw materials and net out of PSD.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

F.L. Smidth provided a guarantee of 1.77 lb CO/ton of clinker on an annualized basis for the Titan Pennsuco modernization project. A value of 0.5 lb CO/ton was achieved during the compliance/acceptance tests conducted in October 2004. According to Figure 4, the 1.77 value can often be achieved even on a 24-hour basis. In fact lower values approaching 0.50 lb CO/ton of clinker (equal to the compliance/acceptance test result) were achieved in June 2005. This lower value reflects the ultimate capability of the sequenced fuel, air, and meal calciner with the long burnout loop described in Section VI above. To consistently achieve 0.50 lb CO/ton, there must be minimal carbonaceous material in the raw materials.

The Department believes that a limit of 2.0 lb CO/ton of clinker is appropriate for BACT on a 30-day basis with CEMS for demonstrating compliance. This is among the most stringent BACT CO limits issued to-date in the United States. It is important to emphasize that the calciner was specifically designed to achieve very low NO<sub>x</sub> and CO emissions. The value of 2.0 lb/ton allows for as much as 1.5 lb CO/ton of clinker from the raw materials given that CO at the bottom cyclone (exit from calciner and burnout loop) is on the order of 0.5 lb/ton of clinker. If a high degree of petcoke use or high production causes greater CO concentrations in the exhaust leaving the bottom cyclone, it would be necessary for Titan to scale back carbonaceous matter in the raw materials.

The greatest possibility of high CO emissions is related to introduction of high carbon fly ash at the preheater feed. Titan recently announced that it is conducting tests on high carbon residue from a fly ash beneficiation process operated by their affiliate, Separation Technologies, Inc. The purpose of the tests is to ultimately use the material (following Department approval) as a fuel in the calciner or kiln at Titan Florida Pennsuco. That would at least assure burnout of the carbonaceous fraction.

The Department is proposing averaging times for SO<sub>2</sub> and VOC on a 30-day basis to achieve as much consistency as possible with the averaging time for CO. This will facilitate use of the procedures described for continuous monitoring at cement plants subject to Subpart LLL. Although Subpart LLL does not require monitoring by CEMS for these pollutants from new kilns at brownfield sites, the procedures are familiar to cement plant operators.

The NO<sub>x</sub> averaging time will be on a 12-month basis. The limit is already aggressive for a kiln relying on staged combustion to reduce NO<sub>x</sub>. The convenience of a 30-day limit for the above-mentioned CEMS requirements is outweighed by the need to have an averaging time that facilitates year-round compliance.

### XII. PSD REVIEW FOR CARBON MONOXIDE

A PSD review is required for CO when predicted emissions are expected to be greater than 100 TPY. However, no short-term emission increases were requested and the same maximum emission rate of 576 lb/hr will continue to apply.

CO is a criteria pollutant and has only *de minimis* monitoring levels, significant impact levels and Ambient Air Quality Standards defined for it. There are no applicable air quality increments for CO for either the surrounding Class II area or the nearby Everglades National Park Class I area.

The PSD Review included modeling performed by both the applicant and the Department. The EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model was used to evaluate the pollutant emissions from the proposed project. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area, and



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

volume sources. It incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition.

The ISCST3 model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options.

Direction-specific downwash parameters were used for all sources for which downwash was considered. The stack associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

Meteorological data used in the ISCST3 model consisted of a concurrent 5-year period of hourly surface weather observations from the National Weather Service (NWS) station at Miami, Florida and twice-daily upper air soundings from West Palm Beach. The 5-year period of meteorological data was from 1987 through 1991.

The *de minimis* monitoring ambient impact level for CO is 575 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) on an 8-hour basis. If the predicted concentrations are above this *de minimis* level, a preconstruction monitoring analysis is required. The maximum predicted 8-hour concentration from this modification is  $31.0\mu\text{g}/\text{m}^3$ . Therefore, a preconstruction monitoring analysis is not required.

A significant impact analysis is performed on CO to determine if the project can even cause an increase in ground level concentrations greater than the Significant Impact Levels (SIL's). In order to conduct a significant impact analysis, the applicant uses the proposed project's emissions at worst-load conditions as inputs to the model. The highest predicted short-term concentrations predicted by the modeling are then compared to the appropriate SIL's for the PSD Class II Area.

If this modeling at worst-load conditions shows ground-level increases less than the SILs, the applicant is exempted from conducting any further modeling. If the modeled concentrations from the project exceed the SILs, then additional modeling including emissions from all facilities or projects (multi-source modeling) is required to determine the proposed project's impacts compared to the AAQS or PSD increments.

Modeling to determine significance in the PSD Class II area in the vicinity of the project was conducted using facility fence-line receptors with 50-meter spacing; discrete receptors with 100-meter spacing from the fence-line to 2.5 kilometers; and discrete receptors with 250 meter spacing extending out 5 kilometers. Over 3700 receptors were used in the Class II modeling.

The applicant's initial CO air quality impact analyses for this project indicated that maximum predicted impacts from all pollutants are less than the applicable SIL's for the Class II area (i.e. all areas except ENP). The modeling conducted indicated that the maximum ground-level CO concentration caused by stack emissions is  $115\mu\text{g}/\text{m}^3$  on a 1-hour basis and  $31\mu\text{g}/\text{m}^3$  on an 8-hour basis. Both values are less than the CO SIL values of 2000 and  $500\mu\text{g}/\text{m}^3$  (1.8 and 0.45 ppm) for the 1 and 8-hour averaging periods respectively. Therefore, no further modeling is required for CO.

There are applicable 1-hour and 8-hour National Ambient Air Quality Standards (NAAQS) of 35 and 8 parts per million (ppm) respectively. These values equate to 40,000 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and  $10,000\mu\text{g}/\text{m}^3$ . The values may be exceeded no more than one time per year.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

There is a CO monitor located at 16000 South Dixie Highway. Although it is some distance from Medley, it is reasonably representative of the background industrial and traffic related CO concentration in Miami-Dade County. The highest values from 2004 are 3.6 and 2.9 ppm for the 1 and 8-hour CO averaging times. To exceed the NAAQS, the ground-level CO concentrations from the stack at Titan would have to exceed approximately 31 ppm on a 1-hour basis or 5 ppm on an 8-hour basis.

The stack emissions predicted would add less than 1 ppm to the estimated 1 and 8-hour maximum background values of 3.6 and 2.9 ppm.

To be conservative, the Department modeled CO impacts on a basis of 1152 lb/hr, which is double the applicant's potential emission rate of 576 lb/hr. The predicted impacts from this modeling are 230.8  $\mu\text{g}/\text{m}^3$  on a 1-hour basis and 62  $\mu\text{g}/\text{m}^3$  on an 8-hour basis. These impacts are still below the *de minimis* level, the SIL's and when added to the background concentrations, the NAAQS.

The conclusion is that the stack emissions will not cause or contribute to a violation of the NAAQS for CO and that the impact is less than the respective SIL's. As previously mentioned, this analysis presumes that all stack emissions are caused by the present project even though no short-term increases will occur and the benefits of the shutdown of the wet process kilns were not considered.

Although PSD was not triggered for SO<sub>2</sub>, there are some noteworthy benefits from the modernization project and the re-evaluation of baseline emissions. As a result of the new baseline, lower emissions are required for SO<sub>2</sub>. The final values (0.50 lb SO<sub>2</sub>/ton of clinker and 514 TPY) are significantly less than originally proposed. Actual emissions are nearly zero. This has the effect of expanding both Class I and Class II increments for this pollutant whether they are calculated on the basis of potential emissions or actual emissions.

### XIII. OTHER CONSIDERATIONS – FUGITIVE EMISSIONS

The modernized Titan Pennsuco Plant will produce much more cement than produced using the wet process kilns. Emissions from the main baghouse exhausting through a single stack will be much less and much less visible than the four old electrostatic precipitators stacks that served the two wet process kilns and two coolers.

Projects have been implemented to improve the existing finish mills and their control equipment as well as conveyers and attendant particulate control equipment. However, there was still some concern that fugitive emissions can increase such that the project would not avoid the requirement of PSD review and BACT for PM/PM<sub>10</sub>. The reason is that increased operations necessarily require additional intake and shipment of raw materials, fuel, and product.

According to Titan, the amount of material quarried will likely remain at about the same level (on the order of 10,000,000 TPY) even though the use at the cement plant will increase to potentially 3,000,000 TPY (roughly amount needed to make 2,190,000 TPY of clinker). This additional material conveyed to the process will reduce the amount of traffic through the plant to the quarry to pick up limestone for delivery to users outside of the facility.

Following is the fugitive emissions control plan submitted by Titan for the purposes of providing reasonable assurances that PM/PM<sub>10</sub> emissions will not increase significantly and trigger PSD. Additionally the measures represent the reasonable precautions to minimize nuisance dust generation.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### FUGITIVE DUST IMPROVEMENT PLAN TITAN AMERICA PENNSUCO PLANT

Titan America has, over the last three years, completed projects not only in the cement plant but also within the entire facility that has contributed to a significant reduction in fugitive dust emissions. It is estimated that the reduction in fugitive dust emissions could be as high as approximately 25 to 30 percent of total particulate matter (PM) emissions.

The new preheater/calcliner/kiln has reduced point source PM emissions by approximately 5 tons per year (TPY) by eliminating the dust insufflation system (old system that sought to return cement kiln dust or CKD to the process). However, this system was a significant source of fugitive dust emissions due to the transfer of the insufflated dust by front-end loaders. The new system has eliminated CKD dust load-out and the truck traffic involved in this operation.

The new dry process system has also eliminated the four (4) electrostatic precipitators (ESPs) on the old wet process kilns and clinker coolers, and replaced them with a single baghouse. Titan has also reduced fugitive dust emissions by significantly reducing outside storage and handling of raw materials and fuels. Whereas these materials were stored completely outside in the past and moved by front-end loader, the majority of these are now stored in the new raw material and fuel storage building, and moved primarily by stacker/reclaimer and covered conveyor belts.

Titan has reduced truck traffic within the aggregate facility by approximately 20 percent by selling less trucked aggregate product to other companies within the area. Traffic patterns within the facility have been changed to keep more trucks on concrete surfaces within the loadout and Packhouse part of the facility.

Approximately 3 miles of concrete paving has also been added to the facility, further reducing fugitive emissions. Two watering trucks are now serving the entire facility. Dedicated berm areas have been established throughout the facility to further reduce wind erosion from ground areas.

Titan is also committed to completing the following items within the time frames specified:

1. Titan is evaluating further changes and improvements to the traffic patterns at the facility, as well as the need for additional paving, in order to further reduce fugitive dust emissions. Specifically:
  - Titan will reroute truck traffic associated with the Packhouse. A new entrance road will be constructed by extending 106<sup>th</sup> Avenue north along the east side of the property, just east of the old ESPs. This road improvement will be implemented in cooperation with the City of Medley. Once the entrance road is completed, the limerock road from the Packhouse to 106<sup>th</sup> Avenue will be paved. This will reduce truck traffic on the Main plant entrance road (off U.S. 27), and will reduce fugitive emissions from unpaved roads. Anticipated schedule: dependent upon the City of Medley to improve 106<sup>th</sup> Avenue.
  - Titan is working with the City of Medley to upgrade 102<sup>nd</sup> Road. This will reduce carry-in of road dust on trucks entering the Titan property from 102<sup>nd</sup> Road, and also improve the drainage and reduce the accumulation of silt within the roadway. Schedule: Titan is currently working with the City of Medley. Schedule will be dependent on the City of Medley.
  - Titan has already bermed certain exposed areas of the plant to prevent truck traffic from traveling over such areas. Schedule: already implemented and ongoing.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

2. Titan will install a wheel wash system in an area directly leading out of the Aggregate Plant. This area will also include a dewatering area for trucks which will assist in cutting down on the amount of drag-out from the facility. Schedule: operational by April 30, 2006.
3. Titan currently employs one (1) watering truck with a dedicated driver to provide water suppression on the paved roads in the plant. Titan has just issued a purchase order for the upgrade of an existing quarry truck to include watering capability with pressure spray. This second truck will provide a more effective watering program to reduce fugitive PM emission throughout the facility. Schedule: exact completion date of the upgrade is unknown; expected by December 2005.
4. Titan will take measures to minimize silt buildup on the paved road leading out of the Aggregate Plant. This will reduce silt re-entrainment and carryout by trucks. Schedule: measures implemented beginning in October 2005 and finalized with the addition of the second water truck in December 2005.
5. Titan is committing to continuing to operate a road sweeper 5 days a week at the facility. This sweeping program has already been implemented and is proving to be effective in reducing fugitive PM emissions.
6. A sprinkler system will be installed along the main haul road from the quarry to the Aggregate Plant. This will reduce fugitive PM emissions from this unpaved road. Schedule: complete by December 20, 2005.
7. Titan will take measures to reduce fugitive PM emissions from Bulk Cement Loadout area. This area has been observed to experience visible dust emissions. Schedule: evaluation of options no later than November 2005. The equipment associated with these improvements is included in the 2006 Capital Improvement Plan to be implemented no later than the first quarter 2006.
8. Titan has committed to landscape upgrades to further enhance not only the aesthetics of the facility, but also to further decrease the wind erosion of unpaved areas. Schedule: to be developed.
9. Best Management Practices (BMP) will be implemented to minimize fugitive PM emissions from outside raw material storage piles (i.e., bauxite, fly ash, iron ore, etc.). The BMPs are presented below:
  - Raw material inventory will be managed to minimize the time in storage.
  - Unloading and reclaiming of materials will be curtailed during windy or dry conditions;
  - Drop heights of material will be minimized;
  - Posting and enforcing speed limits along haul roads leading to the storage areas.
  - Raw materials are normally high moisture content when received. However, application of water or other dust suppressants will be used as necessary to minimize visible emissions.Schedule: Implement in October 2005.
10. The dust collector preventative maintenance crew has developed an Operation and Maintenance Program for all dust collectors at the facility. This will reduce the potential for dust collector malfunction and excess PM emissions. The O&M Plan will be implemented in August 2005.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

11. Upgrades to the air slides on the package cement load-out and the new Packhouse will be completed within the next 2 months. This new system will eliminate a package load-out system designed and built in the early 1900's. Adjacent to this area, a new clunker silo distribution system is being designed to improve the distribution of clinker to the storage silos before the finish mills. This will result in reducing fugitive dust emissions from these areas. Schedule: implement by November 2005.
12. The last project Titan is in the process of completing is to upgrade the finish mill systems. This will include installing a new finish mill (No. 6) and a dust suppression system. Once this system is in operation, one of the old finish mill systems will be permanently shut down. Schedule: implement by October 2005 with completion by December of 2005.

Titan proposes to submit semi-annual progress reports to update this Fugitive Dust Improvement Plan and report on the progress of measures to be implemented. The first semi-annual report will be submitted in January 2006, with updates every 6 months thereafter for a two-year period.

### DEPARTMENT ASSESSMENT

Partial implementation of the described plan has already resulted in obvious improvements at the Titan Florida Pennsuco Cement Plant. The Department determined that the facility is a major source of hazardous air pollutants (HAP) and subject to certain monitoring requirements of 40 CFR 63, Subpart LLL - National Emission Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry.

Subpart LLL requires more self monitoring of visible emissions, documentation, and response than previously required. These additional requirements and the Fugitive Emission Plan provide an extra margin of safety to the reasonable assurance needed by the Department to conclude that the project will not trigger PSD for PM/PM<sub>10</sub>.

The Department will include the Fugitive Emission Plan submitted by the applicant in the permit. In addition the Department will include in the permit, reasonable precautions required by or developed pursuant to its regulations at Paragraph 62-296.320(4)(c)2, F.A.C.

### XIV. CONCLUSION

The Department has reasonable assurance that the Titan Florida Pennsuco Cement Plant will achieve the emission limits given above to avoid significant emission increases for all pollutants with the exception of CO. The Department has reasonable assurance that Titan will comply with the Department's BACT determination for CO. Additionally the Department has reasonable assurance that the projects (including the modernization and the subsequent production increase) will not cause or contribute to a violation of an ambient air quality standard or increment.

The permit to increase production will include an update and re-issuance of the modernization permit. Additionally some changes will be made to improve readability and to specify CEMS requirements related to the revised emission limits.

The attached draft permit will be distributed together with an Intent to Issue and a Public Notice with a 30-day comment period.

**PERMITTEE:**

Tarmac America, LLC.  
455 Fairway Drive  
Deerfield Beach, Florida 33441

Permit No.	0250020-017-AC (PSD-FL-360)
Project:	Production Increase
SIC:	3241 Cement, Hydraulic
Expires:	April 30, 2006

*Authorized Representative:*  
Hardy Johnson, President  
Tarmac America LLC

**PROJECT AND LOCATION:**

The project is a production increase from 1,642,500 tons per year (TPY) to 2,190,000 TPY of clinker at the recently modernized dry process Titan Florida Pennsuko Cement Plant in Medley Florida. The project involves no additional physical modifications and involves removal of annual production restrictions and limitations on hours of operation on a number of emissions units.

This permit is issued pursuant to the Rules for the Prevention of Significant Deterioration (PSD). It authorizes the production increase, the various changes in hours of operation, and final emission limits including best available control technology (BACT) for carbon monoxide (CO). This permit includes certain provisions from the previous permits related to the modernization project as revised by the present project. It reflects the final as-built configuration, production limits, emissions limits, shut down of the wet process lines, applicable rules, compliance assurance provisions, etc.

The Titan Florida Pennsuko Cement Plant is located at 11000 NW 121 Way, Medley, Miami-Dade County. UTM coordinates are Zone 17; 562.8 km E; 2861.7 km N.

**STATEMENT OF BASIS:**

This air 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 above named permittee is authorized to construct/operate the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

**Attached appendices and documents made a part of this permit:**

Appendices A through I	Section IV of Permit – Table of Content, Appendices
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Michael G. Cooke, Director  
Division of Air Resource  
Management

## SECTION I. GENERAL INFORMATION

### FACILITY DESCRIPTION

Tarmac America LLC operates the Titan Florida Pennsuco facility in Medley, Miami-Dade County. The facility consists of:

- A 10,000,000 tons per year (TPY) on-site limestone quarry that supplies approximately 3,000,000 TPY to the adjacent cement plant and the remainder to other users;
- A dry process portland cement plant that consumes up to 3,723,000 TPY of limestone and mineral aggregate and is permitted to produce no more than 2,190,000 TPY of clinker and approximately 2,400,000 TPY of portland cement;
- A ready-mix concrete plant; and
- An 85,000 block per day grey concrete block plant.

