Memorandum

Florida Department of
Environmental Protection

To: Trina Vielhauer, Bureau of Air Regulation

Through: Jeff Koerner, New Source Review Section

From: Christy DeVore, New Source Review Section

Date: March 23, 2011

Subject: Draft Minor Source Air Construction Permit
Project No. 0530021-031-AC
CEMEX Construction Materials Florida, LLC, Brooksville South Cement Plant
Temporary Trials of Alternative Fuels, Kiln 2 System

Attached for your review is a draft minor air construction permit package for the existing Brooksville South Cement Plant, which is located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida. Briefly, the draft permit authorizes temporary trials to co-fire coal with the following alternative fuel materials in the existing cement kiln to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel, reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification used oil generated off-site. EPA amended the definition of solid waste provided under 40 CFR Part 241 to add an exclusion for "non-hazardous secondary wastes" that would otherwise qualify as solid waste under 40 CFR Part 241. Tire scraps and biomass, including agricultural byproduct, are defined as traditional fuels and not solid waste. The other alternative fuels meet the legitimacy criteria in 40 CFR Part 241 and are not defined as solid waste. The draft permit limits the amounts of each material and each trial is limited to no more than 60 operational days of firing the alternative fuel material. The following emissions will be continuously monitored during each trial: carbon monoxide, nitrogen oxides, sulfur dioxide, total hydrocarbons and stack opacity. Stack testing is required for: dioxin/furans, hydrochloric acid and metals while firing tire-derived fuel; particulate matter while firing one of the agricultural fibrous organic byproducts; and pesticides while firing non-chlorinated agricultural plastics. The plant must continue to comply with all emissions standards in the current Title V air operation permit.

The attached Technical Evaluation and Preliminary Determination provides a detailed description of the project and the rationale for permit issuance. The project is not considered a new source review reform project. Day 90 of the permitting time clock is April 14, 2011. I recommend your approval of the attached draft permit package.

Attachments

TLV/jfk/scd

P.E. CERTIFICATION STATEMENT

PERMITTEE

CEMEX Construction Materials, LLC
10311 Cement Plant Road
Brooksville, Florida 34601

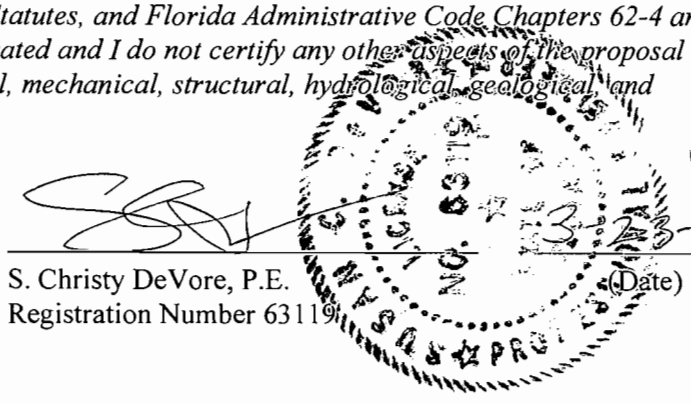
Draft Permit No. 0530021-031-AC
Temporary Trials of Alternative Fuels
Brooksville South Cement Plant
Hernando County, Florida

PROJECT DESCRIPTION

The CEMEX Brooksville South Cement Plant proposes temporary trials to co-fire coal with the following alternative fuel materials in the existing cement kiln (Kiln 2) to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel, reject roofing shingles, clean woody biomass; agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification used oil generated off-site. Tire scraps and biomass, including agricultural byproduct, are defined as traditional fuels and not solid waste. The other alternative fuels meet the legitimacy criteria in 40 CFR Part 241 and are not defined as solid waste. The draft permit limits the amounts of each material and each trial is limited to no more than 60 operational days of firing the alternative fuel material. The following emissions will be continuously monitored during each trial: carbon monoxide, nitrogen oxides, sulfur dioxide, total hydrocarbons and stack opacity. Stack testing is required for: dioxin/furans, hydrochloric acid and metals while firing tire-derived fuel; particulate matter while firing one of the agricultural fibrous organic byproducts; and pesticides while firing non-chlorinated agricultural plastics. The plant must continue to comply with all emissions standards in the current Title V air operation permit.

This project is subject to the general preconstruction review requirements in Rule 62-212.300, Florida Administrative Code (F.A.C.) and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. The Department's full review of the project and rationale for issuing the draft permit is provided in the Technical Evaluation and Preliminary Determination.

I HEREBY CERTIFY *that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify any other aspects of the proposal (including, but not limited to, the electrical, civil, mechanical, structural, hydrological, geological, and meteorological features).*



S. Christy DeVore, P.E. (Date)
Registration Number 63119

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

March 31, 2011

Sent by Electronic Mail – Received Receipt Requested

Jim Daniel, Cement Plant Manager
CEMEX Construction Materials, LLC
10311 Cement Plant Road
Brooksville, Florida 34601

Re: Project No. 0530021-031-AC
CEMEX Construction Materials, LLC, Brooksville South Cement Plant
Temporary Trials of Alternative Fuels, Kiln 2 System

Dear Mr. Daniel:

On January 14, 2011, you submitted an application requesting temporary trials of alternative fuels including the following: non-chlorinated agricultural plastics, tire-derived fuel, reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification used oil generated off-site. The existing facility is located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida. Enclosed are the following documents: the Written Notice of Intent to Issue Air Permit; the Public Notice of Intent to Issue Air Permit; the Technical Evaluation and Preliminary Determination; and the Draft Permit with Appendices. The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, Christy DeVore, at 850/717-9085.

Sincerely,

Trina Vielhauer, Chief
Bureau of Air Regulation

FOR

Enclosures

TLV/jfk/scd

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

In the Matter of an
Application for Air Permit by:

CEMEX Construction Materials, LLC
10311 Cement Plant Road
Brooksville, Florida 34601

Authorized Representative:
Jim Daniel, Cement Plant Manager

Project No. 0530021-031-AC
Minor Air Construction Permit

Brooksville South Cement
Temporary Trials of Alternative Fuels
Hernando County, Florida

Facility Location: CEMEX Construction Materials, LLC operates the existing Brooksville South Cement Plant, located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida.

Project: The applicant proposes temporary trials to co-fire coal with the following alternative fuel materials in the existing cement kiln (Kiln 2) to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel, reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification used oil generated off-site. The draft permit limits the amounts of each material and each trial is limited to no more than 60 operational days of firing the alternative fuel material. The following emissions will be continuously monitored during each trial: carbon monoxide, nitrogen oxides, sulfur dioxide, total hydrocarbons and stack opacity. Stack testing is required for: dioxin/furans, hydrochloric acid and metals while firing tire-derived fuel; particulate matter while firing one of the agricultural fibrous organic byproducts; and pesticides while firing non-chlorinated agricultural plastics. The plant must continue to comply with all emissions standards in the current Title V air operation permit. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for 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 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/717-9000.

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 or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment 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, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed 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 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) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 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 concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. 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. All comments filed will be made available for public inspection.

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, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, 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 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 (in a proceeding initiated by another party) 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 interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (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 including an explanation of how the alleged facts relate to the specific rules or statutes; 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 Written Notice of Intent to Issue Air Permit. 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 in this proceeding.

Executed in Tallahassee, Florida.

FOR Jeffery A. Koerner

Trina 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 Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on 3/31/11 to the persons listed below.

Mr. Jim Daniel, Cement Plant Manager, CEMEX (jdaniel@cemexusa.com)
Mr. George Townsend, Environmental Manager, CEMEX (gtownsend@cemexusa.com)
Mr. Max Lee, Ph.D., P.E., Koogler and Associates, Inc. (mlee@kooglerassociates.com)
Mr. John Koogler, Ph.D., P.E., Koogler and Associates, Inc. (jkoogler@kooglerassociates.com)
Ms. Cindy Zang-Torres, DEP Southwest District Office (cindy.zhang-torres@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
Mr. David Langston, EPA Region 4 (langston.david@epa.gov)
Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@dep.state.fl.us)

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) 5/31/11 (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Bureau of Air Regulation
Draft Air Construction Permit
Project No. 0530021-031-AC
CEMEX Construction Materials, LLC, Brooksville South Cement Plant
Hernando County, Florida

Applicant: The applicant for this project is CEMEX Construction Materials, LLC. The applicant's authorized representative and mailing address is: Jim Daniel, Cement Plant Manager, CEMEX Construction Materials, LLC, Brooksville South Cement Plant, 10311 Cement Plant Road, Brooksville, Florida 34601.

Facility Location: CEMEX Construction Materials, LLC operates the existing Brooksville South Cement Plant, located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida.

Project: The applicant proposes to conduct temporary trials of the following alternative fuel materials in existing Kiln No. 2: non-chlorinated agricultural plastic film, tire-derived fuel and tire fluff, manufacturer reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts (e.g., peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts and animal bedding), pre-consumer reject paper, carpet-derived fuel and on-specification used oil fuel that has been generated off-site. Currently, the facility is permitted to use on-specification used oil fuel that has been generated on-site. These materials have a useful heating value and will be co-fired with coal to offset some of the coal needed to produce heat for the kiln.

The purpose of the trial is to evaluate the operational feasibility of each material as an alternative fuel to supplement coal. Each trial of alternative fuel material will occur separately from other trial materials and be limited in quantity. Each trial is planned for less than 60 operational days. Material suppliers will provide a representative analysis of each delivery of materials including the following basic constituents: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, cadmium, chromium, copper, lead and mercury). In addition, agricultural film will be analyzed for pesticides, bromine and thalium. Tire-derived fuel will be analyzed for zinc and manufacturer reject roof shingles will be analyzed for manganese, nickel and zinc. During each trial period, the following emissions will be continuously monitored: nitrogen oxides, sulfur dioxide, volatile organic compounds (as total hydrocarbons), carbon monoxide and opacity. Stack testing will be conducted for particulate matter emissions while firing a material expected to generate the highest emissions. Samples of each alternative fuel material taken by the plant during each trial will be analyzed for the same constituents as in the materials suppliers analysis. The results of the trial burn may be used to support a subsequent request for permanent authorization to fire one or more of these alternative fuels.

Permitting Authority: Applications for 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 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Bureau of Air Regulation in the Department of Environmental Protection's Division of Air Resource Management. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/717-9000.

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 the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant (exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site by entering draft permit number: http://www.dep.state.fl.us/air/emission/apds/default.asp.

(Public Notice to be Published in the Newspaper)

Notice of Intent to Issue Air 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 proposed equipment 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, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed 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.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of this Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. 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. All comments filed will be made available for public inspection.

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 (Telephone: 850/245-2241). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 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 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 (in a proceeding initiated by another party) 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 when and how the petitioner received notice of the agency action or proposed decision; (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 including an explanation of how the alleged facts relate to the specific rules or statutes; 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 to Issue Air Permit. 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.

(Public Notice to be Published in the Newspaper)

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

CEMEX Construction Materials Florida, LLC

Brooksville South Cement Plant
Facility ID No. 0530021
10311 Cement Plant Road
Brooksville, Florida

PROJECT

Project No. 0530021-031-AC
Temporary Trial of Multiple Alternative Fuels

COUNTY

Hernando County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
New Source Review Section
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

March 23, 2011

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of the draft permit.

Facility Description and Location

CEMEX Construction Materials Florida, LLC operates an existing Portland cement manufacturing plant, which is collocated with an existing power plant. The cement plant is categorized under Standard Industrial Classification Code No. 3241. The power plant is categorized as SIC No. 4911 for electric power services. The Brooksville South Cement Plant and Central Power and Lime (CPL) Power Plant are located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida. The UTM coordinates of the existing facility are Zone 17, 360.0 kilometers (km) East, and 3162.5 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Project Summary

The applicant proposes individual short-term trials of alternative fuel materials including: non-chlorinated agricultural plastics, tire-derived fuel including tirefluff, manufacturer reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification (on-spec) oil generated off-site.

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Description of the Existing Pyroprocessing System

The cement plant consists of two Portland Cement lines (Lines 1 and 2) including associated kilns (Kilns 1 and 2) and clinker coolers (Coolers 1 and 2). Kiln 2 is a F.L. Smidth design with a dry preheater/precalciner kiln, a design which improves the thermal efficiency and production capacity by adding material feed separators (cyclone vessels) arranged vertically in a preheater tower before the kiln. Hot exhaust gas passes through the

material feed separators in the preheater tower counter to the raw material flow, which provides heat transfer between the gas and solid streams. The improved heat transfer allows the kiln length to be reduced as well as dry the raw materials in the raw mill.

Coal and petroleum coke are burned in the precalciner combustion chamber at the inlet to the kiln as well as at the main burner at the discharge end of the kiln. Temperatures reach approximately 3000° F in the main burner flame, 2200° F in the kiln and 1800° F in the calciner. The following schematic represents the conditions of a modern preheater/pre-calciner kiln.