### CEMENT PLANT DESCRIPTION

This permit relates to the dry process portland cement plant which, by this permit is permitted to increase annual production from 1,642,500 TPY to 2,190,000 TPY of clinker. Modernization of the plant included startup of the dry pyroprocessing line in 2004 and shutdown of the two wet process lines in the same year. The portland cement plant includes the following main components:

- An 8-acre, 95-foot high "A-frame" raw materials storage building (MSB);
- Raw material and fuel piles stored outside and inside of the MSB. The piles consist of blended limestone, alumina source (e.g. bauxite), iron source (e.g. mill scale), high lime limestone, coal, and petroleum coke;
- Materials handling equipment including bridge reclaimers, stackers, belt conveyors, conveyor from the MSB to the raw mill, control system/analyzer, etc.
- An F.L. Smidth nominal 400 dry tons per hour (TPH) Model 52/4 Raw mill and F.L. Smidth nominal 15,000 ton blending silo;
- An F.L. Smidth Rotax kiln that is 65 meters long and 5 meters in diameter;
- An F.L. Smidth 5-stage Low NO<sub>x</sub> in-line calciner (ILC) with sequenced fuel and air introduction and meal staging;
- An F.L. Smidth 4x5 cross bar clinker cooler;
- An F.L. Smidth Airtec ten-compartment baghouse with 690 bags per compartment;
- An F.L. Smidth nominal 35 TPH coal (and petroleum coke) mill;
- Four finish mills including a new F.L. Smidth finish mill consisting of four ball mills; and
- Cement storage, truck/rail loadout and packhouse.

### RELEVANT DOCUMENTS

The construction permit application 0250020-017-AC to increase annual production was received on April 18, 2005. It was revised and made complete by a submittal dated September 30, 2005 requesting issuance of the permit pursuant to the PSD Rules at Paragraph 62-212.400, F.A.C.

The documents listed below are not part of this permit; however, they are specifically related to the modernization project and to the present permitting action:

- Construction Permit 0250020-008-AC issued October 21, 1999.
- Construction Permit 0250020-010-AC issued May 1, 2001.
- Construction Permit 0250020-016-AC issued May 31, 2005.

## SECTION I. GENERAL INFORMATION

### EMISSIONS UNITS

This permit addresses the following Emissions Units at the portland cement plant:

ARMS Emission Unit No.	EMISSION UNIT DESCRIPTION
010	Finish Mill No. 1
012	Finish Mill No. 3
013	Finish Mill No. 4
030	Finish Mill No. 6
014	Cement Storage Silos 1 through 12
015	Cement Distribution, Rail and Truck Loadout
016	Cement Packhouse
026	Coal Handling System
027	Clinker Handling and Storage
028	Raw Mill and Pyroprocessing System
029	Raw Material Handling
031	Fugitive Emissions - Transportation, Miscellaneous Transfers, Storage

### REGULATORY CLASSIFICATION

**Title III:** The Department has determined that the facility is a major source of hazardous air pollutants (HAP).

**Title V:** This facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 TPY.

**PSD:** This facility is within an industry included in the list of the 28 Major Facility Categories per Table 212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). The proposed project is subject to PSD because annual CO emissions will increase by an amount greater than the significant emission rate of 100 TPY given in Table 212.400-2.

**NSPS:** This facility operates units that were originally subject to the following New Source Performance Standards in 40 CFR 60 adopted and incorporated by reference in Rule 62-204.800, F.A.C.: Subpart A (General Provisions); Subpart F (Portland Cement Plants); Subpart Y (Coal Preparation Plants); and Subpart OOO (Nonmetallic Mineral Processing Plants). Pursuant to 40 CFR 63.1356(a), any affected source subject to the major source provisions of Subpart LLL is exempted from any otherwise applicable new source performance standard contained in 40 CFR 60, Subpart F or 40 CFR 60, Subpart OOO.

**NESHAP:** This facility operates units subject to the following National Emission Standards for Hazardous Air Pollutants in 40 CFR 63 adopted and incorporated by reference in Rule 62-204.800, F.A.C.: Subpart A (General Provisions); and Subpart LLL (Portland Cement Manufacturing Industry).



## SECTION II. ADMINISTRATIVE REQUIREMENTS

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### GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Florida Department of Environmental Protection's Bureau of Air Regulation located at 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400 and phone number 850/488-0114.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications should be submitted to: Air Quality Management Division, Miami-Dade County Department of Environmental Resources Management, 33 Southwest Second Avenue, Suite 900, Miami, Florida 33130-1540. Copies shall also be submitted to: Air Resource Section, Southeast District Office, Florida Department of Environmental Protection, 400 North Congress Avenue, West Palm Beach, Florida 33401 (Telephone: 561/681-6600).
3. General Conditions: The owner and operator are subject to, and shall operate under the attached General Conditions listed in *Appendix GC* of this permit. General Conditions are binding and enforceable pursuant to Chapter 403, F.S. [Rule 62-4.160, F.A.C.]
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of this project shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 24- Code of Miami-Dade-County, Chapter 403, F.S.; Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.; 40 CFR 60; and 40 CFR 63. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. Permit Expiration: For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C.]
6. Completion of Construction: Construction on the modernized cement plant is essentially complete and the new pyroprocessing line has already been tested for compliance with the conditions of the previous air construction permit. On-going construction activities include completion of a new mill and on-going fugitive emissions projects. The permit expiration date is April 30, 2006 and will allow operation of the plant while the Department of Environmental Protection processes the Title V Operation Renewal Permit.
7. 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.]
8. Modifications: No emissions unit or facility subject to this permit shall be constructed or 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) and 62-212.300(1)(a), F.A.C.]
9. Title V Permit: This permit authorizes construction/modification of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee applied for a Title V Operation Permit Renewal that anticipated the present air construction permit. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213. F.A.C.]

SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

CEMENT PLANT RAW MATERIAL HANDLING SYSTEM

This system addresses the following emissions unit.

ARMS E.U. No.	DESCRIPTION
029	Raw Material Handling Operations

The raw material handling operations are controlled by the following baghouses:

EMISSION POINT	DESCRIPTION
Baghouse I.D. 311.BF650	Dust collector for limestone and mineral aggregate feed bins/conveying
Baghouse I.D. 311.BF750	Dust collector for raw material conveyance from feed bins to raw mill
Baghouse I.D. 311.BF470	Dust collector for raw material conveyance from feed bins to raw mill
Baghouse I.D. 311.BF950	Dust collector for raw material conveyance from feed bins to raw mill

Operational Requirements

- Hours of Operation:** This emissions unit system is allowed to operate 8,760 hours per year. [Application received April 18, 2005]
- Raw Material Handling System Throughput Specification:** The maximum dry throughput rate is 3,723,000 TPY. The owner or operator shall record all throughput rates on a rolling 12-month basis, and maintain records for a minimum of 5 years. [Application received April 18, 2005; Permit 0250020-016-AC; Rules 62-4.070(3); and 62-213.440, F.A.C.]

Emissions Limitations and Performance Standards

- Visible Emissions Limits:** Visible emissions are limited to 5 percent from each of the above listed baghouses. Compliance shall be determined in the manner described in 40 CFR 63.1350(a)(4)(i), (ii), (iii) and (iv) except that the applicable standard is 5% instead of 10%.

{Note: The applicant advised that the baghouses are designed to control particulate emissions to 0.0095 grains/dry standard cubic foot (gr/dscf). The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM<sub>10</sub> for all emission points in this emission unit system will be less than 13 TPY. This annual emission estimate is part of the facility-wide netting calculation to escape PSD applicability for PM/PM<sub>10</sub>. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

[Rules 62-4.070(3), 62-212.400, F.A.C. and 40 CFR 63.1348]

- Raw Mill Monitoring:** The owner or operator of a raw mill shall monitor opacity by conducting daily visual emissions observations of the mill sweep and air separator PMCDs (PM control devices) of these affected sources, in accordance with the procedures of Method 22 of Appendix A, 40 CFR Part 60 and as required by 40 CFR 63.1350(e), Subpart LLL.

[Rules 62-4.070(3) and 40 CFR 63.1350, Monitoring Requirements]

**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

**CEMENT PLANT PYROPROCESSING AND RAW MILL SYSTEM**

This system addresses the following emissions unit.

ARMS E.U. No.	DESCRIPTION
026	Pyroprocessing and Raw Mill System Operations

The pyroprocessing and raw mill system are controlled by the following baghouses:

EMISSION POINT	DESCRIPTION
Baghouse I.D: 331.BF200	Main Stack & dust collector for preheater/kiln/cooler/raw mill/coal mill
Baghouse I.D: 331.BF740	Dust collector for kiln dust conveyance and storage bin
Baghouse I.D: 341.BF350	Dust collector for preheater feed silo
Baghouse I.D: 351.BF440	Dust collector for raw meal conveyance from feed silo to preheater
Baghouse I.D: 351.BF470	Dust collector for raw meal conveyance from feed silo to preheater
Baghouse I.D: 331.BF645	Dust collector for truck loadout of kiln dust

**Operational Requirements**

5. Hours of Operation: This emissions unit system is allowed to operate 8760 hours per year. [Applicant request - application received April 18, 2005, Rule 62-210.200, F.A.C., Definitions – Potential to Emit (PTE)]
6. Pyroprocessing System Production Limits: The maximum production of clinker shall not exceed 250 TPH on a 24-hour block average and 2,190,000 TPY. [Rule 62-210.200, (Definitions – Potential to Emit), F.A.C.; Applicant request in application received April 18, 2005]
7. Fuels: Allowable fuels fired in the pyroprocessing/raw mill emission unit consist of natural gas, bituminous coal, petroleum coke, No. 2 fuel oil with used oil blend and No. 6 fuel oil with used oil blend. Fuel oil includes on-spec used oil (refer to definition in specific condition 15).  
  
{There is no heat input limitation. For reference, the design heat input capacities of the kiln burner and calciner burner are 290 million Btu per hour (mmBtu/hr) and 385 mmBtu/hr respectively. The clinker production limit effectively limits PTE.}

**Emissions Limitations and Performance Standards**

8. Visible Emissions Limits: Visible emissions are limited to 5 percent from each of the above listed baghouses, except for the main stack baghouse, I.D.331.BF200. Compliance shall be determined in the manner described in 40 CFR 63.1350(a)(4)(i), (ii), (iii) and (iv) except that the applicable standard is 5% instead of 10%.  
  
{Note: The applicant advised that the baghouses are designed to control particulate emissions to 0.0095 grains/dry standard cubic foot (gr/dscf). The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM<sub>10</sub> for all emission points, except for the *main stack*, in this emission unit system will be less than 7 TPY. This annual emission estimate is part of the facility-wide netting calculation to escape PSD applicability for PM/PM<sub>10</sub>. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL}

**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

9. Main Stack - Pyroprocessing/Raw Mill Emission Limits: Emissions exiting the main stack from the Pyroprocessing/Raw Mill system shall not exceed the limits shown in the following table:

PARAMETER	EMISSION LIMIT	AVERAGING TIME	COMPLIANCE METHOD	LIMIT BASIS
Opacity <sup>6</sup>	10 Percent	6 minute block	COMS, Method 9	PTE, Avoid PSD 40 CFR Subpart LLL
PM <sup>6</sup>	0.067 lb/ton of dry kiln feed	3 hours <sup>5</sup>	Annual Method 5	PTE, Avoid PSD 40 CFR Subpart LLL
	28.5 lb/hr			
PM <sub>10</sub> <sup>6</sup>	0.056 lb/ton of dry kiln feed	3 hours <sup>5</sup>	Annual Method 5	PTE, Avoid PSD 40 CFR Subpart LLL
	23.9 lb/hr			
SO <sub>2</sub>	0.50 lb/ton of clinker	30 days <sup>2</sup>	CEMS	PTE, Avoid PSD
	320 lb/hour	24 hours <sup>1</sup>		
NO <sub>x</sub> (as NO <sub>2</sub> )	2.17 lb/ton of clinker	12-months <sup>2</sup>	CEMS	PTE, Avoid PSD
	720 lb/hour	24 hours <sup>1</sup>		
CO	2.0 lb/ton of clinker	30 days <sup>2</sup>	CEMS	BACT
	576 lb/hour <sup>1</sup>	24 hours <sup>1</sup>		
VOC <sup>4</sup>	0.16 lb/ton of clinker <sup>2</sup>	30 days <sup>2</sup>	CEMS	PTE, Avoid PSD
	40 lb/hour	24 hours <sup>1</sup>		
Mercury (Hg)	229 lb/yr (base + 199 lb/yr)	12-month	Fuels, Materials <sup>8</sup>	PTE, Avoid PSD
Temperature <sup>7</sup>	Baghouse Temperature (T) ≤ T during Dioxin/Furan Tests	Continuous		40 CFR 63, Subpart LLL
Dioxin/Furan	0.2 ng TEQ/dscm (T ≥ 204 °C)	3 hours	30 Months, Method 23	40 CFR 63, Subpart LLL
	0.4 ng TEQ/dscm (T < 204 °C)			

- Compliance with the short-term emission limit for SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC shall be based on a 24-hour rolling average computed in accordance with Specific Condition 15. Compliance with lb/hr SO<sub>2</sub> emissions limitations in this condition will insure compliance with Miami-Dade County Code, Section 24-17(2)(a) limiting emissions to 1.2 lb SO<sub>2</sub>/MMBtu heat input when solid fuel is fired, or 0.8 lb SO<sub>2</sub>/MMBtu heat input when liquid fuel is fired, based on a 24 hour average
- Compliance with the long-term emission limit for SO<sub>2</sub>, CO, and VOC shall be based on a 30 operating-day block average computed in accordance with Specific Condition 15.
- Compliance with the long-term emission limit for NO<sub>x</sub> shall be based on 12 month rolling average computed in accordance with Specific Condition 15.
- VOC emissions shall be expressed as propane.
- The averaging times for PM and PM<sub>10</sub> correspond to the required length of sampling for the initial and subsequent emission tests. Compliance demonstration with these limits shall be conducted pursuant to 40 CFR 63.1349(b)(1).
- Compliance with the Opacity, PM and PM<sub>10</sub> permit limits given for in-line kiln/raw mill will insure compliance with applicable limits from 40 CFR 63, Subpart LLL for the in-line kiln/raw mill, and clinker cooler, and 40 CFR 60, Subpart Y for the coal mill.
- The temperature requirements for the operation of in-line kiln/raw mill are in accordance with 40 CFR 63.1344(a) & (b), and 63.1349(b)(3)(iv).
- Determined by raw materials and fuels entering the process. Refer to Condition 10.

[Applicant BACT information for CO and request to escape PSD for other criteria pollutants: Rules 62-4.070(3) and 62-212.400, F.A.C.; 40 CFR 63.1343 and 63.1345; Application received April 18, 2005 and revised September 30, 2005].

**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

10. Mercury Emissions from the Pyroprocessing/Raw Mill System: Mercury emissions exiting the main stack from the Pyroprocessing/Raw Mill system shall not exceed 229 pounds per year on a 12-month rolling basis. Mercury

[Rules 62-4.070(3) and 62-210.200, F.A.C. (definitions – Potential to Emit), Avoid PSD]

**Test Methods, Monitoring and Procedures**

11. Determination of Clinker Production Rate during Testing: Prior to any emission testing to demonstrate compliance with any emission limit, the permittee shall determine the clinker production rate for the test according to the equation in Specific Condition 18. The permittee shall notify the DERM of the preheater kiln feed rate and the factor used to determine the clinker production rate in advance of the commencement of any test(s). The rate of clinker production shall be used to determine compliance with all clinker-based emission limits in the permit for that test.

[DERM Requirement. Rule 62-4.070(3), F.A.C.]

12. Testing Procedures and Methods: In addition to the CEMS or COMS compliance requirements listed in Condition 10, the main stack & dust collector, Baghouse I.D. 331.BF200, serving the preheater/kiln/cooler/raw mill/coal mill shall be tested according to the EPA Methods and at the frequencies listed below:

POLLUTANT	TEST METHOD	FREQUENCY
PM/PM <sub>10</sub>	5	Annual
Opacity	9	Annual
SO <sub>2</sub>	6 or 6C	Annual <sup>1</sup>
NO <sub>x</sub> (as NO <sub>2</sub> )	7 or 7E	Annual <sup>1</sup>
CO	10	Annual <sup>1</sup>
VOC	25 or 25A	Annual <sup>1</sup>
Dioxins/Furans	23	30 months

1. The tests conducted annually for the relative accuracy test audit (RATA) for the CEM system may be used to satisfy this requirement provided the owner or operator satisfies the prior notification requirements and emission testing requirements of this permit for performance and compliance tests.

[Rules 62-4.070(3), 62-297.310(7), and 62-212.400, F.A.C.; Permit 0250020-016-AC]

13. Feed or Fuel Changes and D/F Performance Testing: The owner or operator shall notify the compliance authority prior to initiating any significant change in the feed or fuel used in the most recent compliant performance test for D/F or PM. For purposes of this condition, significant means any of the following: a physical or chemical change in the feed or fuel; the use of a raw material not previously used; a change in the loss on ignition (LOI) characteristic of the fly ash; a change between non-beneficiated fly-ash and beneficiated fly ash. Based on the information provided, the compliance authority will promptly determine if performance testing pursuant to 40 CFR 63.1349 will be required for the new feed or fuel. A significant change shall not include switching to a feed/fuel mix for which the permittee already tested in compliance with the dioxin/furan and PM emission limits.

[62-4.070(3), F.A.C.]

14. Continuous Emission Monitoring Systems: The owner or operator shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) in the in-line kiln/raw mill stack to measure and record the emissions of NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC from the in-line kiln/raw mill, in a manner sufficient to demonstrate compliance with the emission limits of this permit. The CEMS

### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

systems shall express the results in units of pounds per ton of clinker produced, and pounds per hour. Emissions of VOC shall be reported in units of the standards (lb/hour, lb/ton clinker) and ppmvd as propane corrected to 7% oxygen.

- a. *Compliance Demonstration:* Compliance with the short-term emission limits for NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC shall be based on a 24-hour rolling average that shall be recomputed after every valid hour as the arithmetic average of that hourly average and the preceding 23 valid hourly averages. Compliance with the long-term emission limits for SO<sub>2</sub>, CO, and VOC shall be based on a 30 operating-day block average that shall be computed as the arithmetic average of all valid hourly averages occurring within each 30 operating-day block. For purposes of the SO<sub>2</sub>, CO, and VOC long-term emission limits, an operating day is any day that the kiln produces clinker or fires fuel.
  - b. *Compliance with the long-term NO<sub>x</sub> emissions limit:* Compliance with the long-term NO<sub>x</sub> emission limit shall be based on a 12 month rolling average that shall be recomputed each month as the arithmetic average of that month and the preceding 11 months. Each monthly average shall be computed by averaging all valid hourly averages occurring within each calendar month.
  - c. *Valid Hourly Averages:* Each hourly average shall be computed as the arithmetic average of the data points generated by the CEM system. Data points must be generated at least once per minute. For an hourly average to be considered valid, at least two data points separated by a period of 15 minutes or more must be used to compute the hourly average.
    - Hours during which there is no preheater feed and no fuel fired to the kiln systems are not valid.
    - Hours during which the plant is firing fuel but producing no clinker are valid, but these hours are excluded from the production-normalized emission rate computation (pounds per ton of dry preheater feed or pounds per ton of clinker). These hours are included in any pollutant mass emission rate computation (pounds per hour).
  - d. *Data Availability:* During each semiannual (six-month) period, CEM system valid hourly averages shall be obtained for at least 90 percent of the operating hours for which the plant is producing clinker. If the CEM system does not obtain valid hourly averages for 90 percent or more of the operating hours per semiannual period for which the plant is producing clinker, the permittee shall submit a semiannual excess emissions and continuous monitoring system performance report. This report must include corrective actions, and it shall be submitted within 30 days following the end of each semiannual reporting period.
  - e. *Compliance Assurance:* CEM system breakdowns, malfunctions, repairs, calibration checks, zero adjustments, and span adjustments all result in periods during which CEM system data are not obtained. During such periods in excess of 120 hours per calendar quarter, the permittee shall assure compliance with the emissions standards of this permit through stack tests, alternative monitoring systems, or other methods as approved by the Department.
15. Continuous Emissions Monitor System (CEMS) Requirements: All CEM systems shall be installed, operational, recording and continuously transmitting available data prior to the initial startup of the kiln and shall be certified within 60 days after achieving the maximum production rate at which the plant will be operated, but not later than 180 days after initial startup. The monitoring systems shall be certified in accordance with the appropriate Performance Specification in 40 CFR 60 Appendix B. The systems shall comply with the requirements for continuous monitoring systems found in the general provisions of 40 CFR 63, Subpart A including development of a quality control program. Data on monitoring equipment specifications, manufacturer, type calibration and maintenance requirements, and the proposed location of each monitor shall be provided to the DERM for review at least 45 days prior to replacement of any CEMS. [Rules 62-4.070 (3) and 62-204.800, F.A.C.]

**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

16. Material Balance Records of Mercury: The owner or operator shall demonstrate compliance with the mercury throughput limitation 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, coal, petroleum coke, and fuel oil 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 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 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 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.

[Rule 62-4.070(3), F.A.C.]

**On-Specification Used Fuel Oil**

17. Limits and Test Methods Applicable to On-Spec Fuel Oil:

- a. "Non-hazardous on-specification" used oil is defined as each used oil delivery that meets the 40 CFR 279 (Standards for the Management of Used Oil) specifications listed below. Used oil that does not meet all of the following specifications shall not be fired.

CONSTITUENT/PROPERTY	LIMIT	TEST METHOD <sup>2</sup>
Arsenic	5 ppm	EPA SW-846 (3040-7130)
Cadmium	2 ppm	EPA SW-846 (3040-7130)
Chromium	10 ppm	EPA SW-846 (3040-7130)
Lead	100 ppm	EPA SW-846 (3040-7130)
Total Halogens	<1000 ppm <sup>1</sup>	ASTM E442
PCBs	<50 ppm	ASTM D4059
Flash Point	100 °F (minimum)	ASTM D93
Sulfur	% by weight (informational)	ASTM D2622, D4294-90, or both D4057-88 & D129-91
Heat of Combustion	Btu/gal (informational)	ASTM D240-76
Density	Lb/gal (informational)	ASTM D1298-80

- 1. 40 CFR 279.10(b)(1)(ii) *Rebuttable presumption for used oil*. Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of 40 CFR part 261. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Edition III, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of 40 CFR part 261). EPA Publication SW-846, Third Edition, is available from the Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, (202) 512-1800 (document number 955-001-00000-1"). If successfully rebutted for used oil up to 4000 ppm total halogens, used oil up to 4000 ppm maximum total halogens may be fired.
- 2. Other test methods may be used only after receiving written approval from the DERM.

### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

- b. *Analysis of used oil fuel.* The permittee may determine that the used oil to be burned for energy recovery meets the fuel specifications of §279.11 by performing analyses, or obtaining copies of analyses or other information, documenting that the used oil fuel meets the specifications.
- c. *Record retention.* The permittee must keep copies of analyses of the used oil (or other information used to make the determination) for five years.
- d. *Fuel Analysis for On-specification Used Oil Requirements.* Fuel analysis shall be in accordance with 40 CFR 266.43(b)(1) & (6). A sample shall be taken from the outlet of the blend tank on the first working day (i.e., Monday-Friday; exceptions: holidays) of each month, if any used oil was placed in the blend tank the previous month; or, the sample can be taken directly from the used oil mobile collection tank after final collection and prior to the time of initial transfer; but, that sampling frequency shall be no less than quarterly and the sampling methodology shall have been established with the DERM, Miami-Dade County prior to sampling. Upon taking a sample, the sample shall be analyzed for the following constituent/property and associated unit and using the following test methods (or their latest version):
- e. *Submittal of Samples.* The results of each sample analysis (on the laboratory's letterhead) shall be submitted to the DERM within 30-days after the sample is taken and analyzed.
- f. The results of each sample analysis (on the laboratory's letterhead) shall be submitted to the DERM within 30 days after a sample is taken and analyzed.

[DERM requirements. Rule 62-4.070(3), F.A.C., 40 CFR 279.11, which is adopted by reference in Rule 62-710.210(2), F.A.C., 40 CFR 279.72, 40 CFR 63.1343 and 63.1345, Application received April 18, 2005]

18. Used Oil Usage Records: In order to document compliance with the used oil limitations, the following requirements shall be adhered to as a minimum:
  - a. *Transfers to Storage Tank.* The dates and quantities of both on-specification used oil and purchased fuel oil transferred to the in-line kiln/raw mill's storage tank shall be reported quarterly (i.e., Jan.-Mar., April-June, July-Sept., and Oct.-Dec.) to the DERM and due during the month following the ending quarter.
  - b. *Recordkeeping.* When burning used oil, records shall be maintained in accordance with applicable provisions of 40 CFR 279, Subpart B and Subpart G (July 1, 1996 version), Standards For The Management of Used Oil and Chapter 62-710, F.A.C.
  - c. *Delivery Receipts.* The following shall be recorded on the delivery receipt:
    - the use of tamper proof seals on the delivery receipt
    - the volume of fuel delivery
    - a cross reference to the analysis which establishes that the used oil meets EPA used oil fuel specifications
    - the results of the screening analysis
    - the name of the person performing the test
    - the specific test kit used
    - the amount of oil sampled
    - the amount and name of the solution used to dilute the oil
  - d. *Delivery Procedures.* The following procedures shall be implemented:
    - On and off specification used oil that is delivered without a delivery receipt containing all the above information, or which is not properly sealed, or for which the delivery receipt does not



### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

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contain all the necessary information, is not to be accepted and the DERM is to be notified by phone immediately (with written confirmation to follow), if such a delivery is attempted.

- Verification by signature on the delivery receipt shall be provided by plant personnel that the delivery truck arrived on site with all seals intact. As delivered samples of all used oil fuel received shall be accumulated through each quarter for each supplier.

[DERM Requirements, Rule 62-4.070 (3) F.A.C]

#### **Process and Production Recordkeeping**

19. Production Rate Recording: The owner or operator shall record the preheater kiln feed rate using the F.L. Smith automated preheater feed weighing device and record the daily clinker production. The clinker production rate for the purposes of determining compliance with Specific Condition 6, shall be determined as the product of Preheater Kiln Feed and the Loss on Ignition (LOI) factor. LOI for the preheater kiln feed 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. The calculation shall be expanded as need to consider the additional feed points and LOI.

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**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

**CEMENT PLANT CLINKER HANDLING & STORAGE SYSTEM**

This system addresses the following emissions unit.

ARMS E.U. No.	DESCRIPTION
027	Clinker Handling & Storage System

The clinker handling operations are controlled by the following baghouses:

EMISSION POINT	DESCRIPTION
Baghouse I. D: 441.BF540	Conveyance/transfer from cooler to new clinker silos and off-spec silo
Baghouse I. D: 481.BF140	Conveyance/transfer/storage for new clinker silos and off-spec silo
Baghouse I. D: 481.BF330	Storage from off-spec silo and conveyance from new clinker silos
Baghouse I. D: 481.BF540	Conveyance from new clinker silos and off-spec silo to old clinker storage
Baghouse I. D: 481.BF640	Conveyance from new clinker and off-spec silos to old clinker storage area
Baghouse I. D: 481.BF730	Conveyance/transfer to old clinker area and storage clinker silos 2,5,17,18
Baghouse I. D: 481.BF930	Storage clinker silos 21, 22, 23, 26, 27, 28
Baghouse I.D: F-633	Storage clinker silos 12, 19, 20

**Operational Requirements**

20. Hours of Operation: This emissions unit is allowed to operate 8760 hours per year. Production is automatically limited by the clinker production limits established in Specific Condition 6 for the pyroprocessing system. [Applicant request, Application received April 18, 2005]

**Emissions Limitations and Performance Standards**

21. Visible Emissions Limits: Visible emissions are limited to 5 percent from each of the above listed baghouses. Compliance shall be determined in the manner described in 40 CFR 63.1350(a)(4)(i), (ii), (iii) and (iv) except that the applicable standard is 5% instead of 10%.

{Note: The applicant advised that the baghouses are designed to control particulate emissions to 0.0095 grains/dry standard cubic foot (gr/dscf) and 0.01 gr/acf (Baghouse F-633). The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM<sub>10</sub> for all emission points in this emission unit system will be less than 19.70 TPY. This annual emission estimate is part of the facility-wide netting calculation to escape PSD applicability for PM/PM<sub>10</sub>. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL. [Rules 62-4.070(3), 62-212.400, F.A.C. and 40 CFR 63.1348]

**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

**CEMENT PLANT FINISH MILLS SYSTEM**

This system addresses the following emissions units.

ARMS E.U. No.	DESCRIPTION
011	Finish Mill No. 1
012	Finish Mill No. 3
013	Finish Mill No. 4
030	Finish Mill No. 6

The finish mill handling operations are controlled by the following baghouses:

EMISSION POINT	DESCRIPTION
Baghouse I.D. F-113	Dust collector – Finish Mill No. 1 – Feeder
Baghouse I.D. F-130	Dust collector – Finish Mill No. 1 – Mill Sweep
Baghouse I.D. F-313	Dust collector – Finish Mill No. 3 – Feeder
Baghouse I.D. F-332	Dust collector – Finish Mill No. 3 – Mill Sweep
Baghouse I.D. 533.BF340	Dust collector – Finish Mill No. 3 - O-Sepa Cement Separator
Baghouse I.D. F-432	Dust collector – Finish Mill No. 4 - Belt conveyor/Separator
Baghouse I.D. F-430	Dust collector – Finish Mill No. 4 - Ball Mill/Mill Sweep
Baghouse I.D. F-728	Dust collector – Finish Mill No. 4 - O-Sepa Cement Separator
Baghouse I.D. 536.BF340	Dust collector – Finish Mill No. 6 - O-Sepa Cement Separator
Baghouse I.D. 536.BF500	Dust collector – Finish Mill No. 6 - Sweep

**Operational Requirements**

- 22. Hours of Operation: These emissions unit system is allowed to operate 8,760 hours per year. [Application received April 18, 2005.]
- 23. Finish Mill Process Rates: The maximum total hourly process rate of cement is 359TPH on a 24-hour block average. The individual process rates are 25 TPH (F-113/F-130); 84 TPH (533.BF340/F-313 / F-332) and 140 TPH (F-430 / F-432 / F-728 ). The owner or operator shall record all hourly process rates, and maintain records for a minimum of 5 years. [Application received April 18, 2005, Rules 62-4.070(3); and 62-213.440, F.A.C.]

**Emissions Limitations and Performance Standards**

- 24. Visible Emissions Limits: Visible emissions are limited to 5 percent from each of the above listed baghouses. Compliance shall be determined in the manner described in 40 CFR 63, Section 63.1350(a)(4)(i), (ii), (iii) and (iv) except that the applicable standard is 5% instead of 10%.

### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

{Note: The applicant advised that the baghouses are designed to control particulate emissions to 0.0095 grains/dry standard cubic foot (gr/dscf) and 0.01 gr/acf (F-113; F-130; F-313; F-330; F-430; F-432). The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM<sub>10</sub> for all emission points in this emission unit system will be less than 133.83 TPY. This annual emission estimate is part of the facility-wide netting calculation to escape PSD applicability for PM/PM<sub>10</sub>. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL}

[Rules 62-4.070(3), 62-212.400, F.A.C. and 40 CFR 63.1348]

#### Monitoring Requirements

25. Finish Mill Monitoring: The owner or operator of a raw mill or finish mill shall monitor opacity by conducting daily visual emissions observations of the mill sweep and air separator PMCDs (PM control devices) of these affected sources, in accordance with the procedures of Method 22 of Appendix A, 40 CFR Part 60 and as required by 40 CFR 63.1350(e), Subpart LLL.

[Rule 62-204.800, F.A.C.; and, 40 CFR 63.1350, Monitoring Requirements]

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**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

**CEMENT PLANT PRODUCTS STORAGE SILOS/ PACKHOUSE/ LOADOUT SYSTEM**

This system addresses the following emissions units.

ARMS E.U. No.	DESCRIPTION
014	Cement Storage
015	Cement Distribution Rail/Truck Loadout
016	Cement Packhouse

The cement handling operations are controlled by the following baghouses:

EMISSION POINT	DESCRIPTION
Baghouse I.D. F-511	Dust collector - Cement Silos 1-6
Baghouse I.D. F-512	Dust collector - Cement Silos 7-9
Baghouse I.D. F-513	Dust collector - Cement Silo 10
Baghouse I.D. F-514	Dust collector - Cement Silo 11
Baghouse I.D. F-515	Dust collector - Cement Silo 12
Baghouse I.D. B-110	Dust collector - Bulk Loadout Unit 1 (Rail/Truck).
Baghouse I.D. B-210	Dust collector - Bulk Loadout Unit 2 (Truck)
Baghouse I.D. B-372	Dust collector - Bulk Loadout Unit 3 - Line 1
Baghouse I.D. B-374	Dust collector - Bulk Loadout Unit 3 - Line 2
Baghouse I.D. B-382	Dust collector - Bulk Loadout Unit 3 - Line 3
Baghouse I.D. B-120	Dust collector - Packhouse
Baghouse I.D. B-205	Dust collector - Packhouse
Baghouse I.D. B-400	Dust collector - Packhouse

**Operational Requirements**

- 26. Hours of Operation: These emissions units are allowed to operate 8,760 hours per year. [Requested by applicant April 18, 2005. Permit 0250020-016-AC]
- 27. Cement Storage/Silo/Packhouse/Loadout Process and Production Design Specifications: The maximum process input rate to each cement silo and loadout operation is 500 TPH on a 24-hour block average. The maximum production rate of cement in the Packhouse is 170 TPH on a 24-hour block average. [Permit 0250020-016-AC. Requested by applicant April 18, 2005]

**Emissions Limitations and Performance Standards**

- 28. Visible Emissions Limits: Visible emissions are limited to 5 percent from each of the above listed baghouses. Compliance shall be determined in the manner described in 40 CFR 63, Section 63.1350(a)(4)(i), (ii), (iii) and (iv) except that the applicable standard is 5% instead of 10%.

### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

{Note: The applicant advised that the baghouses are designed to control particulate emissions to 0.01 grains/actual cubic foot (gr/acf). The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM<sub>10</sub> for all emission points in this emission unit system will be less than 31.24 TPY. This annual emission estimate is part of the facility-wide netting calculation to escape PSD applicability for PM/PM<sub>10</sub>. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL}

[Rules 62-4.070(3), 62-212.400, F.A.C. and 40 CFR 63.1348]

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SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

CEMENT PLANT COAL HANDLING SYSTEM

This system addresses the following emissions unit.

ARMS E.U. No.	DESCRIPTION
026	Coal and Petroleum Coke Handling System

The provisions of 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants and 40 CFR 60, Subpart A- General Provisions are applicable to this process emissions unit system (Appendix H attached).

The coal handling operations are controlled by the following baghouses:

EMISSION POINT	DESCRIPTION
Baghouse I.D. 461-BF300	Coal Mill <sup>1</sup>
Baghouse I.D. 461-BF130	Dump Hopper (Transfer)
Baghouse I.D. 461-BF230	Conveyors (2) (Transfer) & Coal/Petroleum Coke Feed Bins
Baghouse I.D. 461-BF750	Coke/Petroleum Coke (Transfer) Surge Bin Feeder).
Baghouse I.D. 461-BF650	Coal (Transfer) / Surge Bin (Feeder)
Baghouse I.D. 461.BF350	Coal Mill Feed

1. This emissions unit discharges to the common (main) stack. The Clinker Cooler which is limited to 10% opacity, discharges to the common (main) stack and therefore determines the opacity limit for this emissions unit. Total PM/PM<sub>10</sub> emissions from Pyroprocessing/Raw Mill/Coal Mill Systems shall not exceed 130.3 and 109.5 TPY respectively.