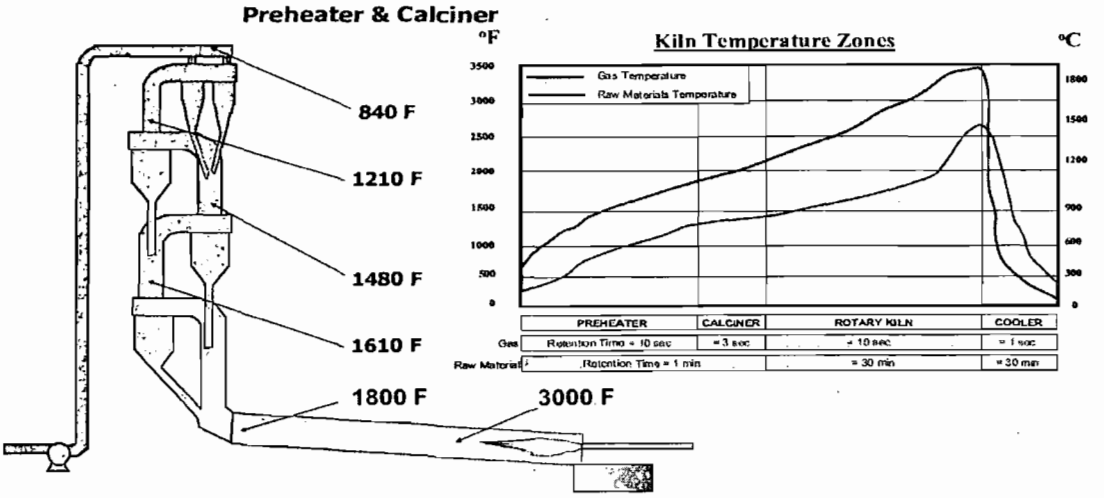


Figure 1. Kiln Temperatures and Retention Times

As shown, gas temperatures in the calciner are approximately 1800° F with a 3 second retention time. Gas temperatures at the inlet to the kiln exceed 2000° F. The high temperatures and long retention times provide excellent combustion of fuels. Figure 2 is a process flow diagram for a dry process preheater/pre-calciner cement plant.

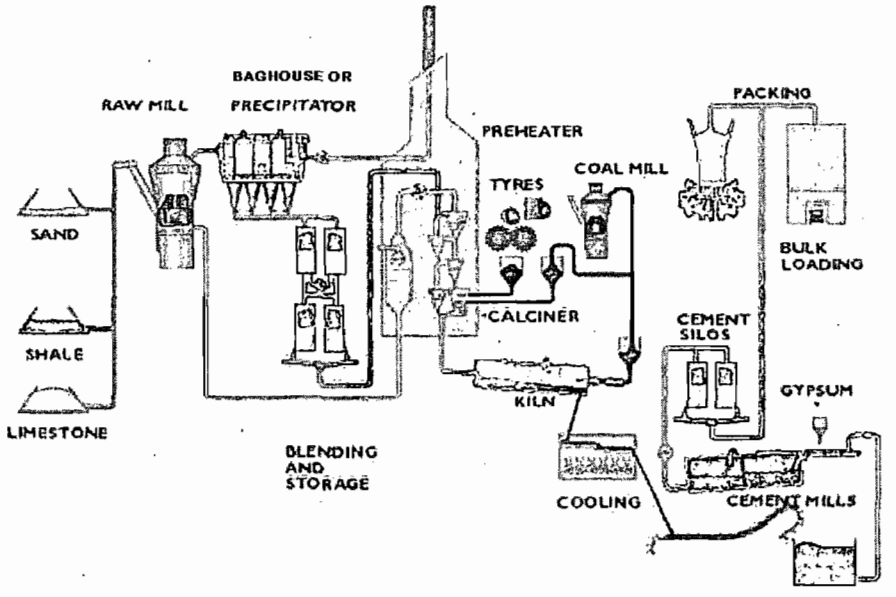


Figure 2. Process Flow Diagram - Dry Process Preheater/Precalciner Cement Plant [1]

[1] From the Department's Project No. 1210465-004-AC; Originally from Blue Circle Home Page at http:/www.cement.bluecircle.co.uk; Teleconference between A.A. Linero (Florida DEP) and W. McLendon (Blue Circle) with permission to use modified version of Blue Circle cement process diagram; March 19, 2001.

As shown, an induced draft fan pulls hot exhaust gases from the kiln through the preheater tower, the raw mill, a baghouse and out the stack. Raw materials (limestone, sand and iron ore) are fed into the raw mill, which grinds and mixes the raw materials to form raw meal. Instead of the typical practice for an in-line vertical raw mill, the F.L. Smidth design incorporates a ball mill for the raw mill that has several benefits including assistance (by generated friction heat) in drying of the raw materials. Raw meal is transferred to the raw meal storage silo countercurrent to the hot exhaust gas, which is used to dry the raw meal. Raw meal is fed into the preheater tower, where the solid materials again flow countercurrent to the hot exhaust gas, which preheats the raw meal before being introduced to the pyroprocessing kiln. Instead of the typical practice using a ball mill for product cement grinding at the finish mill, this F.L. Smidth design incorporates a vertical mill for the finish mill that has some process benefits, but which (at times) requires use of a heater to assist in driving off moisture (from ambient air) from the finished cement prior to storage and shipping. For that heating, there is a small 45 million Btu per hour (Btu/hr) propane/diesel-fueled dryer within the cement finish mill. The kiln transforms the raw meal into cement clinker, which is cooled and eventually ground to size in the finish mill with other additives to form the final cement product. Kiln 2 and Clinker Cooler 2 exhaust gases prior to exiting via the common stack.

For the Brooksville South Cement Plant, particulate matter from the kiln and the raw mill are controlled by the baghouse and not the electrostatic precipitator shown in the above figure. Dust collected in the baghouse is diverted to the raw meal storage silo since this material is basically raw meal. This type of pyroprocessing system eliminates cement kiln dust (CKD), which used to be handled as a waste product. When the raw mill is off line, the raw meal silo contains enough raw meal to continue operating the kiln for approximately two days until the raw mill is brought back on line.

Emissions of nitrogen oxides are controlled by adjustments to the multistage combustion system timing, fuel input rates and a selective non-catalytic reduction (SNCR) system. Emissions of nitrogen oxides (NO_X), sulfur dioxide (SO_2), carbon monoxide (CO) and total hydrocarbons (THC) are monitored with certified continuous emissions monitoring systems (CEMS). Stack opacity is monitored with a certified continuous opacity monitoring system (COMS).

Temporary Short-Term Trials of Multiple Alternative Fuels

On January 14, 2011, the applicant requested short-term operational trials to co-fire coal in existing Kiln No. 2 with the following materials: non-chlorinated agricultural plastics, tire-derived fuel including tirefluff, manufacturer reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts (e.g., peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts and animal bedding), pre-consumer reject paper, carpet derived fuel and on-specification (on-spec) oil generated off-site. The shredded and sized materials will be pneumatically introduced into the calciner portion of the kiln through a feed duct specifically designed for this purpose. The purpose of the short-term trials is to evaluate the operational feasibility of these materials as alternative fuels for supplementing coal in the kiln. A Notice of Application for these alternative fuels was published in The St. Petersburg Times on February 13, 2011.

Non-chlorinated agricultural plastics are the plastics used in agriculture and silviculture to prevent weed growth, control soil erosion and moisture exposure. The plastics are a combination of low-density polyethylene (LDPE) and/or high-density polyethylene (HDPE) non-chlorinated plastics. The materials will be provided by suppliers such as Marpan Recycling, a construction and demolition debris (C&D) processor in Tallahassee through Southern Waste Information eXchange, Inc. (SWIX). The non-chlorinated agricultural plastics will be ground by the supplier. The energy content for the polyethylene plastics is more than 50% higher than coal. The high temperatures, long residence times and scrubbing that takes place within a cement kiln calciner provides an environment conducive to the efficient combustion of agricultural plastic. Emissions are estimated to be similar to or less than coal emissions.

Michigan's Department of Environmental Quality issued a permit to St. Mary's Cement, Permit No. 242-09, for a trial burn of non-chlorinated plastic. The permit required analyses of the mercury, chlorine and Btu content. The permit also required reporting of total chromium, lead, manganese and total mercury emission rates. There has been an increased interest in using non-chlorinated agricultural plastics as an alternative fuel. SWIX has applied

for an EPA Region 4 grant to use agricultural plastic as an alternative fuel, including in the cement industry. A letter of support for the agricultural plastic as an alternative fuel was written by Raoul Clark, Administrator of DEP's Waste Reduction Section. The benefits include reduced open field burning of non-chlorinated agricultural plastics and resulting air pollution, reduced land-filling of non-chlorinated agricultural plastics, savings to farmers for landfill disposal costs, landfill space, energy savings and resource conservation, potential reduced emissions in the cement kiln compared to coal and reduced greenhouse gas emissions.

Tire-derived fuel and tirefluff (TDF) is readily available and the heating value is higher than bituminous coal. Tire-derived fuel contains processed tires which may include metal while tirefluff is the shredded materials from the crumb of tires with no metal. The metal from tire-derived fuel includes the radial steel belt, which can be beneficial in the production of cement clinker. TDF will efficiently combust within a cement kiln calciner due to the high temperatures and long residence times and is currently done in many existing cement kilns. Air Construction Permit No. 0530021-009-AC (PSD-FL-351) authorized the installation of a tire injection mechanism system for firing of whole tires and the facility currently burns whole tires.

Manufacturer reject roofing shingles will be certified to be asbestos free by the manufacturer prior to acceptance by the facility. The shingles will be ground by the supplier. The sulfur content of shingles is 0.79%, which results in approximately the same SO_2 emissions as coal (0.67% sulfur content) on a mass basis. NO_X emissions are expected to be lower than coal with CO emissions similar to coal. Other emissions are not expected to increase.

Michigan's Department of Environmental Quality issued a permit to St. Mary's Cement, Permit No. 238-09, for a trial burn of asphalt shingles. The permit required lab testing for ultimate analysis and trace elements fuel analysis as well as chlorine and heating value. CO, NO_X and SO_2 emissions data were collected by CEMS. The plant found two issues: the shingles could create dust during the handling stages and the level of lead was determined to be slightly higher than found in coal. Industry tests show that lead is captured by the pyroprocessing system with efficiencies greater than 99%, much of which is bound to the clinker product. Lead in the exhaust will also be captured in the high-efficiency baghouse.

Clean woody biomass is readily available and includes clean untreated lumber, tree stumps, millings, shavings and processed pellets made from wood or other forest residues. The Brooksville South Cement Plant will ensure these materials include no secondary residues such as plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim or sheet goods. The source will come from permitted recycling facilities or contracted companies that service tree trimming operations. Depending on the material content, there may be slight increases of PM/PM_{10}, SO_2 and VOC when firing clean woody biomass versus firing an equivalent heat input rate of 3,895 tons of coal.

Agricultural fibrous organic byproducts include peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts and animal bedding. The Brooksville South Cement Plant is within farming areas in which these agricultural byproducts are readily available. The design and operation of cement kilns make it possible to feed many different types of fuel into the system for energy recovery at low cost to farmers. The expected emissions are similar to clean woody biomass. The applicant requests the ability to include other similar materials.

Pre-consumer reject paper will be supplied by such companies as International Paper Products Corporation or waste handlers that certify and manifest to only supply pre-consumer reject paper. These materials are typically outdated paper printings. This may include printing and writing paper, pre-consumer household and sanitary paper, wrapping and packaging paper, linerboard, Kraft liner and fluting. The chlorine content of coal and reject paper are similar. The emissions are expected to be similar to clean woody biomass.

Carpet-derived fuel (CDF) will come from the approximately 2 million tons of carpet replaced in the United States annually. Carpet has a similar heating value to coal and contains a significant fraction of calcium carbonate ($CaCO_3$) in the backing material, a beneficial component of cement production. The materials will be supplied by certified waste haulers in the form of processed CDF. This material has been tested at the Lehigh cement plant in Evansville, Pennsylvania. The results at that plant showed insignificant changes for CO, NO_X and PM, and an incongruent increase of SO_2. The sulfur content of carpet is typically 0.1% while coal is 0.67% by weight. The

chlorine content ranges from 52 to 77 ppm (milligrams/kilograms), which is well below the chlorine content of coal. Emissions from firing CDF are not expected to increase.

On-spec used fuel oil generated off-site. On-spec used fuel oil generated on-site is currently permitted for use by the facility. For this project, the applicant proposes to fire on-spec used oil generated off-site in the existing oil burners of the kiln. On-spec oil is commonly used in industrial boilers and furnaces (e.g. asphalt plants) and must meet the federal specifications in 40 CFR 279.

Summary of Expected Emissions

The table summarizes the expected heating values and amounts of alternative fuel materials requested for the short-term trials. Based on the heating values and requested amounts, the alternative fuel materials would displace 670,750 MMBtu of heat input to the kiln or approximately 26,830 tons of coal. The materials will only be introduced into the precalciner section of the kiln at temperatures of approximately 1600 to1800° F with an exhaust gas retention time of 3 seconds.

Alternative Fuel Material	Properties		
	Btu/lb	Tons	% Moisture (as received)
Agricultural Plastic	18,600	3,000	0.5
Tires, TDF	15,688	4,500	0.6
Shingles, Rejects	5,842	10,000	3.1
Clean Woody Biomass	5,200	10,000	40
Agricultural byproducts	1500	20,000	50
Paper, Pre-Consumer	6,500	5,000	16
Carpet, CDF	9,194	6,500	0.5
Off-Site On-spec Used Oil	19,036	400 (111,111 gallons)	--
Total	---	59,400	---
Equivalent Coal Displaced	12,500	26,830	---

Table A. Summary of Alternative Fuel Materials

At the expected charging rates, the applicant believes any changes in emissions from the kiln compared with coal will be negligible. CO and VOC emissions will remain low due to the high temperatures and long residence time. SO_2 and the acid gas emissions will be removed by the natural scrubbing of limestone in the kiln. NO_X emissions are not expected to increase from these alternative materials, but can be controlled by the existing SNCR system.