All of the above process emissions units, except for the dump hopper with baghouse 461-BF130, are subject to 40 CFR 60, Subpart Y, NSPS for Coal Preparation Plants (Appendix H attached).

**Operational Requirements**

29. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Application submitted in April 18, 2005]
30. Coal/Petroleum Coke Maximum Usage: The maximum combined usage of coal and petroleum coke is 30 TPH on a 24-hour block average and 263,000 TPY. The maximum petroleum coke usage rate shall not exceed 20 TPH on a 24-hour block average. Daily records of usage must be kept on site and retained for a minimum of 5 years. [Rule 62-210.200 & 62-4.070(3) F.A.C., Applicant request; Rule 62-4.070(3), F.A.C.]

**Emissions Limitations and Performance Standards**

31. Visible Emissions Limits: Visible emissions are limited to 5 percent from each of the above listed baghouses. Compliance shall be demonstrated by EPA Reference Method 9 and the procedures specified in 40 CFR 60.11.

For the coal mill main, baghouse 461-BF300, the opacity shall not exceed 10%. Compliance shall be demonstrated pursuant to EPA Reference Method 9. Annual emissions of PM/PM<sub>10</sub> for the kiln/cooler/coal mill main stack shall not exceed 110 TPY

### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

{Note: The applicant advised that the baghouses are designed to control particulate emissions to 0.0095 grains/dry standard cubic foot (gr/dscf) and to 0.01 grains/actual cubic foot (gr/acf) (for baghouses 461-BF300; 461.BF350). The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM<sub>10</sub> for all emission points in this emission unit system will be less than 3.10 TPY. This annual emission estimate is part of the facility-wide netting calculation to escape PSD applicability for PM/PM<sub>10</sub>. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 60, Subpart Y}

[40 CFR 60, Subpart Y; Rules 62-297.620(4), F.A.C., 62-4.070(3), and 62-212.400, F.A.C. and 40 CFR 63.1348]

32. Particulate and Fugitive Emissions: Particulate and fugitive emissions from coal handling facilities shall be minimized by following the procedures listed below:

- a. All conveyers and transfer points shall be enclosed or covered to preclude particulate emissions (except those directly associated with coal stacking/reclaiming).
- b. Coal storage piles shall be shaped, compacted and oriented to minimize wind erosion.
- c. Water sprays or chemical wetting agents and stabilizers shall be applied to storage piles, handling equipment, etc., during dry periods as necessary to all facilities to maintain an opacity of less than 20 percent at the property line for fugitive emission sources.

[Rule 62-296.320(4)(c), F.A.C.; 62-4.070(3)]

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**SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS**

**CEMENT PLANT FUGITIVE EMISSIONS**

This system addresses the following emissions unit.

ARMS E.U. No.	DESCRIPTION
031	Fugitive Emissions – Transportation, Miscellaneous Transfers, and Storage

Unregulated Emissions Unit and/or Activities. This is an emissions unit which emits no “emissions-limited pollutant” and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

Vehicular traffic and coal, petcoke, and raw material transfer points generate fugitive PM emissions from the handling, transfer, and storage between the unloading areas and the storage building. The activities are listed in the following table:

ACTIVITY	DESCRIPTION	ESTIMATED EMISSIONS (PM and PM <sub>10</sub> ) <sup>1</sup>
Coal Handling	Drop Operations	0.17 and 0.059 TPY
Coal Handling	Vehicular Traffic	6.9 and 2.4 TPY
Raw Material Blending	Drop Operations	1.6 and 0.6 TPY
Raw Material Blending	Vehicular Traffic	14 and 4.9 TPY
<b>Total Quantifiable Emissions</b>	<b>Fugitive Emissions</b>	<b>23 and 8 TPY</b>

- The estimates given were included in calculations by the applicant demonstrating that the modernization and production increase projects do not trigger PSD. It is not practicable to actually measure the emissions directly. Reasonable assurance that these emissions are controlled to the levels given above is by adherence to the Reasonable Precautions listed below.

[Application received April 18, 2005; Rule 62-4.070(3), F.A.C.]

- Reasonable Precautions for Emissions of Unconfined Particulate Matter: This facility is subject to applicable requirements of Rule 62-296.320(4)(c)1, 2, 3, & 4, F.A.C. Refer to Appendix C: Common Conditions.
- Additional Reasonable Precautions for Emissions of Unconfined Particulate Matter: Pursuant to Rule 62-296.320(4)(c)2, F.A.C, the permittee shall implement the following additional reasonable precautions at this facility:

**PERSONNEL**

- All plant operators shall be trained in the facilities basic environmental compliance and shall perform visual inspections of stockpiled materials, coal and petroleum coke regularly and before handling. If the visual inspections indicate a lack of surface moisture, the materials, coal and petroleum coke shall be wetted with sprinklers. Such wetting shall continue until the potential for unconfined particulate matter emissions are minimized.
- To effectively control dust by road sweepers, provide operators training on proper operation. Proper operation includes going slow (5 mph or less) and having the water nozzles effectively controlling dust when sweeping roads.

### SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

#### ROADS

- c. Reduce speed limit (5 to 10 mph) on the unpaved haul roads to ensure effective reduction of emissions from trucks.
- d. Clean and maintain paved road surfaces, which includes removing silt build-up, repairing all potholes, sweeping on a daily basis and utilizing a water truck to control visible emissions.
- e. Pave the manufacturing area, the block area, raw materials roads, and the access roadways for the facility with asphalt or concrete.
- f. Maintain dedicated berm areas that have been established throughout the facility to further reduce wind erosion from ground areas.
- g. Install a sprinkler system to reduce dust along the aggregate road between the pits and the storage building.
- h. Improve the main entrance to the plant by establishing green areas between the railroad tracks and the security gate. Refer to Appendix D: Facility Fugitives Emissions Control.

#### MATERIALS

- i. Store raw materials and fuels in a storage building, and move primarily by stacker/reclaimer and covered conveyor belts.
- j. Install water spray bars at each unenclosed material and fuel conveyor. The spray bars shall be used to wet the materials and fuel if inherent moisture and moisture from wetting the storage piles are not sufficient to prevent unconfined particulate matter emissions.
- k. Install water supply lines, hoses and sprinklers near all stockpiled materials, coal and petroleum coke stockpiles.
- l. Store all materials, coal and petroleum coke at the plant under roof on compacted clay or concrete, or in enclosed vessels.
- m. Increase storage area for coal handling to accommodate additional inventory.
- n. Implement a cleaning process inside buildings to minimize dust.
- o. Unloading and reclaiming of materials will be curtailed during windy or dry conditions.
- p. Raw materials will be managed to minimize their time in storage.

#### TRUCKS

- q. Install a wheel wash system and a dewatering area at the unpaved aggregate plant entrance/exit. In addition, install sufficient wheel wash system(s) at the facility entrance/exit to ensure bulk transport trucks leaving the plant shall travel through a wheel wash that removes particulate matter from vehicle tires, before traveling on the facility's access roadways.
- r. Cover and secure transport trucks entering and leaving the facility with tarpaulins to prevent spillage. Advise drivers and companies of need to continue compliance outside of the facility.
- s. Keep trucks on concrete surfaces within the loadout and the Cement Packhouse part of the facility.
- t. Use concrete or asphalt paved roads.
- u. Use watering trucks (facility should have at least 2) and road's vacuum sweepers to serve the entire facility.

SECTION III. EMISSIONS UNITS SPECIFIC CONDITIONS

[Rule 62-296.320(4)(c)2., F.A.C., Rule 62-4.070(3)F.A.C., Application received April 18, 2005 and, Fugitive Dust Improvement Plan dated August 19, 2005]

35. Facility Fugitive Emissions Control: The owner or operator shall implement the Facility Fugitive Emissions Control Plan attached as Appendix D. The permittee shall submit quarterly progress reports to include a status report on each specific action implemented under Appendix D (part of the permit). The first quarterly report shall be submitted in January 2006, with updates every 3 months thereafter for a two-year period. The progress reports shall be submitted to the Compliance Authority (Miami-Dade County DERM).

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**SECTION IV FACILITY COMMON CONDITIONS**

**CEMENT PLANT EMISSIONS UNITS APPLICABLE RULES COMMON CONDITIONS**

The following conditions are applicable to the following emissions units as required:

ARMS Emission Unit No.	EMISSION UNIT DESCRIPTION
010	Finish Mill No. 1
012	Finish Mill No. 3
013	Finish Mill No. 4
030	Finish Mill No. 6
014	Cement Storage Silos 1 through 12
015	Cement Distribution, Rail and Truck Loadout
016	Cement Packhouse
026	Coal Handling System
027	Clinker Handling and Storage
028	Raw Mill and Pyroprocessing System
029	Raw Material Handling

36. All of the listed emission units have at least one component that is subject to 40 CFR 63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry. The listed emission units shall comply with Subpart LLL only to the extent that the regulations apply to the facility or its operations.
37. Some of the listed emission units have at least one component that was subject to 40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants (NSPS) when originally constructed. The listed emission units shall comply with Subpart F only to the extent that the applicable Subpart F requirements were not subsumed by 40 CFR 63, Subpart LLL.
38. The listed emission units shall comply with 40 CFR 60 Subpart A, General Provisions and 40 CFR 63, Subpart A, General Provisions only to the extent that the requirements apply to the facility or its operations.
39. Emissions Units 027 and 028 are subject to Rule 62-296.701, F.A.C., Portland Cement Plants. Emissions Unit 026 is subject to 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants.
40. If a previously permitted facility or modification becomes a facility or modification which would be subject to the preconstruction review requirements of this rule if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7, 1980, then at the time of such relaxation the preconstruction review requirements of this rule shall apply to the facility or modification as though construction had not yet commenced on it.

[Rule 62-212.400 (2) (g) F.A.C.]

{This facility modification avoided preconstruction review pursuant to Paragraph 62-212.400, F.A.C., except for CO, by taking federally enforceable limitations on the capacity to emit certain criteria pollutants from each of the emission units listed above.}

SECTION IV FACILITY COMMON CONDITIONS

The Department adopted the provisions of the referenced NSPS and NESHAPS regulations from 40 CFR 60 and 40 CFR 63, respectively by reference into Rule 62-204.800, F.A.C. The provisions of these regulations are included in this permit as attached Appendices.

{Permitting Note: The numbering of the original rules has been preserved for ease of reference to the rules. The term "Administrator" when used in 40 CFR 60 shall mean the Secretary or the Secretary's designee.}

**TABLE OF CONTENTS OF APPENDICES (made part of this permit)**

- Appendix A.** Citation Formats
- Appendix B.** General Conditions
- Appendix C.** Common Conditions (Emissions & Controls, Testing, Reporting and Recording)
- Appendix D.** Facility Fugitives Emissions Control
- Appendix E.** NSPS, Subpart A – General Requirements
- Appendix F.** NESHAP, Subpart A – General Requirements
- Appendix G.** 40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants
- Appendix H.** 40 CFR 60, Subpart Y - Standards of Performance for Coal Preparation Plants
- Appendix I.** 40 CFR 63, Subpart LLL - National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry – Major Sources

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**Appendix E.** NSPS – Subpart A, General Provisions Requirements

**Appendix F.** NESHAP – Subpart A, General Provisions Requirements

**Appendix G.** 40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants

**Appendix H.** 40 CFR 60, Subpart Y - Standards of Performance for Coal Preparation Plants

**Appendix I.** 40 CFR 63, Subpart LLL - National Emissions Standards for Hazardous Air  
Pollutants from the Portland Cement Manufacturing Industry – Major Sources

**SECTION IV APPENDIX A**  
**CITATION FORMATS**

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*The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.*

**REFERENCES TO PREVIOUS PERMITTING ACTIONS**

Old Permit Numbers

*Example:* Permit No. AC50-123456 or Air Permit No. AO50-123456

*Where:* "AC" identifies the permit as an Air Construction Permit  
"AO" identifies the permit as an Air Operation Permit  
"123456" identifies the specific permit project number

New Permit Numbers

*Example:* Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

*Where:* "099" represents the specific county ID number in which the project is located  
"2222" represents the specific facility ID number  
"001" identifies the specific permit project  
"AC" identifies the permit as an air construction permit  
"AF" identifies the permit as a minor federally enforceable state operation permit  
"AO" identifies the permit as a minor source air operation permit  
"AV" identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

*Example:* Permit No. PSD-FL-317

*Where:* "PSD" means issued pursuant to the Prevention of Significant Deterioration of Air Quality  
"FL" means that the permit was issued by the State of Florida  
"317" identifies the specific permit project

**RULE CITATION FORMATS**

Florida Administrative Code (F.A.C.)

*Example:* [Rule 62-213.205, F.A.C.]

*Means:* Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

*Example:* [40 CFR 60.7]

*Means:* Title 40, Part 60, Section 7

**SECTION IV APPENDIX B**  
**GENERAL CONDITIONS**

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy and records that must be kept under the conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes.



**SECTION IV APPENDIX B**  
**GENERAL CONDITIONS**

Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
  - a. Determination of Best Available Control Technology (X);
  - b. Determination of Prevention of Significant Deterioration (X);
  - c. Compliance with New Source Performance Standards (X) and
  - d. Compliance with National Emissions Standards for Hazardous Air Pollutants (X).
14. The permittee shall comply with the following:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - 1) The date, exact place, and time of sampling or measurements;
    - 2) The person responsible for performing the sampling or measurements;
    - 3) The dates analyses were performed;
    - 4) The person responsible for performing the analyses;
    - 5) The analytical techniques or methods used; and
    - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SECTION IV. APPENDIX C**  
**COMMON CONDITIONS**

*{Permitting Note: Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.}*

**EMISSIONS AND CONTROLS**

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants, which cause or contribute to an objectionable odor.  
[Rule 62-296.320(2), F.A.C.]
3. General Particulate Emission Limiting Standards. General Visible Emissions Standard.  
Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.  
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]
4. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.  
[Rule 62-296.320(1)(a), F.A.C.]
5. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
6. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
7. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

*{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS or NESHAP provision.}*

8. Volatile Organic Compounds (VOC) or Organic Solvents (OS) Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
9. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(203), F.A.C.]

**SECTION IV. APPENDIX C**  
**COMMON CONDITIONS**

10. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
11. Unconfined Emissions of Particulate Matter:
- (1) No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.
  - (2) Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter.
  - (3) Reasonable precautions include the following:
    - a. Paving and maintenance of roads, parking areas and yards.
    - b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
    - c. Application of asphalt, water, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
    - d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
    - e. Landscaping or planting of vegetation.
    - f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
    - g. Confining abrasive blasting where possible.
    - h. Enclosure or covering of conveyor systems.

Additional reasonable precautions applicable to this facility are included in Section III of the Permit under Subsection: Cement Plant Fugitives Emissions and Appendix J: Fugitive Emissions Control.
  - (4) In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

[Rule 62-296.320(4)(c), F.A.C.]

**TESTING REQUIREMENTS**

12. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]
13. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. 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.

**SECTION IV. APPENDIX C**  
**COMMON CONDITIONS**

Emissions testing shall be performed at the kiln/cooler main stack during a period when the kiln, precalciner, cooler, raw mill and preheater are operating simultaneously and under normal operating conditions. EPA-reference methods for sampling pollutants shall be as specified in 40 CFR 63, Appendix A. These emissions units shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 63.1349, Performance Tests.

The permittee shall provide the DERM with a *protocol* that will outline the different fuel scenarios (% of total heat input) that this unit will be burning. Titan shall obtain the test data necessary to determine whether this kiln is capable of accommodating the burning of coal or petroleum coke and all of the other supplemental fuels specified on Section III, Specific Condition 9. Methods of Operation – Fuels (Pyroprocessing/Raw Mill System). The fuel scenarios tested shall represent the actual combustion percentage (% of total heat input) that is going to be maintained while burning supplemental fuels during normal operation. The frequency of testing shall be determined by the DERM.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

14. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
15. Test Performance Requirements: Tests shall be conducted in accordance with all applicable requirements of 40CFR60, Subpart A - General Provisions and 40CFR63, Subpart A - General Provisions. In the event that the facility fails any initial or annual performance test, a retest shall be conducted within 30 days of the test date of the failed test.
16. Applicable Test Procedures.

*(a) Required Sampling Time.*

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
2. Opacity Compliance Tests. When EPA Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

Exceptions to these requirements are as follows:

- a. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
- b. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
- c. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

*(b) Minimum Sample Volume*. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

*(c) Required Flow Rate Range*. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

*(d) Calibration of Sampling Equipment*. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1 (attached).

*(e) Allowed Modification to EPA Method 5*. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

**SECTION IV. APPENDIX C**  
**COMMON CONDITIONS**

17. Determination of Process Variables

- a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

18. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C. Refer to Appendix SS-1 Stack Sampling Facilities, attached to this permit.

19. Test Notification: The owner or operator shall notify in writing to the Compliance Authority, at least *30 days* (initial) and *15 days* (annual) prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9, F.A.C.]

20. Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Monitoring and Mobile Sources of the Florida Department of Environmental Protection in accordance with the procedures specified in Rule 62-297.620, F.A.C.

21. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) *General Compliance Testing.*

1. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

2. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; or 100 tons per year or more of any other regulated air pollutant; and,

c. Each NESHAP pollutant, if there is an applicable emission standard.

3. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) *Special Compliance Tests.* When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) *Waiver of Compliance Test Requirements.* If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate

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COMMON CONDITIONS

standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; 40 CFR 63.1349(c)]

22. **Test Reports:** The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
1. The type, location, and designation of the emissions unit tested.
  2. The facility at which the emissions unit is located.
  3. The owner or operator of the emissions unit.
  4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
  5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
  6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
  7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
  8. The date, starting time and duration of each sampling run.
  9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
  10. The number of points sampled and configuration and location of the sampling plane.
  11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
  12. The type, manufacturer and configuration of the sampling equipment used.
  13. Data related to the required calibration of the test equipment.
  14. Data on the identification, processing and weights of all filters used.
  15. Data on the types and amounts of any chemical solutions used.
  16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
  17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
  18. All measured and calculated data required to be determined by each applicable test procedure for each run.
  19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
  20. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
  21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

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**COMMON CONDITIONS**

**RECORDS AND REPORTS**

23. Records Retention: Upon request, the permittee shall furnish all records and plans required under DERM and FDEP rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the DERM. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five years from the date of the sample, measurement, report, or application unless otherwise specified by DERM or FDEP rule.