Mercury input to the kiln will be captured in the baghouse dust, which is cycled back into the pre-heater tower as a raw material. If the raw mill is shut down, mercury will eventually exhaust through the baghouse. The proposed alternative fuel materials contain minimal amounts of mercury. Less volatile metals will be retained in the clinker product or cooled and removed by the baghouse. As shown in the following, many of the metals are expected to remain in the clinker product.

Metal	% of Input Emitted	% of Input Retained	Metal	% of Input Emitted	% of Input Retained
Antimony	0.733	99.267	Beryllium	0.057	99.945
Thallium	0.664	99.336	Zinc	0.052	99.948
Silver	0.574	99.426	Arsenic	0.012	99.987
Cadmium	0.503	99.496	Chromium	0.011	99.988
Lead	0.269	99.722	Vanadium	0.001	99.999
Barium	0.096	99.904	Nickel	0.026	99.974

Table B. Summary of Input Metals Emitted and Retained with Cement Kilns[2]

[2] Source: Herat, Sunil, Use of Cement Kilns in Managing Solid and Hazardous Wastes: Implementation in Australia, Griffith University 1994.

In Table C, the applicant estimates emissions changes expected from firing the alternative fuel materials compared to an equivalent amount of displaced coal.

	SO_2 Inc./Dec. (tons)	NO_x Inc./Dec. (tons)	CO Inc./Dec. (tons)	VOC Inc./Dec. (tons)	PM/PM10 Inc./Dec. (tons)	PM2.5[a] Inc./Dec. (tons)	Pb Inc./Dec. (lbs)	Hg Inc./Dec. (lbs)
Fugitives	0.00	0.00	0.00	0.00	1.71	0.15	0.00	0.00
Agricultural Film	0.00	0.00	0.00	0.00	0.00	0.00	-5.78	-1.47
Agricultural Waste	0.69	-2.84	8.19	0.76	2.75	1.37	-10.82	-1.20
Carpet-Derived Fuel	0.00	0.00	0.00	0.00	0.00	0.00	9.92	2.52
Clean Woody Biomass	1.20	-4.92	14.20	1.32	4.77	2.38	-18.99	-4.05
Manufacturer Reject Roofing Shingles	0.18	-20.01	0.00	1.03	0.00	0.00	20.55	-3.25
Preconsumer Paper	0.75	-3.08	8.87	0.82	2.98	1.49	-3.43	-2.93
Tire Derived Fuel	-0.08	-3.87	22.77	-0.08	-0.24	-0.12	-0.74	-5.76
On-Spec Used Oil	11.94	-2.07	-2.24	9.64	0.80	0.40	5.20	-0.71
	↓	↓	↓	↓	↓	↓	↓	↓
Total	14.70	-36.79	51.80	13.49	12.76	5.68	-4.10	-16.85
	↓	↓	↓	↓	↓	↓	↓	↓
PSD Threshold	40	40	100	40	25/15	10	1200	permit: 122 lb/yr

a. PM2.5 from alternative fuel firing conservatively estimated at 50% of fraction of PM.

Table C. Emissions Increases for Alternative Fuel Materials

It is noted that the current PSD threshold for mercury is 200 lb, however this facility has a permitted limit of 122 lb/yr. As shown, the applicant predicts that the project will not result in significant emissions increases subject to PSD preconstruction review.

During the trial period, the applicant proposes to conduct the short-term trials using the following procedures.

1. NO_X, SO_2, CO and THC emissions will be continuously monitored with the existing certified CEMS.
2. Opacity will be continuously monitored with the existing certified COMS.
3. Particulate matter will be monitored through stack testing.
4. Mercury emissions will be monitored based on a mass-balance calculation.
5. Each alternative fuel will be co-fired with coal in the cement kiln at low, medium and high feed rates to determine the maximum feed rate and best operational feed rate.
6. No more than 3,000 tons of non-chlorinated agricultural plastics, 4,500 tons of tire derived fuel, 10,000 tons of manufacturer reject shingles, 10,000 tons of clean woody biomass, 20,000 tons of agricultural byproducts, 5,000 tons of pre-consumer paper, 6,500 tons of carpet derived fuel and 400 tons of on-spec used oil generated off-site will be fired over a period of 60 operating days for each fuel. No more than 5,000 tons of agricultural byproducts will be stored on site at one time.

7. It is estimated that material suppliers will deliver approximately 2,970 truckloads of alternative fuels to the Brooksville South Cement Plant during this trial assuming 20 tons per truck.
8. The Brooksville South Cement Plant will sample and analyze each material for the following:
   a. *All Materials*: heating value, moisture content, density, volatiles, ash, sulfur, chlorine, fluorine and mercury.
   b. *Non-Chlorinated Agricultural Plastics*: arsenic, bromine, cadmium, chromium, lead, thallium and pesticides.
   c. *TDF*: lead and zinc.
   d. *Roofing Shingles*: lead, cadmium, chromium, manganese, nickel and zinc.
   e. *Clean Woody Biomass*: copper, chromium and arsenic.
9. The alternative fuels will be delivered in a covered truck, unloaded and stored most likely in a trailer or under cover on top of a paved or compacted clay surface. Materials will be stored in separate piles, most likely in trailers, and visibly marked. Alternative fuel materials delivered to the site shall be burned in the kiln during the 60-day trial or removed from the site within 7 days of completing the trial. A water spray system will be used to control fugitive dust as necessary; otherwise, the materials shall be kept dry to facilitate burning.
10. The permittee will submit a report to the Department summarizing and discussing the short-term trial of each alternative fuel and the actual emissions.

The results of the short-term trial may be used to support a subsequent request for permanent authorization to fire one or more of these alternative fuels or authorization for a long-term trial.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 5 tons per year or more of lead;
- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, Portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a facility is or will be a PSD major stationary source, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (F); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 microgram per cubic meter ($\mu g/m^3$) 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

As previously shown in Table C, the applicant expects that co-firing coal with alternative fuel materials will result in negligible changes in PSD pollutant emissions for the following reasons.

- CO and VOC emissions will be controlled by the high temperatures and long residence time in the calciner (1600 to 1800° F for 3 seconds), which was specifically designed with a separate calciner chamber for firing alternative fuels. CO will be monitored continuously by certified CEMS and THC will be monitored continuously with a certified CEMS as a surrogate for VOC emissions.
- NO_X emissions will be controlled with the existing SNCR system by adjusting the ammonia injection rate as necessary. NO_X emissions will be continuously monitored by certified CEMS.
- Particulate matter will be controlled with the existing baghouse. The combustion of alternative fuel materials is not expected to generate any more particulate matter than coal combustion considering the largest portion of particles removed by the baghouse are raw materials used in making cement.
- SO_2 and other acid gas emissions increases will be negligible because of the natural scrubbing with highly alkaline limestone as a raw material in the cement kiln.
- Based on previous studies for this industry, more than 99.99% of the lead will be captured and bound in the cement clinker and retained in the final cement product.

Total project emissions are not expected to exceed the PSD significant emissions rates; therefore, the project is not subject to PSD preconstruction review. The project is for short-term (60-days) trials of alternative fuels on a temporary basis. Once the trial ends, the alternative materials can no longer be fired. The purpose of each trial is to gather information in support of a permanent request. At that time, the Department will require a comparison of projected actual emissions to baseline actual emissions to determine PSD applicability with the selected alternative fuel materials.

3. DEPARTMENT REVIEW

Operating Capacity and Production

The Brooksville South Cement Plant's construction permit for Kiln 2 was issued July 6, 2005 and has a maximum permitted Portland cement production capacity of 1,022,000 tons of clinker per year. Florida's cement production peaked in 2007, but dropped in 2008 and then dropped again in 2009 with the downturn in the economy. Currently, the Brooksville South Cement Plant operates Kiln 2, but not Kiln 1 due to the decreased demand.

The alternative materials will be supplied by pneumatic injection into the pyroprocessing system by a temporary feeding system at the base of the precalciner tower. Alternative materials are blown pneumatically into the pre-

calciner through an injection porthole.

Unfortunately, the economic downturn coincided with the construction of new plants, which lead to excess production capacity. According to the Portland Cement Association, cement production in Florida was more than 12 million tons in 2006 and has dropped each year to a low of just over 4 million tons in 2009. In addition to preventing the construction of several of the new kilns, this situation has caused the shutdown of recently constructed and existing kilns.

New NESHAP for Portland Cement Plants

On February 21, 2011, EPA updated the NESHAP standards in Subpart LLL of 40 CFR 63, which represent the MACT for Portland cement production. The federal NESHAP provisions regulate the following HAP emissions: mercury, dioxins/furans, hydrochloric acid (HCl), PM (as a surrogate for metals such as cadmium and lead) and THC (as a surrogate for organic HAP). For an existing cement plant, the mercury standard is 55 pounds per million tons of clinker produced. For a new cement plant, the mercury standard is 21 pounds per million tons of clinker produced. The final NESHAP standards will apply in 2012. For the existing Brooksville South Cement Plant ("existing plant" in terms of NESHAP LLL), this regulation will reduce the allowable mercury emissions from the current permit limit of 122 pounds per year to 56.21 pounds of mercury per year based on the annual permitted capacity of 1,022,000 tons of clinker per year.

Consent Order OGC No. 10-1407 for Brooksville South Cement Plant was issued on October 10, 2010 requiring testing and monitoring of mercury emissions for Kiln 2 with the raw mill down. Dust shuttling, diverting some of the cooled baghouse dust directly to the final cement product to reduce mercury emissions, proved to be an effective method of reducing mercury emissions. The facility is currently in compliance with the mercury standards and the facility is also in compliance with the provisions of the consent order.

New NSPS for Commercial and Industrial Solid Waste Incineration (CISWI) Units

EPA updated the NSPS Subpart CCCC provisions for new CISWI units and Emission Guidelines for existing CISWI units (Subpart DDDD). The new CISWI rules changed the definition of solid waste within these rules to conform with the definition of solid waste under the Resource Conservation and Recovery Act (RCRA), "... any distinct operating unit of any commercial or industrial facility that combusts any solid waste as that term is defined in 40 CFR Part 241 [RCRA]..." Each subcategory will have different emission limits.

In a parallel regulatory action, EPA amended the definition of solid waste provided under 40 CFR Part 241 to add an exclusion for "non-hazardous secondary wastes" that would otherwise qualify as solid waste under 40 CFR Part 241.

Identification of Non-Hazardous Materials That Are Solid Waste

According to 40 CFR 241(b), the following non-hazardous secondary materials are not solid wastes when combusted:

(1) Non-hazardous secondary materials used as a fuel in a combustion unit that remain within the control of the generator and that meet the legitimacy criteria specified in paragraph (d)(1) of the section.

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of the section when used in a combustion unit (by the generator or outside the control of the generator):

(i) Scrap tires used in a combustion unit that are removed from vehicles and managed under the oversight of established tire collection programs.

(ii) Resinated wood used in a combustion unit.

(3) Non-hazardous secondary materials used as an ingredient in a combustion unit that meet the legitimacy criteria specified in paragraph (d)(2) of this section.

(4) Fuel or ingredient products that are used in a combustion unit, and are produced from the processing of discarded non-hazardous secondary materials and that meet the legitimacy criteria specified in paragraph (d)(1) of the section, with respect to fuels, and paragraph (d)(2) of the section, with respect to ingredients. The legitimacy criteria apply after the non-hazardous secondary material is processed to produce a fuel or ingredient product. Until the discarded nonhazardous secondary material is processed to produce a non-waste fuel or ingredient, the discarded non-hazardous secondary material is considered a solid waste and would be subject to all appropriate federal, state, and local requirements.

Processing means any operations that transform discarded non-hazardous secondary material into a non-waste fuel or non-waste ingredient product. Processing includes, but is not limited to, operations necessary to: remove or destroy contaminants; significantly improve the fuel characteristics of the material, e.g., sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; or improve the ingredient characteristics. Minimal operations that result only in modifying the size of the material by shredding do not constitute processing for purposes of this definition. The proposed materials will be processed by at least sizing and screening to remove incombustibles.

Scrap tires, for this project, TDF, are identified as not solid waste when legitimately used as a fuel that are removed from vehicles, managed under the oversight of established tire collection programs and used in combustion units. Clean woody biomass, agricultural fibrous organic byproducts and on-specification (on-spec) oil generated off-site are defined as "traditional" fuels. Traditional fuels are not wastes when used in combustion units. The other alternative fuels are generated off-site and require a legitimacy determination as outlined in 40 CFR 241 paragraph (d)(1), which is shown in the following table. For this project, each alternative fuel is seen as a valuable commodity to be used in a combustion unit.

Table D. Legitimacy Determination

Fuel or Ingredient	Legitimacy Criteria			
	Reasonable time frame of storage?	Managed to prevent release into environment?	Meaningful Heating Value? (Btu/lb)	Comparable emissions?
Traditional Fuels				
Clean Woody Biomass	N/A	N/A	3,500-5,000	N/A
Coal	N/A	N/A	12,500	N/A
Secondary Non-Hazardous Materials (Alternative Fuel Materials)				
Agricultural Plastic	Yes	Yes [1]	18,600, Yes	Yes [2]
Shingles, Rejects	Yes	Yes [1]	5,842, Yes	Yes [2]
Paper, Pre-Consumer	Yes	Yes [1]	6,500, Yes	Yes [2]
Carpet, CDF	Yes	Yes [1]	9,194, Yes	Yes [2]

Notes:

[1] Stored under cover on paved area or compacted clay surface.

[2] Emissions are comparable to coal and the purpose of the short-term trial burn is to determine emissions.

Applicant's Project Objective

In response to the economic downturn and newly proposed regulations, the Brooksville South Cement Plant is seeking to develop alternative fuel materials that will displace coal and fly ash to lower operating costs and eventually reduce mercury emissions.

Summary of Other Miscellaneous Alternative Fuel Materials

Agricultural Plastic: The energy content for the polyethylene plastics is higher than coal. The high temperatures,

long residence times and scrubbing that takes place within a cement kiln calciner provides an environment conducive to the efficient combustion of agricultural plastic. The material should handle well in the pneumatic feed to the calciner. Emissions are estimated to be similar to or less than emission from coal. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

Tire derived fuel and tirefluff (TDF): TDF has a heating value higher than bituminous coal. Many cement plants in the United States are authorized to fire TDF or wholes tires. Kiln 2 is currently authorized to fire whole tires with the tire injector system. Table D provides a comparison of the ultimate analysis of TDF with that of coal. [3]

EPA Report No. 600/R-97-115 entitled "Air Emissions From Scrap Tire Combustion" states the following with regard to combusting tires: "Based on the results of the Rotary Kiln Incinerator System (RKIS) test program, it can be concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different than from other conventional fossil fuels, as long as combustion occurs in a well-designed, well-operated and well-maintained combustion device. However, as with most solid fuel combustors, an appropriate particulate control device would likely be needed in order to obtain an operating permit in most jurisdictions in the United States. Test data, from 22 industrial facilities that have used TDF are presented: 3 kilns (2 cement and 1 lime) and 19 boilers (utility, pulp and paper, and general industrial applications). All sources had some type of particulate control. In general, the results indicate that properly designed existing solid fuel combustors can supplement their normal fuels, which typically consist of coal, wood, coke and various combinations thereof, with 10 to 20% TDF and still satisfy environmental compliance emissions limits."

ULTIMATE ANALYSIS (% AS RECEIVED)

CHARACTERISTIC	COAL	TIRES W/WIRE	TDF W/O WIRE
CARBON	67.69	67.00	72.25
HYDROGEN	4.59	5.81	6.74
NITROGEN	1.13	0.25	0.36
SULFUR	2.30	1.33	1.23
ASH	11.05	23.19	8.74
CHLORINE	0.01	0.03	0.09
MOISTURE	7.76	0.75	1.02
OXYGEN (DIFF)	5.47	1.64	9.67
TOTAL	100.00	100.00	100.00

Source: Babcock and Wilcox

Table D. Ultimate Analysis of TDF vs. Coal.

According to a study by the Portland Cement Association (PCA)[4]:

> "In 2008, PCA member companies completed a study on the impact of TDF firing on cement kiln air emissions. The study's data set included emission tests from 31 of the cement plants presently firing TDF. Dioxin-furan emission test results indicated that kilns firing TDF had emissions approximately one-third of those kilns firing conventional fuels – this difference was statistically significant. Emissions of particulate matter (PM) from TDF-firing kilns were 35% less than the levels reported for kilns firing conventional fuels (not statistically significant due to the low PM emissions reported for essentially all cement plants). Nitrogen oxides, most metals, and sulfur dioxide emissions from TDF-firing kilns also exhibited lower levels than those from conventional fuel kilns. The emission values for carbon monoxide and total hydrocarbons were slightly higher in TDF versus non-TDF firing kilns.
>
> However, none of the differences in the emission data sets between TDF versus non-TDF firing kilns for sulfur dioxide, nitrogen oxides, total hydrocarbons, carbon monoxide, and metals were statistically significant. Separate studies conducted by governmental agencies and engineering consulting firms have also indicated that TDF firing either reduces or does not significantly affect emissions of various contaminants from cement kilns [PCA 2008]."

TDF will efficiently combust within a cement kiln calciner due to the high temperatures and long residence times. The TDF will include the radial steel belt, which can be beneficial in the production of cement clinker. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

[3] "Tired Derived Fuel: Environmental Characteristics and Performance", Terry Gray, President, T.A.G. Resource Recovery, Southeast Regional Scrap Tire Conference, Nashville, Tennessee, November 6, 1997.

[4] "Tire-Derived Fuel", Fact Sheet by the Portland Cement Association, May 2008.

Manufacturer Reject Roofing Shingles: Reject shingles will be certified to be asbestos free by the manufacturer prior to acceptance by the facility. The shingles will be ground by the supplier and the grit materials removed leaving the flaked asphalt adhesive. The sulfur content is 0.79%, which results in potentially higher SO_2 emissions than coal on a mass basis. NO_X emissions are expected to be lower than coal and CO emissions similar to coal. Other emissions are not expected to increase. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

Clean Woody Biomass: This material is readily available and includes clean untreated lumber, tree stumps, millings, shavings and processed pellets made from wood or other forest residues. This material excludes copper-chromium-arsenic (CCA)-treated wood, creosote-treated wood, construction and demolition (C&D) debris, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim or sheet goods. The source will come from permitted recycling facilities or contracted companies that service tree trimming operations. Depending on the material content, there may be slight increases of particulates and VOC when firing clean woody biomass versus firing an equivalent heat input rate of coal. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

Agricultural Fibrous Organic Byproducts: This material includes peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts and animal bedding. The Brooksville South Cement Plant is within farming areas in which these agricultural byproducts are readily available. The applicant requests the ability to include other similar materials. The design and operation of this cement kiln makes it possible to feed many different types of fuel into the system for energy recovery, while reducing the material disposal costs to farmers. The expected emissions are similar to clean woody biomass. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

Pre-Consumer Reject Paper: This material will be supplied by such companies as International Paper Products Corporation or waste handlers that certify and manifest to only supply pre-consumer reject paper. These materials are typically outdated paper printings. This may include printing and writing paper, pre-consumer household and sanitary paper, wrapping and packaging paper, linerboard, Kraft liner and fluting. The chlorine content of coal and reject paper are similar. The emissions are expected to be similar to clean woody biomass. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

Carpet-Derived Fuel (CDF): This material will come from the approximately 2 million tons of carpet replaced annually. Carpet has a similar heating value to coal and contains a significant fraction of $CaCO_3$ in the backing material, a beneficial component of cement production. The materials will be supplied by certified waste haulers in the form of processed CDF. This material has been tested at the Lehigh cement plant in Evansville, Pennsylvania. The results at that plant showed insignificant changes for CO, NO_X and PM, and an incongruent increase of SO_2. The sulfur content of carpet is typically 0.1% while coal is 0.67% by weight. The chlorine content ranges from 52 to 77 ppm, which is well below the chlorine content of coal. Emissions from firing CDF are not expected to increase. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance.

On-Spec Used Oil Generated Off-Site: On-spec used oil generated on-site is currently permitted for use by the facility. The applicant proposes to also fire on-spec used oil generated off-site in the existing oil burners of the kiln. The current emissions monitoring systems for CO, NO_X, SO_2, THC and opacity will be sufficient to evaluate performance with the on-spec used oil generated off-site.

Particulate Matter

Clean woody biomass and agricultural fibrous organic byproducts will likely provide the highest dust loading from combustion. The draft permit requires a PM stack test to determine emissions while co-firing coal with either clean woody biomass or one of the agricultural byproducts.

Metals

The raw materials used to produce cement often contain trace quantities of virtually every natural element, including heavy metals such as lead, cadmium, chromium and arsenic. Many of these same constituents are also

contained in fossil fuels, such as coal, oil and petroleum coke (Chadbourne, 1997). With few exceptions, materials introduced into cement kilns will be oxidized and stabilized, requiring no further treatment (Chadbourne, 1997). As previously discussed, mercury is a volatile metal and will eventually be emitted from the exhaust. Metals such as antimony, thallium, silver, cadmium, lead, barium, beryllium, zinc, arsenic, chromium, vanadium and nickel will be retained in the clinker.[5] The draft permit requires extensive sampling and analysis of each material before being delivered. TDF will have the highest metals content and the draft permit requires stack testing to validate that metals are retained in the clinker or collected by the baghouse. If a trial of TDF is not conducted, then permittee shall conduct the stack test for metals on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

Chlorinated Compounds

HCl Emissions

Some materials contain chlorine, which has the potential to generate HCl emissions. However, the finely ground limestone raw materials fed into the kiln are highly alkaline and act as a large acid gas scrubber. HCl emissions will be regulated in the future by the new provisions in NESHAP Subpart LLL. The kiln will be tested while firing TDF at permitted capacity, which can be high in chlorine. If a trial of TDF is not conducted, then permittee shall conduct the HCl stack test on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

Dioxins/Furans Emissions

The presence of chlorine may also produce polychlorinated dibenzo-dioxins and -furans (PCDD/PCDF) from the kiln. "PCDD/PCDF", also known as dioxins/furans, represents more than 140 different cogeners of chlorinated compounds that form as by-products of combustion (Fiedler et al. 1990).[6] At high temperatures and sufficient residence times, dioxins/furans can be destroyed. Pre-heater/pre-calciner kilns like that at the Brooksville South Cement Plant have high temperatures and sufficient retention times to destroy these organic compounds. The preheater/calciner design rapidly cools the exhaust gases, which prevents dioxin/furans from reforming.

The dioxins/furans emissions standard for this existing cement kiln is 0.40 ng/dscm @ 7% oxygen when the temperature at the inlet to the baghouse is 204° C or less. In the development of the MACT regulations for hazardous waste combustors (Federal Register, 64 FR 52876, September 30, 1999), EPA stated that, "... based on our engineering judgment ... dioxin/furan is formed post-combustion." Although dioxins/furans can be destroyed at high temperatures, they can reform if temperatures remain high in the exhaust. NESHAP Subpart LLL regulates the inlet temperature to the particulate control device based on successful compliance tests and requires continuous temperature monitoring. The kiln will be tested to demonstrate compliance while firing TDF at permitted capacity to verify the destruction and control of dioxins/furans emissions. If a trial of TDF is not conducted, then permittee shall conduct the dioxins/furans stack test on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

Other Draft Permit Requirements

- *Existing Permits*: The temporary air construction permit supplements all existing valid permits. The permittee shall continue to comply with all applicable conditions from valid air construction and operation permits.
- *Authorization*: The permittee is authorized to conduct a short-term operational trial for each of the following alternative fuel materials: non-chlorinated agricultural plastics (3,000 tons), tire-derived fuel (4,500 tons),

[5] "Use of Cement Kilns in Managing Solid and Hazardous Wastes: Implementation in Australia Heart", Sunil, Griffith University, 1994.

[6] "Cement Kiln Co-Processing (High Temperature Treatment)", Pesticides Treatment Technology Fact Sheet, John Vijgen, International HCH and Pesticides Association and Dr. Ir. Ron McDowall, Auckland New Zealand for Secretariat of the Basel Convention.

reject roofing shingles (10,000 tons), clean woody biomass (10,000 tons), agricultural fibrous organic byproducts (20,000 tons), pre-consumer reject paper (5,000 tons), carpet-derived fuel (6,500 tons) and on-spec used oil generated off-site (111,111 gallons or 400 tons). Each trial is limited to no more than 60 operating days while co-firing coal with only one of the alternative fuel materials. Only one alternative fuel material at a time shall be co-fired with coal. *{Note: The Department approves of the proposed 60-day trial period, the draft permit specifies a trial period of 60 operational days. This was to allow for projected limited operation of the kiln due to the economy and potential initial problems with fuel handling.}*

- *Expiration and Revocation*: Authorization to each alternative fuel material expires with this permit or when permitted amount of material has been fired. The Bureau of Air Regulation may revoke the authorization to fire an alternative fuel material if:
  - The permittee accepts material that does not meet the acceptance criteria based on analytical results provided by the material suppliers;
  - The analytical results of samples taken by the plant vary widely with those provided by the material suppliers;
  - The firing of an alternative fuel material causes frequent upsets to kiln operation resulting in non-steady state operation; or
  - The pyroprocessing kiln is unable to comply with the emissions standards in the Title V air operation permit.
- *Temporary Equipment*: The permittee is authorized to temporarily install and operate the following equipment for the trial: a Schenk feeder system or equivalent to measure and dose alternative fuel materials through the existing fly ash injection feed lines; a hopper; a conveyor; ductwork; and other miscellaneous equipment to unload, store and handle the alternative fuel materials. The Schenck feeder system or equivalent shall be integrated with the operation and monitoring system currently in use in the operator control room and tied into the existing Data Retrieval System. There shall be a visible display of the alternative material feed rate at the Schenck feeder system or equivalent as well as in the operator control room. The alternative material feed rate shall be recorded along with the other fuel and material feed rates.
- *Accepting Shipments of Alternative Fuels*: The permittee shall receive alternative fuel materials only in covered trucks (approximately 20 tons per truckload). A delivery may consist of more than one truckload. The alternative fuel materials shall be unloaded to a paved area or compacted clay surface and stored under cover. No more than 5,000 tons (of the allowable 20,000 tons) of agricultural organic fibrous byproducts shall be stored on site at any given time. To prevent fugitive dust caused by any alternative fuel materials from leaving the property, the plant shall apply water as necessary; otherwise, the material shall be kept dry to facilitate burning. The permittee shall obtain copies from the material supplier of manufacturer certifications, analytical results and the amount (tons) for each delivery. See Appendix E (Criteria for Material Suppliers) of this permit for material processing procedures. For acceptance of on-specification used oil, a certified fuel analysis indicating that the oil meets the on-specification requirements in 40 CFR 279 shall accompany each delivery.
- *Sampling/Analyses*: At least once every four hours while firing an alternative fuel material, the permittee shall take a grab sample of as-fired material (approximately one gallon) before being dumped into the feed bin of the Schenck feeder system or equivalent. At the end of each day, the grab samples shall be thoroughly mixed and a composite sample made (approximately 2 lb). Each representative composite sample shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, cadmium, chromium, copper, lead and mercury). The composite samples for non-chlorinated agricultural plastics shall also be analyzed for pesticides, bromine and thallium. The composite samples for TDF shall also be analyzed for zinc. The composite samples for manufacturer reject roof shingles shall also be analyzed for manganese, nickel and zinc.