[Rules 62-4.160(14)(a)&(b) and 62-213.440(1)(b)2.b., F.A.C.]

24. Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Air Facilities Section of the DERM, within (1) working day (excluding weekends and legal holidays) of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the DERM may request a written summary report of the incident.

[Rules 62-4.130 and 62-210.700(6), F.A.C.]

25. Excess Emissions Malfunction Notification Report - Malfunctions: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the DERM in accordance with Rule 62-4.130, F.A.C. In addition, a full written report on the malfunctions shall be submitted in a quarterly report.

[Rule 62-210.700(6), F.A.C.]

26. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to DERM, the Compliance Authority, by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

27. Central File Requirements: This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily Operation and Maintenance log to include, at a minimum, the following information:

- The data collected from in-stack monitoring instruments
- The records on daily feed rates and clinker production rate
- The amount and type of fuel burned
- Calibration logs for all instruments
- Maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit;
- The following fuel records shall be maintained for a minimum of five (5) years and made available upon request:

1. Coal/Petroleum Coke

(a) The coal/petroleum coke usage rate in tons per hour on a 24-hour basis;

(b) The average sulfur content and heating value (Btu/lb) of each coal shipment based upon supplier analysis or analysis of a sample representative of the shipment (trainload).

2. Liquid Fuels

(a) The fuel type (number) and usage rate in gal per day;

(b) Records of the sulfur content and heating value (Btu/gal) of each oil shipment based upon supplier analysis or analysis of a sample representative of the shipment.

3. Natural Gas

(a) The fuel usage rate in MMBtu per day;

All measurements, records, and any other data required to be maintained by Titan shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These data shall be made available to the DERM upon request. DERM shall be notified in writing at least 15 days prior to the testing (auditing) of any emission measurement instrument required to be operated by these specific conditions in order to allow witnessing by authorized personnel.

[Rule 62-4.070(3), F.A.C.]

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COMMON CONDITIONS

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**OTHER REQUIREMENTS**

28. Used Oil and Grease: Used oil and grease burned at this facility shall not be a hazardous waste as defined by 40 CFR Part 261.3 or Rule 62-730.030, F.A.C. It shall not include fuels or blended fuels consisting in whole or in part of hazardous waste or which include mixture of any solid waste generated from the treatment, storage, or disposal of hazardous waste. These fuels shall be burned in compliance with Section 403.769(3), Florida Statutes.
29. Other Regulations: The owner or operator shall comply with applicable provisions of Rule 62-710, Used Oil Management and 40 CFR Parts 279, Standards for the Management of Used Oil.



**APPENDIX D**  
**Facility Fugitive Emissions Control**

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**Fugitive Dust Improvement Proposed Plan**

Pursuant to Rule 62-296.320(4)(c)2., F.A.C., Reasonable Precautions for Emissions of Unconfined Particulate Matter, the permittee shall take the following additional specific reasonable precautions within the timeframes specified to control facility-wide emissions of unconfined particulate matter (PM) {see the scheduled timeframes immediately following each action}:

- a. The applicant completed a preliminary evaluation of changes and improvements to the traffic patterns at the facility, as well as the need for additional paving, in order to further reduce fugitive dust emissions. The specific actions below are required to be completed in order to improve traffic patterns.
  - i. The permittee shall reroute truck traffic associated with the Packhouse. A new entrance road shall be constructed by extending 106<sup>th</sup> Avenue north along the east side of the property, just east of the old ESPs. This road improvement will be implemented in cooperation with the City of Medley. Once the entrance road is completed, the limerock road from the Packhouse to 106<sup>th</sup> Avenue shall be paved. This will reduce truck traffic on the Main plant entrance road (off U.S. 27), and will reduce fugitive emissions from unpaved roads. Anticipated Schedule: Dependent upon the City of Medley to improve 106<sup>th</sup> Avenue.
  - ii. The permittee shall work with the City of Medley to upgrade 102<sup>nd</sup> Road. This will reduce carry-in of road dust on trucks entering the Titan property from 102<sup>nd</sup> Road, and also improve the drainage of accumulation of silt within the roadway. Schedule: The permittee is currently working with City of Medley. Schedule will be dependent on the City of Medley.
  - iii. After these preliminary actions have been completed, the permittee shall submit a final evaluation of any further changes and improvements to the traffic patterns at the facility, as well as the need for additional paving, in order to reduce fugitive dust emissions.
- b. The permittee shall berm exposed areas of the plant to prevent truck traffic from traveling over such areas. Schedule: Already implemented and ongoing.
- c. The permittee shall install a wheel wash system in an area directly leading out of the Aggregate Plant. This area will also include a dewatering area for trucks which will assist in cutting down on the amount of drag-out from the facility. Schedule: Operational by April 30, 2006.
- d. The permittee shall take measures to minimize silt buildup on the paved road leading out of the Aggregate Plant. This will reduce silt re-entrainment and carryout by trucks. Schedule: Measures implemented beginning in October 2005 and finalized with the addition of the new water truck in December 2005.
- e. The permittee currently employs one (1) watering truck with a dedicated driver to provide water suppression on the paved roads in the plant. The permittee issued a purchase order for a second watering truck with pressure spray. This second truck will provide a more effective watering program to reduce fugitive PM emission throughout the facility. Schedule: Exact delivery date is unknown; expected by December 2005.
- f. The permittee shall operate road sweepers 5 days a week at the facility. Road sweepers shall be used on high traffic roads. Schedule: This sweeping program has already been implemented and is proving to be effective in reducing fugitive PM emissions.
- g. A sprinkler system shall be installed along the main haul road from the quarry to the Aggregate Plant. This will reduce fugitive PM emissions from this unpaved road. Schedule: Complete by December 20, 2005.

**APPENDIX D**  
**Facility Fugitive Emissions Control**

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**h.** The permittee shall take measures to reduce fugitive PM emissions from Bulk Cement Loadout area. This area has been observed to experience visible dust emissions. Schedule: Evaluation of options no later than November 2005. The equipment associated with these improvements will be included in the 2006 Capital Improvement Plan to be implemented no later than the first half 2006.

**i.** The permittee shall make landscape upgrades to further enhance not only the aesthetics of the facility, but also to further decrease the wind erosion of unpaved areas. Schedule: To be developed.

**j.** Best Management Practices (BMPs) shall be implemented to minimize fugitive PM emissions from outside raw material storage piles (i.e., bauxite, fly ash, iron ore, etc.). The BMPs to be implemented are below:

- i. Raw material inventory shall be managed to minimize the time in storage;
- ii. Unloading and reclaiming of materials shall be curtailed during windy or dry conditions;
- iii. Drop heights of material shall be minimized;
- iv. Posting and enforcing speed limits along haul roads leading to the storage areas; and,
- v. Raw materials are normally high moisture content when received. Application of water or other dust suppressants shall be used as necessary to minimize visible emissions.

Schedule: Implement in October 2005.

**k.** The dust collector preventative maintenance crew developed an Operation and Maintenance (O&M) Program for all dust collectors at the facility. This will reduce the potential for dust collector malfunction and excess PM emissions. Schedule: The O&M Plan shall be implemented in August 2005.

**l.** Upgrades to the air slides on the package cement load-out and the new Packhouse shall be completed October 2005. This new system will eliminate a package load-out system designed and built in the early 1950's. Adjacent to this area a new clinker silo dust collecting system is being designed to improve dust collection for clinker handling. This will result in reducing fugitive dust emissions from these areas. Schedule: The equipment associated with these improvements will be included in the 2006 Capital Improvement Plan to be implemented no later than the second quarter 2006.

**m.** The permittee shall upgrade the finish mill systems. This will include installing a new finish mill (No. 6) and a dust suppression system. Once this system is in operation, one of the old finish mill systems will be permanently shut down. Schedule: Implement by October 2005 with completion by December of 2005.

The permittee shall submit quarterly progress reports to include a status report on each specific action implemented under this Appendix , **Conditions a through m**. The first quarterly report shall be submitted in January 2006, with updates every 3 months thereafter for a two-year period. The progress reports shall be submitted to the compliance authority (Miami-Dade County DERM) with copies to the SED Air Program and the Bureau of Air Regulation.

[Rule 62-296.320(4)(c)2., F.A.C., Rule 62-4.070(3), F.A.C.: Application received April 18, 2005; and, Fugitive Dust Improvement Plan dated August 19, 2005.]

**SECTION IV APPENDIX E**

**NSPS – SUBPART A, GENERAL PROVISIONS REQUIREMENTS**

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This facility is subject to all applicable New Source Performance Standards (NSPS) in 40 CFR 60 and adopted by reference in Rule 62-204.800(7)(b), F.A.C.

**40 CFR 60, Subpart A - NSPS General Provisions**

The emission units covered under this permit shall comply with all the applicable General Provisions of Subpart A in the New Source Performance Standards including 40 CFR 60.7 (Notification and Record Keeping), 40 CFR 60.8 (Performance Tests), 40 CFR 60.11 (Compliance with Standards and Maintenance Requirements), 40 CFR 60.12 (Circumvention), 40 CFR 60.13 (Monitoring Requirements), and 40 CFR 60.19 (General Notification and Reporting Requirements). The General Provisions are included in this permit.

**SECTION IV APPENDIX F**

**NESHAP - SUBPART A, GENERAL PROVISIONS REQUIREMENTS**

This facility is subject to all applicable National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Source Category in 40 CFR 63 and adopted by reference in Rule 62-204.800(7)(b), F.A.C.

**40 CFR 63, Subpart A - NESHAPS General Provisions**

The emission units covered under this permit shall comply with all the applicable General Provisions of Subpart A in the National Emissions Standards for Hazardous Air Pollutants including 40 CFR 63.4 (Circumvention) , 40 CFR 63.5 (General Notification and Reporting Requirements, 40 CFR 63.6 (Compliance with Standards and Maintenance Requirements), 40 CFR 63.7 (Performance Tests), 40 CFR 63.8 (Monitoring Requirements), 40 CFR 63.9 (Notification Requirements), 40 CFR 63.10 (Record Keeping and Reporting Requirements) and 40 CFR 63.11 (Control Device Requirements).. The General Provisions are part of this permit.

**APPENDIX G**  
**40 CFR 60 Subpart F - Standards of Performance for Portland Cement Plants**

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[Last Updated: 2/7/02]

[Source: Federal Register dated 7/1/98, Revised 2/7/02 to reflect FR 10/17/00]

**§ 60.60 Applicability and designation of affected facility.**

(a) The provisions of this subpart are applicable to the following affected facilities in portland cement plants: Kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977]

**§ 60.61 Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Portland cement plant* means any facility manufacturing portland cement by either the wet or dry process.

(b) *Bypass* means any system that prevents all or a portion of the kiln or clinker cooler exhaust gases from entering the main control device and ducts the gases through a separate control device. This does not include emergency systems designed to duct exhaust gases directly to the atmosphere in the event of a malfunction of any control device controlling kiln or clinker cooler emissions.

(c) *Bypass stack* means the stack that vents exhaust gases to the atmosphere from the bypass control device.

(d) *Monovent* means an exhaust configuration of a building or emission control device (e.g., positive-pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (i.e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 20793, June 13, 1974; 53 FR 50363, Dec. 14, 1988]

**§ 60.62 Standard for particulate matter.**

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any kiln any gases which:

- (1) Contain particulate matter in excess of 0.15 kg per metric ton of feed (dry basis) to the kiln (0.30 lb per ton).
- (2) Exhibit greater than 20 percent opacity.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any clinker cooler any gases which:

- (1) Contain particulate matter in excess of 0.050 kg per metric ton of feed (dry basis) to the kiln (0.10 lb per ton).
- (2) Exhibit 10 percent opacity, or greater.

## APPENDIX G

### 40 CFR 60 Subpart F - Standards of Performance for Portland Cement Plants

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(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility other than the kiln and clinker cooler any gases which exhibit 10 percent opacity, or greater. [39 FR 20793, June 14, 1974, as amended at 39 FR 39874, Nov. 12, 1974; 40 FR 46258, Oct. 6, 1975]

#### § 60.63 Monitoring of operations.

(a) The owner or operator of any portland cement plant subject to the provisions of this part shall record the daily production rates and kiln feed rates.

(b) Except as provided in paragraph (c) of this section, each owner or operator of a kiln or clinker cooler that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate in accordance with § 60.13 a continuous opacity monitoring system to measure the opacity of emissions discharged into the atmosphere from any kiln or clinker cooler. Except as provided in paragraph

(c) of this section, a continuous opacity monitoring system shall be installed on each stack of any multiple stack device controlling emissions from any kiln or clinker cooler. If there is a separate bypass installed, each owner or operator of a kiln or clinker cooler shall also install, calibrate, maintain, and operate a continuous opacity monitoring system on each bypass stack in addition to the main control device stack. Each owner or operator of an affected kiln or clinker cooler for which the performance test required under § 60.8 has been completed on or prior to December 14, 1988, shall install the continuous opacity monitoring system within 180 days after December 14, 1988.

(c) Each owner or operator of a kiln or clinker cooler subject to the provisions of this subpart using a positive-pressure fabric filter with multiple stacks, or a negative-pressure fabric filter with multiple stacks, or an electrostatic precipitator with multiple stacks may, in lieu of installing the continuous opacity monitoring system required by § 60.63(b), monitor visible emissions at least once per day by using a certified visible emissions observer. If the control device exhausts gases through a monovent, visible emission observations in lieu of a continuous opacity monitoring system are required. These observations shall be taken in accordance with EPA Method 9. Visible emissions shall be observed during conditions representative of normal operation. Observations shall be recorded for at least three 6-minute periods each day. In the event that visible emissions are observed for a number of emission sites from the control device with multiple stacks, Method 9 observations shall be recorded for the emission site with the highest opacity. All records of visible emissions shall be maintained for a period of 2 years.

(d) For the purpose of reports under § 60.65, periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity exceeds that allowed by § 60.62(a)(2) or § 60.62(b)(2).

(e) The provisions of paragraphs (a), (b), and (c) of this section apply to kilns and clinker coolers for which construction, modification, or reconstruction commenced after August 17, 1971.

[36 FR 24877, Dec. 23, 1971, as amended at 53 FR 50363, Dec. 14, 1988]

#### § 60.64 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A or other methods and procedures as specified in this section, except as provided in § 60.8(b).

## APPENDIX G

### 40 CFR 60 Subpart F - Standards of Performance for Portland Cement Plants

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(b) The owner or operator shall determine compliance with the particulate matter standard in § 60.62 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E=(c_s Q_{sd})/(P K)$$

where:

E = emission rate of particulate matter, kg/metric ton (lb/ton) of kiln feed.

C<sub>s</sub> = concentration of particulate matter, g/dscm (gr/dscf).

Q<sub>sd</sub> = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P = total kiln feed (dry basis) rate, metric ton/hr (ton/hr).

K = conversion factor, 1000 g/kg (7000 gr/lb).

(2) Method 5 shall be used to determine the particulate matter concentration (c<sub>s</sub>) and the volumetric flow rate (Q<sub>sd</sub>) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30.0 dscf) for the kiln and at least 60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.

(3) Suitable methods shall be used to determine the kiln feed rate (P), except fuels, for each run. Material balance over the production system shall be used to confirm the feed rate.

(4) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6666, Feb. 14, 1989]

#### § 60.65 Recordkeeping and reporting requirements.

(a) Each owner or operator required to install a continuous opacity monitoring system under § 60.63(b) shall submit reports of excess emissions as defined in § 60.63(d). The content of these reports must comply with the requirements in § 60.7(c). Notwithstanding the provisions of § 60.7(c), such reports shall be submitted semi-annually.

(b) Each owner or operator monitoring visible emissions under § 60.63(c) shall submit semi-annual reports of observed excess emissions as defined in § 60.63(d).

(c) Each owner or operator of facilities subject to the provisions of § 60.63(c) shall submit semi-annual reports of the malfunction information required to be recorded by § 60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, 42 U.S.C. 7411, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.

[53 FR 50364, Dec. 14, 1988]

#### § 60.66 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

## APPENDIX I

### 40 CFR 63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry- Major Sources

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{Last updated 6/27/03}

#### Section

#### GENERAL

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63.1341 Definitions.

#### EMISSION STANDARDS AND OPERATING LIMITS

63.1342 Standards: General.

63.1343 Standards for kilns and in-line kiln/raw mills.

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63.1345 Standards for clinker coolers.

63.1346 Standards for new and reconstructed raw material dryers.

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63.1348 Standards for affected sources other than kilns; in-line kiln raw mills; clinker coolers; new and reconstructed raw material dryers; and raw and finish mills.

#### MONITORING AND COMPLIANCE PROVISIONS

63.1349 Performance testing requirements.

63.1350 Monitoring requirements.

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#### NOTIFICATION, REPORTING AND RECORDKEEPING

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#### OTHER

63.1356 Exemption from new source performance standards.

63.1357 Temporary, conditioned exemption from particulate and opacity standards.

63.1358 Implementation and Enforcement.

63.1359 [Reserved]

### Subpart LLL - National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry

#### §63.1340 Applicability and designation of affected sources.

(a) Except as specified in paragraphs (b) and (c) of this section, the provisions of this subpart apply to each new and existing portland cement plant which is a major source as defined in §63.2.

(b) The affected sources subject to this subpart are:

(1) Each kiln and each in-line kiln/raw mill at any major source, including alkali bypasses, except for kilns and in-line kiln/raw mills that burn hazardous waste and are subject to and regulated under subpart EEE of this part;

(2) Each clinker cooler at any portland cement plant which is a major source;

(3) Each raw mill at any portland cement plant which is a major source;

(4) Each finish mill at any portland cement plant which is a major source;



**APPENDIX H**  
**40 CFR 60, Subpart Y- Standards of Performance for Coal Preparation Plants**

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**Updated 9/15/03**

**Source: Federal Register dated 1/15/76**

**§ 60.250 Applicability and designation of affected facility.**

(a) The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.