- *Operation*: Alternative fuel materials shall only be fired when the kiln has achieved stable operation, temperatures and production. Alternative fuel materials shall not be fired during startup, shutdown, malfunction, other non-steady state operation or when the raw mill is down.
- *Upsets*: When an upset condition causes the plant to stop firing an alternative fuel that results in non-steady state operation, the permittee shall record each incident and identify the cause of the upset as well as the corrective action taken.
- *Operations and Emissions*: During the trial period, the permittee shall continue to monitor: NO_X, SO_2, CO and THC emissions with the existing certified CEMS; opacity with the existing certified COMS; and the fuel feed rates, kiln feed rates, clinker production rate and baghouse inlet temperature with the existing continuous monitoring systems. Mercury emissions shall be determined by material balance.
- *Stack Tests*:
  - The permittee shall conduct a stack test to determine PM emissions while co-firing coal with one of the agricultural byproducts with the raw mill up.
  - The permittee shall conduct stack tests to determine emissions of the dioxins/furans, while co-firing coal with TDF in the cement kiln with the raw mill up. If a trial of TDF is not conducted, then permittee shall conduct the dioxins/furans stack test on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.
  - The permittee shall conduct stack tests to determine emissions of the HCl while co-firing coal with TDF in the cement kiln with the raw mill up. If a trial of TDF is not conducted, then permittee shall conduct the HCl stack test on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.
  - The permittee shall conduct two separate stack tests to determine total PM and the following metal emissions while co-firing coal with TDF with the raw mill up: arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc. One stack test shall be conducted when the raw mill is up and one stack test when the raw mill is down for these metals. In addition, the permittee shall obtain a representative sample of the baghouse dust generated and the clinker produced during each test run and have it analyzed for the same metals. If a trial of TDF is not conducted, then permittee shall conduct the stack test for metals on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.
  - The permittee shall conduct a stack test to determine the presence of pesticides in the exhaust while co-firing coal with non-chlorinated agricultural plastics.
- *Process Monitoring*: For the trial, the plant will monitor: the sampling and analysis procedures used; the analytical results of the alternative fuel materials, the fuel feed rates, the kiln feed rates, the clinker production rates, pre-calciner temperature and the baghouse inlet temperature.
- *Records*: In addition to plant operation and production data, the permittee shall maintain records of the monitoring and emissions data required by the permit, including, but not limited to: the sampling and analysis procedures used; the analytical results of each alternative fuel materials; each fuel feed rate; the kiln production and process data; the emissions monitoring data; the baghouse inlet temperature; times, and any specific problems that occurred during the trial and the cause of the problem.
- *Trial Burn Summary Report*: Within 90 days of completing each temporary trial of alternative fuel material, the permittee shall submit a report to the Bureau of Air Regulation and the Compliance Authority summarizing: the sampling and analysis procedures used; the analytical results of the alternative fuel materials; a comparison of the heating value of each material determined by fuel analyses with that determined by the amount of coal displaced; the kiln production and process data; pre-calciner temperature; the emissions monitoring data; the baghouse inlet temperature; a conclusion as to the feasibility and

practicality of firing the material as an alternative fuel; an estimate of the fuel costs that could be avoided by firing the material; the appropriate quality assurance/quality control (QA/QC) procedures used to produce a high-quality alternative fuel (i.e., low in contaminants, high in heating value, free of scrap metals and properly sized); any specific problems that occurred during the trial and the cause of the problem; and problems with unloading storing or handling the material; problems with the material size and any re-processing conducted on site; recommendations to improve handling, storage and firing the alternative fuel material; and an assessment of the suitability of the material as a permanent alternative fuel for the plant. The report shall include a statistical analysis of the analytical data for the alternative fuel material and the emissions monitoring data. The report shall also include the comparison of the contaminants in and emissions of the alternative fuel material with the contaminants in and emissions from traditional fuels to meet the legitimacy criteria in 40 CFR 241.3(d)(1).

4. CONCLUSION

The short-term trial burns will allow the development of QA/QC procedures to determine whether it is feasible for the plant to handle and fire each material. The alternative fuels are limited in amounts and each will be fired over a maximum of 60 operational days. Actual emissions from firing the alternative fuels are not expected to increase significantly above the baseline emissions. The applicant will be required to comply with all existing valid permit conditions.

The Brooksville South Cement Plant is currently in compliance with the terms and conditions of its Title V air operation permit. As previously mentioned, the plant resolved the mercury issue at Kiln 2 by implementing a dust shuttling program to retain mercury captured in the baghouse dust by adding it to the final cement product. Preliminary information indicates that initial stack testing demonstrated compliance with the mass emissions rate (lb/hour), but not the dust outlet loading (grains/dscf). This may be due to the as-built design, which uses a large baghouse rather than a cyclone pre-cleaner followed by a smaller baghouse. Subsequent stack tests show the cement clinker baghouse to be in compliance.

Based on reasonable assurance provided by the applicant, the project:

- Will not result in significant emissions increases requiring PSD preconstruction review, and
- Will not violate the terms and conditions of the current Title V air operation permit.

Table E. Emissions Standards in the Title V Air Operation Permit for the Brooksville South Cement Plant Kiln 2.

POLLUTANT	EMISSION LIMIT		AVERAGING TIME	BASIS
PM	0.136 lb/ton of dry preheater feed; 0.23lb/ton of clinker	28.8 lb/hr	3 hours [3]	BACT
PM_{10}	0.118 lb/ton of dry preheater feed; 0.20 lb/ton of clinker	25.0 lb/hr	3 hours [3]	BACT
SO_2	0.23 lb/ton of clinker	28.8 lb/hour	24 hours [4]	BACT
NO_X	1.95 lb/ton of clinker [1]	243.75 lb/hour [1]	30 days	BACT
CO	3.6 lb/ton of clinker	450.0 lb/hour	24 hours [5]	BACT
VOC	0.12 lb/ton of clinker [2]	15.0 lb/hour [2]	30 days [6]	BACT
VE	10% opacity	---	6 minutes [7]	BACT
Mercury	41 µg/dscm [8]	--		Subpart LLL [8]
	---	122 lb/yr	Annual	Avoid PSD

[1] NO_X emissions shall not exceed 2.4 lb/ton of clinker and 306.25 lb/hour (30 day rolling average) during the first 180 operating days after initial startup. After the 180 operating days after initial plant startup, emissions of NO_X shall not exceed the limits shown in the table.

[2] VOC emissions shall be expressed as propane.

[3] The averaging times for PM and PM_{10} correspond to the required length of sampling for the initial and subsequent emission tests.

[4] The averaging time for SO_2 shall be a rolling average that shall be recomputed every hour from the individual hourly averages for the current hour and the preceding 23 hours.

[5] The CO emissions limit will have a 30-day averaging period for the first 180 days after initial startup; thereafter, the CO limits will be a 24-hour limit. The averaging time for CO shall be a rolling average that shall be recomputed every hour from the individual hourly averages for the current hour and the preceding 23 hours.

[6] The averaging time for VOC shall be a 30-day block average specified in 40 CFR 63.1350(h).

[7] The averaging time for visible emissions shall be a 6-minute block average that shall be computed from a minimum of one measurement every 15 seconds. The 6 minute block averages shall start at the beginning of each hour.

[8] Micrograms per dry standard cubic meter (µg/dscm) per 76518 Federal Register / Vol. 71, No. 244 / Wednesday, December 20, 2006 / Rules and Regulations. "As an alternative to meeting the 41 µg/dscm standard you (the operator) may route the emissions through a packed bed or spray tower wet scrubber with a liquid-to-gas ratio of 30 gallons per 1000 actual cubic feet per minute or more and meet a site-specific emissions limit based on the measured performance of the wet scrubber".

These emission limits, along with annual production limits, effectively limit annual emissions to: PM, 117.6; PM_{10}, 102.3; SO_2, 117.6; NO_X, 996.7 (after 180 days); CO, 1,840 (including 30-day average for first 180 days); and VOC, 61.3 tons per year. First year NO_X emissions are effectively limited to 1,595.4 tons per year. These emission limits are based on 2,800 tons per day and 1,022,000 tons per year of clinker production.

A draft permit will be issued to authorize and regulate the short-term trials of alternative fuel materials.

5. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Christy DeVore, project engineer, and Jeff Koerner, supervisor, jointly reviewed the application and prepared the draft permit documents. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

DRAFT

PERMITTEE

CEMEX Construction Materials Florida, LLC
10311 Cement Plant Road
Brooksville, Florida

Authorized Representative:
Jim Daniel, Cement Plant Manager

Air Permit No. 0530021-031-AC
Permit Expires: May 25, 2013

Brooksville South Cement Plant
Temporary Trials of Alternative Fuels

PROJECT

CEMEX Construction Materials Florida, LLC operates an existing Portland cement manufacturing plant, which is categorized under Standard Industrial Classification Code No. 3241. The existing Brooksville South Cement and Power Plant is located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida. The UTM coordinates of the existing facility are Zone 17, 360.0 kilometers (km) East, and 3162.5 km North.

This is the final air construction permit, which authorizes short-term temporary trials to co-fire coal with each of the following alternative fuel materials in the existing cement kiln (Kiln 2) to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel including tirefluff, reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification used oil generated off-site. This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

DRAFT

Mike Halpin, Director
Division of Air Resource Management

(Date)

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on DRAFT to the persons listed below.

cc: Mr. Jim Daniel, CEMEX (jdaniel@cemexusa.com)
Mr. George Townsend, CEMEX (gtownsend@cemexusa.com)
Mr. Max Lee, Ph.D., P.E., Koogler and Associates, Inc. (mlee@kooglerassociates.com)
Mr. John Koogler, Ph.D., P.E., Koogler and Associates, Inc. (jkoogler@kooglerassociates.com)
Ms. Cindy Zang-Torres, DEP Southwest District Office (cindy.zhang-torres@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
Mr. David Langston, EPA Region 4 (langston.david@epa.gov)
Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@dep.state.fl.us)

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.

DRAFT

(Clerk) (Date)

FACILITY DESCRIPTION

The existing facility consists of a Portland cement manufacturing plant, the associated quarry, and raw material, cement handling operations , a 150 MW power plant and a coal yard. Portland Cement Line 1 includes an in-line kiln/raw mill, clinker cooler and associated process equipment. This line shares a common baghouse. Waste heat from the kiln is used to provide heat to the raw mill and the kiln preheater, which is used to drive off moisture from the materials used for making clinker. All of the materials handling activities are controlled by fabric filter baghouse control systems, except for the Clinker Receiving/Handling System and the coal yard activities. For the Clinker Receiving/Handling System, the fugitive particulate matter emissions generated from the transfer of clinker from the receiving hopper to the belt conveyor are controlled using a dust suppression system.

Portland Cement Line 2 includes a raw mill system, a dry process preheater/precalciner kiln system, clinker handling system, finish grinding operations, two cement loadout silos, and coal handling and grinding operations. NO_X emissions are controlled by the use of Selective Non-catalytic Reduction (SNCR) technology. SO_2 emissions are controlled by use of low sulfur raw materials and inherent scrubbing by finely divided lime in the calciner and limestone in the raw mill. CO and VOC emissions are controlled by promoting complete combustion in the kiln and calciner and minimizing carbon and oily content of raw materials. PM/PM_{10} from the pyroprocessing system and the clinker cooler are controlled by large fabric filter baghouses. Mercury emissions are controlled by material balance with a minimum of quarterly analysis of raw material samples and making and maintaining records of monthly and rolling 12-month mercury throughput. All of the materials handling activities' particulate matter emissions are controlled by fabric filters. Water sprays or chemical wetting agents and stabilizers will be used at the coal receiving area, the coal storage area, and the coal transfer system to control fugitive particulate matter emissions and minimize visible emissions. Continuous monitors are operated for opacity, NO_X, SO_2, THC and CO.

Portland Cement Line 2 has a capacity of 206.3 tons per hour of material fed (dry basis) to the preheater, and 125 tons per hour of clinker production. Daily and annual rates are 1,686,300 tons per year (4,620 tons/day, 24-hour average) of material fed to the preheater (dry basis), 1,022,000 tons per year (2,800 tons/day, 24-hour average) of clinker production, and 1,301,138 tons per year (5,760 tons/day) of cement production. Fuels allowed to be used in the pyroprocessing system are natural gas, distillate fuel oil, on-specification used oil, coal, petroleum coke, propane, flyash and tire derived fuels. Line 2 also includes a coal processing operation that crushes coal and petroleum coke and has an annual processing capacity of 165,000 tons of coal and petroleum coke.

PROPOSED PROJECT

This is the final air construction permit, which authorizes temporary short-term trials to co-fire coal with each of the following alternative fuel materials in the existing cement kiln to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel including tirefluff, reject roofing shingles, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, carpet-derived fuel and on-specification (on-spec) used fuel oil generated off-site. This authorization is only for the temporary trials as conditioned by the permit to determine the operational viability of each fuel, the impacts on emissions and the effect on cement quality. The information will be used to determine whether a material is suitable as alternative fuel for co-firing with coal in the cement kiln, which may require additional testing. To obtain permanent authorization for any of the alternative fuel materials, the permittee must submit an additional application and obtain an air construction permit. The information gathered during the trial burn period may be used to support such an application or a project for a longer trial.

This project will affect the following existing permitted emissions unit.

Facility ID No. 0530021	
ID No.	**Emission Unit Description**
044	Cement Line 2: Kiln 2, In-line Raw Mill, Pre-Heater, Pre-Calciner and Clinker Cooler

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a PSD major stationary source in accordance with Rule 62-212.400, F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to PSD applications for permits to construct or modify emissions units shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to construct minor sources of air pollution or to operate the facility shall be submitted to the Air Resource Section of the Department's Southwest District Office at 13051 North Telecom Parkway, Temple Terrace, FL 33637-0926.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resources Section of the Department's Southwest District Office at 13051 North Telecom Parkway, Temple Terrace, FL 33637-0926.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); Appendix D (On-Specification Used Oil Requirements); and Appendix E (Criteria for Material Suppliers).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. 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.]

6. Modifications: No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:

   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   [Rule 62-212.400(12), F.A.C.]

A. Kiln 2 System – Short -Term Trial of Miscellaneous Alternative Fuel Materials

This section of the permit addresses the following emissions unit.

ID	Emission Unit Description
044	Cement Line 2: Kiln 2, In-line Raw Mill, Pre-Heater, Pre-Calciner and Clinker Cooler

COMPLIANCE WITH EXISTING PERMIT CONDITIONS

1. Existing Permits: This permit supplements all existing valid air permits. The permittee shall continue to comply with all applicable conditions from valid air construction and operation permits. [Rule 62-4.070(3), F.A.C.]

EQUIPMENT

2. Temporary Equipment: The permittee is authorized to temporarily install and operate the following equipment for the trial: a Schenk feeder system or equivalent to measure and dose alternative fuel materials through the injection feed lines; a hopper; a conveyor; ductwork; and other miscellaneous equipment to unload, store and handle the alternative fuel materials. The feeder system shall be integrated with the operation and monitoring system currently in use in the operator control room and tied into the existing Data Retrieval System. There shall be a visible display of the alternative material feed rate at the feeder system as well as in the operator control room. The alternative material feed rate shall be recorded along with the other fuel and material feed rates. [Application No. 0530021-031-AC and Rule 62-4.070(3), F.A.C.]

PERFORMANCE RESTRICTIONS

3. Authorization: The permittee is authorized to conduct a short-term operational trial for each of the following alternative fuel materials. Each alternative fuel trial is limited to no more than 60 operating days while co-firing coal. Each alternative fuel material shall be tested separately from other alternative fuel materials. Only one alternative fuel material at a time shall be co-fired with coal.

   a. *Non-Chlorinated Agricultural Plastics*: This material consists of non-chlorinated, low-density polyethylene (LDPE) and/or high-density polyethylene (HDPE) plastic used primarily in agricultural and silvicultural operations to prevent weed growth, control soil erosion and moisture exposure. No more than 3,000 tons shall be fired in the kiln.

   b. *Tire-Derived Fuel and Tirefluff (TDF)*: This material consists of shredded used tires which may have steel belt material and also includes the shredded materials from the crumb of tires with no metal. No more than 4,500 tons shall be fired in the kiln.

   c. *Manufacturer Reject Roofing Shingles*: This material shall consist of manufacturer reject shingles that were never installed and which the manufacturer certifies as being "asbestos free". The incombustible grit material shall be removed from the shingles prior to delivery. No more than 10,000 tons shall be fired in the kiln.

   d. *Clean Woody Biomass*: This material will include clean untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chips scraps, wood scraps, wood slabs, wood millings, wood shavings, and processed pellets made from wood or other forest residues. This material excludes copper-chromium-arsenic (CCA)-treated wood, creosote-treated wood, construction and demolition (C&D) debris, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and sheet goods. No more than 10,000 tons shall be fired in the kiln.

   e. *Agricultural Organic Fibrous Byproducts*: This material includes peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding, etc. Other similar types of materials may be tried with prior written approval of the Department. No more than 5,000 tons of any single type of agricultural organic fibrous byproduct shall be fired in the kiln. Only one type of agricultural organic fibrous

byproducts shall be stored on site at any given time. No more than 20,000 total tons of agricultural organic fibrous byproducts shall be fired in the kiln.

f. *Pre-Consumer Paper*: This material consists of pre-consumer: printing and writing paper; household and sanitary paper; wrapping and packaging paper; paper board; chipboard; Kraft liner, writing and packaging paper; fluting; other wrapping and packaging paper; folding boxboard; other paperboard; polymer laminated wrapping paper; game boards and boxes; foil wrapping paper; thermal papers; specialty papers for filtration or hygienic applications; adhesive labels; waxed corrugated cardboard; and other miscellaneous coated papers. This group of materials also includes fabrics and textiles such as dyed/finished natural fibers, dyed/finished natural fiber woven/scrap trim, polymer fiber woven scrap trim, and un-dyed/unfinished natural or synthetic fiber scrap trim. No more than 5,000 tons shall be fired in the kiln.

g. *Carpet-Derived Fuel*: This material consists of *shredded* used carpet. No more than 6,500 tons shall be fired in the kiln.

h. *On-Specification Used Oil Generated Off-Site*: This material is on-spec used oil that has been generated off-site. No more than 111,111 gallons (400 tons) shall be fired in the kiln.

i. *Expiration and Revocation*: Authorization to fire each alternative fuel material expires with this permit, at the end of 60 operating days of firing the alternative fuel or when the permitted amount of material has been fired. The Department may require the trial of an alternative fuel material to stop if:

   a) The permittee accepts alternative fuel material that does not meet the acceptance criteria based on analytical results provided by the material suppliers.

   b) The analytical results of samples taken by the plant vary widely with those provided by the material suppliers.

   c) The firing of an alternative fuel material causes frequent upsets to kiln operation resulting in non-steady state operation; or

   d) The pyroprocessing kiln is unable to comply with the emissions standards in the Title V air operation permit.

[Application No. 0530021-031-AC and Rule 62-4.070(3), F.A.C.]

4. Material Suppliers: The permittee shall provide each material supplier with a copy of this air construction permit including the Appendix E (Criteria for Material Suppliers). [Rule 62-4.070(3), F.A.C.]

5. Accepting Shipments of Alternative Fuels: The permittee shall receive alternative fuel materials only in covered trucks (approximately 20 tons per truckload). The alternative fuel materials shall be unloaded and stored most likely in a trailer or under cover on top of a paved or compacted clay surface. Materials will be stored in separate piles, most likely in trailers, and visibly marked. Alternative fuel materials delivered to the site shall be burned in the kiln during the 60-day trial or removed from the site within 14 days of completing the trial. No more than 5,000 tons (of the allowable 20,000 tons) of agricultural organic fibrous byproducts shall be stored on site at any given time. The permittee shall obtain copies from the material supplier of manufacturer certifications (as applicable), analytical results and the amount (tons) for each delivery. A delivery may consist of more than one truckload. For acceptance of on-specification used oil, a certified fuel analysis indicating the oil meets the on-specification requirements (see Appendix D) in 40 CFR 279 shall accompany each delivery. See Appendix E (Criteria for Material Suppliers) of this permit for material processing procedures. [Rule 62-4.070(3), F.A.C.]

6. Fugitive Dust: To prevent fugitive dust caused by any alternative fuel materials from leaving the property, the plant shall apply water if necessary; otherwise, the material shall be kept dry to facilitate burning. [Rule

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

7. Operation: Alternative fuel materials shall only be fired when the kiln has achieved stable operation, temperatures and production. Alternative fuel materials shall not be fired during startup, shutdown, malfunction or other non-steady state operation. [Rule 62-4.070(3), F.A.C.]

8. Capacity: During each designated trial, an alternative fuel material may be co-fired with coal in the existing cement kiln at the following approximate maximum rates:

Material	Estimated Maximum Firing Rates (tons/hour)
Non-Chlorinated Agricultural Plastics	4
Tire Derived Fuel	4.5
Roofing Shingles	12
Clean Woody Biomass	14
Agricultural Byproducts	25
Paper	11
Carpet Derived Fuel	7.5
On-Spec Used Oil Generated Off-Site	3.0

{Permitting Note: Since the feeder system is limited by volumetric throughput, the maximum mass feed rates will also be variable based on the material densities. Each trial will be used to determine the maximum sustainable mass feed rate of each alternative fuel material.} [Application No. 0530021-031-AC and Rule 62-210.200(PTE), F.A.C.]

9. Sampling/Analyses: At least once every four hours while firing an alternative fuel material, the permittee shall take a grab sample of as-fired material (approximately one gallon) before being dumped into the feed bin of the feeder system. At the end of each day, the grab samples shall be thoroughly mixed and a composite sample made (approximately 2 lb). Each representative composite sample shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, cadmium, chromium, copper, lead and mercury). The composite samples for non-chlorinated agricultural plastics shall also be analyzed for pesticides, bromine and thallium. The composite samples for TDF shall also be analyzed for zinc. The composite samples for manufacturer reject roof shingles shall also be analyzed for manganese, nickel and zinc. After analysis of at least 10 samples of each material, CEMEX may request in writing for approval from BAR to reduce the sampling frequency; however, samples shall be taken whenever stack testing is conducted. [Application No. 0530021-031-AC and Rule 62-4.070(3), F.A.C.]

MONITORING REQUIREMENTS

10. Operations and Emissions: During the trial period, the permittee shall continue to monitor: NO_X, SO_2, CO and total hydrocarbons (THC) emissions with the existing certified CEMS; opacity with the existing certified COMS; and the fuel feed rates, kiln feed rates, clinker production rate and baghouse inlet temperature with the existing continuous monitoring systems. Mercury emissions shall be determined by material balance. [Application No. 0530021-031-AC and Rule 62-4.070(3), F.A.C.]

11. Upsets: When an upset condition causes the plant to stop firing an alternative fuel that results in non-steady state operation, the permittee shall record each incident and identify the cause of the upset as well as the corrective action taken. [Rule 62-4.070(3), F.A.C.]

12. Process Monitoring: For the trial, the plant will monitor: the sampling and analysis procedures used; the

analytical results of the alternative fuel materials, the fuel feed rates, the kiln feed rates, the clinker production rates, pre-calciner temperature and the baghouse inlet temperature. [Application No. 0530021-031-AC and Rule 62-4.070(3), F.A.C.]

TESTING REQUIREMENTS

13. Compliance Tests: The permittee shall conduct the following stack tests to determine compliance with the dioxin/furan and particulate matter emissions standards as well as the emission rates of hydrochloric acid (HCl) and metals while operating the cement kiln at permitted capacity and firing the maximum sustainable feed rate of the alternative fuel material. The feed rate achieved during the stack tests will be used to establish the maximum feed rate for any subsequent request to permanently fire the alternative fuel material.

    a. *PM Stack Tests*: In accordance with EPA Method 5, the permittee shall conduct a stack test with the raw mill up to determine compliance with the PM emissions standard while co-firing coal with either clean woody biomass or one of the agricultural byproducts. The stack test shall consist of at least three, 1-hour test runs.

    b. *Dioxins/Furans Stack Tests*: In accordance with EPA Method 23, the permittee shall conduct a stack test with the raw mill up to determine compliance with the dioxins/furans emissions standard while co-firing coal with TDF in the cement kiln. The stack test shall consist of at least three, 3-hour test runs, and the sample volume for each run shall be at least 90 dscf. If a trial of TDF is not conducted, then permittee shall conduct the dioxins/furans stack test with the raw mill up on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

    c. *HCl Stack Tests*: In accordance with EPA Methods 26, 26A or 321, the permittee shall conduct separate stack tests with the raw mill up to determine the HCl emissions rate while co-firing coal with TDF in the cement kiln: The stack test shall consist of at least three, 1-hour test runs. If a trial of TDF is not conducted, then permittee shall conduct the HCl stack test with the raw mill up on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

    d. *Metals Stack Test*: In accordance with EPA Method 29, the permittee shall conduct two separate stack tests to determine total PM and the following metal emissions while co-firing coal with TDF: arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc. One stack test shall be conducted when the raw mill is up and one stack test when the raw mill is down. Each stack test shall consist of at least three, 1-hour test runs. During each test run, the permittee shall increase the TDF sampling frequency to one representative grab sample (approximately 1 gallon) every 15 minutes. The four grab samples collected during each test run shall be thoroughly mixed and a composite sample made (approximately 1 lb). Each composite sample representing the test run shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc). In addition, the permittee shall obtain a representative sample of the baghouse dust generated and the clinker produced during each test run and have it analyzed for the same metals. If a trial of TDF is not conducted, then permittee shall conduct two stack tests, one with the raw mill up and one with the raw mill down, for metals on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

    e. *Pesticides*: In accordance with Methods SW 0010/8270 (sampling method) and EPA SW-846 3500 or EPA 3550/8150 (analytical methods) for Semi-volatile Organics (including pesticides), the permittee shall conduct a stack test to determine the presence of pesticides in the exhaust while co-firing coal with non-chlorinated agricultural plastics. EPA Method SW-846 identifies using analytical method 8081. Other equivalent methods may be used with prior written approval of the Bureau of Air Regulation. The stack tests shall consist of at least three, 1-hour test runs. During each test run, the permittee shall

increase the sampling frequency of non-chlorinated agricultural plastics to one representative grab sample (approximately 1 gallon) every 15 minutes. The four grab samples collected during each test run shall be thoroughly mixed and a composite sample made (approximately 1 lb). Each composite sample representing the test run shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and pesticides.