**§ 60.251 Definitions.**

As used in this subpart, all terms not defined herein have the meaning given them in the Act and in subpart A of this part.

(a) *Coal preparation plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(b) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference -- see § 60.17).

(c) *Coal* means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference -- see § 60.17).

(d) *Cyclonic flow* means a spiraling movement of exhaust gases within a duct or stack.

(e) *Thermal dryer* means any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(f) *Pneumatic coal-cleaning equipment* means any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(g) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

## APPENDIX H

### 40 CFR 60, Subpart Y- Standards of Performance for Coal Preparation Plants

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#### § 60.252 Standards for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

- (1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).
- (2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment, gases which:

- (1) Contain particulate matter in excess of 0.040 g/dscm (0.017 gr/dscf).
- (2) Exhibit 10 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

#### § 60.253 Monitoring of operations.

(a) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1.7$  °C ( $\pm 3$  °F).

(2) For affected facilities that use venturi scrubber emission control equipment:

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 5$  percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator may be consulted for approval of alternative locations.

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under § 60.13(b).

#### § 60.254 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

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(5) Each raw material dryer at any portland cement plant which is a major source and each greenfield raw material dryer at any portland cement plant which is a major source;

(6) Each raw material, clinker, or finished product storage bin at any portland cement plant which is a major source;

(7) Each conveying system transfer point including those associated with coal preparation used to convey coal from the mill to the kiln at any portland cement plant which is a major source;

(8) Each bagging system at any portland cement plant which is a major source; and

(c) For portland cement plants with on-site nonmetallic mineral processing facilities, the first affected source in the sequence of materials handling operations subject to this subpart is the raw material storage, which is just prior to the raw mill. Any equipment of the on-site nonmetallic mineral processing plant which precedes the raw material storage is not subject to this subpart. In addition, the primary and secondary crushers of the on-site nonmetallic mineral processing plant, regardless of whether they precede the raw material storage, are not subject to this subpart. Furthermore, the first conveyor transfer point subject to this subpart is the transfer point associated with the conveyor transferring material from the raw material storage to the raw mill.

(d) The owner or operator of any affected source subject to the provisions of this subpart is subject to title V permitting requirements.

#### §63.1341 Definitions.

All terms used in this subpart that are not defined below have the meaning given to them in the CAA and in 40 CFR 63 Subpart A.

*Alkali bypass* means a duct between the feed end of the kiln and the preheater tower through which a portion of the kiln exit gas stream is withdrawn and quickly cooled by air or water to avoid excessive buildup of alkali, chloride and/or sulfur on the raw feed. This may also be referred to as the "kiln exhaust gas bypass".

*Bagging system* means the equipment which fills bags with portland cement.

*Bin* means a manmade enclosure for storage of raw materials, clinker, or finished product prior to further processing at a Portland cement plant.

*Clinker cooler* means equipment into which clinker product leaving the kiln is placed to be cooled by air supplied by a forced draft or natural draft supply system.

*Continuous monitor* means a device which continuously samples the regulated parameter specified in §63.1350 of this subpart without interruption, evaluates the detector response at least once every 15 seconds, and computes and records the average value at least every 60 seconds, except during allowable periods of calibration and except as defined otherwise by the continuous emission monitoring system performance specifications in appendix B to part 60 of this chapter.

*Conveying system* means a device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include but are not limited to the following: feeders, belt conveyors, bucket elevators and pneumatic systems.

*Conveying system transfer point* means a point where any material including but not limited to feed material, fuel, clinker or product, is transferred to or from a conveying system, or between separate parts of a conveying system.

*Dioxins and furans (D/F)* means tetra-, penta-, hexa-, hepta-, and octa- chlorinated dibenzo dioxins and furans.

*Facility* means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

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*Feed* means the prepared and mixed materials, which include but are not limited to materials such as limestone, clay, shale, sand, iron ore, mill scale, cement kiln dust and flyash, that are fed to the kiln. Feed does not include the fuels used in the kiln to produce heat to form the clinker product.

*Finish mill* means a roll crusher, ball and tube mill or other size reduction equipment used to grind clinker to a fine powder. Gypsum and other materials may be added to and blended with clinker in a finish mill. The finish mill also includes the air separator associated with the finish mill.

*Greenfield kiln, in-line kiln/raw mill, or raw material dryer* means a kiln, in-line kiln/raw mill, or raw material dryer for which construction is commenced at a plant site (where no kilns and no in-line kiln/raw mills were in operation at any time prior to March 24, 1998) after March 24, 1998.

*Hazardous waste* is defined in §261.3 of this chapter.

*In-line kiln/raw mill* means a system in a portland cement production process where a dry kiln system is integrated with the raw mill so that all or a portion of the kiln exhaust gases are used to perform the drying operation of the raw mill, with no auxiliary heat source used. In this system the kiln is capable of operating without the raw mill operating, but the raw mill cannot operate without the kiln gases, and consequently, the raw mill does not generate a separate exhaust gas stream.

*Kiln* means a device, including any associated preheater or precalciner devices, that produces clinker by heating limestone and other materials for subsequent production of portland cement.

*Kiln exhaust gas bypass* means alkali bypass.

*Monovent* means an exhaust configuration of a building or emission control device (e. g. positive pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (i. e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

*New brownfield kiln, in-line kiln raw mill, or raw material dryer* means a kiln, in-line kiln/raw mill or raw material dryer for which construction is commenced at a plant site (where kilns and/or in-line kiln/raw mills were in operation prior to March 24, 1998) after March 24, 1998.

*One-minute average* means the average of thermocouple or other sensor responses calculated at least every 60 seconds from responses obtained at least once during each consecutive 15 second period.

*Portland cement plant* means any facility manufacturing portland cement.

*Raw material dryer* means an impact dryer, drum dryer, paddle-equipped rapid dryer, air separator, or other equipment used to reduce the moisture content of feed materials.

*Raw mill* means a ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

*Rolling average* means the average of all one-minute averages over the averaging period.

*Run average* means the average of the one-minute parameter values for a run.

*TEQ* means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

#### EMISSION STANDARDS AND OPERATING LIMITS

##### §63.1342 Standards: General.

(a) Table 1 to this subpart provides cross references to the 40 CFR part 63, subpart A, general provisions, indicating the applicability of the general provisions requirements to subpart LLL.

(b) Table 1 of this section provides a summary of emission limits and operating limits of this subpart.

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**40 CFR 63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry- Major Sources**

**Table 1 to §63.1342. Emission Limits and Operating Limits.**

Affected Source	Pollutant or Opacity	Emission and Operating Limit
All kilns and in-line kiln/raw mills at major sources (including alkali bypass)	PM	0.15 kg/Mg of feed (dry basis)
	Opacity	20 percent
All kilns and in-line kiln/raw mills at major sources (including alkali bypass)	D/F	<p>0.20 ng TEQ/dscm or 0.40 ng TEQ/dscm when the average of the performance test run average particulate matter control device (PMCD) inlet temperatures is 204° C or less. [Corrected to 7 percent oxygen]</p> <p>Operate such that the three-hour rolling average PMCD inlet temperature is no greater than the temperature established at performance test. If activated carbon injection is used: Operate such that the three-hour rolling average activated carbon injection rate is no less than rate established at performance test. Operate such that either the carrier gas flow rate or carrier gas pressure drop exceeds the value established at performance test. Inject carbon of equivalent specifications to that used at performance test.</p>
New greenfield kilns and in-line kiln/raw mills at major sources	THC	50 ppmvd, as propane, corrected to 7 percent oxygen
All clinker coolers at major sources	PM	0.050 kg/Mg of feed (dry basis)
	Opacity	10 percent
All raw mills and finish mills at major sources	Opacity	10 percent
New greenfield raw material dryers at major sources	THC	50 ppmvd, as propane, corrected to 7 percent oxygen
All raw material dryers and material handling points at major sources	Opacity	10 percent

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#### §63.1343 Standards for kilns and in-line kiln/raw mills.

(a) *General.* The provisions in this section apply to each kiln, each in-line kiln/raw mill, and any alkali bypass associated with that kiln or in-line kiln/raw mill.

(b) *Existing, reconstructed, or new brownfield/major sources.* No owner or operator of an existing, reconstructed or new brownfield kiln or an existing, reconstructed or new brownfield in-line kiln/raw mill at a facility that is a major source subject to the provisions of this subpart shall cause to be discharged into the atmosphere from these affected sources, any gases which:

(1) Contain particulate matter (PM) in excess of 0.15 kg per Mg (0.30 lb per ton) of feed (dry basis) to the kiln. When there is an alkali bypass associated with a kiln or in-line kiln/raw mill, the combined particulate matter emissions from the kiln or in-line kiln/raw mill and the alkali bypass are subject to this emission limit.

(2) Exhibit opacity greater than 20 percent.

(3) Contain D/F in excess of:

(i) 0.20 ng per dscm ( $8.7 \times 10^{-11}$  gr per dscf)(TEQ) corrected to seven percent oxygen; or

(ii) 0.40 ng per dscm ( $1.7 \times 10^{-10}$  gr per dscf)(TEQ) corrected to seven percent oxygen, when

the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.

(c) *Greenfield/major sources.* No owner or operator that commences construction of a greenfield kiln or greenfield inline kiln/raw mill at a facility which is a major source subject to the provisions of this subpart shall cause to be discharged into the atmosphere from these affected sources any gases which:

(1) Contain particulate matter in excess of 0.15 kg per Mg (0.30 lb per ton) of feed (dry basis) to the kiln. When there is an alkali bypass associated with a kiln or in-line kiln/raw mill, the combined particulate matter emissions from the kiln or in-line kiln/raw mill and the bypass stack are subject to this emission limit.

(2) Exhibit opacity greater than 20 percent.

(3) Contain D/F in excess of:

(i) 0.20 ng per dscm ( $8.7 \times 10^{-11}$  gr per dscf)(TEQ) corrected to seven percent oxygen; or

(ii) 0.40 ng per dscm ( $1.7 \times 10^{-10}$  gr per dscf)(TEQ) corrected to seven percent oxygen, when

the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.

(4) Contain total hydrocarbon (THC), from the main exhaust of the kiln or in-line kiln/raw mill, in excess of 50 ppmvd as propane, corrected to seven percent oxygen.

(d) [Reserved]

(e) [Reserved]

#### §63.1344 Operating Limits for kilns and in-line kiln/raw mills.

(a) The owner or operator of a kiln subject to a D/F emission limitation under §63.1343 must operate the kiln such that the temperature of the gas at the inlet to the kiln particulate matter control device (PMCD) and alkali bypass PMCD, if applicable, does not exceed the applicable temperature limit specified in paragraph (b) of this section. The owner or operator of an in-line kiln/raw mill subject to a D/F emission limitation under §63.1343 must operate the in-line kiln/raw mill, such that,

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(1) When the raw mill of the in-line kiln/raw mill is operating, the applicable temperature limit for the main in-line kiln/raw mill exhaust, specified in paragraph (b) of this section and established during the performance test when the raw mill was operating is not exceeded.

(2) When the raw mill of the in-line kiln/raw mill is not operating, the applicable temperature limit for the main in-line kiln/raw mill exhaust, specified in paragraph (b) of this section and established during the performance test when the raw mill was not operating, is not exceeded.

(3) If the in-line kiln/raw mill is equipped with an alkali bypass, the applicable temperature limit for the alkali bypass specified in paragraph (b) of this section and established during the performance test, with or without the raw mill operating, is not exceeded.

(b) The temperature limit for affected sources meeting the limits of paragraph (a) of this section or paragraphs (a)(1) through (a)(3) of this section is determined in accordance with §63.1349(b)(3)(iv).

(c) The owner or operator of an affected source subject to a D/F emission limitation under §63.1343 that employs carbon injection as an emission control technique must operate the carbon injection system in accordance with paragraphs (c)(1) and (c)(2) of this section.

(1) The three-hour rolling average activated carbon injection rate shall be equal to or greater than the activated carbon injection rate determined in accordance with §63.1349(b)(3)(vi).

(2) The owner or operator shall either:

(i) Maintain the minimum activated carbon injection carrier gas flow rate, as a three-hour rolling average, based on the manufacturer's specifications. These specifications must be documented in the test plan developed in accordance with §63.7(c) of this part, or

(ii) Maintain the minimum activated carbon injection carrier gas pressure drop, as a three-hour rolling average, based on the manufacturer's specifications. These specifications must be documented in the test plan developed in accordance with §63.7(c).

(d) Except as provided in paragraph (e) of this section, the owner or operator of an affected source subject to a D/F emission limitation under §63.1343 that employs carbon injection as an emission control technique must specify and use the brand and type of activated carbon used during the performance test until a subsequent performance test is conducted, unless the site-specific performance test plan contains documentation of key parameters that affect adsorption and the owner or operator establishes limits based on those parameters, and the limits on these parameters are maintained.

(e) The owner or operator of an affected source subject to a D/F emission limitation under §63.1343 that employs carbon injection as an emission control technique may substitute, at any time, a different brand or type of activated carbon provided that the replacement has equivalent or improved properties compared to the activated carbon specified in the site-specific performance test plan and used in the performance test. The owner or operator must maintain documentation that the substitute activated carbon will provide the same or better level of control as the original activated carbon.

#### **§63.1345 Standards for clinker coolers.**

(a) No owner or operator of a new or existing clinker cooler at a facility which is a major source subject to the provisions of this subpart shall cause to be discharged into the atmosphere from the clinker cooler any gases which:

(1) Contain particulate matter in excess of 0.050 kg per Mg (0.10 lb per ton) of feed (dry basis) to the kiln.

(2) Exhibit opacity greater than ten percent.

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(b) [Reserved]

**§63.1346 Standards for new and reconstructed raw material dryers.**

(a) *Brownfield/major sources.* No owner or operator of a new or reconstructed brownfield raw material dryer at a facility which is a major source subject to this subpart shall cause to be discharged into the atmosphere from the new or reconstructed raw material dryer any gases which exhibit opacity greater than ten percent.

(b) [Reserved]

(c) *Greenfield/major sources.* No owner or operator of a greenfield raw material dryer at a facility which is a major source subject to this subpart shall cause to be discharged into the atmosphere from the greenfield raw material dryer any gases which:

- (1) Contain THC in excess of 50 ppmvd, reported as propane, corrected to seven percent oxygen.
- (2) Exhibit opacity greater than ten percent.

**§63.1347 Standards for raw and finish mills.**

The owner or operator of each new or existing raw mill or finish mill at a facility which is a major source subject to the provisions of this subpart shall not cause to be discharged from the mill sweep or air separator air pollution control devices of these affected sources any gases which exhibit opacity in excess of ten percent.

**§63.1348 Standards for affected sources other than kilns; in-line kiln/raw mills; clinker coolers; new and reconstructed raw material dryers; and raw and finish mills.**

The owner or operator of each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; and bulk loading or unloading system; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart shall not cause to be discharged any gases from these affected sources which exhibit opacity in excess of ten percent.

**§63.1349 Performance Testing Requirements.**

(a) The owner or operator of an affected source subject to this subpart shall demonstrate initial compliance with the emission limits of §63.1343 and §§63.1345 through 63.1348 using the test methods and procedures in paragraph (b) of this section and §63.7. Performance test results shall be documented in complete test reports that contain the information required by paragraphs (a)(1) through (a)(10) of this section, as well as all other relevant information. The plan to be followed during testing shall be made available to the Administrator prior to testing, if requested.

- (1) A brief description of the process and the air pollution control system;
- (2) Sampling location description(s);
- (3) A description of sampling and analytical procedures and any modifications to standard procedures;
- (4) Test results;
- (5) Quality assurance procedures and results;
- (6) Records of operating conditions during the test, preparation of standards, and calibration procedures;



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- (7) Raw data sheets for field sampling and field and laboratory analyses;
- (8) Documentation of calculations;
- (9) All data recorded and used to establish parameters for compliance monitoring; and
- (10) Any other information required by the test method.

(b) Performance tests to demonstrate initial compliance with this subpart shall be conducted as specified in paragraphs (b)(1) through (b)(4) of this section.

(1) The owner or operator of a kiln subject to limitations on particulate matter emissions shall demonstrate initial compliance by conducting a performance test as specified in paragraphs (b)(1)(i) through (b)(1)(iv) of this section. The owner or operator of an in-line kiln/raw mill subject to limitations on particulate matter emissions shall demonstrate initial compliance by conducting separate performance tests as specified in paragraphs (b)(1)(i) through (b)(1)(iv) of this section while the raw mill of the in-line kiln/raw mill is under normal operating conditions and while the raw mill of the in-line kiln/raw mill is not operating. The owner or operator of a clinker cooler subject to limitations on particulate matter emissions shall demonstrate initial compliance by conducting a performance test as specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section. The opacity exhibited during the period of the Method 5 of Appendix A to part 60 of this chapter performance tests required by paragraph (b)(1)(i) of this section shall be determined as required in paragraphs (b)(1)(v) through (vi) of this section.

(i) Method 5 of appendix A to part 60 of this chapter shall be used to determine PM emissions. Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with Sec. 63.7(e). Each run shall be conducted for at least 1 hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of the three runs shall be used to determine compliance. A determination of the PM collected in the impingers ("back half") of the Method 5 particulate sampling train is not required to demonstrate initial compliance with the PM standards of this subpart. However, this shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes.

(ii) Suitable methods shall be used to determine the kiln or inline kiln/raw mill feed rate, except for fuels, for each run.

(iii) The emission rate, E, of PM shall be computed for each run using equation 1:

$$E = (c_s Q_{sd}) / P \tag{Eq 1}$$

- Where: E = emission rate of particulate matter, kg/Mg of kiln feed.
- c<sub>s</sub> = concentration of PM, kg/dscm.
- Q<sub>sd</sub> = volumetric flow rate of effluent gas, dscm/hr.
- P = total kiln feed (dry basis), Mg/hr.

(iv) When there is an alkali bypass associated with a kiln or in-line kiln/raw mill, the main exhaust and alkali bypass of the kiln or in-line kiln/raw mill shall be tested simultaneously and the combined emission rate of particulate matter from the kiln or in-line kiln/raw mill and alkali bypass shall be computed for each run using equation 2,

$$E_c = (c_{sk}Q_{sdk} + c_{sb}Q_{sdb})/P \tag{Eq 2}$$

- Where: E<sub>c</sub> = the combined emission rate of particulate matter from the kiln or in-line kiln/raw mill and bypass stack, kg/Mg of kiln feed.
- c<sub>sk</sub> = concentration of particulate matter in the kiln or in-line kiln/raw mill effluent, kg/dscm.
- Q<sub>sdk</sub> = volumetric flow rate of kiln or in-line kiln/raw mill effluent, dscm/hr.

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- $c_{sb}$  = concentration of particulate matter in the alkali bypass gas, kg/dscm.  
 $Q_{sdb}$  = volumetric flow rate of alkali bypass gas, dscm/hr.  
 $P$  = total kiln feed (dry basis), Mg/hr.

(v) Except as provided in paragraph (b)(1)(vi) of this section the opacity exhibited during the period of the Method 5 performance tests required by paragraph (b)(1)(i) of this section shall be determined through the use of a continuous opacity monitor (COM). The maximum six-minute average opacity during the three Method 5 test runs shall be determined during each Method 5 test run, and used to demonstrate initial compliance with the applicable opacity limits of §63.1343(b)(2), §63.1343(c)(2), or §63.1345(a)(2).

(vi) Each owner or operator of a kiln, in-line kiln/raw mill, or clinker cooler subject to the provisions of this subpart using a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks may, in lieu of installing the continuous opacity monitoring system required by paragraph (b)(1)(v) of this section, conduct an opacity test in accordance with Method 9 of appendix A to part 60 of this chapter during each Method 5 performance test required by paragraph (b)(1)(i) of this section. If the control device exhausts through a monovent, or if the use of a COM in accordance with the installation specifications of Performance Specification 1 (PS-1) of appendix B to part 60 of this chapter is not feasible, a test shall be conducted in accordance with Method 9 of appendix A to part 60 of this chapter during each Method 5 performance test required by paragraph (b)(1)(i) of this section. The maximum six-minute average opacity shall be determined during the three Method 5 test runs, and used to demonstrate initial compliance with the applicable opacity limits of §63.1343(b)(2), §63.1343(c)(2), or §63.1345(a)(2).

(2) The owner or operator of any affected source subject to limitations on opacity under this subpart that is not subject to paragraph (b)(1) of this section shall demonstrate initial compliance with the affected source opacity limit by conducting a test in accordance with Method 9 of appendix A to part 60 of this chapter. The performance test shall be conducted under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with Sec. 63.7(e). The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) through (ii) of this section apply:

- (i) There are no individual readings greater than 10 percent opacity;
- (ii) There are no more than three readings of 10 percent for the first 1-hour period.

(3) The owner or operator of an affected source subject to limitations on D/F emissions under this subpart shall demonstrate initial compliance with the D/F emission limit by conducting a performance test using Method 23 of appendix A to part 60 of this chapter. The owner or operator of an in-line kiln/raw mill shall demonstrate initial compliance by conducting separate performance tests while the raw mill of the in-line kiln/raw mill is under normal operating conditions and while the raw mill of the in-line kiln/raw mill is not operating. The owner or operator of a kiln or in-line kiln/raw mill equipped with an alkali bypass shall conduct simultaneous performance tests of the kiln or in-line kiln/raw mill exhaust and the alkali bypass. However, the owner or operator of an in-line kiln/raw mill may conduct a performance test of the alkali bypass exhaust when the raw mill of the in-line kiln/raw mill is operating or not operating.

(i) Each performance test shall consist of three separate runs; each run shall be conducted under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with Sec. 63.7(e). The duration of each run shall be at least 3 hours, and the sample volume for each run shall be at least 2.5 dscm (90 dscf). The concentration shall be determined for each run, and the arithmetic average of the concentrations measured for the three runs shall be calculated and used to determine compliance.

(ii) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and where applicable, the temperature at the inlet to the alkali bypass PMCD, must be continuously recorded during the

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period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.

(iii) One-minute average temperatures must be calculated for each minute of each run of the test.

(iv) The run average temperature must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with §63.1344(b).

(v) If activated carbon injection is used for D/F control, the rate of activated carbon injection to the kiln or in-line kiln/raw mill exhaust, and where applicable, the rate of activated carbon injection to the alkali bypass exhaust, must be continuously recorded during the period of the Method 23 test, and the continuous injection rate record(s) must be included in the performance test report. In addition, the performance test report must include the brand and type of activated carbon used during the performance test and a continuous record of either the carrier gas flow rate or the carrier gas pressure drop for the duration of the test. Activated carbon injection rate parameters must be determined in accordance with paragraphs (b)(3)(vi) of this section.

(vi) The run average injection rate must be calculated for each run, and the average of the run average injection rates must be determined and included in the performance test report and will determine the applicable injection rate limit in accordance with §63.1344(c)(1).

(4) The owner or operator of an affected source subject to limitations on emissions of THC shall demonstrate initial compliance with the THC limit by operating a continuous emission monitor in accordance with Performance Specification 8A of appendix B to part 60 of this chapter. The duration of the performance test shall be three hours, and the average THC concentration (as calculated from the one-minute averages) during the three hour performance test shall be calculated. The owner or operator of an in-line kiln/raw mill shall demonstrate initial compliance by conducting separate performance tests while the raw mill of the in-line kiln/raw mill is under normal operating conditions and while the raw mill of the in-line kiln/raw mill is not operating.

(c) Except as provided in paragraph (e) of this section, performance tests required under paragraphs (b)(1) and (b)(2) of this section shall be repeated every five years, except that the owner or operator of a kiln, in-line kiln/raw mill or clinker cooler is not required to repeat the initial performance test of opacity for the kiln, in-line kiln/raw mill or clinker cooler.

(d) Performance tests required under paragraph (b)(3) of this section shall be repeated every 30 months.

(e) (1) If a source plans to undertake a change in operations that may adversely affect compliance with an applicable D/F standard under this subpart, the source must conduct a performance test and establish new temperature limit(s) as specified in paragraph (b)(3) of this section.

(2) If a source plans to undertake a change in operations that may adversely affect compliance with an applicable PM standard under Sec. 63.1343, the source must conduct a performance test as specified in paragraph (b)(1) of this section.

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(f) Table 1 of this section provides a summary of the performance test requirements of this subpart.

**TABLE 1 to §63.1349. SUMMARY OF PERFORMANCE TEST REQUIREMENTS**

<b>Affected source and pollutant</b>	<b>Performance Test</b>
New and existing kiln and in-line kiln/raw mill <sup>b,c</sup> PM	EPA Method 5 <sup>a</sup>
New and existing kiln and in-line kiln/raw mill <sup>b,c</sup> Opacity	COM if feasible <sup>d,e</sup> or EPA Method 9 visual opacity readings.
New and existing kiln and in-line kiln/raw mill <sup>b,c,f,g</sup> D/F	EPA Method 23 <sup>h</sup>
New greenfield kiln and in-line kiln/raw mill <sup>c</sup> THC	THC CEM (EPA PS-8A) <sup>i</sup>
New and existing clinker cooler PM	EPA Method 5 <sup>a</sup>
New and existing clinker cooler opacity	COM <sup>d,j</sup> or EPA Method 9 visual opacity readings
New and existing raw and finish mill opacity	EPA Method 9 <sup>a,j</sup>
New and existing raw material dryer and materials handling processes (raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging, and bulk loading and unloading systems) opacity	EPA Method 9 <sup>a,j</sup>
New greenfield raw material dryer THC	THC CEM (EPA PS-8A) <sup>i</sup>

- <sup>a</sup> Required initially and every 5 years thereafter.
- <sup>b</sup> Includes main exhaust and alkali bypass.
- <sup>c</sup> In-line kiln/raw mill to be tested with and without raw mill in operation.
- <sup>d</sup> Must meet COM performance specification criteria. If the fabric filter or electrostatic precipitator has multiple stacks, daily EPA Method 9 visual opacity readings may be taken instead of using a COM.
- <sup>e</sup> Opacity limit is 20 percent.
- <sup>f</sup> Alkali bypass is tested with the raw mill operating or not operating.
- <sup>g</sup> Temperature and (if applicable) activated carbon injection parameters determined separately with and without the raw mill operating.
- <sup>h</sup> Required initially and every 30 months thereafter.
- <sup>i</sup> EPA Performance Specification (PS)-8A of appendix B to part 60 of this chapter.
- <sup>j</sup> Opacity limit is 10 percent.

(3) In preparation for and while conducting a performance test required in paragraph (e)(1) of this section, a source may operate under the planned operational change conditions for a period not to exceed 360 hours, provided that the conditions in paragraphs (e)(3)(i) through (iv) of this section are met. The source shall submit temperature and other monitoring data that are recorded during the pretest operations.

(i) The source must provide the Administrator written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard under this subpart, or as soon as practicable where 60 days advance notice is not feasible. Notice provided under this

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paragraph shall include a description of the planned change, the emissions standards that may be affected by the change, and a schedule for completion of the performance test required under paragraph (e)(1) of this section, including when the planned operational change period would begin.

(ii) The performance test results must be documented in a test report according to paragraph (a) of this section.

(iii) A test plan must be made available to the Administrator prior to testing, if requested.

(iv) The performance test must be conducted, and it must be completed within 360 hours after the planned operational change period begins.

#### **§63.1350 Monitoring requirements.**

(a) The owner or operator of each portland cement plant shall prepare for each affected source subject to the provisions of this subpart, a written operations and maintenance plan. The plan shall be submitted to the Administrator for review and approval as part of the application for a part 70 permit and shall include the following information:

(1) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of §§63.1343 through 63.1348;

(2) Corrective actions to be taken when required by paragraph (e) of this section;

(3) Procedures to be used during an inspection of the components of the combustion system of each kiln and each in-line kiln raw mill located at the facility at least once per year; and

(4) Procedures to be used to periodically monitor affected sources subject to opacity standards under §§63.1346 and 63.1348. Such procedures must include the provisions of paragraphs (a)(4)(i) through (a)(4)(iv) of this section.

(i) The owner or operator must conduct a monthly 1-minute visible emissions test of each affected source in accordance with Method 22 of Appendix A to part 60 of this chapter. The test must be conducted while the affected source is in operation.

(ii) If no visible emissions are observed in six consecutive monthly tests for any affected source, the owner or operator may decrease the frequency of testing from monthly to semi-annually for that affected source. If visible emissions are observed during any semi-annual test, the owner or operator must resume testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

(iii) If no visible emissions are observed during the semi-annual test for any affected source, the owner or operator may decrease the frequency of testing from semi-annually to annually for that affected source. If visible emissions are observed during any annual test, the owner or operator must resume testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

(iv) If visible emissions are observed during any Method 22 test, the owner or operator must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter. The Method 9 test must begin within one hour of any observation of visible emissions.

(v) The requirement to conduct Method 22 visible emissions monitoring under this paragraph shall not apply to any totally enclosed conveying system transfer point, regardless of the location of the transfer point. "Totally enclosed conveying system transfer point" shall mean a conveying system transfer point that is enclosed on all sides, top, and bottom. The enclosures for these transfer points shall be operated and maintained as total enclosures on a continuing basis in accordance with the facility operations and maintenance plan.

(vi) If any partially enclosed or unenclosed conveying system transfer point is located in a building, the owner or operator of the portland cement plant shall have the option to conduct a Method 22 visible emissions monitoring test according to the requirements of paragraphs (a)(4)(i) through (iv) of this

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section for each such conveying system transfer point located within the building, or for the building itself, according to paragraph (a)(4)(vii) of this section.

(vii) If visible emissions from a building are monitored, the requirements of paragraphs (a)(4)(i) through (iv) of this section apply to the monitoring of the building, and you must also test visible emissions from each side, roof and vent of the building for at least 1 minute. The test must be conducted under normal operating conditions.

(b) Failure to comply with any provision of the operations and maintenance plan developed in accordance with paragraph (a) of this section shall be a violation of the standard.

(c) The owner or operator of a kiln or in-line kiln/raw mill shall monitor opacity at each point where emissions are vented from these affected sources including alkali bypasses in accordance with paragraphs (c)(1) through (c)(3) of this section.

(1) Except as provided in paragraph (c)(2) of this section, the owner or operator shall install, calibrate, maintain, and continuously operate a continuous opacity monitor (COM) located at the outlet of the PM control device to continuously monitor the opacity. The COM shall be installed, maintained, calibrated, and operated as required by subpart A, general provisions of this part, and according to PS-1 of appendix B to part 60 of this chapter.

(2) The owner or operator of a kiln or in-line kiln/raw mill subject to the provisions of this subpart using a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks may, in lieu of installing the continuous opacity monitoring system required by paragraph (c)(1) of this section, monitor opacity in accordance with paragraphs (c)(2)(i) through (ii) of this section. If the control device exhausts through a monovent, or if the use of a COM in accordance with the installation specifications of PS-1 of appendix B to part 60 of this chapter is not feasible, the owner or operator must monitor opacity in accordance with paragraphs (c)(2)(i) through (ii) of this section.

(i) Perform daily visual opacity observations of each stack in accordance with the procedures of Method 9 of appendix A to part 60 of this chapter. The Method 9 test shall be conducted while the affected source is operating at the representative performance conditions. The duration of the Method 9 test shall be at least 30 minutes each day.

(ii) Use the Method 9 procedures to monitor and record the average opacity for each six-minute period during the test.

(3) To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 20 percent. If the average opacity for any 6-minute block period exceeds 20 percent, this shall constitute a violation of the standard.

(d) The owner or operator of a clinker cooler shall monitor opacity at each point where emissions are vented from the clinker cooler in accordance with paragraphs (d)(1) through (d)(3) of this section.

(1) Except as provided in paragraph (d)(2) of this section, the owner or operator shall install, calibrate, maintain, and continuously operate a COM located at the outlet of the clinker cooler PM control device to continuously monitor the opacity. The COM shall be installed, maintained, calibrated, and operated as required by subpart A, general provisions of this part, and according to PS-1 of appendix B to part 60 of this chapter.

(2) The owner or operator of a clinker cooler subject to the provisions of this subpart using a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks may, in lieu of installing the continuous opacity monitoring system required by paragraph (d)(1) of this section, monitor opacity in accordance with paragraphs (d)(2)(i) through (ii) of this section. If the control device exhausts through a monovent, or if the use of a COM in accordance with the installation specifications of PS-1 of appendix B to part 60 of this chapter is not feasible, the owner or operator must monitor opacity in accordance with paragraphs (d)(2)(i) through (ii) of this section.

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(i) Perform daily visual opacity observations of each stack in accordance with the procedures of Method 9 of appendix A to part 60 of this chapter. The Method 9 test shall be conducted while the affected source is operating at the representative performance conditions. The duration of the Method 9 test shall be at least 30 minutes each day.

(ii) Use the Method 9 procedures to monitor and record the average opacity for each six-minute period during the test.

(3) To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard.

(e) The owner or operator of a raw mill or finish mill shall monitor opacity by conducting daily visual emissions observations of the mill sweep and air separator PMCD of these affected sources in accordance with the procedures of Method 22 of appendix A to part 60 of this chapter. The Method 22 test shall be conducted while the affected source is operating at the representative performance conditions. The duration of the Method 22 test shall be 6 minutes. If visible emissions are observed during any Method 22 visible emissions test, the owner or operator must:

(1) Initiate, within one-hour, the corrective actions specified in the site specific operating and maintenance plan developed in accordance with paragraphs (a)(1) and (a)(2) of this section; and

(2) Within 24 hours of the end of the Method 22 test in which visible emissions were observed, conduct a follow up Method 22 test of each stack from which visible emissions were observed during the previous Method 22 test. If visible emissions are observed during the followup Method 22 test from any stack from which visible emissions were observed during the previous Method 22 test, conduct a visual opacity test of each stack from which emissions were observed during the follow up Method 22 test in accordance with Method 9 of appendix A to part 60 of this chapter. The duration of the Method 9 test shall be 30 minutes.

(f) The owner or operator of an affected source subject to a limitation on D/F emissions shall monitor D/F emissions in accordance with paragraphs (f)(1) through (f)(6) of this section.

(1) The owner or operator shall install, calibrate, maintain, and continuously operate a continuous monitor to record the temperature of the exhaust gases from the kiln, in-line kiln/raw mill and alkali bypass, if applicable, at the inlet to, or upstream of, the kiln, in-line kiln/raw mill and/or alkali bypass PM control devices.

(i) The recorder response range must include zero and 1.5 times either of the average temperatures established according to the requirements in §63.1349(b)(3)(iv).

(ii) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator.

(2) The owner or operator shall monitor and continuously record the temperature of the exhaust gases from the kiln, in-line kiln/raw mill and alkali bypass, if applicable, at the inlet to the kiln, in-line kiln/raw mill and/or alkali bypass PMCD.

(3) The three-hour rolling average temperature shall be calculated as the average of 180 successive one-minute average temperatures.

(4) Periods of time when one-minute averages are not available shall be ignored when calculating three-hour rolling averages. When one-minute averages become available, the first one-minute average is added to the previous 179 values to calculate the three-hour rolling average.

(5) When the operating status of the raw mill of the in-line kiln/raw mill is changed from off to on, or from on to off the calculation of the three-hour rolling average temperature must begin anew, without considering previous recordings.

(6) The calibration of all thermocouples and other temperature sensors shall be verified at least once every three months.

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(g) The owner or operator of an affected source subject to a limitation on D/F emissions that employs carbon injection as an emission control technique shall comply with the monitoring requirements of paragraphs (f)(1) through (f)(6) and (g)(1) through (g)(6) of this section to demonstrate continuous compliance with the D/F emission standard.

(1) Install, operate, calibrate and maintain a continuous monitor to record the rate of activated carbon injection. The accuracy of the rate measurement device must be  $\pm 1$  percent of the rate being measured.

(2) Verify the calibration of the device at least once every three months.

(3) The three-hour rolling average activated carbon injection rate shall be calculated as the average of 180 successive one-minute average activated carbon injection rates.