EPA Methods 1 – 4 shall be used as necessary to support the other test methods. [Rule 62-4.070(3), F.A.C.]

14. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix C (Common Conditions) of this permit and the current Title V air operation permit. When in conflict, the permittee shall follow the requirements of the current Title V air operation permit. [Rule 62-297.310(7)(a)9, F.A.C.]

15. Analytical Methods: The permittee shall use the following analytical methods to determine the composition of the alternative fuel materials.

Parameter	Analytical Methods
Moisture, Volatiles, Ash and Fixed Carbon	Proximate Analysis appropriate for given fuel
Carbon, Hydrogen, Nitrogen Sulfur and Oxygen	Ultimate Analysis appropriate for given fuel
Heating Value	ASTM E711 - 87(2004) Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, or ASTM D5468 - 02(2007) Standard Test Method for Gross Calorific and Ash Value of Waste Materials
Chlorine, Fluorine and Bromine	EPA SW-846 or EPA Method 9056
Mercury	EPA 7470A/7471A
Other Metals	EPA SW-846 or EPA Method 6010B
Pesticides	Sampling Methods: SW 0010/8270 or equivalent Analytical Methods: EPA SW-846 3500 or EPA 3550/8150 or equivalent method. EPA Method SW-846 identifies using analytical method 8081.

Other equivalent methods may be used with prior written approval of the Bureau of Air Regulation. [Rule 62-4.070(3), F.A.C.]

NOTIFICATIONS, RECORDS AND REPORTS

16. Notifications: Written notifications may be made by email, fax transmittal or letter.

    a. Within one day, the permittee shall notify the Compliance Authority of receiving the first shipment of each alternative fuel material. [Rule 62-4.070(3), F.A.C.]

    b. *Test Notifications*: The permittee shall notify the Department in writing, 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 permittee. The Compliance Authority may waive the 15-day notice to facilitate testing. [Rule 62-297.310(7), F.A.C.]

17. Records: In addition to plant operation and production data, the permittee shall maintain records of the monitoring and emissions data required by the permit, including, but not limited to: the sampling and analysis procedures used; the analytical results of each alternative fuel materials; each fuel feed rate; the kiln production and process data; the emissions monitoring data; the baghouse inlet temperature; times, and any specific problems that occurred during the trial and the cause of the problem. [Rule 62-4.070(3), F.A.C.]

18. Trial Burn Summary Report: Within 90 days of completing each temporary trial of alternative fuel material,

the permittee shall submit a report to the Bureau of Air Regulation and the Compliance Authority summarizing: the sampling and analysis procedures used; the analytical results of the alternative fuel materials; a comparison of the heating value of each material determined by fuel analyses with that determined by the amount of coal displaced; the kiln production and process data; pre-calciner temperature; the emissions monitoring data (separated and compared for raw mill up and down conditions) in comparison to historical coal firing emissions; the baghouse inlet temperature; a conclusion as to the feasibility and practicality of firing the material as an alternative fuel; an estimate of the fuel costs that could be avoided by firing the material; the appropriate QA/QC procedures used to produce a high-quality alternative fuel (i.e., low in contaminants, high in heating value, free of scrap metals and properly sized); any specific problems that occurred during the trial and the cause of the problem; and problems with unloading storing or handling the material; problems with the material size and any re-processing conducted on site; recommendations to improve handling, storage and firing the alternative fuel material; and an assessment of the suitability of the material as a permanent alternative fuel for the plant. The report shall include a statistical analysis of the analytical data for the alternative fuel material and the emissions monitoring data. The report shall also include the comparison of the contaminants in and emissions of the alternative fuel material with the contaminants in and emissions from traditional fuels to meet the legitimacy criteria in 40 CFR 241.3(d)(1). [Rule 62-4.070(3), F.A.C.]

Contents

CITATION FORMATS

The following illustrate the formats used in the permitto identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or 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 for that county
"001" identifies the specific permit project number
"AC" identifies the permit as an air construction permit
"AF" identifies the permit as a minor source federally enforceable state operation permit
"AO" identifies the permit as a minor source air operation permit
"AV" identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the preconstruction review requirements of 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 number

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 CRF 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit
µg: microgram
AAQS: Ambient Air Quality Standard
acf: actual cubic feet
acfm: actual cubic feet per minute
ARMS: Air Resource Management System (Department's database)
BACT: best available control technology
bhp: brake horsepower
Btu: British thermal units
CAM: compliance assurance monitoring
CEMS: continuous emissions monitoring system
cfm: cubic feet per minute
CFR: Code of Federal Regulations

Citation Formats and Glossary of Common Terms

CAA: Clean Air Act

CMS: continuous monitoring system

CO: carbon monoxide

CO_2: carbon dioxide

COMS: continuous opacity monitoring system

DARM: Division of Air Resource Management

DEP: Department of Environmental Protection

Department: Department of Environmental Protection

dscf: dry standard cubic feet

dscfm: dry standard cubic feet per minute

EPA: Environmental Protection Agency

ESP: electrostatic precipitator (control system for reducing particulate matter)

EU: emissions unit

F: fluoride

F.A.C.: Florida Administrative Code

F.A.W.: Florida Administrative Weekly

F.D.: forced draft

F.S.: Florida Statutes

FGD: flue gas desulfurization

FGR: flue gas recirculation

ft^2: square feet

ft^3: cubic feet

gpm: gallons per minute

gr: grains

HAP: hazardous air pollutant

Hg: mercury

I.D.: induced draft

ID: identification

kPa: kilopascals

lb: pound

MACT: maximum achievable technology

MMBtu: million British thermal units

MSDS: material safety data sheets

MW: megawatt

NESHAP: National Emissions Standards for Hazardous Air Pollutants

NO_X: nitrogen oxides

NSPS: New Source Performance Standards

O&M: operation and maintenance

O_2: oxygen

Pb: lead

PM: particulate matter

PM_{10}: particulate matter with a mean aerodynamic diameter of 10 microns or less

ppm: parts per million

ppmv: parts per million by volume

ppmvd: parts per million by volume, dry basis

QA: quality assurance

QC: quality control

PSD: prevention of significant deterioration

psi: pounds per square inch

PTE: potential to emit

RACT: reasonably available control technology

RATA: relative accuracy test audit

RBLC: EPA's RACT/BACT/LAER Clearinghouse

SAM: sulfuric acid mist

scf: standard cubic feet

scfm: standard cubic feet per minute

SIC: standard industrial classification code

SIP: State Implementation Plan

SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)

SO_2: sulfur dioxide

TPD: tons/day

TPH: tons per hour

TPY: tons per year

TRS: total reduced sulfur

UTM: Universal Transverse Mercator coordinate system

VE: visible emissions

VOC: volatile organic compounds

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 "permitconditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiateenforcement 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 conditionsof this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey anyvested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or anyinvasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not awaiver of or approval of any other department permit that may be required for other aspects of the total projectwhich are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment oftitle, and not constitute authority for the use of submerged lands unless herein provided and the necessary title orleasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fundmay 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 penaltiestherefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Departmentrules, 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 (andrelated appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of thispermit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities orsimilar systems when necessary to achieve compliance with the conditions of the permit and when required byDepartment rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, uponpresentation of credentials or other documents as may be required by law and at reasonable times, access to thepremises where the permitted activity is located or conducted to:

   a. Have access to and copy any records that must be kept under 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 necessaryto 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 orlimitation specified in this permit, the permittee shall immediately provide the Department with the followinginformation:

   a. A description of and cause of noncompliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated timethe noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of thenoncompliance. The permittee shall be responsible for any and all damages which may result and may be subject toenforcement 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 andother 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 sourcearising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedureand appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonabletime for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes orDepartment rules. A reasonable time for compliance with a new or amended surface water quality standard, otherthan those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied amixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with 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 (no new determinations);

    b. Determination of Prevention of Significant Deterioration (no new determinations); and

    c. Compliance with New Source Performance Standards (nonew standards).

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 stipulatedby 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 for 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:

        (a) The date, exact place, and time of sampling or measurements;

        (b) The person responsible for performing the sampling or measurements;

        (c) The dates analyses were performed;

        (d) The person responsible for performing the analyses;

        (e) The analytical techniques or methods used;

        (f) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any informationrequired by law which is needed to determine compliance with the permit. If the permittee becomes aware therelevant facts were not submitted or were incorrect in the permit application or in any report to the Department, suchfacts or information shall be corrected promptly.

Unless otherwise specified in the permit or other valid permits, 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 ofthe 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 notificaton does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 624.130, F.A.C.]

2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow theemission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

3. 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.]

4. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

5. VOC or OS Emissions: No person shall 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), F.A.C.]

6. 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(Definitions), F.A.C.]

7. 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% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]

8. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

COMPLIANCE TESTING REQUIREMENTS

Unless otherwise specified in the permit, the following testing requirements apply to all emissions unitsthat require testing.

9. 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.]

10. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. 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. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

11. 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.]

12. 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 either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be 60 minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and 30 minutes for emissions units which have potential emissions less than 100 tons per year ofparticulate 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) 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.

(b) 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.

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

c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

d. Calibration of Sampling Equipment. Calibration of the sampling train equipmentshall be conducted in accordance with the schedule shown in Table 297.310-1.

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.

TABLE 297.310-1 CALIBRATION SCHEDULE

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent or thermometric points	+/-2%

Bimetallic thermometer	Quarterly	Calibration liquid in glass	5° F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5° F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/- 0.001" mean of at least three readings; Max. deviation between readings, 0.004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, when 5% change observed, annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

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

13. 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 measuredwith 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.]

14. 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. Sampling facilities include sampling ports, work platforms,access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must also comply with all applicable Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

    a. Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

    b. Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conducta compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

c. Sampling Ports.

(1) All sampling ports shall have a minimum inside diameter of 3 inches.

(2) The ports shall be capable of being sealed when not in use.

(3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.

(4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.

(5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

d. Work Platforms.

(1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.

(2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.

(3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.

(4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

e. Access to Work Platform.

(1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.

(2) Walkways over free-fall areas shall be equipped with safety rails and toe boards.

f. Electrical Power.

(1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.

(2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. Sampling Equipment Support.

(1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

(a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.

(b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required

bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.

(c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.

(2) A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.

(3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

NOTIFICATIONS, RECORDS AND REPORTS

15. Test Notifications: 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. [Rule 62-297.310(7), F.A.C.]

16. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]

17. Emissions Computation and Reporting:

a. *Applicability.* This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

b. *Computation of Emissions.* For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

(1) Basic Approach. The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.

(a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.

(b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(2) Continuous Emissions Monitoring System (CEMS).

(a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:

1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or

2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.

(b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:

1) A calibrated flow meter that records data on a continuous basis, if available; or

2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

(c) The owner or operator may use CEMS data in combination with an appropriate F-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.

(3) Mass Balance Calculations.

(a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:

1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.

(b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.

(c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.

(4) Emission Factors.

a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.

1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.

3) The owner or operator shall compute emissions by multiplying the appropriate emission factorby the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.

b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.

(5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.

(6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.

(7) Fugitive Emissions. In computing theemissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.

(8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

(1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:

a. All Title V sources.

b. All synthetic non-Title V sources.

c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.

d. All facilities for which an annual operating report is required by rule or permit.

(2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.

(3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.

(4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.

(5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-

210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

18. Test Reports:

a. 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.

b. 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.

c. 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.]

On-Specification Used Oil Requirements

The permittee shall comply with the following requirements for on-specification used oil.

1. Specifications for Used Oil: Only "on-specification" used oil containing a PCB concentration of less than 50 ppm shall be fired at this facility.

   a. "On-specification" used oil is defined as used oil that meets the specifications of 40 CFR 279 (Standards for the Management of Used Oil) as listed below.

Constituent/Property	Allowable Level
Arsenic	5 ppm, maximum
Cadmium	2 ppm, maximum
Chromium	10 ppm, maximum
Lead	100 ppm, maximum
Total Halogens	1000 ppm, maximum
Flash point	100° F, minimum

   Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil. The firing of off-specification used oil at this facility is prohibited.

   b. Used oil containing a PCB concentration of 50 ppm or more shall not be fired at this facility and shall not be blended to meet this requirement.

   c. On-specification used oil with a PCB concentration of 2 ppm to less than 50 ppm shall be fired only at normal unit operating temperatures and shall not be fired during periods of startup or shutdown.

   d. On-specification used oil with a PCB concentration of 2 ppm or less may be fired at any time.

   e. On-specification used oil shall meet the maximum sulfur content specified in the permit.