(4) Periods of time when one-minute averages are not available shall be ignored when calculating three-hour rolling averages. When one-minute averages become available, the first one-minute average is added to the previous 179 values to calculate the three-hour rolling average.

(5) When the operating status of the raw mill of the in-line kiln/raw mill is changed from off to on, or from on to off the calculation of the three-hour rolling average activated carbon injection rate must begin anew, without considering previous recordings.

(6) The owner or operator must install, operate, calibrate and maintain a continuous monitor to record the activated carbon injection system carrier gas parameter (either the carrier gas flow rate or the carrier gas pressure drop) established during the D/F performance test in accordance with paragraphs (g)(6)(i) through (g)(6)(iii) of this section.

(i) The owner or operator shall install, calibrate, operate and maintain a device to continuously monitor and record the parameter value.

(ii) The owner or operator must calculate and record three-hour rolling averages of the parameter value.

(iii) Periods of time when one-minute averages are not available shall be ignored when calculating three-hour rolling averages. When one-minute averages become available, the first one-minute average shall be added to the previous 179 values to calculate the three-hour rolling average.

(h) The owner or operator of an affected source subject to a limitation on THC emissions under this subpart shall comply with the monitoring requirements of paragraphs (h)(1) through (h)(3) of this section to demonstrate continuous compliance with the THC emission standard:

(1) The owner or operator shall install, operate and maintain a THC continuous emission monitoring system in accordance with Performance Specification 8A, of appendix B to part 60 of this chapter and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of this part.

(2) The owner or operator is not required to calculate hourly rolling averages in accordance with section 4.9 of Performance Specification 8A.

(3) Any thirty-day block average THC concentration in any gas discharged from a greenfield raw material dryer, the main exhaust of a greenfield kiln, or the main exhaust of a greenfield in-line kiln/raw mill, exceeding 50 ppmvd, reported as propane, corrected to seven percent oxygen, is a violation of the standard.

(i) The owner or operator of any kiln or in-line kiln/raw mill subject to a D/F emission limit under this subpart shall conduct an inspection of the components of the combustion system of each kiln or in-line kiln raw mill at least once per year.

(j) The owner or operator of an affected source subject to a limitation on opacity under §63.1346 or §63.1348 shall monitor opacity in accordance with the operation and maintenance plan developed in accordance with paragraph (a) of this section.



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(k) The owner or operator of an affected source subject to a particulate matter standard under §63.1343 shall install, calibrate, maintain and operate a particulate matter continuous emission monitoring system (PM CEMS) to measure the particulate matter discharged to the atmosphere. All requirements relating to installation, calibration, maintenance, operation or performance of the PM CEMS and implementation of the PM CEMS requirement are deferred pending further rulemaking.

(l) An owner or operator may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of this subpart, except for emission standards for THC, subject to the provisions of paragraphs (l)(1) through (l)(6) of this section.

(1) The Administrator will not approve averaging periods other than those specified in this section, unless the owner or operator documents, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved during the performance test over any increment of time equivalent to the time required to conduct three runs of the performance test.

(2) If the application to use an alternate monitoring requirement is approved, the owner or operator must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.

(3) The owner or operator shall submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (l)(3)(i) through (l)(3)(iii) of this section:

(i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach;

(ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated; and

(iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.

(4) The Administrator will notify the owner or operator of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternate monitoring application, the Administrator will provide:

(i) Notice of the information and findings upon which the intended disapproval is based; and

(ii) Notice of opportunity for the owner or operator to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for the owner or operator to provide additional supporting information.

(5) The owner or operator is responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves the owner or operator of the responsibility to comply with any provision of this subpart.

(6) The Administrator may decide at any time, on a case-by-case basis that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart.

(m) The requirements under paragraph (e) of this section to conduct daily Method 22 testing shall not apply to any specific raw mill or finish mill equipped with a continuous opacity monitor COM or bag leak detection system (BLDS). If the owner or operator chooses to install a COM in lieu of conducting the daily visual emissions testing required under paragraph (e) of this section, then the COM must be installed at the outlet of the PM control device of the raw mill or finish mill, and the COM must be installed, maintained, calibrated,

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and operated as required by the general provisions in subpart A of this part and according to PS-1 of appendix B to part 60 of this chapter. To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard. If the owner or operator chooses to install a BLDS in lieu of conducting the daily visual emissions testing required under paragraph (e) of this section, the requirements in paragraphs (m)(1) through (9) of this section apply to each BLDS:

(1) The BLDS must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. "Certify" shall mean that the instrument manufacturer has tested the instrument on gas streams having a range of particle size distributions and confirmed by means of valid filterable PM tests that the minimum detectable concentration limit is at or below 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The sensor on the BLDS must provide output of relative PM emissions.

(3) The BLDS must have an alarm that will activate automatically when it detects a significant increase in relative PM emissions greater than a preset level.

(4) The presence of an alarm condition should be clearly apparent to facility operating personnel.

(5) For a positive-pressure fabric filter, each compartment or cell must have a bag leak detector. For a negative-pressure or induced-air fabric filter, the bag leak detector must be installed downstream of the fabric filter. If multiple bag leak detectors are required (for either type of fabric filter), detectors may share the system instrumentation and alarm.

(6) All BLDS must be installed, operated, adjusted, and maintained so that they are based on the manufacturer's written specifications and recommendations. The EPA recommends that where appropriate, the standard operating procedures manual for each bag leak detection system include concepts from EPA's "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997).

(7) The baseline output of the system must be established as follows:

- (i) Adjust the range and the averaging period of the device; and
- (ii) Establish the alarm set points and the alarm delay time.

(8) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the operations and maintenance plan required by paragraph (a) of this section. In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 1 calendar year period unless a responsible official as defined in Sec. 63.2 certifies in writing to the Administrator that the fabric filter has been inspected and found to be in good operating condition.

(9) The owner or operator must maintain and operate the fabric filter such that the bag leak detector alarm is not activated and alarm condition does not exist for more than 5 percent of the total operating time in a 6-month block period. Each time the alarm activates, alarm time will be counted as the actual amount of time taken by the owner or operator to initiate corrective actions. If inspection of the fabric filter demonstrates that no corrective actions are necessary, no alarm time will be counted. The owner or operator must continuously record the output from the BLDS during periods of normal operation. Normal operation does not include periods when the BLDS is being maintained or during startup, shutdown or malfunction.

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(n) A summary of the monitoring requirements is given: **Table 1 to §63.1350. Monitoring Requirements.**

Affected Source/Pollutant or Opacity	Monitor Type/ Operation/Process	Monitoring Requirements
All affected sources	Operations and maintenance plan	Prepare written plan for all affected sources and control devices
All kilns and in-line kiln raw mills at major sources (including alkali bypass)/opacity	Continuous opacity monitor, if applicable	Install, calibrate, maintain and operate in accordance with general provisions and with PS-1
	Method 9 opacity test, if applicable	Daily test of at least 30-minutes, while kiln is at highest load or capacity level
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/particulate matter	Particulate matter continuous emission monitoring system	Deferred
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/ D/F	Combustion system inspection	Conduct annual inspection of components of combustion system
	Continuous temperature monitoring at PMCD inlet	Install, operate, calibrate and maintain continuous temperature monitoring and recording system; calculate three-hour rolling averages, verify temperature sensor calibration at least quarterly
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/ D/F (continued)	Activated carbon injection rate monitor, if applicable	Install, operate, calibrate and maintain continuous activated carbon injection rate monitor; calculate three-hour rolling averages; verify calibration at least quarterly, install, operate, calibrate and maintain carrier gas flow rate monitor or carrier gas pressure drop monitor, calculate three-hour rolling averages; document carbon specifications
New greenfield kilns and in-line kiln raw mills at major sources/THC	Total hydrocarbon continuous emission monitor	Install, operate, and maintain THC CEM in accordance with PS-8A; calculate 30-day block average THC concentration
Clinker coolers at major sources/opacity	Continuous opacity monitor, if applicable	Install, calibrate, maintain and operate in accordance with general provisions and with PS-1
	Method 9 opacity test, if applicable	Daily test of at least 30-minutes, while kiln is at highest load or capacity level.
Raw mills and finish mills at major sources/opacity	Method 22 visible emissions test (This requirement does not apply to a raw mill or finish mill equipped with a continuous opacity monitor or bag leak detection system)	Conduct daily 6-minute Method 22 visible emissions test while mill is operating at highest load or capacity level; if visible emissions are observed, initiate corrective action within one hour and conduct 30-minute Method 9 test within 24 hours
	Continuous opacity monitoring, if applicable	Install, operate, and maintain in accordance with general provisions and with PS-1. A six-minute average greater than 10% opacity is a violation
	Bag leak detection system, if applicable	Install, operate and maintain in accordance with Sec. 63.1350(m) Operate and maintain such that alarm is not activated and alarm condition does not exist for more than 4% of the total operating time in a 6-month period. If alarm sounds, initiate corrective action
New greenfield raw material dryers at major sources/THC	Total hydrocarbon continuous emission monitor	Install, operate, and maintain THC CEM in accordance with PS-8A; calculate 30-day block average THC concentration
Raw material dryers, raw material, clinker, finished product storage bins; conveying system transfer points; bagging systems; and bulk	Method 22 visible emissions test	As specified in operation and maintenance plan

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Affected Source/Pollutant or Opacity	Monitor Type/ Operation/Process	Monitoring Requirements
loading and unloading systems at major sources/opacity		

**§63.1351 Compliance dates.**

(a) The compliance date for an owner or operator of an existing affected source subject to the provisions of this subpart is June 14, 2002.

(b) The compliance date for an owner or operator of an affected source subject to the provisions of this subpart that commences new construction or reconstruction after March 24, 1998 is June 14, 1999 or upon startup of operations, whichever is later.

**63.1352 Additional Test Methods.**

(a) Owners or operators conducting tests to determine the rates of emission of hydrogen chloride (HCl) from kilns, in-line kiln/raw mills and associated bypass stacks at portland cement manufacturing facilities, for use in applicability determinations under §63.1340 are permitted to use Method 320 or Method 321 of appendix A of this part.

(b) Owners or operators conducting tests to determine the rates of emission of hydrogen chloride (HCl) from kilns, in-line kiln/raw mills and associated bypass stacks at portland cement manufacturing facilities, for use in applicability determinations under §63.1340 are permitted to use Methods 26 or 26A of appendix A to part 60 of this chapter.

(c) Owners or operators conducting tests to determine the rates of emission of specific organic HAP from raw material dryers, kilns and in-line kiln/raw mills at portland cement manufacturing facilities, for use in applicability determinations under §63.1340 of this subpart are permitted to use Method 320 of appendix A to this part, or Method 18 of appendix A to part 60 of this chapter.

NOTIFICATION, REPORTING AND RECORDKEEPING

**§63.1353 Notification requirements.**

(a) The notification provisions of 40 CFR part 63, subpart A that apply and those that do not apply to owners and operators of affected sources subject to this subpart are listed in Table 1 of this subpart. If any State requires a notice that contains all of the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(b) Each owner or operator subject to the requirements of this subpart shall comply with the notification requirements in §63.9 as follows:

(1) Initial notifications as required by §63.9(b) through (d). For the purposes of this subpart, a Title V or 40 CFR part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of

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this chapter and has received delegation of authority from the EPA. Permit applications shall be submitted by the same due dates as those specified for the initial notification.

(2) Notification of performance tests, as required by §§63.7 and 63.9(e).

(3) Notification of opacity and visible emission observations required by §63.1349 in accordance with §§63.6(h)(5) and 63.9(f).

(4) Notification, as required by §63.9(g), of the date that the continuous emission monitor performance evaluation required by §63.8(e) of this part is scheduled to begin.

(5) Notification of compliance status, as required by §63.9(h).

#### §63.1354 Reporting requirements.

(a) The reporting provisions of subpart A of this part that apply and those that do not apply to owners or operators of affected sources subject to this subpart are listed in Table 1 of this subpart. If any State requires a report that contains all of the information required in a report listed in this section, the owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(b) The owner or operator of an affected source shall comply with the reporting requirements specified in §63.10 of the general provisions of this part 63, subpart A as follows:

(1) As required by §63.10(d)(2), the owner or operator shall report the results of performance tests as part of the notification of compliance status.

(2) As required by §63.10(d)(3), the owner or operator of an affected source shall report the opacity results from tests required by §63.1349.

(3) As required by §63.10(d)(4), the owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under §63.6(i) shall submit such reports by the dates specified in the written extension of compliance.

(4) As required by §63.10(d)(5), if actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan specified in §63.6(e)(3), the owner or operator shall state such information in a semiannual report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report may be submitted simultaneously with the excess emissions and continuous monitoring system performance reports; and

(5) Any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the owner or operator shall make an immediate report of the actions taken for that event within 2 working days, by telephone call or facsimile (FAX) transmission. The immediate report shall be followed by a letter, certified by the owner or operator or other responsible official, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

(6) As required by §63.10(e)(2), the owner or operator shall submit a written report of the results of the performance evaluation for the continuous monitoring system required by §63.8(e). The owner or operator shall submit the report simultaneously with the results of the performance test.

(7) As required by §63.10(e)(2), the owner or operator of an affected source using a continuous opacity monitoring system to determine opacity compliance during any performance test required under §63.7 and described in §63.6(d)(6) shall report the results of the continuous opacity monitoring system performance evaluation conducted under §63.8(e).

(8) As required by §63.10(e)(3), the owner or operator of an affected source equipped with a continuous emission monitor shall submit an excess emissions and continuous monitoring system

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performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit.

(9) The owner or operator shall submit a summary report semiannually which contains the information specified in §63.10(e)(3)(vi). In addition, the summary report shall include:

(i) All exceedences of maximum control device inlet gas temperature limits specified in §63.1344(a) and (b);

(ii) All failures to calibrate thermocouples and other temperature sensors as required under §63.1350(f)(7) of this subpart; and

(iii) All failures to maintain the activated carbon injection rate, and the activated carbon injection carrier gas flow rate or pressure drop, as applicable, as required under §63.1344(c).

(iv) The results of any combustion system component inspections conducted within the reporting period as required under §63.1350(i).

(v) All failures to comply with any provision of the operation and maintenance plan developed in accordance with §63.1350(a).

(10) If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the total operating time for the reporting period, the owner or operator shall submit an excess emissions and continuous monitoring system performance report along with the summary report.

#### **§63.1355 Recordkeeping requirements.**

(a) The owner or operator shall maintain files of all information (including all reports and notifications) required by this section recorded in a form suitable and readily available for inspection and review as required by §63.10(b)(1). The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. The files may be maintained on microfilm, on a computer, on floppy disks, on magnetic tape, or on microfiche.

(b) The owner or operator shall maintain records for each affected source as required by §63.10(b)(2) and (b)(3) of this part; and

(1) All documentation supporting initial notifications and notifications of compliance status under §63.9 of this part;

(2) All records of applicability determination, including supporting analyses; and

(3) If the owner or operator has been granted a waiver under §63.8(f)(6), any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements.

(c) In addition to the recordkeeping requirements in paragraph (b) of this section, the owner or operator of an affected source equipped with a continuous monitoring system shall maintain all records required by §63.10(c).

#### OTHER

#### **§63.1356 Exemption from new source performance standards.**

(a) Except as provided in paragraphs (a)(1) and (a)(2) of this section, any affected source subject to the provisions of this subpart is exempted from any otherwise applicable new source performance standard contained in subpart F or subpart OOO of part 60 of this chapter.

(1) Reserved

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(2) Reserved

(b) The requirements of subpart Y of part 60 of this chapter, "Standards of Performance for Coal Preparation Plants," do not apply to conveying system transfer points used to convey coal from the mill to the kiln that are associated with coal preparation at a portland cement plant that is a major source under this subpart.

#### **§63.1357 Temporary, conditioned exemption from particulate matter and opacity standards.**

(a) Subject to the limitations of paragraphs (b) through (f) of this section, an owner or operator conducting PM CEMS correlation tests (that is, correlation with manual stack methods) is exempt from:

(1) Any particulate matter and opacity standards of part 60 or part 63 of this chapter that are applicable to cement kilns and in-line kiln/raw mills.

(2) Any permit or other emissions or operating parameter or other limitation on workplace practices that are applicable to cement kilns and in-line kiln raw mills to ensure compliance with any particulate matter and opacity standards of this part or part 60 of this chapter.

(b) The owner or operator must develop a PM CEMS correlation test plan. The plan must be submitted to the Administrator for approval at least 90 days before the correlation test is scheduled to be conducted. The plan must include:

(1) The number of test conditions and the number of runs for each test condition;

(2) The target particulate matter emission level for each test condition;

(3) How the operation of the affected source will be modified to attain the desired particulate matter emission rate; and

(4) The anticipated normal particulate matter emission level.

(c) The Administrator will review and approve or disapprove the correlation test plan in accordance with §63.7(c)(3)(i) and (iii). If the Administrator fails to approve or disapprove the correlation test plan within the time period specified in §63.7(c)(3)(iii), the plan shall be considered approved, unless the Administrator has requested additional information.

(d) The stack sampling team must be on-site and prepared to perform correlation testing no later than 24 hours after operations are modified to attain the desired particulate matter emissions concentrations, unless the correlation test plan documents that a longer period is appropriate.

(e) The PM and opacity standards and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for the purposes of conducting tests to correlate PM CEMS with manual method test results, including all runs and conditions, except as described in this paragraph. Where additional time is required to correlate a PM CEMS device, a source may petition the Administrator for an extension of the 96-hour aggregate waiver of compliance with the PM and opacity standards. An extension of the 96-hour aggregate waiver is renewable at the discretion of the Administrator.

(f) The owner or operator must return the affected source to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed.

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**§63.1358 Implementation and Enforcement.**

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in Sec. Sec. 63.1340, 63.1342 through 63.1348, and 63.1351.

(2) Approval of major alternatives to test methods under Sec. 63.7(e)(2)(ii) and (f), as defined in Sec. 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under Sec. 63.8(f), as defined in Sec. 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under Sec. 63.10(f), as defined in Sec. 63.90, and as required in this subpart.

**§63.1359 [Reserved]**



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