   [40 CFR 279.61]

2. Used Oil Certifications: For each delivery of used oil, the owner or operator shall receive from the marketer a certification that the used oil meets the specifications for "on-specification" used oil and that it contains a PCB concentration of less than 50 ppm. This certification shall also describe the basis for the certification, such as analytical results. Used oil to be fired for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs. Note that a claim that used oil does not contain quantifiable levels of PCBs (<2 ppm) must be documented by analysis or other information. The first person making the claim that the used oil does not contain PCBs is responsible for furnishing the documentation. The documentation can be tests, personal or special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the used oil contains no detectable PCBs. [40 CFR 761.20]

3. Notification to Marketers: Before accepting from each marketer the first shipment of on-specification used oil with a PCB concentration of 2 to less than 50 ppm, the owner or operator shall provide each marketer with a one-time written and signed notice certifying that the owner or operator will fire the used oil in a qualified combustion device and must identify the class of combustion device. The notice must state that EPA or a RCRA-delegated state agency has been given a description of the used oil management activities at the facility and that an industrial boiler or furnace will be used to fire the used oil with a PCB concentration of 2 to 49 ppm. The description of the used oil management activities may be submitted to the

Administrator, Hazardous Waste Regulation Section, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, FL 32399-2400. [40 CFR 761.20(e)]

4. Sampling and Analysis:

   a. If the owner or operator does not receive certification from the marketer as described above, the owner or operator shall sample and analyze each batch of used oil to be fired for the following parameters: arsenic, cadmium, chromium, lead, total halogens, flash point, PCBs, and percent sulfur content by weight, ash, and BTU value (BTU per gallon).

   b. If the owner or operator receives the required certification from the marketer, the owner or operator shall sample at least one delivery of used oil received each calendar quarter and analyze the sample for arsenic, cadmium, chromium, lead, total halogens, flash point, PCBs, and percent sulfur content by weight, ash, and BTU value (BTU per gallon).

   c. Sampling and analysis shall be performed using approved methods specified in latest edition of EPA Publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

   d. If the analytical results show that the used oil does not meet the specifications for on-specification used oil, or that it contains a PCB concentration of 50 ppm or greater, the owner or operator shall immediately cease firing the used oil. The owner or operator shall also immediately notify the appropriate Compliance Authority of the analytical results and indicate the proposed means of disposal of the used oil.

   [Rule 62-4.070(3), F.A.C.; 40 CFR Parts 279 and 761]

5. Used Oil Recordkeeping Required: The owner or operator shall obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Compliance Authority:

   a. Within 15 days following each calendar month, record the gallons of on-specification used oil received and fired during the previous calendar month and the previous 12 calendar months.

   b. The name and address of all marketers delivering used oil to the facility.

   c. Copies of the marketer certifications and any supporting information.

   d. If claimed, documentation that the used oil contains less than 2 ppm of PCBs, including the name and address of the person making the claim.

   e. Results of any sampling/analyses conducted.

   f. A copy of the notice to EPA and a copy of the one-time written notice provided to each marketer.

   [Rule 62-4.070(3), F.A.C.; 40 CFR 279.61; and, 40 CFR 761.20(e)]

6. Used Oil Reporting Required: Within 30 days following each calendar quarter, the owner or operator shall submit to the appropriate Compliance Authority, the analytical results and the total amount of on-specification used oil received and fired during the quarter. [Rule 62-4.070(3), F.A.C.; 40 CFR Parts 279 and 761]

Criteria for Material Suppliers

The permittee shall provide each supplier with a copy of this air construction permit including the following criteria for material suppliers.

General Criteria

1. Material suppliers must use best efforts and good housekeeping practices to keep unwanted substances and incombustible materials from mixing with the alternative fuel materials.
2. All alternative fuel materials must be properly shredded and sized before being delivered to the Brooksville South Cement Plant. Each material supplier must develop QA/QC procedures to exclude foreign materials (e.g., painted material, treated material, metals, soils and incombustibles) from the alternative fuel materials.
3. The material supplier must take at least eight random grab samples (approximately 1 lb) from the maximum representative batch size specified below for each alternative fuel material. The eight grab samples will be combined and thoroughly mixed. A composite sample (approximately 2 lb) will be made from mixed grab samples. The composite sample will be split into two duplicates (approximately 1 lb each). Each sample will be labeled with the date, time, and sampling staff name. The source material will be segregated from other materials until the analytical results are received. Materials will be stored in separate piles, most likely in trailers, and visibly marked.
4. Each composite sample must be submitted to an appropriate testing lab. The duplicate sample will be retained by the material supplier, CEMEX or an independent party as approved by DEP in case a second analysis is needed. The testing lab will analyze each composite sample for: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, cadmium, chromium, copper, lead and mercury). Additional analyses are required below for each alternative fuel material.
5. The material supplier or CEMEX must obtain the representative analytical results from the lab before the alternative fuel material can be delivered. If the material supplier obtains the results, the supplier must provide a copy of the analytical results to the Brooksville South Cement Plant prior to, or along with, any shipment of alternative fuel materials.
6. Each alternative fuel material shall be transported in covered trucks.

Agricultural Plastics

This material must consist of non-chlorinated, low-density polyethylene (LDPE) and/or high-density polyethylene (HDPE) plastic used primarily in agricultural and silvicultural operations to prevent weed growth, control soil erosion and moisture exposure. The maximum representative batch size for this alternative fuel material is 600 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 3,000 tons of this material. The composite samples must also be analyzed for pesticides, bromine and thallium.

Tire-Derived Fuel and Tirefluff (TDF)

This material must consist of shredded used tires and may have some steel belt material. The maximum representative batch size for this alternative fuel material is 900 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 4,500 tons of this material. The composite samples must also be analyzed for zinc.

Manufacturer Reject Roofing Shingles

This material shall consist of never before used reject shingles. The incombustible grit material shall be removed from the shingles. The material supplier must obtain a copy of the manufacturer certification that shows the reject shingles are "asbestos free" and present a copy of the certification to the Brooksville South Cement Plant prior to, or along with any shipment. The maximum representative batch size for this alternative fuel material is 2,000 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 10,000 tons of this material. The composite samples must also be analyzed for manganese, nickel and zinc.

Clean Woody Biomass

This material may include clean untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chips scraps, wood scraps, wood slabs, wood millings, wood shavings, and processed pellets made from wood or other forest residues. This material excludes copper-chromium-arsenic (CCA)-treated wood, creosote-treated wood, construction and demolition (C&D) debris, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams,

finger-jointed trim and sheet goods. The maximum representative batch size for this alternative fuel material is 2,000 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 10,000 tons of this material.

Agricultural Organic Fibrous Byproducts

This material includes peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding, etc. Other similar types of materials of organic fibrous byproducts may be tried with prior written approval of the Department. The maximum representative batch size for this alternative fuel material is 500 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than 5,000 tons of any single type of this material and no more than a total of 20,000 tons of all agricultural organic fibrous byproducts. Also, be aware that the Brooksville South Cement Plant may not store more than 5,000 tons of this material on site at any given time.

Pre-Consumer Paper

This material must consist of pre-consumer paper such as: printing and writing paper; household and sanitary paper; wrapping and packaging paper; paper board; chipboard; Kraft liner, writing and packaging paper; fluting; other wrapping and packaging paper; folding boxboard; other paperboard; polymer laminated wrapping paper; game boards and boxes; foil wrapping paper; thermal papers; specialty papers for filtration or hygienic applications; adhesive labels; waxed corrugated cardboard; and other miscellaneous coated papers. This group of materials also includes fabrics and textiles such as dyed/finished natural fibers, dyed/finished natural fiber woven/scrap trim, polymer fiber woven scrap trim, and un-dyed/unfinished natural or synthetic fiber scrap trim. The maximum representative batch size is 500 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 5,000 tons of this material.

Carpet-Derived Fuel

This material consists of shredded used carpet. The maximum representative batch size for this alternative fuel material is 650 tons. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 6,500 tons of this material.

On-Spec Used Oil Generated Off-Site

This material consists of on-spec used oil generated off-site. As described above samples shall be taken and analyzed representing each batch. Note that the Brooksville South Cement Plant cannot accept more than a total of 111,111 gallons (400 tons) of this material. For acceptance of on-specification used oil, a certified fuel analysis indicating the oil meets the on-specification requirements (see Appendix D) in 40 CFR 279 shall accompany each delivery.

"On-specification" used oil is defined as used oil that meets the specifications of 40 CFR 279 (Standards for the Management of Used Oil) as listed below.

Constituent/Property	Allowable Level
Arsenic	5 ppm, maximum
Cadmium	2 ppm, maximum
Chromium	10 ppm, maximum
Lead	100 ppm, maximum
Total Halogens	1000 ppm, maximum
Flash point	100° F, minimum

Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil. The firing of off-specification used oil at this facility is prohibited.

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Thursday, March 31, 2011 4:56 PM
To: 'jdaniel@cemexusa.com'
Cc: 'gtownsend@cemexusa.com'; 'mlee@kooglerassociates.com'; 'jkoogler@kooglerassociates.com'; Zhang-Torres; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'oquendo.ana@epa.gov'; 'langston.david@epa.gov'; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: CEMEX Brooksville South Cement Plant; 0530021-031-AC
Attachments: 0530021-031-AC_Intent.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0530021.031.AC.D_pdf.zip

Owner/Company Name: CEMEX CNSTRCTION MATERIALS FLORIDA, LLC
Facility Name: CEMEX BROOKSVILLE S. CEMENT and POWER PLANT
Project Number: 0530021-031-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: HERNANDO
Processor: Christy DeVore

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Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation

Thanks,

Sylvia Livingston
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/717-9043 (*New Phone*)
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Thursday, March 31, 2011 5:25 PM
To: 'Townsend, George'
Subject: RE: CEMEX Brooksville South Cement Plant; 0530021-031-AC
Attachments: Draft 0530021-031-AC - Public Notice.doc

Here is the word document. Let me know if I can be of any further assistance.

Sylvia Livingston
Division of Air Resource Management (DARM) Department of Environmental Protection
850/717-9043 (New Phone)
sylvia.livingston@dep.state.fl.us

-----Original Message-----
From: Townsend, George [mailto:gtownsend@cemexusa.com]
Sent: Thursday, March 31, 2011 5:19 PM
To: Livingston, Sylvia
Subject: RE: CEMEX Brooksville South Cement Plant; 0530021-031-AC

Please send me the word document for the attached document. It will make the public notes process much faster and less expensive.

George Townsend
Environmental Manager -Brooksville South - United States of America
Office: (352) 799-7881 Fax: (352) 799-6088 Mobile: (352) 238-9102
Address: 10311 Cement Plant Road, Brooksville, FL 34601
e-Mail: gtownsend@cemexusa.com
www.cemexusa.com

-----Original Message-----
From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, March 31, 2011 4:56 PM
To: Daniel, James S. (Jim)
Cc: Townsend, George; mlee@kooglerassociates.com; jkoogler@kooglerassociates.com; Zhang-Torres; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; langston.david@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: CEMEX Brooksville South Cement Plant; 0530021-031-AC

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Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/053002
1.031.AC.D_pdf.zip

Owner/Company Name: CEMEX CNSTRCTION MATERIALS FLORIDA, LLC Facility Name: CEMEX BROOKSVILLE S. CEMENT and POWER PLANT Project Number: 0530021-031-AC Permit Status: DRAFT Permit Activity: CONSTRUCTION Facility County: HERNANDO

Processor: Christy DeVore

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Thanks,

Sylvia Livingston

Division of Air Resource Management (DARM)

Department of Environmental Protection

850/717-9043 (New Phone)

sylvia.livingston@dep.state.fl.us

Note: The attached document is in Adobe Portable Document Format (pdf).
Adobe Acrobat Reader can be downloaded for free at the following internet site:
<http://www.adobe.com/products/acrobat/readstep.html

Livingston, Sylvia

From: Townsend, George [gtownsend@cemexusa.com]
Sent: Thursday, March 31, 2011 6:10 PM
To: Livingston, Sylvia
Subject: RE: CEMEX Brooksville South Cement Plant; 0530021-031-AC

Thanks!

George Townsend
Environmental Manager -Brooksville South - United States of America
Office: (352) 799-7881 Fax: (352) 799-6088 Mobile: (352) 238-9102
Address: 10311 Cement Plant Road, Brooksville, FL 34601
e-Mail: gtownsend@cemexusa.com
www.cemexusa.com

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From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, March 31, 2011 5:25 PM
To: Townsend, George
Subject: RE: CEMEX Brooksville South Cement Plant; 0530021-031-AC

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Sylvia Livingston
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/717-9043 (New Phone)
sylvia.livingston@dep.state.fl.us

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To: Livingston, Sylvia
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George Townsend
Environmental Manager -Brooksville South - United States of America
Office: (352) 799-7881 Fax: (352) 799-6088 Mobile: (352) 238-9102

Address: 10311 Cement Plant Road, Brooksville, FL 34601
e-Mail: gtownsend@cemexusa.com
www.cemexusa.com

Please consider the environment before printing this email.

-----Original Message-----
From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, March 31, 2011 4:56 PM
To: Daniel, James S. (Jim)
Cc: Townsend, George; mlee@kooglerassociates.com; jkoogler@kooglerassociates.com; Zhang-Torres; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; langston.david@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: CEMEX Brooksville South Cement Plant; 0530021-031-AC

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Project Number: 0530021-031-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: HERNANDO

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Livingston, Sylvia

From: John Koogler [jkoogler@kooglerassociates.com]
Sent: Thursday, March 31, 2011 6:51 PM
To: Livingston, Sylvia
Subject: RE: CEMEX Brooksville South Cement Plant; 0530021-031-AC

Thank you,
John Koogler

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, March 31, 2011 4:56 PM
To: jdaniel@cemexusa.com
Cc: gtownsend@cemexusa.com; mlee@kooglerassociates.com; jkoogler@kooglerassociates.com; Zhang-Torres; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; langston.david@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: CEMEX Brooksville South Cement Plant; 0530021-031-AC

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